

Ministry of the Environment, Conservation and Parks;
Ministry of Natural Resources and Forestry;
Ministry of Municipal Affairs and Housing; Ministry of Infrastructure

Climate Change Adaptation: Reducing Urban Flood Risk

1.0 Summary

Urban flooding occurs when heavy rainfall overwhelms the capacity of drainage systems in developed areas to absorb, collect and carry away stormwater. This can lead to flooded streets and underpasses, resulting in dangerous road conditions, transit closures and power outages. Dirty stormwater, sometimes mixed with raw sewage, can also back up through sewer drains into homes or pour into basements, damaging property and potentially putting people at risk.

Urban flooding can happen in any developed community, large or small, independent of any overflowing river or lake, making it the most common form of flooding in Ontario. While less than 3% of Ontario's population live in a floodplain (the low-lying area next to a river; see **Appendix 1** for the Glossary), and is at risk of river flooding, all Ontarians who live in developed areas may be at risk of an urban flood.

Urban flooding can have serious economic, social and environmental impacts. For example, a record-breaking rainfall in Toronto in 2013 caused both urban and river flooding, resulting in 7,000 flooded basements, 900,000 households without power, and insured damage of \$1 billion. While this flood was Ontario's costliest disaster, the impact of urban flooding has

been felt across the province, including major urban flood events with insured losses over \$80 million each in Thunder Bay (2012), Hamilton (2012), Burlington (2014), and Windsor and Tecumseh (2016 and again in 2017). Localized storms in smaller communities also result in sewer backups and basement flooding that are equally damaging and disruptive to those affected. Despite these impacts, urban flooding receives much less attention from the Province than river and lake flooding.

Three main factors contribute to an increased risk of urban flooding:

- development that results in the loss of green spaces and other pervious surfaces, which absorb water, and the expansion of hard surfaces (such as roads, parking lots and buildings), which prevent stormwater from being absorbed into the ground and increase stormwater runoff;
- inadequate or aging stormwater infrastructure, such as sewer drains, pipes and retention tanks, which can increase the risk of urban flooding; and
- climate change, which is resulting in more frequent high-intensity rain events.

While heavy rains cannot be prevented, measures can be taken to adapt to the projected increase in intense rain events due to climate change. Various

controls—both natural and built—can be used to absorb or redirect stormwater to reduce the risk of urban flooding resulting from future rain events.

There is no one government ministry assigned responsibility for co-ordinating measures to address urban flooding in Ontario. Rather, our audit identified four key provincial ministries—the Ministry of the Environment, Conservation and Parks (Environment Ministry), the Ministry of Natural Resources and Forestry (Natural Resources Ministry), the Ministry of Municipal Affairs and Housing (Municipal Affairs Ministry), and the Ministry of Infrastructure (Infrastructure Ministry)—as having significant responsibilities relating to urban flood management in Ontario. Generally, these responsibilities relate to protecting green spaces that can help control urban flooding (Natural Resources and Municipal Affairs Ministries); approving the construction of municipal stormwater infrastructure (Environment Ministry); setting out requirements for municipalities to assess, report on and develop financial plans for their stormwater infrastructure (Infrastructure Ministry); setting out building standards, which may include measures to reduce home flooding (Municipal Affairs Ministry); and providing guidance and education to municipalities and the public about adapting to the impacts of climate change (Environment Ministry).

Municipalities also have significant responsibility for reducing urban flood risk. While the Province generally sets the rules and provides some oversight and guidance, it is municipalities that are responsible for the actual planning, building, operating and funding of infrastructure to manage stormwater. Municipalities also make local planning decisions and approve local development in accordance with provincial land-use policies, which can affect urban flooding. Each municipality must also appoint a chief building official who is responsible for implementing provincial building standards within their municipality. In addition, homeowners and businesses play a role in taking steps to reduce impacts on their own properties as well as limiting stormwater runoff from their properties.

Our audit found that the Province does not have effective systems and processes to reduce the risk of

urban flooding, nor to provide homeowners, municipalities and other decision-makers the guidance and information they need to reduce their risks of urban floods.

The Province is well aware of the need to do more to address this issue. No fewer than four reports and plans—including the Environment Ministry’s 2018 Made-in-Ontario Environment Plan (Environment Plan), the 2019 report from Ontario’s Special Advisor on Flooding, the Natural Resource Ministry’s 2020 Protecting People and Property: Ontario’s Flooding Strategy (Flooding Strategy), and the 2021 Advisory Panel on Climate Change report—have identified specific actions that need to be taken to help Ontario reduce urban flood risk. Yet the Province has never clarified provincial roles for addressing and co-ordinating actions needed to alleviate the risk of urban flooding, with the result that gaps in responsibility persist and actions and commitments have never been implemented.

The following are some of our most significant findings:

- **Many buyers of new homes are not protected from sewer backups due to lack of clarity in the Building Code.** Basement flooding, which includes flooding from sewer backups, has been reported as the most preventable climate-related damage to Ontario homes. Although Ontario’s Building Code requires backwater valves for homes with drains that “may” be subject to backflow, ambiguity in the term “may” has hindered their widespread installation. In our survey of chief building officials, only 14 (27%) of the 52 respondents require installation of backwater valves for all new homes with basements in their municipalities. During construction, the cost to install a backwater valve is around \$250. In comparison, the average cost to repair a basement following the 2013 urban flood in Toronto was \$43,000. The Municipal Affairs Ministry is currently updating the Code and plans to file a new edition in early to mid-2023. However, at the time of our audit, the Ministry had not proposed changes to clarify requirements for backwater valves.

- Municipalities are receiving contradictory provincial guidance and direction on using projected climate change data, and so many continue to rely on historical data.** Infrastructure and buildings designed based on historical climate data may not be able to withstand future precipitation patterns. Yet, we found that ministries are providing inconsistent guidance across different program areas on whether to use projected versus historical climate data. For example, the Province's Flooding Strategy commits to encourage municipalities to require new developments to use updated precipitation data in design standards, and to account for climate change in the design of drainage infrastructure. As well, the Provincial Policy Statement instructs municipalities to prepare for climate change impacts in land-use decisions. Conversely, the Municipal Affairs Ministry requires building authorities to use the climate design data set out in Ontario's Building Code, which is based on historical weather observations, when approving building designs. Accordingly, our Office's survey of chief building officials found that all 51 respondents to a question on data indicated that they relied on historical data. Further, the Environment Ministry requires municipalities to design sewers using the most recent historical precipitation data, but not climate change projections. In a separate survey we conducted of a sample of municipalities, when asked about the data used in designing stormwater infrastructure, 17 (57%) of 30 reported that they relied only on historical data.
- Majority of municipalities we surveyed are unable to map urban flood risk areas.** Municipalities and the Province need to be able to identify areas vulnerable to urban flooding to inform land-use planning and determine where new or upgraded stormwater infrastructure is most needed to reduce risk. Flood risk maps are used to identify vulnerable areas for all types of floods, including urban floods. However, in response to our survey of municipalities, 23 (77%) of 30 indicated that they are unable to accurately map urban flood risk, noting gaps in datasets on stormwater infrastructure, the need for updated elevation or land cover data, and/or a lack of internal expertise, funding or staff resources to develop and run models.
- Municipal assessment and reporting on stormwater infrastructure and flood resiliency is not standardized, with potential impacts on long-term planning and funding decisions.** Municipalities are now required by the Asset Management Planning for Municipal Infrastructure regulation to develop asset management plans that assess the condition and replacement costs of their infrastructure, as well as the resiliency of municipal properties and stormwater infrastructure to floods. However, a lack of detailed guidance from the Infrastructure Ministry is resulting in inconsistent and incomplete assessments and reporting, undermining effective decision-making and making it difficult to compare and prioritize municipal needs. Our review of 25 asset management plans found a range of differing approaches to assessing the condition of municipal stormwater infrastructure and flood resiliency. Our municipal survey similarly found a range of approaches, with 60% of respondents indicating that they did not consider urban flooding when assessing the flood resiliency of municipal properties.
- Majority of municipalities do not have reliable sources of funding to finance stormwater infrastructure capital shortfall.** Several reports indicate that Ontario municipalities have been underinvesting in their stormwater infrastructure, resulting in a capital shortfall of several billion dollars. Of the 182 municipalities that incurred operating expenses relating to urban stormwater management in 2020, only 51 (28%) reported collecting revenue earmarked for urban stormwater systems. Federal and provincial grants for urban stormwater infrastructure varied annually over the past 10 years and

totalled just \$187 million, substantially less than the billions of dollars needed. Under the Asset Management Planning for Municipal Infrastructure regulation, municipalities must now complete asset management plans; however, we found issues with the quality and consistency of these plans, which may limit their effectiveness in ensuring that municipalities are assessing and sustainably financing their stormwater infrastructure.

- Nearly half of southern Ontario's remaining wetlands are unevaluated and risk being lost.** Between 2011 and 2015 (most recent data), southern Ontario lost an average of 1,825 hectares of wetlands per year—an annual rate of loss three times higher than the previous data period (2000 to 2011). The wetlands that do remain are at risk of further loss: only those wetlands that have been both evaluated and designated as provincially significant are granted formal protection under the Provincial Policy Statement. However, there is no requirement for a wetland to be evaluated before a municipality can approve land-use changes that may damage it, and many wetlands have never been evaluated. Between 1983 and 2022, a total of 2,257 wetlands in southern Ontario (comprising 52% of the wetland area) have been evaluated, but only 30 were evaluated in the past 10 years. Moreover, wetlands within urban areas are more likely to be smaller and more degraded and therefore may be less likely to achieve provincially significant status, despite their importance for flood reduction.
- Province does not regulate the structural design of large purpose-built flood control facilities that are located away from lakes or rivers.** The Natural Resources Ministry issues approvals for flood control facilities, but only for those that are on lakes or rivers. The Environment Ministry issues approvals for municipal stormwater infrastructure to protect water quality. However, because flood control is not within its mandate, the Environment Ministry

does not require these facilities to obtain an environmental compliance approval. As a result, there is a regulatory gap regarding the structural design of these facilities.

Overall Conclusion

Our audit concluded that the Province does not have effective systems and processes to reduce the risk of urban flooding in Ontario, or to support and encourage municipalities and property owners to reduce the risk of urban flooding.

We found that the Province has never clarified provincial roles for co-ordinating and managing urban flooding, resulting in gaps in responsibility. The Environment Ministry approves municipal stormwater infrastructure for the purposes of protecting water quality and preventing stream erosion, but does not consider flood control as part of this approval process, as it is outside its mandate; the Infrastructure Ministry is not providing sufficient guidance to support effective implementation of its municipal asset management regulation; the Municipal Affairs Ministry has not taken steps to increase the installation of backwater valves that help prevent basement flooding; and the Natural Resources Ministry has made little progress evaluating and protecting wetlands, which can provide important flood-reduction functions.

Finally, we found that the Province is not ensuring that information about the risks of urban flooding, including under future projected climate scenarios, is being shared with municipalities, government agencies, property owners and others to inform decision-making.

This report contains 16 recommendations, with 25 action items, to address our audit findings.

OVERALL ENVIRONMENT MINISTRY RESPONSE

The Ministry appreciates the Auditor General's observations and recommendations resulting from the value-for-money audit of Climate Change Adaptation: Reducing Urban Flood Risk.

The Province has already taken steps to improve our understanding of the impacts of climate change and to help municipalities prepare and protect communities, including public infrastructure. For example:

- undertaking Ontario's first-ever multi-sector provincial-level climate change impact assessment;
- building resilience through the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health;
- developing and providing guidance on innovative stormwater management approaches—such as stormwater green infrastructure and low-impact development; and
- adopting the Consolidated Linear Approach for municipal sewage works infrastructure.

The Ministry will continue to work collaboratively with our partner ministries and other levels of government as it relates to each of our mandates so that the Province is better prepared for the impacts of climate change, including the potential risk of urban flooding in Ontario. Municipalities have a significant responsibility for reducing urban flood risk through local planning, building, operating and funding their stormwater infrastructure.

The Auditor General highlights various ways governments can work together and have effective policies and programs in Ontario, as well as help encourage actions by municipalities and property owners to reduce the risk of urban flooding.

We will consider the Auditor General's report and recommendation, which can help inform future provincial actions and help municipalities build resiliency and adapt to the impacts of climate change.

OVERALL NATURAL RESOURCES MINISTRY RESPONSE

The Ministry appreciates the Auditor General's observations and recommendations resulting from the value-for-money audit on Climate Change Adaptation: Reducing Urban Flood Risk.

The Natural Resources Ministry has made progress to ensure it is delivering value for money for the people of Ontario relating to its mandate in addressing risks associated with fluvial flooding (rivers, streams and lakes) from waterbodies including:

- investing in the creation, enhancement and dissemination of flood hazard mapping in Ontario through the Ontario Flood Hazard Identification and Mapping Program;
- providing flood-related information to the public on **Ontario.ca/floods**; and
- working across government to develop our approach to implementing the actions within the Flooding Strategy.

This report's recommendations will assist us in our efforts, including our work in implementing Protecting People and Property: Ontario's Flooding Strategy. The Ministry remains committed to working with municipalities and other partners to help manage flood risks in Ontario.

OVERALL MUNICIPAL AFFAIRS MINISTRY RESPONSE

The Ministry of Municipal Affairs and Housing thanks the Auditor General for her recommendations. The Ministry recognizes the importance of reducing the risks of urban flooding and will continue to provide support to those ministries with the expertise and mandates for addressing the concerns outlined in this report.

OVERALL INFRASTRUCTURE MINISTRY RESPONSE

The Ministry of Infrastructure would like to thank the Office of the Auditor General of Ontario for their work and appreciates the value of this audit. The Ministry accepts the recommendations directed to the Ministry of Infrastructure and will work to implement them on the timelines presented as well as taking into consideration all recommendations regarding best practices and opportunities for the Ontario Public Service relating to urban flooding.

2.0 Background

2.1 Overview

Flooding can occur in various ways due to different causes (see **Figure 1**). For example:

- River flooding occurs when heavy rain and snowmelt cause water to overflow the banks of a river, stream or creek. River flooding can create potentially dangerous conditions and cause major damage in low-lying areas near the overflowing river.
- Urban flooding occurs when heavy rain overwhelms the capacity of built and natural stormwater drainage systems to absorb or convey the water away. It is caused primarily by short-duration intense rainfall, rather than snowmelt.

Despite the name, urban floods can happen in any developed community, large or small, and far from any waterbody (although urban floods can overlap with river floods). While less than 3% of Ontario's population lives in a floodplain (the low-lying area next to a river or stream), where river flooding is a risk, all Ontarians who live in a developed area, regardless of proximity to a waterbody, may be at risk of urban flooding. Ontario is the most urbanized province in Canada,

making urban flooding a bigger risk here than elsewhere in the country.

Urban flooding receives much less attention from the provincial government than river and lake flooding. Most of Ontario's current flood-related policies and programs grew out of the response to the disastrous Hurricane Hazel floods in 1954. Following Hurricane Hazel, Ontario empowered conservation authorities to regulate development in river floodplains and to take other measures to prevent rivers from overflowing. In the 68 years since, Ontario has continued to improve river and lake flood management. While some of these measures can also help address urban flooding to some degree, different factors contribute to urban floods, and therefore require different controls.

2.2 Impacts of Urban Flooding

Urban flooding can have a range of serious impacts, including economic, social, health and environmental effects. For example, street-level flooding can result in the disruption of public services, such as road and transit closures, and damage street-level equipment, like utility boxes and transformers, causing power outages. Water can enter basements and the lower levels of buildings, causing significant property damage to homes and businesses. Basement flooding can lead

Figure 1: Different Types of Floods

Prepared by the Office of the Auditor General of Ontario

Type of Flood	Waterbody	Description/Cause
Urban flood	Flooding is unrelated to the overflowing of any waterbody	Heavy rainfall, especially in a short time frame, overwhelms the capacity of natural and built stormwater drainage systems
River flood	River	Water levels in a river or stream rise and overflow the banks, due to high volumes of rain and/or snowmelt
Ice jam flood	River	River flow is blocked by the buildup of floating ice, causing the river to overflow
Structural failure flood	River	An engineered structure, such as a dam, levee or dyke, fails due to unusually high river flows and/or poor design, construction, operation or maintenance
Lake flood	Lake	Water is carried onto shore and low-lying land due to seasonal changes in the inflow and outflow of lakes, or by storms that cause an abnormal sudden rise in lake levels
Coastal flood	Ocean or sea	High winds or storms, often combined with high tides, carry coastal water onto shore

to the growth of mould, which can pose a serious health risk. Overloaded sewer systems from heavy rains can also result in stormwater, and sometimes raw sewage, backing up into homes, buildings and onto streets, as well as polluting waterbodies.

2.2.1 Economic and Social Impacts of Urban Flooding

The economic and social impacts of urban flooding are significant—for homeowners, tenants, governments and insurers. For example, the record-breaking rain-fall during the 2013 Toronto flash flood, when 126 millimetres of rain fell in just six hours resulting in a

combination of urban and river flooding, flooded 7,000 basements and left 900,000 households without power. The storm inundated cars commuting home and left 1,400 people stranded in a commuter train. While this flood was Ontario's costliest disaster—with insured damage of \$1 billion—the impact of urban flooding has been felt across the province. See **Figure 2** for a list of the costliest urban flood events in Ontario from 2010 to 2020.

There is no data specifically on overall economic damage from urban flooding in Ontario; however, insured losses due to water damage (which includes damage from urban flooding among other water-related perils, such as river floods) have increased

Figure 2: Major Urban Flood Events in Ontario (2010–2020) with Insured Losses over \$80 Million*

Prepared by the Office of the Auditor General of Ontario, with data from the Canadian Disaster Database and the Insurance Bureau of Canada

Date	Urban Flood Event
May 2012	Thunder Bay declares a state of emergency after almost 100 millimetres of rain fall in the city in a little less than six hours, flooding the city's sewage treatment plant, causing sewage backups and damage to thousands of homes. The rain also causes road closures and interferes with utility services. The storm results in \$240 million in insured losses.
Jul 2012	Hamilton area receives 116 to 140 millimetres of rain in three hours, overwhelming the storm sewers and flooding basements. The storm results in \$104 million in insured losses.
Jul 2013	Toronto receives 102 millimetres of rain in just two hours, and 126 millimetres in six hours, which results in a combination of severe urban flooding and river flooding. The storm results in \$1 billion in insured losses making this one of the most expensive urban flood-related events in Canada's history. The City of Toronto paid a further \$60 million in uninsured costs.
Aug 2014	Burlington receives up to 200 millimetres of rain in eight hours, which causes a combination of urban flooding and river flooding, as rivers and creeks throughout the city overflow, while clogged stormwater catch basins are inundated with water. Highways and roads are closed and thousands of basements are flooded, including through sewage backups. The damage from the storm in Burlington and the Greater Toronto Area results in \$85 million in insured losses.
Sep 2016	Windsor and Tecumseh receive over 200 millimetres of rain in a few hours—a volume of rain well beyond the maximum capacity of the area's stormwater systems—resulting in flooded roads, fields and yards, and dirty sewer water in thousands of flooded basements. The storm results in \$166 million in insured losses; 80% of these losses were attributed to residential sewer backup and water damage.
Aug 2017	Windsor and Tecumseh receive up to 285 millimetres of rain in less than 48 hours in some areas, overwhelming their stormwater systems for the second year in a row. The storm results in \$178 million in insured losses, 70% of which are attributed to residential sewer backup and water damage. Between the 2016 and 2017 events, 11,000 households experienced flooding.
Aug 2018	Toronto is hit with 72 millimetres of rain in less than two hours. The intense rainfall results in a combination of urban and river flooding, causing havoc, such as sewage pipes backing up in streets and flooded streetcars, and resulting in \$169 million in insured damages.

Note: 2020 is the most recent year with data available on insured losses. All losses are adjusted to 2020 dollars.

* Figure includes all flood events in Ontario from 2010 to 2020 that had insured losses over \$80 million that were substantially or entirely due to urban flooding. Note, however, it is common for more than one type of flood (such as both a river and urban flood) to occur at the same time, and so some of the costs in the figure include damages caused by other forms of flooding as well as other forms of damage, such as lightning and wind damage.

dramatically, as shown in **Figure 3**. In the last 10 years (2012–21), insured losses from water damage in Ontario totalled over \$3 billion. Although the data does not break out the losses by type of water-related peril, the Institute for Catastrophic Loss Reduction (an insurance-industry-funded research organization) reports that urban flood losses—including damage from both sewer backups and other losses due to extreme rainfall in urban areas—have been over 10 times greater than river flood damage in most years.

Moreover, the \$3 billion total does not represent the full amount of losses. It only reflects catastrophic loss events over \$25 million, which excludes the many smaller urban floods that hit communities across the province. Localized storms in smaller communities will typically not reach the threshold of a catastrophic event, but each flooded basement is still damaging and disruptive to those affected. The Intact Centre on Climate Adaptation reported that the average cost to repair a basement after the 2013 urban flooding in Toronto was \$43,000. Further, the above estimate does not include losses by individuals who lack insurance or do not make a claim. Experts in the insurance industry estimate that for every dollar of losses covered by insurers, three to four dollars are covered by governments and home and business owners.

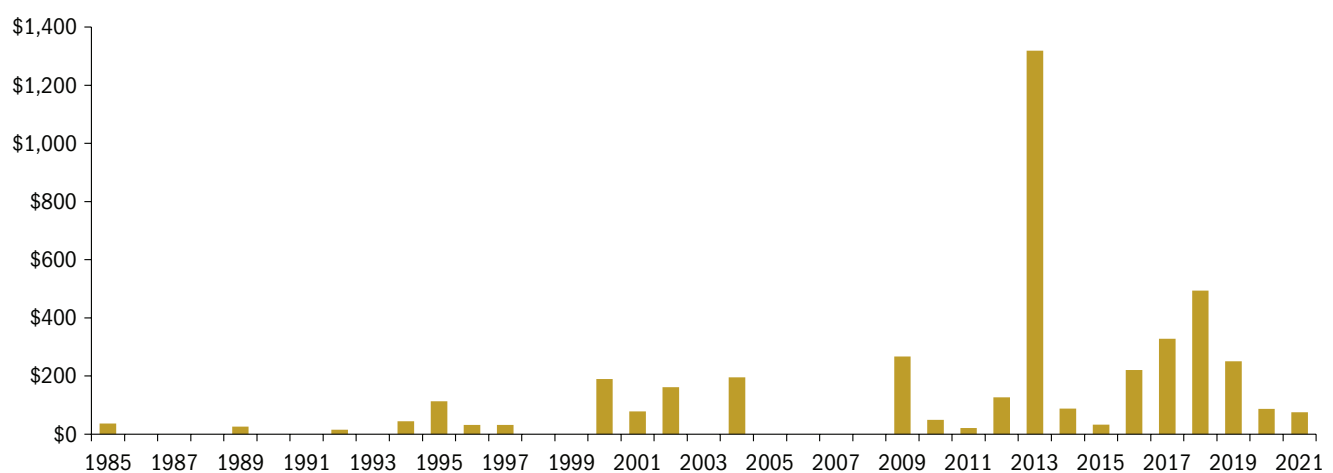
Urban flooding also presents a significant future cost risk to governments and taxpayers. In 2021, a report from the Financial Accountability Office estimated that impacts of three climate change hazards—extreme rainfall (including urban, but not river, floods), extreme heat and freeze-thaw cycles—on public buildings in Ontario will result in \$66 billion in additional operating and maintenance costs from 2022 through to 2100. Of the three climate change hazards, the report noted that extreme rainfall would be the biggest factor contributing to these projected costs.

2.2.2 Health Impacts of Urban Flooding

Health Canada has reported on various health impacts that are associated with flooding. For example, flooding of homes can result in the growth of fungi, bacteria and mould. These can increase the risk of developing, or aggravating, skin, allergy and respiratory problems. Further, sewage backups may bring toxins, such as *E. coli*, into homes and negatively affect human health. These impacts are greater for those who live in basement accommodations. Health Canada also found that experiencing a flood, which can result in physical problems, personal loss and financial difficulties, can affect a person's mental health.

Figure 3: Insured Catastrophic Water Losses in Ontario (\$ million)

Source of data: Insurance Bureau of Canada, with data from CatIQ



Note: Catastrophic water losses are insured losses greater than \$25 million where the primary cause was flooding, water or rainstorms. Costs are adjusted for inflation and appear in 2021 dollars; 2021 data is preliminary.

2.2.3 Environmental Impacts of Urban Flooding

Urban floods can also have major environmental impacts. Heavy rains can wash an array of contaminants, such as fuel, pesticides and animal feces, directly into lakes and rivers. Moreover, 44 Ontario municipalities still have some combined sewer systems. These systems, which were mostly built in the mid-1900s, collect both sanitary sewage and stormwater in the same, combined pipe and take it to a wastewater treatment plant. When combined sewer systems are overloaded from heavy rains, raw sewage can back up into homes and other buildings, and onto streets. To reduce backups, the systems are designed to overflow the combined stormwater and raw sewage into lakes and rivers, polluting these waterbodies. According to federal data, from 2016 to 2020 (most recent data) at least 1,600 overflows have occurred across the province each year. Since 1985, municipalities are no longer permitted to build such systems, but they remain a legacy in many older urban areas in Ontario.

2.2.4 Provincial and Municipal Legal Liability Impacts

Ontario residents have increasingly been turning to the courts to seek compensation for urban flooding. Since 2005, several class-action lawsuits have been filed as a result of extreme weather events and flooding, including in Milton, Mississauga, Oakville, Stratford and Thunder Bay. In each, the plaintiffs have argued that municipal, and in some cases provincial, authorities failed in their duties to protect residential properties from flooding. The potential costs for municipalities are substantial. For example, the 2005 Stratford case was settled for \$7.7 million in 2010, while the \$375 million and \$900 million claims in Thunder Bay and Oakville, respectively, are currently outstanding.

2.3 Adapting to Climate Change and Reducing Urban Flood Risk

Increasing concentrations of greenhouse gases in the atmosphere are causing the global climate to change.

As a result, higher average temperatures are being experienced around the world. The warming atmosphere is also changing weather patterns and increasing both the frequency of extreme weather events and the intensity of rainfall. Natural Resources Canada data shows that the number of heavy precipitation days (greater than 10 millimetres) in Ontario has increased from 135 days in the 1950s to 158 days in the 2000s. The maximum one-day precipitation event in Ontario has also increased from 33 to 38 millimetres over the same period. Local precipitation events can be more extreme than these provincial averages. According to Environment and Climate Change Canada, both annual and extreme precipitation events are projected to continue to increase.

Climate change adaptation is the process of adjusting to the expected climate, such as more frequent and intense rain events, and taking action to reduce the negative impacts of such events. For example, while heavy rains cannot be prevented, various controls—both natural and built—can be used to absorb or redirect stormwater to reduce the risk of urban floods. Adapting to climate change, and future urban flood risks, can mean enhancing natural controls, as well as planning and designing built controls to not only handle current rain levels, but also withstand future expected rainfall events.

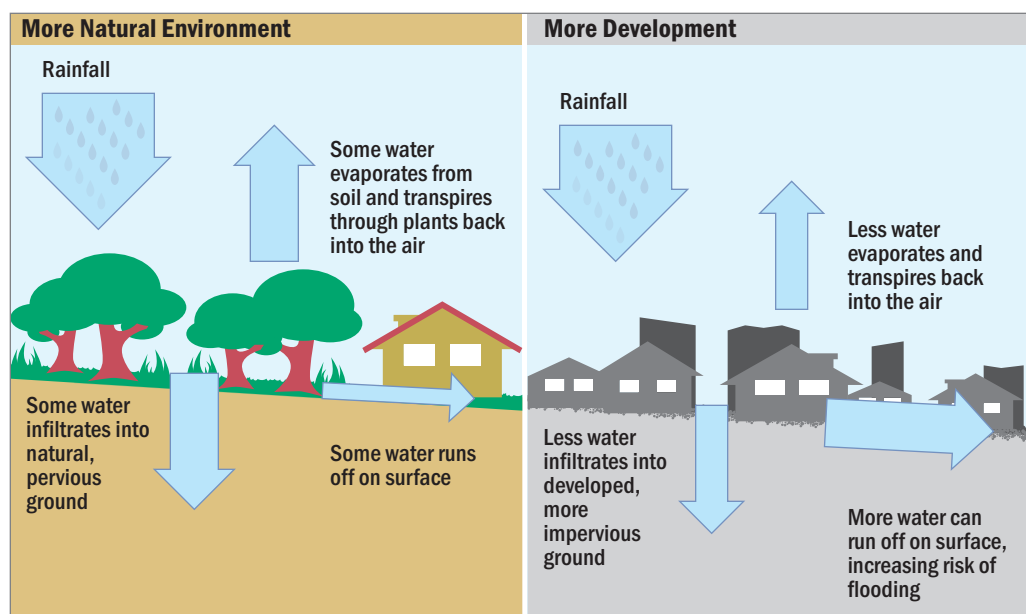
2.3.1 Green Spaces

Green spaces—which include natural features, such as wetlands, woodlands and meadows, as well as other spaces such as parks—can help reduce urban flooding (see **Figure 4**). These pervious surfaces absorb and retain rainwater where it lands, and therefore reduce the amount of stormwater runoff. For example, a 2020 study by researchers from Johns Hopkins University and the US Geological Survey found that when a city increases coverage of absorbent soil with impervious roads, pavements or car parks by 1%, stormwater runoff increases the annual flood volume in nearby waterways by 3.3%.

Wetlands are particularly beneficial in reducing flooding as they can act like sponges by providing

Figure 4: Example of Stormwater Runoff Levels on Natural vs Impervious Surfaces

Prepared by the Office of the Auditor General of Ontario



short-term water storage during times of peak stormwater runoff. A wetland as small as two hectares can retain water runoff from an area 70 times its size, significantly reducing flood damage. In 2017, the Intact Centre on Climate Adaptation at the University of Waterloo simulated a massive storm event (similar in size to Hurricane Hazel) and found that the financial costs of flood damage at the modelled urban site would be 38% lower (\$84.5 million) if nearby wetlands were maintained in their natural state, compared to estimated flood damage of \$135.6 million if the nearby wetlands were drained for agricultural development. The difference in flood damage costs would be even greater if the nearby wetlands were replaced with impervious surfaces, such as roads and parking lots, instead of converted to farm fields.

2.3.2 Built Stormwater Management Controls

Stormwater management refers to collecting and controlling the water runoff generated by rain and snowmelt. Stormwater infrastructure is typically designed and built to meet the combined goals of

reducing flooding, minimizing erosion, and protecting water quality from pollutants (by collecting and treating stormwater rather than allowing contaminated stormwater to flow directly into water bodies).

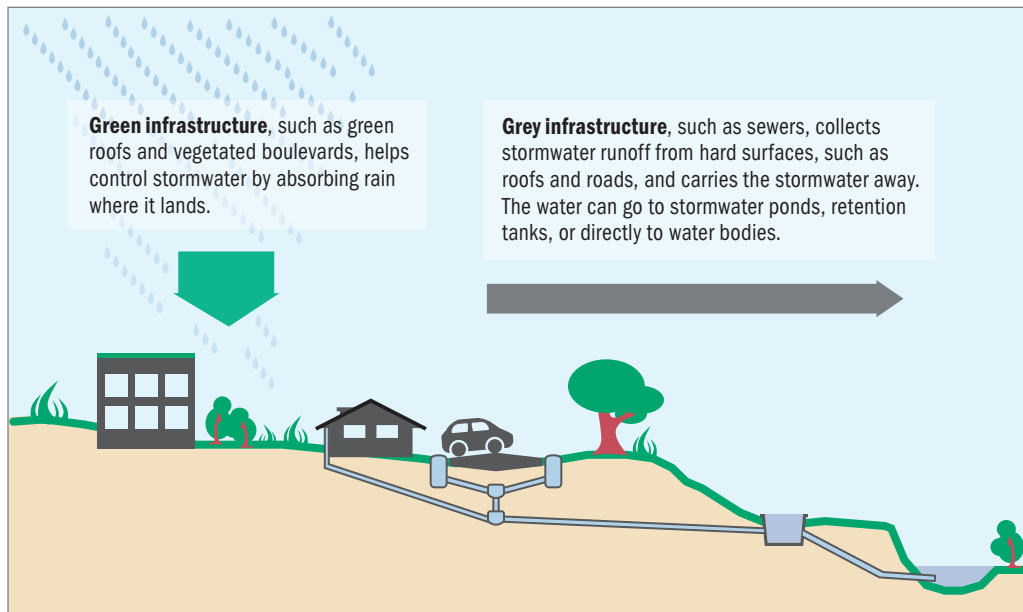
Stormwater management controls can generally be categorized into either:

- **grey stormwater infrastructure**, consisting of conventional elements like roadside catch basins, culverts, ditches and sewer pipes that collect and carry stormwater away. They are so called because they are usually built with concrete and metal; or
- **built green stormwater infrastructure**, also known as **low-impact development practices**, which are built elements that are designed to mimic the functions of nature in managing stormwater. Examples include green roofs, vegetated strips alongside roads, and pervious pavement (see **Appendix 2** for further examples).

Figure 5 illustrates how both grey and green stormwater infrastructure can be used together to manage stormwater.

Figure 5: Stormwater Management Controls via Green and Grey Infrastructure

Prepared by the Office of the Auditor General of Ontario



2.4 Roles and Responsibilities for Reducing Urban Flood Risk

There is no one government ministry that is fully responsible for addressing urban flooding in Ontario. Our audit identified four key provincial ministries—the Ministry of the Environment, Conservation and Parks (Environment Ministry), the Ministry of Natural Resources and Forestry (Natural Resources Ministry), the Ministry of Municipal Affairs and Housing (Municipal Affairs Ministry), and the Ministry of Infrastructure (Infrastructure Ministry)—that each have important responsibilities relating to urban flood management (see **Figure 6** for a brief description of their main roles). Generally, these responsibilities relate to protecting green spaces that can help control urban flooding; approving the construction of municipal stormwater infrastructure; setting out requirements for municipalities to assess, report on and financially plan for their stormwater infrastructure; setting out building standards, which may include measures to reduce home flooding; and providing guidance and education to municipalities and the public about adapting to the impacts of climate change.

For information on responsibilities for managing other flood hazards, such as river or lake flooding or flooding due to dam failures, see our audit on Management of Hazards and Emergencies in the Environment in this year's Annual Report.

Municipalities also have significant responsibility for reducing urban flood risk. While the Province generally sets the rules and provides some oversight and guidance, it is municipalities that are responsible for the actual planning, building, operating and funding of infrastructure to manage stormwater. Municipalities also make local planning decisions and approve local development, as well as issue building permits in accordance with the provincial *Building Code Act, 1992*. Conservation authorities conduct work that, while generally focused on identifying and managing natural hazards (e.g., flood risks from rivers and lakes), can overlap with urban flood management.

Lastly, property owners, such as homeowners and businesses, also play a role in taking steps to reduce impacts on their own properties and to limit stormwater runoff from their properties. All of these groups—municipalities, conservation authorities and property owners—require support, guidance and

Figure 6: Key Provincial Ministries and Their Responsibilities for Reducing Urban Flood Risk

Prepared by the Office of the Auditor General of Ontario

Ministry of the Environment, Conservation and Parks	• Lead, support and co-ordinate provincial resiliency efforts for climate change adaptation, including assessing climate change risks (such as from increased heavy precipitation) and providing guidance and education to municipalities and the public • Lead provincial efforts for environmental protection with respect to stormwater, including providing guidance and policy on stormwater management and low-impact development • Approve the construction of municipal stormwater management facilities (e.g., sewers, ponds, stormwater green infrastructure) for environmental protection under the <i>Ontario Water Resources Act</i> and the <i>Environmental Protection Act</i>
Ministry of Natural Resources and Forestry	• Lead flood hazard management in Ontario through policies and programs that address flood hazards from rivers, streams and lakes; while this role is focused on flood hazards from rivers, streams and lakes, Ministry actions to address these types of floods can overlap with and support actions to reduce urban flooding • Lead provincial programs to protect natural features, including wetlands, which can help with flood control • Provide guidance for flood hazard mapping of areas near rivers, streams and lakes
Ministry of Municipal Affairs and Housing	• Develop laws and policies (in partnership with other ministries) relating to land use and growth planning, including policies that require municipalities to plan for stormwater management as part of land use and growth planning, and policies to protect natural features • Set out building standards through the Building Code, which may include measures that reduce flooding to homes and buildings
Ministry of Infrastructure	• Oversee municipal asset management planning, including setting out requirements for municipalities to financially plan for the construction and maintenance of their stormwater infrastructure

direction from the Province in fulfilling their respective roles.

While the Province does not have a specific program, policy or strategy relating to urban flooding, it has released two key documents that are relevant. The Environment Ministry released the Made-in-Ontario Environment Plan (Environment Plan) in 2018, which covers a range of environmental issues and cross-ministry government commitments. Some commitments relate to climate change adaptation, including commitments to help communities prepare for climate change risks, such as increased flooding (see **Appendix 3**). The Natural Resources Ministry released Protecting People and Property: Ontario's Flooding Strategy (Flooding Strategy) in 2020, which sets out eight actions to manage flood risk, and 25 proposed activities to implement those actions. While most of the activities focus mainly on flood hazards from

rivers and lakes, the Flooding Strategy includes several activities that relate directly or indirectly to urban flooding (see **Appendix 4**).

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Environment Ministry, the Natural Resources Ministry, the Municipal Affairs Ministry, and the Infrastructure Ministry collectively have effective systems and processes to:

- ensure that the risks of urban flooding in Ontario, including the risks under future projected climate scenarios, are identified, shared with relevant parties, and used to inform decision-making; and

- reduce the risks of urban flooding, and support and encourage municipalities, government agencies, property owners and other relevant parties to reduce the risks of urban flooding, in accordance with legislation, regulations, policies and best practices.

In planning our work, we identified the audit criteria (see **Appendix 5**) we would use to address our audit objectives. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at each ministry reviewed and agreed with the suitability of our audit objectives and associated criteria.

The focus of our audit was on reducing the risk of future urban floods, not on managing or responding to them while or after they occur. For the purposes of the audit, urban flooding is defined as flooding caused by rainfall that overwhelms the capacity of built and natural stormwater drainage systems.

We conducted our audit between January 2022 and August 2022. We obtained written representation from each ministry's management that, effective November 23, 2022, they had provided us with all the information they were aware of that could affect the findings or the conclusions of this report. As part of our audit work, we:

- interviewed relevant staff from each of the four ministries;
- spoke with external stakeholders and subject-matter experts, including the Association of Municipalities of Ontario, Asset Management Ontario, CatIQ, Climate Risk Institute, Institute for Catastrophic Loss Reduction, Insurance Bureau of Canada, Intact Centre on Climate Adaptation, Doug McNeil (the Natural Resources Ministry's Special Advisor on Flooding), Tarion, Toronto Hydro, Metrolinx, and experts from the University of Toronto and the University of Waterloo;
- spoke with multiple municipalities and conservation authorities;
- toured municipal green and grey stormwater infrastructure projects;

- reviewed ministry and municipal documents, including all of the Environment Ministry's compliance reports for inspections of stormwater infrastructure from the last five years; a sample of 25 municipal asset management plans; and the 2011–2020 municipal financial information returns (the most recent and complete dataset);
- conducted a survey of the 245 chief building officials in Ontario; we received 52 responses (21% response rate), including 33 (77%) of the 43 members of the Large Municipalities Chief Building Officials group (who represent municipalities with populations over 50,000); overall our survey received responses from officials representing municipalities with a total population of 7.5 million and from locations across Ontario; and
- conducted a survey of a sample of 35 municipalities, representing a range of sizes and locations across Ontario, to seek information on various stormwater management issues. We received 30 responses (86% response rate) from municipalities representing a total population of 8.5 million.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standard on Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Provincial Roles and Responsibilities

4.1.1 Lack of Clarity around Roles and Responsibilities Leaves Gaps in Ontario's Urban Flood Management

For over 15 years, the provincial government has been aware of gaps in assigned roles and responsibilities for urban flood management, and the need to clarify such responsibilities.

In 2007, the Natural Resources Ministry-led Provincial Flood Forecasting and Warning Committee raised concerns about the risks and management gaps of urban flooding. This warning followed a number of major urban flood events—including in Peterborough (2002 and 2004), Ottawa (2004), Toronto (2005) and Hamilton (2005).

In response to these concerns, staff from the Natural Resources, Environment, and Municipal Affairs Ministries, as well as experts from Conservation Ontario, the Association of Municipalities of Ontario and Environment Canada, formed an informal group to discuss the risks of urban flooding and how gaps in Ontario might be managed. The group drafted an internal report in 2010 that contained a preliminary gap analysis, noting various gaps in governance (including the lack of clarity in roles and responsibilities), public education, research and data (such as a lack of information to identify risk level) and funding. The report, however, was never finalized, and remains an internal draft.

In July 2019, in response to extensive spring flooding that year, the Natural Resources Minister appointed a Special Advisor on Flooding to review the Province's flood management framework and make recommendations. The Special Advisor submitted his report to the Ministry in October 2019. While the report focused primarily on river and lake flooding, he found that roles and responsibilities with respect to urban flooding were not clear, and recommended the Province establish a working group of all pertinent ministries to define their respective roles (see **Appendix 6** for urban flooding-related recommendations).

In March 2020, drawing on the Special Advisor's report, the Natural Resources Ministry released *Protecting People and Property: Ontario's Flooding Strategy* (Flooding Strategy) (see **Appendix 4** for the strategy's actions and activities). In the Flooding Strategy (which similarly focuses primarily on river and lake flooding), the Natural Resources Ministry acknowledged that gaps continue to exist with regard to roles and responsibilities for managing urban flooding. To address this, the Flooding Strategy commits the Province to establish an urban flooding working group with representatives from five ministries and select municipalities. The Flooding Strategy states that the priorities for the group are to “identify roles and responsibilities related to urban flooding, determine new or emerging urban flooding issues and develop a provincial framework for urban flooding policy.”

In 2020, the Natural Resources Ministry drafted terms of reference and invitations to participate in the working group. However, at the time of our audit, no urban flooding working group had been created. The Natural Resources Ministry does not have a timeline for implementing this item. The Ministry has instead prioritized work on other areas of the Flooding Strategy that are more clearly aligned with its own responsibility for river and lake flood management.

As shown in the subsequent audit findings, the lack of clarity in assigned roles and responsibilities continues to result in gaps in urban flooding management.

RECOMMENDATION 1

To resolve gaps in roles and responsibilities, we recommend that the Ministry of Natural Resources and Forestry, the Ministry of the Environment, Conservation and Parks, the Ministry of Municipal Affairs and Housing, and the Ministry of Infrastructure develop a provincial framework for urban flooding that clearly identifies and assigns roles and responsibilities for urban flood management.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry of the Environment, Conservation and Parks, the Ministry of Natural Resources and

Forestry, the Ministry of Municipal Affairs and Housing, and the Ministry of Infrastructure will continue to work collaboratively consistent with each ministry's mandate.

Municipalities also play a major role in planning, building, operating/managing and funding their stormwater infrastructure.

NATURAL RESOURCES MINISTRY'S RESPONSE

The Natural Resources Ministry's mandate is limited to addressing risks associated with fluvial flooding (rivers, streams, and lakes).

MUNICIPAL AFFAIRS MINISTRY'S RESPONSE

The Ministry agrees that reducing the risks of urban flooding is an area that could benefit from more co-ordination. However, leading development of a provincial framework for urban flooding is not within the mandate of the Municipal Affairs Ministry. The Ministry notes that stormwater management, flooding and climate change adaptation fall under the mandates of the other ministries included in this recommendation. The Municipal Affairs Ministry will collaborate with other ministries and anticipates providing a supportive role on any initiatives resulting from this recommendation.

INFRASTRUCTURE MINISTRY'S RESPONSE

The Infrastructure Ministry agrees with the recommendation to clearly identify roles and responsibilities. The Ministry has responsibility for oversight of the asset management planning regulation, which pertains to the municipal infrastructure portfolio, including the full range of infrastructure assets. The Ministry has continued to partner with the municipal sector to deliver asset management planning tools and supports since 2018, including direct, in-person support from asset management professionals, detailed workshops on regulatory topics, and, beginning in 2022, has facilitated

communities of practice in addition to continued one-on-one coaching and assistance and detailed workshops on regulatory topics.

The Ministry will ensure that these roles and responsibilities are clearly identified and communicated to the Natural Resources, Environment and Municipal Affairs Ministries.

AUDITOR GENERAL'S RESPONSE

While each of the four ministries indicated that it will continue to work within its own mandate, contrary to a recommendation made by the Special Advisor on Flooding and a commitment made in Ontario's Flooding Strategy, none agreed to develop a provincial framework that clearly identifies and assigns roles and responsibilities for urban flood management.

4.2 Provincial Help to Homeowners to Reduce Flood Risks

Homeowners are key players in reducing flood impacts on their own and neighbouring properties. For example, cleaning gutters and grading land can help direct water away from basements, while rain barrels can retain stormwater on-site and reduce runoff.

The Province has an important role in supporting property owners to take measures to reduce urban flooding on private property. This can involve educating the public about flood risks and prevention, providing incentives to adopt preventive measures, and regulating building construction to protect homeowners. Over the years, the Province has made several commitments to help homeowners reduce their risks from urban flooding. We found, however, that many of these commitments remain unfulfilled or have not been effectively implemented.

4.2.1 Buyers of New Homes Are Not Protected from Sewer Backups Due to Lack of Clarity in the Building Code

Backwater valves, which are installed in the main sewer pipe at the point the pipe exits a home, are

designed to allow water to flow in one direction only—out. Backwater valves can therefore decrease the risk of stormwater, or worse, raw sewage from combined sewer systems, backing up and entering basements through floor drains, toilets or other points during heavy rainfall events, when sewer systems become overwhelmed.

Proactively installing backwater valves during new construction is far more cost-effective than installing them as part of a retrofit after a problem arises. For new construction, the cost to install is around \$250. Quotes obtained by our Office to install a valve in an existing home ranged from \$2,800 to \$4,800, not including the cost to repair any damage done to flooring to access the underground sewer pipe during installation. Proactively installing backwater valves can also potentially save significant costs in avoided damages. For example, the average cost to repair a basement following the 2013 urban flooding in Toronto was \$43,000. Further, some insurance companies offer discounts to homes with backwater valves.

The Municipal Affairs Ministry is responsible for the administration of the *Building Code Act, 1992* and the Building Code (a regulation under the Act), which lay out rules for the construction of new, as well as renovations of existing, buildings. Municipal building officials are responsible for the Code's implementation. The Code states that backwater valves are required at the time of construction for drains that “may” be subject to backflow. A 2012 survey conducted by the Institute for Catastrophic Loss Reduction found that the Code's ambiguity in the term “may” hinders the widespread installation of these devices. One building official responded that “any drain ‘may’ flood, but there is little political will to force residents to spend money.” Overall, only 26% of the building officials who responded to the 2012 survey reported that their municipalities required backwater valves in all or most new homes.

One of the commitments in Ontario's 2018 Made-in-Ontario Environment Plan (see **Appendix 3**) is to “modernize the Building Code to better equip homes and buildings to be better able to withstand extreme weather events.” The Environment Plan suggested that an affordable way to do this would be to require

backwater valves in new homes that are at risk of backflow. At the time of our audit, the Municipal Affairs Ministry was updating the Code on a range of topics, with plans to file a new edition in early to mid-2023 that would come into effect one year later. However, it did not propose any changes to the requirement in the current Code that a backwater valve be installed where a building drain “may” be subject to backflow.

In our Office's survey of chief building officials, we found that municipalities use differing criteria for determining whether drains “may” be subject to backflow. Fourteen (27%) of the 52 respondents reported that they require backwater valves for *all* new homes with basements within their municipality; 19 (37%) do not require *any* mandatory installation; and 19 require backwater valves for *some* homes with basements. For an estimate of some, 13 of the 19 officials provided an average estimate of 18%, while the others provided responses such as “unknown,” “rarely” or “very small percentage.” Officials that do not require backwater valves in all homes estimated, on average, that 11% of new homes *voluntarily* install backwater valves.

Of the 19 respondents that do not require backwater valves in any homes, 13 (68%) indicated that they would benefit from greater clarity on when backwater valves are required. As discussed in **Section 4.4** on flood risk mapping, municipalities, including chief building officials, may not have all the tools necessary to identify all high-risk areas. Furthermore, the Institute for Catastrophic Loss Reduction reports that, due to the unpredictable nature of extreme rainfall events, it is often impossible to identify which areas within a municipality will be exposed to sewer backup risk until widespread sewer backup events have occurred.

In contrast, the 2012 survey by the Institute of Catastrophic Loss Reduction found that the Alberta Safety Codes Council provided building officials with clear guidance for backwater valve installations, such that application of the requirements is more consistent. While building officials in Ontario are to make their own determination as to whether a drain “may” be subject to backflow, Alberta guidance states that every drain below street level is subject to backflow. The survey found that 81% of Alberta officials reported that backwater valves were required for all or most new homes.

RECOMMENDATION 2

To improve the flood resiliency of new homes, we recommend that the Ministry of Municipal Affairs and Housing review the requirements in Ontario's Building Code for the installation of backwater valves, and provide additional guidance to reduce ambiguity and increase uptake.

MUNICIPAL AFFAIRS MINISTRY'S RESPONSE

In 2015, the Building Code was amended in response to requests to clarify where backwater valves would need to be installed. The Ministry proposes to review those Code changes by working with building officials and associations in Ontario, to assess the level of understanding of the backwater valve provisions and take appropriate actions to enhance understanding and clarity if necessary.

4.2.2 Ontarians Have Unequal Access to Financial Incentives to Floodproof Their Homes

To help homeowners adopt measures to protect their homes against extreme weather events such as flooding, the 2018 Made-in-Ontario Environment Plan contained a commitment to consult on supportive tax policy options (see **Appendix 3**). In April 2022, the Ministry of Finance, which has lead responsibility for this commitment, confirmed that it has not undertaken consultations on tax policy options to support homeowners in adopting measures to protect their homes against extreme weather events.

Further, in 2021, the Environment Minister's Climate Change Advisory Panel submitted a report to the Environment Ministry, the lead ministry on climate change adaptation. The report noted that loss from basement flooding is the leading preventable climate-related damage to homes in Ontario, and recommended the Province support local governments that provide financial incentives to homeowners. However, at the time of our audit, the Province has not yet taken steps to implement this recommendation.

In the absence of provincial action, homeowners currently have uneven access to municipal flood-protection incentives, which may lead to greater vulnerability to home flooding in parts of the province. For example, while Toronto provides incentives of up to \$3,400 for residents to install flood-protection devices (including up to \$1,250 for backwater valve installations), many other municipalities do not provide any incentive. Our survey of a sample of municipalities found that 16 (53%) of 30 do not offer financial incentives for homeowners to take measures to prevent basement flooding, including some municipalities in which flooding has occurred.

RECOMMENDATION 3

To help homeowners adapt to climate change, and improve the flood resiliency of existing homes, we recommend that the Ministry of the Environment, Conservation and Parks work with the Ministry of Finance in consulting on how to incentivize flood-risk mitigation improvements by homeowners, and based on the outcome of the consultation, work with partner ministries to implement appropriate options as identified.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry is not currently pursuing options to incentivize flood-risk mitigation improvements, as many municipalities have programs to support resilient actions, such as disconnecting downspouts and installing backwater valves. Each municipality has different capacities and priorities, and consideration of incentive programs should reflect local need. Municipalities can also access various federal/provincial programs to support broader community resilience.

AUDITOR GENERAL'S RESPONSE

The Environment Ministry has not committed to consult on or work toward implementing ways to incentivize flood-risk mitigation improvements by homeowners, despite the commitment made in the 2018 Made-in-Ontario Environment Plan.

4.2.3 Province Not Educating Homeowners on the Increasing Risk of Flooding

Educating the public about flood risk could encourage homeowners to adopt important flood-protection measures, such as installing backwater valves. Accordingly, in the 2018 Environment Plan, the government committed to work with the real estate and insurance industries to raise awareness among homeowners of the increasing risk of flooding (see **Appendix 3**). The 2020 Flooding Strategy made a similar commitment (see **Appendix 4**).

In 2019, the Special Advisor on Flooding recommended that the Environment Ministry work with the University of Waterloo's Intact Centre on Climate Adaptation (which had previously led a home flood-protection pilot program in Burlington and Toronto) to inform homeowners about flood risk and protection. Further, in November 2021, the Climate Change Advisory Panel recommended that the Environment Ministry and Natural Resources Ministry work together to educate homeowners to improve their homes' resilience to basement flooding.

However, at the time of our audit, neither the Environment nor Natural Resources Ministry had implemented any of these commitments or recommendations.

RECOMMENDATION 4

To improve public awareness of flood risks and encourage homeowners to take steps to reduce the impacts of urban flooding, we recommend that the Ministry of the Environment, Conservation and Parks and the Ministry of Natural Resources and Forestry work with external stakeholders to promptly develop and implement a home flood-protection education campaign.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry of the Environment, Conservation and Parks will explore opportunities to work with other ministries regarding flood-protection public communications.

NATURAL RESOURCES MINISTRY'S RESPONSE

The Natural Resources Ministry has taken steps to increase public access to flood-related information. Updates were made to **Ontario.ca/floods** in 2020 to outline actions homeowners can take before, during, and after a flood emergency to help protect their homes from flooding from lakes and rivers.

The Ministry will consider opportunities to work with other ministries to further improve awareness of flood risks as they arise.

4.3 Guidance to Help Decision-Makers Understand and Apply Local Climate Data

As noted in **Section 2.3**, heavy precipitation events are increasing in both frequency and intensity across Ontario. Local precipitation events can be even more extreme than the provincial averages. For example, in August 2022, 100 millimetres of rain fell in Brampton within a 24-hour period, resulting in flooded roads and basements.

Infrastructure and buildings designed with historical climate data may not be able to withstand future precipitation patterns. Given that these assets typically have long life expectancies, the failure to consider future precipitation patterns—based on climate projections—when designing, constructing and replacing infrastructure and buildings could result in not only increased urban flooding, but also greater long-term costs due to potential damage, repairs, disruptions and replacement costs.

4.3.1 Municipalities Are Receiving Contradictory Guidance on Using Climate Change Data and Continue to Rely on Historical Rather Than Projected Data

In 2019, Ontario's Special Advisor on Flooding found that a lack of provincial guidance for considering climate change was a challenge to managing flood risk. We found that provincial ministries are

providing contradictory guidance on how to account for climate change.

For example, the Provincial Policy Statement instructs municipalities to prepare for the impacts of a changing climate in land-use planning decisions. Conversely, the Municipal Affairs Ministry requires that building authorities use the climate design data set out in Ontario's Building Code, which is based on historical weather observations, when approving building designs. In our survey of chief building officials, all 51 officials who responded to our question about climate data indicated that they relied on historical climate data rather than projected data when enforcing the Code.

Similarly, the Environment Ministry, which approves the design of municipal stormwater infrastructure, requires municipalities to design sewers using the most recent historical precipitation data, but not climate projections. In a separate survey we conducted of a sample of municipalities, 17 (57%) of 30 reported that they relied on historical precipitation data to design stormwater infrastructure.

Moreover, we found that the Province has not fully implemented commitments in its 2020 Flooding Strategy that would provide guidance to municipalities to account for climate change. For example, the Flooding Strategy (see **Appendix 4**) includes commitments to encourage municipalities to update their requirements for new development to mandate the use of updated precipitation data in design standards, and to account for climate change in the design of drainage infrastructure. While the Ministry of Transportation, in 2016, published projected precipitation data and directed provincial contractors to use this projected data in the design of highway drainage infrastructure, other parts of the commitments, including considering climate change in municipal drainage infrastructure, remain outstanding.

RECOMMENDATION 5

To improve the ability of municipalities to handle future projected rain events and reduce the risks of urban flooding, we recommend that the Ministry of the Environment, Conservation and Parks and the

Ministry of Municipal Affairs and Housing provide consistent guidance and direction to municipalities regarding climate change information and the use of projected climate change data in accordance with the government's commitments in its Flooding Strategy.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry will work closely with the Ministry of Municipal Affairs and Housing and the Ministry of Natural Resources and Forestry (and other partner ministries) to support the sharing of guidance on climate projection information/data across ministries and with municipalities. The Ministry is exploring options to ensure the sharing of up-to-date climate projection data/information, including York University's Ontario Climate Data Portal data.

MUNICIPAL AFFAIRS MINISTRY'S RESPONSE

The Ministry agrees with the recommendation that projected climate data, where there is a high level of confidence, should be considered instead of historical climate data in the design of buildings. Under the Reconciliation Agreement on Construction Codes, Ontario has committed to increasing harmonization of Ontario's Building Code with the National Construction Codes.

The National Research Council is developing proposals for the 2025 National Construction Codes that (if approved) would change the methodology for developing climatic design data from historical patterns to future projections, where the confidence level is high. Once these proposals are available, Ontario will consider them for inclusion in its Building Code per its commitment to have a new provincial Code in force within 18 months of publication of the National Construction Codes.

Ontario has always harmonized with and depended on the National Construction Codes for its structural requirements. Those structural requirements rely, in part, on climate and seismic data from Environment Canada that the National Research Council uses to develop the design tables

that are brought into all provincial building codes to help to ensure that buildings can withstand expected wind, snowload, rainfall, temperature and seismic activity wherever that building is located. No province or territory has the research capabilities that the National Research Council possesses; hence it is most appropriate that Ontario continue to obtain this data from the national sources and harmonize it with the Ontario Building Code as it becomes available or is updated.

The Ministry notes that the Provincial Policy Statement, 2020 policies that require municipalities to prepare for the impacts of a changing climate fall under the mandate of the Environment Ministry. The Municipal Affairs Ministry would be prepared to provide a supporting role to the Environment Ministry on any initiatives relating to this recommendation.

4.3.2 As the Only Province without a Regional Climate Service Organization, Ontario Lacks Reliable Access to Climate Data and Tools

Climate service organizations in other jurisdictions assist decision-makers—such as municipalities, provincial ministries, government agencies, engineers and health authorities—to access and apply relevant local climate change information. Examples of climate services include visualization tools, modelling software, resource libraries of datasets, tools and guidance, training on finding, interpreting and using climate data, and a help desk with dedicated staff to provide support on the use of climate information in decision-making.

Several climate service organizations exist across Canada, including the Pacific Climate Impacts Consortium (British Columbia), ClimateWest (Alberta, Saskatchewan and Manitoba), Ouranos (Quebec) and CLIMATlantic (New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador). These organizations differ in terms of their structure (such as involvement of local universities, utilities, and/or environmental groups) and sources of funding (public and private). However, each receives support and funding from the federal government, through

the Canadian Centre for Climate Services. By contrast, Ontario does not have an organization that provides climate services to the decision-makers that need them.

Our Office's survey of a sample of municipalities found that, in the absence of provincial data, 24 (80%) of the 30 respondents reported using consultants to analyze or provide climate change information, on which each municipality spent an average of \$340,000 over the past five years. This risks an inefficient use of resources, as well as potential inequities across the province, as smaller municipalities may lack the resources to source and analyze climate information. For example, the municipalities that told us they did not use climate consultants had an average population of 50,000, as compared to an average population of 310,000 among municipalities that have used consultants.

Previously, the Environment Ministry recognized that it did not have sufficient internal capacity, nor the specialized expertise, to conduct climate modelling and to translate climate science into useful decision-making information for ministries, municipalities, Indigenous communities and the private sector. To address this gap, the Ministry signed an agreement with the University of Toronto in May 2018 to create a climate service organization. One of the goals for the organization was to avoid duplication and help address capacity and equity issues for smaller communities. The Climate Resilience Centre of Ontario was incorporated in June 2018. At that time, the federal government offered to assist with funding. However, in October 2018, before the organization began operating, the government of Ontario directed that the climate organization be wound down within a month.

Instead of a staffed, external climate service organization, the government's 2018 Made-in-Ontario Environment Plan made a commitment for the Environment Ministry to develop a user-friendly online tool. Such a tool would make practical climate change impact information available to the public and private sectors to help people understand the potential impacts of climate change in their communities. This tool would differ from the existing Ontario Climate Data Portal, whose creation and operation the Ministry has

funded since 2016. The Ontario Climate Data Portal is intended by the Ministry to be a source of detailed data for technical users (e.g., scientists and subject matter experts) and may not be practical for use by general decision-makers. None of the municipalities we surveyed used the Ontario Climate Data Portal to inform the design of their stormwater infrastructure.

At the time of our audit, the Ministry has not created an online tool, as staff are seeking direction on the scope of the commitment and guidance on creating the tool. Regardless, the online tool committed to in the Environment Plan may not provide all of the services offered by the regional climate services in other provinces, such as publicly accessible, knowledgeable staff to answer questions.

RECOMMENDATION 6

To improve Ontarians' understanding of local climate data, and help Ontario decision-makers, including those in municipalities, ministries and health authorities, prepare for a changing climate, we recommend that the Ministry of the Environment, Conservation and Parks:

- confirm potential funding opportunities with the federal government for a climate service organization; and
- make climate services available in Ontario for decision-makers with limited financial resources, such as smaller municipalities.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry is not pursuing a climate services organization, but is exploring various options and federal funding opportunities to build resilience and/or share information. The Provincial Climate Change Impact Assessment (once complete) could help inform future provincial actions and help municipalities build resiliency and adapt to the impacts of climate change.

In addition, some work has been supported through the Ministry's Great Lakes program. For example, Ontario has supported ICLEI Canada in the delivery of training sessions/workshops to local

decision-makers (i.e., municipalities and conservation authorities) on assessing risks and adaptation planning. As well, the Ministry has supported the delivery of training sessions to municipalities (e.g., Thunder Bay) on quantifying climate risk to infrastructure.

4.4 Flood Risk Mapping

4.4.1 Many Municipalities Are Unable to Map Urban Flood Risk Areas

There are various ways municipalities map flood risks. For example, "flood hazard maps" are required under the Provincial Policy Statement to support identification of flood-prone areas near rivers, streams and lakes. In contrast, "flood risk maps," while not required for regulatory purposes, are used to identify areas vulnerable to all types of flood risk irrespective of proximity to water bodies, including urban flood risk. Further, flood risk maps incorporate information about the effect of stormwater infrastructure to assess risks to people and property. We found, however, that many Ontario municipalities are unable to accurately map urban flood risk due to a lack of data and/or resources to model urban flood risks.

Flood risk maps are frequently used for emergency management and flood forecasting and warning purposes, and can inform provincial and municipal land-use decisions. For example, flood risk maps can help municipalities identify areas of high urban flood risk as they plan for and approve new housing developments, roads and other structures. Flood risk maps can also help municipalities identify where new or upgraded stormwater infrastructure is most needed to reduce future urban flood risk. These maps can also provide other stakeholders such as building authorities, natural hazard departments, insurance companies and emergency responders with information to better manage urban flood risk.

To accurately map urban flood risk, various layers of foundational data need to be compiled and mapped over an area to determine how surface water flows over a landscape and where it is likely to pool and present a risk of flooding during a storm. Key types

of foundational data include elevation (of both the ground and buildings on it to identify high and low points); land cover (the surface cover on the ground, such as vegetation, bare soil or infrastructure); and soil type/depth (which affects water absorption). This data is then coupled with information on the capacity of stormwater infrastructure to retain and convey stormwater away from people and properties. Detailed modelling of these datasets is used to develop flood risk maps.

In our survey of a sample of municipalities, 22 (73%) of 30 indicated that they are unable to accurately map urban flood risk, and many have instead identified only areas vulnerable to river flooding. Reasons provided included gaps in datasets on stormwater infrastructure, the need for updated elevation or land cover data, and a lack of internal expertise, funding or staff resources to develop and run models to generate urban flood risk maps.

The Natural Resources Ministry is the lead ministry responsible for flood hazard mapping. Conservation authorities and municipalities, using guidance produced by the Ministry, have been mapping flood hazards for decades. While the Ministry has not been expressly assigned responsibility for mapping urban flood risks, much of the foundational data the Ministry collects and uses for flood hazard mapping can also support urban flood risk mapping.

Data Gaps

We found that key data to map urban flood risks is incomplete or outdated in much of the province, but that efforts are under way to collect and improve the information needed.

In response to our survey, many municipalities explained that they are limited in their ability to map urban flood risk primarily due to gaps in data on stormwater infrastructure, particularly below-ground sewer networks. This gap is intended to be addressed by new provincial requirements for municipalities to report on the state of their infrastructure (see **Section 4.5**).

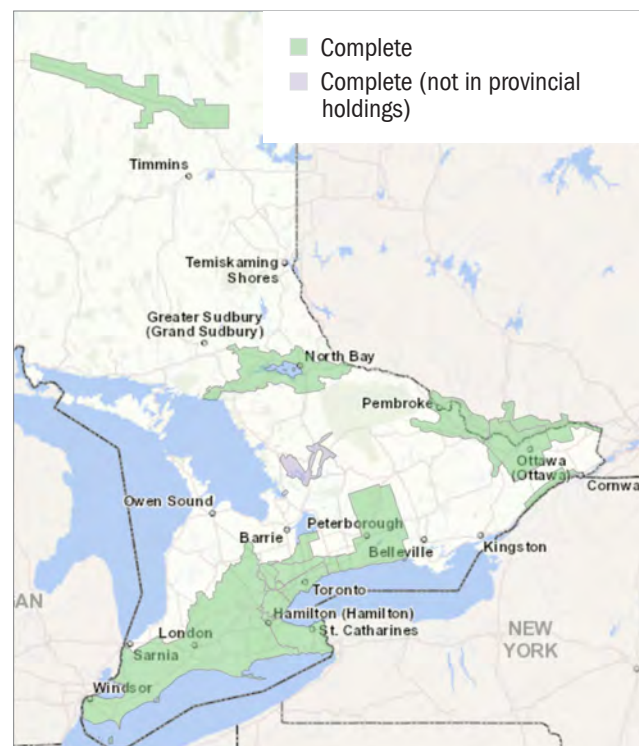
Some municipalities also noted the need for updated elevation data. Ontario's 2020 Flooding Strategy includes a commitment to explore creating and

maintaining elevation data for Ontario's populated areas (see **Appendix 4**). The standard technology for obtaining elevation data is a three-dimensional, laser-scanning method—Light Detection and Ranging (LiDAR). Currently, only 55% of populated areas in Ontario have been mapped through LiDAR. The remaining 45% of populated areas are using elevation data that is 30–40 years old and insufficient for flood mapping. As a result, several urban municipalities do not yet have access to LiDAR data (see **Figure 7**). In some cases, municipalities without LiDAR data are still relying on old, hand-drawn contour maps that are too crude for accurate flood mapping, and do not account for changes to the landscape, such as changes to ground levels during construction, or new buildings, which impact the way stormwater flows through an area.

Ontario lags behind most other Canadian provinces in developing an elevation data collection program, primarily due to resource constraints and competing Ministry priorities. Many other provinces have

Figure 7: Status of LiDAR Project Areas for Flood Mapping Data, August 2022

Source of data: Ministry of Natural Resources and Forestry



had robust and comprehensive LiDAR programs for years. For example, Alberta and Nova Scotia initiated LiDAR-based elevation programs in 2007 and 2010, respectively. New Brunswick started a LiDAR-based elevation program in 2015, and by 2019 achieved complete coverage.

However, the Province has made recent progress. In December 2021, the Natural Resources Ministry's Mapping and Geometric Services Section (the lead agency to manage and maintain elevation data) developed a multi-year Elevation Mapping Program. The Ministry plans to collect LiDAR data suitable for flood mapping over the next four years, and projects that by 2026 LiDAR data will have been acquired for approximately 95% of populated areas in Ontario.

Municipalities also need accurate data on wetland boundaries for flood risk mapping. The Natural Resources Ministry is responsible for maintaining wetland mapping data that shows the location and boundaries of all identified wetlands (see **Section 4.8** for discussion of wetlands). Wetland boundaries can change due to natural fluctuations or advances in mapping technologies. However, boundaries of previously evaluated wetlands are not regularly updated, and 91% of data on unevaluated wetlands was collected between 28 and 40 years ago.

Finally, municipalities need accurate data on land cover. The Natural Resources Ministry aims to provide province-wide land cover data every five years, but due to the time required to collect and synthesize the imagery data, the most recent data for southern Ontario is between seven and 11 years old. Land cover data for the rest of the province was last updated in 2011 and was collected at a lower resolution, making it less accurate for flood mapping.

Modelling

Even where the necessary data is available, 10 (33%) of the 30 municipalities in our survey stated they lack expertise, funding or staff resources to develop and run models to generate urban flood risk maps.

Ontario's Flooding Strategy includes a commitment to investigate other types of flood mapping formats to supplement flood hazard maps. This could

include urban flood risk maps. However, at the time of our audit, the Natural Resources Ministry has not yet assessed additional mapping formats. The Ministry told our Office that it is prioritizing other Ministry commitments in the Flooding Strategy related to flood hazard mapping.

In the absence of provincial action, municipalities have been left on their own to determine how to map urban flood risks. While some municipalities, conservation authorities and other stakeholders have developed their own methods, others do not have access to such tools. For example, Credit Valley Conservation Authority and partners have developed the Risk and Return on Investment Tool for municipalities and other stakeholders to map flood risk areas. The tool enables users to incorporate whichever data they have available on both river and urban flooding to determine priority flood risk areas. However, due to funding limitations, this tool is not currently publicly available.

4.4.2 Information on Urban Flood Risk Not Shared with the Public in an Accessible Manner or at All

In our municipal survey, 26 (87%) of the 30 municipalities stated they do not provide the public with any information or maps of areas that are at risk of urban flooding. Reasons provided by municipalities included a lack of data, potential legal liabilities, and concerns over reducing home values in at-risk neighbourhoods. While municipalities often do not have complete and detailed data, sharing of even partial data (such as only some mapping layers) or proxy data (such as flood-complaint records, other data of historical flood events, or homeowners' use of basement-flooding rebates) can still be informative for assessing areas of flood risk.

The Natural Resources Ministry has committed to address some data gaps (see **Section 4.4.1**). Ontario's Flooding Strategy also commits to update policies, regulations and legislation as needed to ensure flood mapping information can be shared with other agencies and the public (see **Appendix 4**), and the Natural Resources Ministry has lead responsibility. However, municipalities are not required to share urban flood

risk information that they have with the Province, agencies or the public. For example, while the Infrastructure Ministry requires municipalities to report on flood resiliency (see **Section 4.5.1**), there is no requirement for these maps to be submitted or shared with other ministries or the public.

For the most part, municipalities that have mapped urban flood risk, based on either detailed modelling or proxy data, do not share the information in an accessible manner with the public or relevant stakeholders. Municipalities we surveyed that do provide information on urban flood risk do so in the form of static maps in online technical reports or upon request. In contrast, the City of Edmonton published flood risk maps in 2016, after severe storms in 2004 and 2012 overwhelmed the city's drainage system. Edmonton's online, interactive maps show where and how deep water might pool on the ground, as well as how full the city's stormwater drainage system might be after a severe four-hour rainstorm.

RECOMMENDATION 7

To enable municipalities to better identify and address urban flood risk areas, we recommend that the Ministry of Natural Resources and Forestry:

- review existing urban flood risk mapping tools to identify whether any could be effectively applied over a wider geographic area; and
- based on this review, make any identified effective urban flood risk mapping tool available to all municipalities.

NATURAL RESOURCES MINISTRY'S RESPONSE

This recommendation is consistent with commitments in Ontario's Flooding Strategy to investigate other types of flood mapping formats—including flood risk mapping. As noted by the Auditor General, the Natural Resources Ministry is currently focused on fulfilling ministry commitments relating to mapping flood hazards from rivers and

lakes—including updating provincial guidelines and investing in the creation, enhancement and dissemination of river and lake flood hazard mapping through the Ontario Flood Hazard Identification and Mapping Program.

RECOMMENDATION 8

To inform the public of urban flood risk areas, we recommend that the Ministry of Natural Resources and Forestry develop and implement a plan for the Province and municipalities to share locations at potential high risk of urban flooding with the public, as appropriate, based on provincial foundational data and best available urban flood risk data or maps.

NATURAL RESOURCES MINISTRY'S RESPONSE

As noted by Ontario's Special Advisor on Flooding, the Natural Resources Ministry's mandate is limited to addressing risks associated with fluvial flooding from waterbodies (rivers, streams and lakes). The Ministry does not collect information about areas at potential high risk of urban flooding, and municipalities are not required to share urban flood risk information with the Province, provincial agencies or the public. The Ministry encourages municipalities to share any information or maps that they have identifying areas that may be at high risk of urban flooding with the public.

4.5 Municipal Asset Management Planning Process

Municipal asset management plans set out information on the current state of municipal infrastructure assets, as well as on how municipalities intend to manage these assets over the long term. They can help municipalities identify local infrastructure needs and potential funding shortfalls, and improve long-term financial planning for necessary upgrades. These plans can also help inform provincial and federal infrastructure

funding decisions. For stormwater infrastructure, asset management plans can provide important information on their capacity to handle major rainfall events, and therefore, municipalities' resilience to urban flooding.

The Infrastructure Ministry provides oversight of municipal asset management planning. In 2017, the Ministry filed the Asset Management Planning for Municipal Infrastructure regulation, under the *Infrastructure for Jobs and Prosperity Act, 2015*. The regulation requires all 444 municipalities to develop, and make publicly available, asset management plans for all core infrastructure, including stormwater infrastructure (see **Figure 8**).

According to the Ministry's asset management planning webpage, the goal of the regulation is to improve the way municipalities plan for their infrastructure, as well as bring consistency to the asset management planning process and the collected data. The Ministry's webpage notes that, in many parts of the province, infrastructure is degrading faster than it is being repaired or replaced, which puts critical municipal services at risk. The Ministry told us that, while 99% of Ontario municipalities already had some form of asset management

plan, there was significant variation in the level of detail, and the quality of underlying data, within those plans.

4.5.1 Municipal Reporting on Stormwater Infrastructure and Flood Resiliency Not Standardized, with Potential Impacts on Planning and Funding Decisions

The Infrastructure Ministry informed our Office that it has prioritized work to assist municipalities in completing plans for the full range of all core municipal infrastructure assets by the July 2022 deadline, rather than providing detailed support for stormwater infrastructure asset planning. The Ministry has partnered with other organizations, such as the Municipal Finance Officers' Association and Asset Management Ontario, to provide various supports and guidance materials to assist municipalities in meeting the regulatory deadline.

The Infrastructure Ministry also informed our Office that during consultations in 2016, municipalities voiced concerns over the regulation being overly prescriptive, and requested that the Ministry instead

Figure 8: Phased-in Requirements for Municipal Asset Management Planning

Prepared by the Office of the Auditor General of Ontario

Date	Regulatory Requirement
July 1, 2019	All 444 municipalities are to have a finalized strategic asset management policy, outlining commitments to best practices and continuous improvement.
July 1, 2022	Municipalities must have an approved asset management plan for core infrastructure (roads, bridges and culverts, water, wastewater and stormwater infrastructure). Plans must include an inventory of all core assets and include information on: • number of assets in each category • total replacement value • average age and condition of assets in each category, and how condition information is gathered • current levels of service • annual costs over a 10-year period to maintain current levels of service • annual revenue over a 10-year period
July 1, 2024	Municipalities must include information for all other municipal infrastructure assets, including green assets that are not included in core infrastructure, in their asset management plan.
July 1, 2025	For all assets, municipalities must include proposed levels of service and a life-cycle management strategy (i.e., operations and maintenance) and outline the proposed amount of funding to be available each year.

provide guidance documents and additional guidelines on levels of service provided by assets as an addendum to the regulation.

To provide this guidance, since 2018, the Infrastructure Ministry has partnered with the Municipal Finance Officers' Association to deliver programming for municipalities on regulatory requirements, including one-on-one consulting and detailed workshops for municipalities on regulatory topics—including conducting condition assessments on assets and determining current replacement value of their asset inventory.

However, we found that a lack of detailed provincial guidance to support implementation of the asset management planning regulation, specifically as it relates to stormwater infrastructure, is resulting in inconsistent and incomplete reporting. Incomplete reporting can hinder the ability of municipal decision-makers to reliably forecast and prioritize investments for infrastructure maintenance and renewal, which may result in municipal councils underinvesting in stormwater infrastructure. A lack of consistent reporting may also undermine effective decision-making for provincial and federal funding programs that aim to provide infrastructure funding based on greatest need.

Asset Condition

The regulation requires municipalities to report on the current condition of their stormwater assets, stating that this should be based on engineering best practices. However, in the absence of detailed direction from the Infrastructure Ministry on how this information is to be collected and calculated, municipalities are reporting inconsistent and non-comparable information. Our review of a sample of 25 asset management plans (developed to meet the regulation's July 2022 deadline) found that these municipalities used a range of approaches to assess and rate the condition of their stormwater infrastructure, including direct observations, camera inspections, historical and current spending data, and infrastructure age. These methods vary greatly in accuracy and, therefore, make comparisons of asset condition difficult. The Infrastructure Ministry is aware of this challenge; in its initial review

of municipalities' submitted asset management plans, Ministry staff found that the "condition data is incomplete and reported inconsistently, limiting [the data's] analytic value."

Replacement Value

The regulation also requires municipalities to report on the replacement cost of their infrastructure, which is the cost of restoring infrastructure to the same quality and utility as when originally acquired. Ministry staff informed our Office that, similarly to the asset condition data, the approaches taken to reporting data on current replacement value for infrastructure are inconsistent across municipalities. Municipalities themselves have expressed a concern regarding the guidance available to them. A 2021 survey conducted by the Association of Municipalities of Ontario found that municipalities lack standardized guidance on how to estimate replacement costs and quantify infrastructure funding gaps.

Flood Resiliency

The regulation requires municipalities to report on the current levels of service provided by their core infrastructure. Levels of service refers to how well particular assets perform their required function. For stormwater infrastructure, the regulation states that current levels of service include the municipality's flood resiliency, which must include a description of the areas of the municipality that are protected from flooding, as well as the level of protection provided by stormwater infrastructure. In describing flood resiliency, municipalities must include the following two metrics:

- percentage of properties in the municipality resilient to a 1-in-100-year storm; and
- percentage of municipal stormwater infrastructure resilient to a 1-in-5-year storm.

However, there is currently no guidance, either in the regulation or from the Infrastructure Ministry, as to how municipalities are to determine flood resiliency, nor is there any specification as to whether all types of floods (including urban floods) should be accounted for. The Ministry partnered with Asset Management Ontario, a non-profit organization whose mandate is

to strengthen asset management capacity within the public sector, to provide asset management tools for municipalities. Asset Management Ontario developed a catalogue in 2018 that identifies various types of metrics that municipalities can use, and includes potential data inputs for the metrics and recommended uses. However, the catalogue is high-level and does not provide detailed guidance on how metrics are to be interpreted or developed. The Infrastructure Ministry has clarified that municipalities are not required to use this information tool when developing their asset management plans.

In our survey of a sample of municipalities, we asked whether sufficient guidance and direction had been provided specifically on calculating the number of properties resilient to a 1-in-100-year storm. Eighteen (60%) of the 30 respondents indicated that further guidance is needed to help understand the reporting requirements. Municipalities told us that the metric was open to interpretation, that they had little or no direction from the Province in how to determine it, and that they would like to see more specificity for reporting on these metrics in order to standardize the approach across Ontario.

As a result, we found that it is not currently possible to reliably compare province-wide data to determine which municipalities are the most vulnerable to urban flooding. Based on our review of 25 asset management plans, we found that municipalities used a range of approaches to calculate the percentage of properties resilient to a 1-in-100-year storm, and that results were ultimately not comparable. For example, while Toronto estimated property resiliency considering both urban and river flooding, Milton considered only river flooding data and Kenora used only elevation data. Thunder Bay took yet a different approach. The city concluded that, as there are too many variables to be able to accurately assess resiliency, only properties that both are on high ground and have no basements would be deemed fully resilient. Based on this conservative approach, Thunder Bay reported that 0% of properties are resilient. In our municipal survey, 18 (60%) of the 30 municipalities reported that they did not include urban flooding in their calculation of flood resiliency

or, in cases where they had not yet completed the calculation, do not anticipate including urban flooding in their flood resiliency calculation in their next asset management plan.

Resource and Data Constraints

We found that constraints on municipal staff and funding, which limit some municipalities' ability to undertake studies and acquire the data needed to complete asset management plans, may also be contributing to inconsistent reporting. A 2021 consultant's report, commissioned by the Infrastructure Ministry, found that not all municipalities have the quality of data needed to evaluate asset condition or the levels of service being provided. Further, in response to our municipal survey, 24 (80%) of 30 respondents reported that they were limited by a lack of stormwater infrastructure data and/or the staff and resources required to collect and maintain the underlying data needed for their asset management plans.

4.5.2 Municipalities Not Given Direction on How to Consider Projected Impacts of Climate Change on Their Stormwater Infrastructure

The 2017 Asset Management Planning for Municipal Infrastructure regulation requires municipalities, in the final phase of asset management plans due July 2025, to set out the proposed future levels of service that they intend to provide for their stormwater assets, and the associated costs. The regulation does not, however, specify what municipalities are to base their estimates of proposed future levels of service on. In particular, there is no direction to municipalities regarding how, or even if, they should consider future climate projections for increased rainfall events.

Climate change is projected to result in more frequent and intense rainfall events. As a result, municipalities may need to upgrade and expand their stormwater infrastructure to increase their flood resiliency to more extreme events. A failure to consider climate change impacts in future service levels may result in municipalities underinvesting in stormwater

infrastructure and increasing urban flood risks and/or underestimating future costs.

The Infrastructure Ministry advised our Office that it is up to each municipality to follow engineering best practices and assess local conditions when considering their infrastructure in asset management plans. The Ministry does not provide specific guidance on how to consider climate change in stormwater infrastructure asset planning. Asset Management Ontario informed our Office that municipalities are seeking guidance from the Ministry about how to consider climate change in estimating service levels and risks for their stormwater infrastructure. They are also seeking guidance on how to better integrate low-impact development into stormwater asset management planning (see **Section 4.9.1**).

RECOMMENDATION 9

To improve the quality and consistency of municipal stormwater asset management planning, we recommend that the Ministry of Infrastructure:

- in conjunction with its partners, provide additional guidance and direction to enable more standardized and comparable municipal reporting on asset condition, replacement costs, and the flood resiliency metrics for reporting on levels of service for stormwater infrastructure;
- assess data gaps in municipal asset management plans, and work with municipalities to develop approaches to obtain necessary data to improve stormwater asset management planning; and
- provide direction to municipalities regarding consideration of climate change when estimating future levels of service and associated costs for stormwater infrastructure.

INFRASTRUCTURE MINISTRY'S RESPONSE

The Ministry agrees with the Auditor General's recommendation and is planning to assess municipal asset management plans, including working

with third-party quality assurance and advisory services, and will use the findings from this work to consult with the municipal sector on how to support municipalities in their asset management planning. Through this review, the Ministry will assess data gaps and review municipal reporting and metrics and revise or expand the guidance documents and the "AMP It Up" program already provided for the sector.

The Ministry will also consult with the municipal sector on the tools and support it might require to consider climate change when estimating future levels of service and associated costs for stormwater and other infrastructure.

4.6 Funding to Maintain and Upgrade Essential Municipal Stormwater Infrastructure

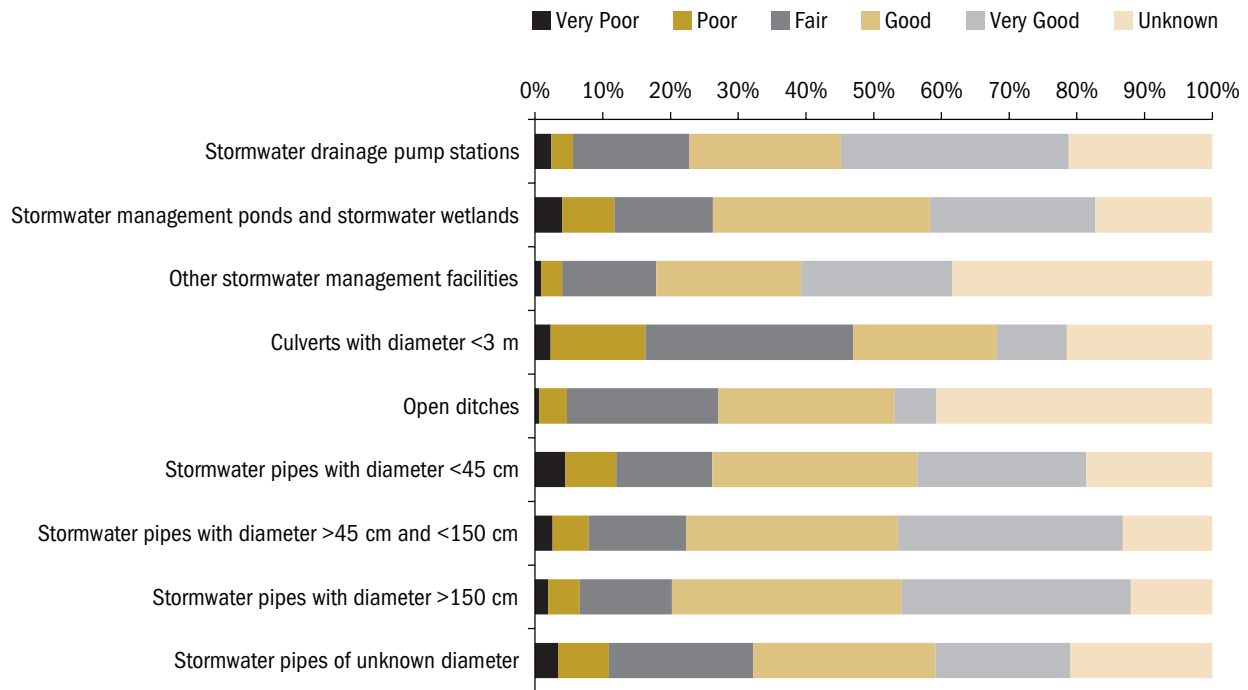
4.6.1 Billions of Dollars Are Needed Just to Bring Municipal Stormwater Assets into State of Good Repair, Let Alone Improve Them

Stormwater infrastructure is critical for managing rainfall and therefore reducing urban flooding. It is up to each municipality to financially plan for and fund their stormwater infrastructure and ensure that it effectively reduces the risk of urban flooding. However, estimates from several reports indicate that Ontario municipalities have been underinvesting in their stormwater infrastructure, resulting in a capital shortfall of several billion dollars.

In 2008, a joint report produced by the Province, the Association of Municipalities of Ontario and the City of Toronto found that there was a significant gap between then-recent investments and future needs for stormwater infrastructure. The report found it would take at least \$788 million per year for 10 years to bring existing stormwater infrastructure to a state of good repair and accommodate population growth. However, we found, based on 2009–20 municipal Financial Information Returns, that capital investment in Ontario urban stormwater systems in the years after that report averaged about \$457 million per municipal fiscal year.

Figure 9: Condition of Ontario Municipal Stormwater Assets, as Reported by Municipalities

Source of data: Statistics Canada, Inventory Distribution of Publicly Owned Stormwater Assets by Physical Condition Rating, 2020



Recent reports support our finding that the investment gap has not been closed. A 2018 report produced by the Ontario Sewer & Watermain Construction Association included stormwater data from 30 Ontario municipalities. For just these 30 municipalities, the report found that it would cost over \$2.2 billion to replace stormwater assets that were determined to be in poor or worse condition. Further, in 2021, a report from Ontario's Financial Accountability Office estimated that \$3.8 billion is required to bring all municipal stormwater assets up to a state of good repair from an engineering and cost-effectiveness perspective. Both estimates are based in part on municipalities' own assessment of the overall condition of their infrastructure as reported to Statistics Canada (see **Figure 9**). However, both reports noted the uncertainty of the condition data, observing that it is often based simply on the age of the assets rather than on direct assessments. Each report supplemented this data with other information to estimate the cost to bring the assets into good repair.

These estimates reflect only the cost of repair or replacement of current infrastructure. They do not

account for future infrastructure needs, and the associated costs, due to pressures such as population growth (with the exception of the 2008 study); more intensive development; projected increased rainfall events resulting from climate change; or the cost to separate combined sewer systems. All of these pressures may require significant additional investments beyond the estimates cited above.

4.6.2 Municipalities Cannot Rely on the Current Level of Provincial and Federal Funding to Fill Stormwater Infrastructure Shortfall

The provincial and federal governments provide some funding for municipal stormwater infrastructure through a variety of funding and grant programs. For example, the Ontario Community Infrastructure Fund (OCIF) provides grants to small, rural and northern communities to address core infrastructure needs, including stormwater infrastructure projects and expenses related to asset management planning. Federal funding is provided through programs such as the Investing in Canada Infrastructure Program (ICIP)

and the National Disaster Mitigation and Adaptation Fund (NDMAF).

However, the funding available meets only a small fraction of the stormwater infrastructure needs of Ontario municipalities. To obtain a comprehensive total of funding that municipalities have received for urban stormwater systems, we reviewed the annual Financial Information Returns for all municipalities that reported receiving Ontario or federal grants over the past 10 years to 2020 (most recent full data). Total grants received either as conditional grants or for tangible capital assets over this 10-year period for urban stormwater systems were \$187 million. Unless grants are increased by an order of magnitude, municipalities cannot rely only on grants to address the shortfall of billions of dollars for stormwater infrastructure. Further, as seen in **Figure 10**, funding levels are inconsistent from year to year as different funding programs begin and end, indicating that provincial and federal grants are not a reliable source of funding for building, maintaining and replacing municipal stormwater infrastructure.

4.6.3 Majority of Municipalities Do Not Have Reliable Source of Municipal Funding to Finance Stormwater Infrastructure Shortfall

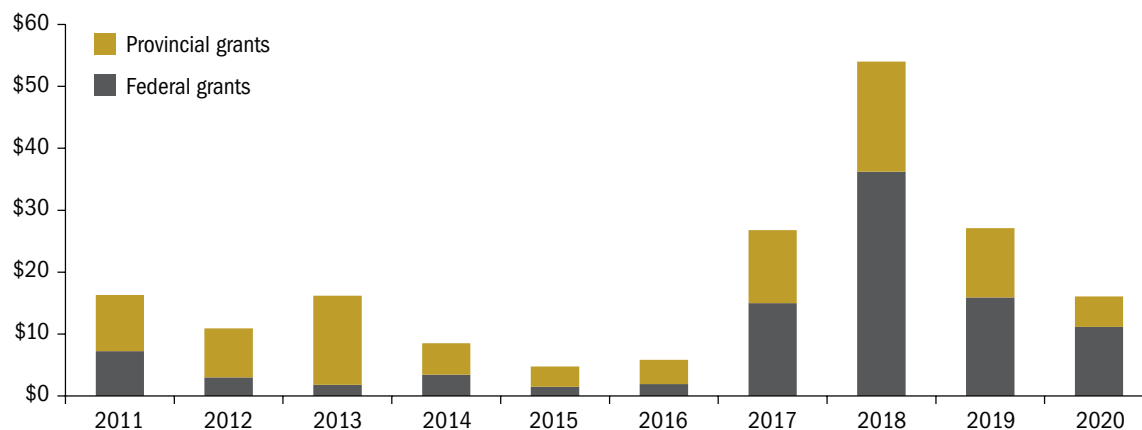
We found that only 28% of Ontario municipalities report collecting earmarked revenue to finance their stormwater management costs. Earmarked revenue, such as from a water charge or stormwater fee charged to municipal residents, can provide a reliable source of funding to finance needed municipal stormwater expenses, including the billions of dollars of capital costs needed to repair, replace and upgrade stormwater infrastructure.

We analyzed the 2020 annual Financial Information Returns (the most recent complete dataset) of all 182 Ontario municipalities that incurred operating expenses relating to urban stormwater management that year. Of the 182 municipalities, we found that, in 2020, most did not report collecting revenue that was earmarked for urban stormwater systems. In particular:

- 38 reported collecting some revenue to fund their urban stormwater services from a (non-tax) service charge, such as a general water charge for drinking-water, wastewater and stormwater services, or a more specific stormwater fee. This included three municipalities

Figure 10: Provincial and Federal Grants for Municipal Urban Stormwater Infrastructure (\$ million)

Prepared by the Office of the Auditor General of Ontario based on data from Municipal Consolidated Financial Information Returns



Note: In 2016, the federal government announced a \$120 billion investment in infrastructure over 10 years. This included a \$2 billion Clean Water and Wastewater Fund to run from 2016 to 2019 for cost-shared projects such as stormwater infrastructure. In anticipation of federal funding programs, the Ontario government announced a \$137 billion 10-year infrastructure plan in 2016. This included \$300 million per year for the Ontario Community Infrastructure Fund, which could be used for stormwater infrastructure. In 2018, the federal government announced a \$2 billion Disaster Mitigation and Adaptation Fund for projects including stormwater infrastructure. In 2019, funding for the Ontario Community Infrastructure Fund was reduced by \$100 million.

that also reported revenues from a separate levy added to the property tax bill; and

- 16 reported collecting some revenue through a separate sewer and water service levy added to the property tax bill, which was used to fund drinking-water, wastewater and/or stormwater services.

The remaining 131 (72%) of municipalities did not report collecting any revenues that were earmarked for stormwater management services.

Water charges are typically split across all water-related services, and so while they provide more specific funding than general municipal revenues, they do not provide earmarked funding specifically for stormwater management. For example, in 2020 the City of Toronto collected \$167 million in water charges from its residents, which was earmarked for its drinking water, wastewater and stormwater management costs.

We identified 14 Ontario municipalities (Aurora, Guelph, Kitchener, London, Markham, Middlesex Centre, Mississauga, Newmarket, Orillia, Ottawa, Richmond Hill, St. Thomas, Vaughan and Waterloo) that have a stormwater fee, which provides earmarked funding specifically for constructing, operating and maintaining stormwater infrastructure. The manner by which these fees are calculated varies. For example, the City of London has charged tiered flat stormwater fees since the mid-1990s, based on the property type and size. Newmarket's stormwater fee is based on both the permeability and size of a property. By tying the amount charged to the permeability of the property, the fee not only generates an earmarked source of revenue, but also incentivizes property owners to increase the permeability of their properties to reduce the amount they must pay. Stormwater fees have also been adopted in at least 14 other municipalities in Nova Scotia, Saskatchewan, Alberta and British Columbia.

Stormwater fee programs can be difficult for municipalities to develop for various reasons, including challenges persuading local residents of the need for such fees and determining how to bill for the services. Such programs require staff who are able to develop and administer them, which can present a barrier for

smaller and lower-resourced municipalities. Absent earmarked funding, municipalities must rely on other, less dependable sources of revenue, such as grants (see **Section 4.6.2**) or general municipal revenues. Municipalities have multiple competing expenses to be funded out of general revenues—from road repairs to police services to new arenas—and municipal priorities may favour funding more visible and politically popular projects, limiting the funds available for stormwater infrastructure. Stormwater infrastructure is largely out of sight and out of mind, until a flood occurs.

4.6.4 Province Moving Forward to Ensure Municipalities Assess and Finance Stormwater Management Costs

After two decades of efforts to move Ontario toward full-cost recovery for municipal water-related services, the Infrastructure Ministry's Asset Management Planning for Municipal Infrastructure regulation of 2017 is an important step forward in ensuring that municipalities assess, financially plan for, and ultimately recover their full stormwater management costs to sustainably finance this critical infrastructure. However, as noted in **Section 4.5**, we found issues with the current reliability of municipal asset management plans, which may limit their effectiveness in meeting the regulation's goals.

Full-cost recovery refers to the concept of having reliable funding to recover the full costs of services—including operation, maintenance and administration costs, as well as future growth-related construction and capital expenditures—without a funding shortfall. Over the years, the Province has made various attempts to require full-cost recovery for municipal drinking-water, wastewater and stormwater services, but most were never implemented (see **Figure 11**). The asset management regulation, passed in 2017, now moves Ontario in this direction. The regulation (see **Section 4.5** for details) requires municipalities to develop asset management plans that identify all of their current stormwater infrastructure costs and revenue. In the next stage of asset management plans, due in 2025, municipalities must also identify their

Figure 11: Timeline of Provincial Attempts to Move toward Full-Cost Recovery

Prepared by the Office of the Auditor General of Ontario

Date	Municipal Infrastructure Covered	Steps Taken
2002	Drinking-water and wastewater	<i>Sustainable Water and Sewage Systems Act, 2002</i> is passed with the intention of making full-cost recovery of drinking water and wastewater mandatory. However, the Act was never proclaimed into force, and was repealed in 2012.
2007	Drinking-water only	Financial Plans Regulation under the <i>Safe Drinking Water Act, 2002</i> is passed, requiring municipalities to develop financial plans for drinking-water systems, but stops short of requiring full-cost recovery.
2010	Drinking-water, wastewater and stormwater	<i>Water Opportunities Act, 2010</i> is passed, which includes a requirement for municipalities to submit Municipal Water Sustainability Plans, which may include a financial plan, if prescribed by regulation. As part of their plans, municipalities would be required to assess the risk that climate change would pose to their stormwater systems, and outline a plan to deal with those risks. However, a regulation has not been made to implement this provision of the Act.
2012	Drinking-water and wastewater	<i>Sustainable Water and Sewage Systems Act, 2002</i> is repealed.
2015	Drinking-water, wastewater and stormwater	<i>Infrastructure for Jobs and Prosperity Act, 2015</i> is passed; it includes an authority to regulate municipal asset management planning.
2017	Drinking-water, wastewater and stormwater	Asset Management Planning for Municipal Infrastructure regulation, under the <i>Infrastructure for Jobs and Prosperity Act, 2015</i> , is passed, setting out requirements for municipal asset management plans, including requiring a full accounting of investment needs for municipal water, wastewater and stormwater, which is a partial step toward full-cost recovery.

proposed future stormwater management costs, including full life-cycle costs of assets, and their projected annual funding to cover those costs. Municipalities must also identify any potential funding shortfalls, and explain how they will manage the risks associated with not undertaking any activities as a result of that funding shortfall.

Further, the Environment Ministry has also recognized the need to assist municipalities with identifying reliable sources of funding for stormwater management. In January 2022, the Ministry posted a discussion paper on the Environmental Registry that, among other issues, sought feedback on financing mechanisms to assist municipalities achieve full-cost recovery for municipal wastewater, stormwater management and water conservation. Commenting on the discussion paper, the Toronto and Region Conservation Authority noted that provincially led initiatives to help

municipalities overcome the substantial upfront costs of developing stormwater fee programs would lead to greater uptake sooner. As of October 2022, the Ministry had not decided next steps following this consultation, and no decision notice had been posted on the Environmental Registry.

RECOMMENDATION 10

To help municipalities sustainably finance necessary investments in stormwater infrastructure and effectively manage the risks of urban flooding, including under future projected climate scenarios, we recommend that the Ministry of the Environment, Conservation and Parks develop and share best practices and guidance to facilitate knowledge sharing among municipalities and assist municipalities in developing and implementing reliable funding models, such as stormwater fee programs.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry appreciates how important effective stormwater management is for protecting our communities and our waterways. Effectively managing stormwater also includes municipalities making effective financial decisions to appropriately manage and invest in this infrastructure. We look forward to working with other ministries to continue to promote stormwater management that is sustainable from both a financial and environmental perspective and share this knowledge with municipalities and the public.

4.7 Green Spaces

As noted in **Section 2.3.1**, green spaces—which include natural features (such as wetlands, woodlands and meadows) and other vegetated areas—are important for flood reduction as they are pervious surfaces that can absorb water. In this way, green spaces can reduce or delay the amount of stormwater that runs into sewer systems, onto roads and into homes, and therefore, reduce the risk of sewer backups and flooding. They also provide other benefits such as improving air quality, helping cool the urban environment, and providing habitat for wildlife and recreational areas for people.

4.7.1 Provincial Land-Use Planning Direction Insufficient to Protect Green Spaces That Guard against Urban Flooding

Despite the critical role that green spaces play to reduce the risk of urban flooding (and provide other benefits), we found that weak provincial land-use planning direction to protect green spaces is resulting in the continued loss of such spaces in urban areas across southern Ontario. According to Statistics Canada's analysis of 2021 satellite data, the percentage of urban land area classified as green has declined in 31 of 33 (94%) of Ontario's medium and large population centres over the past 20 years (see **Figure 12**). On average, land area classified as green has declined

by 6% in these population centres, with the biggest declines in Windsor (18%) and Milton (22%).

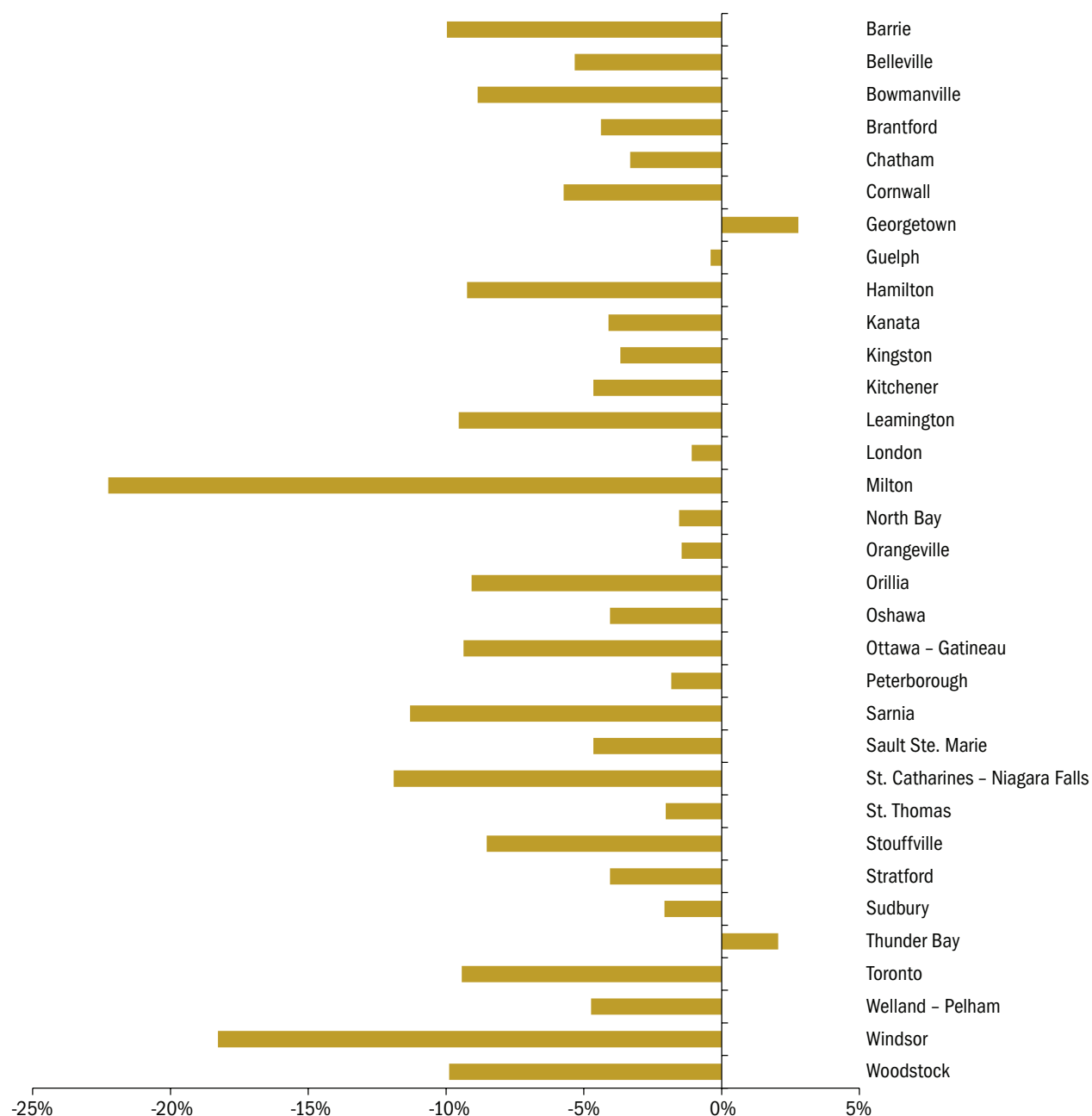
Working with other land-use ministries, the Municipal Affairs Ministry develops laws and policies on how land-use planning is to be conducted in Ontario. Municipalities must develop official plans and make decisions that are consistent with these provincial land-use policies. Of relevance to green spaces, the Ministry directs municipalities through the Provincial Policy Statement 2020, made under the *Planning Act*, to both protect “natural features and areas for the long term” and “maximize the extent and function of vegetative and pervious surfaces” when planning for stormwater management. However, the Provincial Policy Statement also directs municipalities to implement other provincial interests, such as to protect aggregate resources and increase housing supply mix, which can conflict with the direction to protect natural features and maximize pervious surfaces.

Similarly, the Municipal Affairs Ministry's Growth Plan for the Greater Golden Horseshoe (Plan) was developed to promote increased housing supply and economic growth while balancing other land-use planning goals, such as protecting agricultural land and natural features. The Plan aims to reduce sprawl through intensification in areas designated for growth and development, and direct growth away from natural areas that have been identified for protection due to their important ecological functions. However, the Plan still allows for some development within these natural areas, with limits on the total area that may be converted to impervious surfaces. Further, the Plan does not set specific targets or limits on the amount of green space that may be converted to impervious cover in areas outside natural areas identified for protection. Therefore, while the Plan may slow the amount of green space that is lost, it still allows for the overall continuing loss of green spaces in southern Ontario.

We also found that the Province may, in some cases, be undermining local efforts to protect important green spaces. As noted in our 2021 Land-Use Planning in the Greater Golden Horseshoe report, Minister's Zoning Orders (MZOs), which override municipal land-use decisions, have increased significantly in recent years.

Figure 12: Percent Change in Average Urban Greenness in Medium and Large Population Centres in Ontario, 2002–2006 to 2017–2021

Source of data: Statistics Canada



Note: The above data shows the percent change over the past 20 years, using five-year averages for the periods of 2002–06 and 2017–21. Urban greenness is a measure of vegetation presence, quantity and health, based on satellite imagery data of individual pixels within an urban population centre. A pixel was classified as green if it had an index value of at least 0.5, on a scale of -1 to +1. Urban greenness is the percentage of land area that is classified as green within a given population centre.

In the two-year period from March 2019 to March 2021, the Minister issued 44 MZO; prior to this, an MZO was issued about once a year. Such MZOs have been used to support development that can result in the loss of natural features that enhance flood resilience.

For example, in 2020, the Minister issued an MZO for a new residential and commercial development project in Vaughan, which includes the removal of a provincially significant wetland area, as well as five unevaluated wetlands and other natural drainage features (see **Section 4.8** on wetland evaluation). Toronto and Region Conservation Authority staff were not consulted prior to the MZO request, but were required to issue the permit in accordance with the amended *Conservation Authorities Act*. Staff added several conditions to the permit to try to mitigate the impacts of the development. At the time of our audit, the planning process was still under way and the conservation authority anticipated that the developer would submit a request to the Natural Resources Ministry to delist parts of the provincially significant wetland.

In 2021, after the Minister issued another MZO, the Toronto and Region Conservation Authority reported that its board of directors was legally required, under duress, to permit development within a provincially significant wetland in Pickering. The developer eventually withdrew its application and the Minister amended the MZO to exclude the area with the provincially significant wetland. Nevertheless, this case generated considerable opposition from the public and environmental organizations, in part because it demonstrated that MZOs are not required to be consistent with the Provincial Policy Statement.

In addition, in October 2022, the Ontario government introduced Bill 23, the *More Homes Built Faster Act, 2022* to address housing supply issues. The bill includes proposed changes to the *Conservation Authorities Act* that would prevent conservation authorities from placing conditions on development applications for reasons other than controlling natural hazards or protecting public safety, thus limiting their role in conserving natural areas and protecting local ecology. The bill also creates mechanisms for the Province to override

conservation authorities' decisions. Further, the Province is proposing to require conservation authorities to identify any lands that they own that could be sold or leased for housing development. At the time of this audit, the bill was still being considered; however, if passed, these proposals could potentially contribute to the further loss of critical green spaces, which may increase the risk of urban flooding in surrounding communities.

4.7.2 Province Is Not Tracking Loss of Green Space

In 2015, the Municipal Affairs Ministry identified the percentage of hardened/impervious surfaces, natural cover, wetlands and woodlands in the Greater Golden Horseshoe (the fast-growing region centred around the City of Toronto) as one of the performance indicators for the Growth Plan for the Greater Golden Horseshoe, 2006, the Province's framework for managing growth in this region. However, this is only an informational metric, not a specific target to maintain or increase natural cover.

As noted in our 2021 report, *Land-Use Planning in the Greater Golden Horseshoe*, the Ministry is not collecting or tracking data on this indicator, nor requiring municipalities to track and report on this indicator. In our survey of a sample of municipalities, 24 (80%) of the 30 respondents informed our Office that they are also not mapping or tracking changes in green spaces or pervious surfaces over time.

While Statistics Canada's satellite imagery data provides a rough indicator of the presence of green space (**Figure 12**), due to various limitations in the methodology it is not a substitute for more detailed and accurate municipal tracking of green spaces. For example, a lower value in Statistics Canada's data on green space may be attributed to either an actual loss of green space, or to a decline in vegetative health due to natural factors such as drought, insects or disease. More detailed and accurate tracking of green spaces could support better provincial and municipal protection of green spaces.

RECOMMENDATION 11

To reduce urban flood risk through provincial land-use planning that effectively balances the protection of natural features and green spaces with provincial needs for growth and housing supply, we recommend that the Ministry of Municipal Affairs and Housing:

- track and publicly report on the status of indicators of the percentage of area covered by pervious surfaces, natural cover, wetlands and woodlands in each municipality; and
- review the Ministry's land-use plans and policies and, as needed, include limits on impervious surface area that results from development, in order to improve performance on these indicators.

MUNICIPAL AFFAIRS MINISTRY'S RESPONSE

In October 2022, the Ontario government introduced the *More Homes Built Faster Act, 2022* and Ontario's newest Housing Supply Action Plan, *More Homes Built Faster*, the Province's plan to address housing. As part of this initiative, the Municipal Affairs Ministry is undertaking a housing-focused policy review of *A Place to Grow* and the Provincial Policy Statement, seeking input on how to create a streamlined province-wide land-use planning policy framework that enables municipalities to approve housing faster and increase housing supply. As part of this review, we will be working with our partner ministries, including the Natural Resources Ministry and the Environment Ministry, to determine what policies that fall under their mandates are needed to guide land-use planning in the future. We will consider the Auditor's recommendation going forward, as we look to our partner ministries to identify performance indicators and report on policies related to their mandates.

While the Ministry agrees that performance indicators are important, the Ministry notes that the scientific and technical expertise relating to the

identification and protection of natural features such as wetlands and woodlands falls under the mandate of the Natural Resources Ministry, and that the technical expertise and mandate relating to stormwater management, climate change adaptation and low-impact development rest with the Environment Ministry. The Ministry also notes that the policies in the Provincial Policy Statement reflect the mandates of a number of provincial ministries, and are high-level and outcome-oriented, providing flexibility for implementation at the local level. Planning authorities may set their own rules relating to future development that are based on local conditions and informed through guidance provided by other ministries, including the Environment Ministry. As such, the Municipal Affairs Ministry anticipates providing a supporting role on any initiatives relating to this recommendation.

4.8 Wetlands

While all green spaces can help reduce the risk of urban flooding (**Section 4.7**), wetlands play a particularly important role, due to their ability to provide short-term water storage during heavy rains. Accordingly, Ontario's 2020 Flooding Strategy identifies specific activities related to maintaining and enhancing wetlands as part of the Province's strategy to reduce flood risk (see **Appendix 4**). These include developing policy tools and approaches to prevent wetland loss and integrating the economic value of wetland ecosystem services into decision-making.

Responsibility for protecting wetlands is a shared role. The Natural Resources Ministry is responsible for policies and programs to evaluate and protect wetlands. The Municipal Affairs Ministry is responsible for developing land-use plans and policies, which include wetland protections developed in collaboration with the Natural Resources Ministry. Under the Provincial Policy Statement, which guides municipal land-use decisions, a wetland is granted formal protection only if it has been designated by the local municipality as "provincially significant" (see **Figure 13** for the steps involved

Figure 13: Steps in Formally Designating a Wetland as Provincially Significant

Prepared by the Office of the Auditor General of Ontario

Step 1	Identification of wetland locations and boundaries
	- Staff from the Ministry of Natural Resources and Forestry (Ministry) use remote-sensing imagery to identify unevaluated wetlands. - Trained individuals* conduct site visits to determine more precise boundaries of wetlands during evaluation.
Step 2	Evaluation of a wetland
	Trained individuals* evaluate and score the functions and values of a wetland using the Ontario Wetland Evaluation System to determine whether it meets the threshold to deem it provincially significant.
Step 3	Approval of wetland evaluations
	Ministry staff review and approve submitted wetland evaluation files.
Step 4	Designation of wetland as provincially significant
	If wetland is deemed provincially significant: In accordance with direction in the Provincial Policy Statement, the municipality must designate it as provincially significant in its official plan. Once designated, municipalities and conservation authorities are directed not to permit any development or site alteration that would interfere with the wetland. If wetland is not deemed provincially significant: Each municipality and conservation authority individually determines to what extent it will provide protections to, or conversely permit activities in inland wetlands not deemed provincially significant (see Section 4.8.3). Under the Provincial Policy Statement, development and site alteration are not permitted in coastal wetlands not deemed significant, unless it can be demonstrated that there will be no negative impacts.

* Individuals who have been trained through the Ministry's Ontario Wetland Evaluation System course. The course is open to staff from provincial ministries, conservation authorities, municipalities, consultants, environmental groups and others who do work related to wetland evaluation.

in designating a wetland) or if it is a coastal wetland. The Provincial Policy Statement generally prohibits any development or site alteration in a provincially significant wetland. In addition, some area-specific land-use plans—including the Greenbelt Plan, the Lake Simcoe Protection Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan—require municipalities to provide additional protections for wetlands (including non-provincially significant ones) in those areas. However, certain development, such as for infrastructure, aggregates (gravel pits) and projects approved through MZOs, can override wetland protections in these provincial policies and plans.

Municipalities must develop official plans and make decisions that are consistent with the Provincial Policy Statement and land use plans, which includes

designating and protecting provincially significant wetlands. For all other wetlands, municipalities may, at their discretion, permit development or activities within such wetlands.

Conservation authorities also play a role in protecting wetlands. Under the *Conservation Authorities Act*, each conservation authority is responsible for regulating activities within its conservation area, such as new development, that can change or interfere with a wetland. The Act does not specify how conservation authorities are to regulate activities that interfere with different types of wetlands (i.e., unevaluated versus provincially significant wetlands); instead, this is left to the discretion of each conservation authority.

4.8.1 As of 2015, Southern Ontario Had Lost Nearly Three-Quarters of Original Wetlands, Reducing Natural Flood Control in Urban Areas

Despite their important ecological and flood-mitigation roles, southern Ontario is continuing to lose wetlands. As of 2015 (the most recent data available), southern Ontario has approximately only 27% of its original wetland coverage remaining. The other 73% has been lost since European settlement began, primarily to agriculture and development. While the majority of wetland loss occurred in the 20th century, it still continues. Between 2011 and 2015 (the most recent data), southern Ontario lost an average of 1,825 hectares of wetlands per year. This annual rate of loss is three times higher than the previous data period (2000–11), in which an average of 615 hectares was lost per year. Overall, between 2000 and 2015, approximately 13,455 hectares (or 1.3% of remaining wetland cover) in southern Ontario were lost. Most of the loss has occurred in eastern Ontario.

Many urban areas have only a small fraction of their original wetland cover intact. As of 2002, only 1% of the original wetland area in Windsor remained, and only 3% of the area assessed in Toronto remained. Recent data shows that wetland loss is continuing in these areas. Between 2000 and 2015, an additional 2% of the already significantly depleted wetland area that remained in 2000 was lost in both the Toronto and Essex ecodistricts (which include Toronto and Windsor, as well as other urban municipalities).

4.8.2 Nearly Half of Southern Ontario's Remaining Wetlands Are Unevaluated and Risk Being Lost

The Provincial Policy Statement states that significance of some natural features “can only be determined after evaluation,” and that significance is identified “using evaluation procedures established by the Province.” For wetlands, the Natural Resources Ministry developed the Ontario Wetland Evaluation System to evaluate significance (**Figure 13**). Through this system, evaluators score wetland functions and values on four components: biological, social, hydrological (including

flood-control functions) and special features (like breeding habitat or the presence of species at risk). A wetland is deemed to be provincially significant—which is how a wetland achieves formal protection—if it scores at least 600 points overall, or at least 200 points in either the biological or special features component.

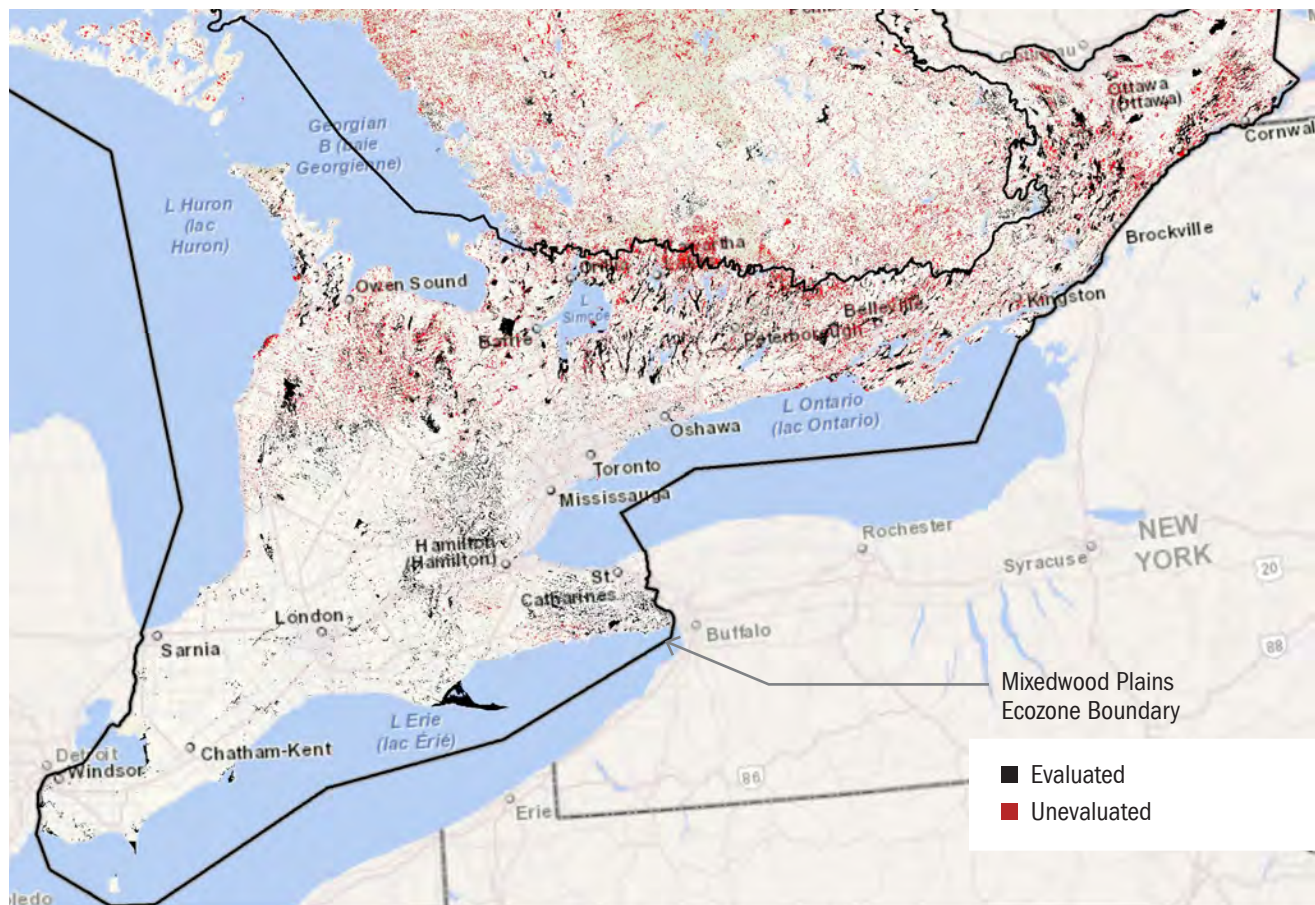
However, the Provincial Policy Statement does not require a wetland to be evaluated through the Ontario Wetland Evaluation System (OWES) before a municipality approves land-use changes that could damage or destroy it. In contrast, several other provinces protect all wetlands until their significance is formally evaluated. For example, in Nova Scotia and New Brunswick, before undertaking any activities that could alter the wetland functions, applicants must first hire a professional wetland evaluator to determine if the wetland is significant. Applicants must submit the evaluation in their wetland alteration approval application to the province for review.

Many wetlands in or near urban areas in southern Ontario have never been evaluated (see **Figure 14**), meaning that wetlands important for urban flood control are still vulnerable to being damaged or destroyed. Between 1983 (when the evaluation system was introduced) and May 2022, a total of 2,257 wetlands—comprising 52% of the wetland area in the southern portion of the province, known as the Mixed-wood Plains ecozone—have been evaluated, with most conducted in the program's early years when Natural Resources Ministry staff conducted wetland evaluations themselves to pilot the system. There has been minimal recent progress in evaluating wetlands in this ecozone, with only 30 evaluations over the past 10 years. In the past year (May 2021–May 2022), only one wetland evaluation was completed.

There can also be substantial delays between the time a wetland is evaluated and when the file is approved by Natural Resources Ministry staff, during which time the official status of the wetland remains in limbo. For example, our review of wetland evaluation files from two Natural Resources Ministry district offices found that there was an average delay of three years between evaluation and approval in one district, and 12 years in another.

Figure 14: Wetlands Evaluated through the Ontario Wetland Evaluation System and Unevaluated Wetlands in the Mixedwood Plains Ecozone, August 2022

Source of data: Ministry of Natural Resources and Forestry



Historically, 90% of evaluated wetland area within the Mixedwood Plains—60% of all evaluations for this region—has been identified as provincially significant. This suggests that, if the 48% of this region’s wetland area that has not yet been evaluated were to be evaluated under the current system, a large portion would likely similarly be deemed provincially significant.

Furthermore, there has been minimal progress re-evaluating wetlands that were evaluated decades ago. Wetland scores can change over time due to various factors, such as changes to the surrounding landscape or to the perceived value of different wetland functions, warranting re-evaluation. For example, if an upstream wetland is removed due to development, it can make the value of downstream wetlands more significant. We reviewed 30 wetland evaluation files from different areas in southern Ontario, and found that 85% of these

wetland evaluations were completed before 2000 and have not been re-evaluated since.

4.8.3 Inconsistent Protection across Ontario for Wetlands Not Evaluated or Not Deemed Provincially Significant

We found that municipalities provide varying levels of protection to wetlands that have either not been evaluated nor deemed provincially significant. Our survey of a sample of municipalities found that, while 12 (40%) of the 30 municipalities go beyond provincial requirements by creating similar protections for all wetlands regardless of evaluation status (in some cases because they are required to by area-specific land-use plans), the other 18 (60%) are consistent with the Provincial Policy Statement in that wetlands that are unevaluated

or non-provincially significant are protected to a lesser extent than provincially significant or coastal wetlands.

For example, municipalities may permit development and activities in unevaluated or non-provincially significant inland wetlands if the negative impacts can be minimized, or if replacements of the wetland features and functions are to be provided elsewhere. However, while some features, such as wildlife habitat, may be more readily replaced by constructing or restoring another wetland, other features, such as flood control, are complex and generally site-specific.

In the absence of specific direction in the *Conservation Authorities Act*, conservation authorities also provide varying levels of protection across the province for wetlands that have not been evaluated nor deemed provincially significant. Some conservation authorities told us they regulate activities that can interfere with any wetlands within their jurisdiction regardless of their status, while others stated that provincially significant wetlands receive more stringent protection than other wetlands. As a result, in at least some areas of the province, wetlands not evaluated or not deemed provincially significant are at risk of being lost despite having potentially important flood-mitigation features.

Even wetlands that have been evaluated and deemed provincially significant, but have not been officially designated, may be unprotected. For example, in 2005 and 2016 the City of Ottawa reassessed wetland boundaries within the provincially significant Goulbourn Wetland Complex near Ottawa, which increased the total area of identified provincially significant wetlands. However, due to landowner opposition and the city's decision to complete an additional study, most of these wetlands were not designated in Ottawa's Official Plan until 2020; some are still not designated. In 2009, the Rideau Valley Conservation Authority and the Mississippi Valley Conservation Authority (which have jurisdiction over this area) determined that they would regulate only the portions of the Goulbourn Wetland Complex that were designated in Ottawa's Official Plan. While the two conservation authorities reversed this decision in 2018 due to ongoing interference with the wetlands, at least 30 hectares of provincially

significant wetland area were cleared, filled, drained or altered while the area was unregulated.

4.8.4 Wetlands May Not Achieve Provincially Significant Status despite Their Importance for Urban Flood Reduction

We found that wetlands within or near urban areas, and the importance of their flood-control properties, may be undervalued in the wetland evaluation process. Urban wetlands are more likely to be smaller and more degraded, and therefore may be less likely to reach provincially significant status despite their flood control benefits.

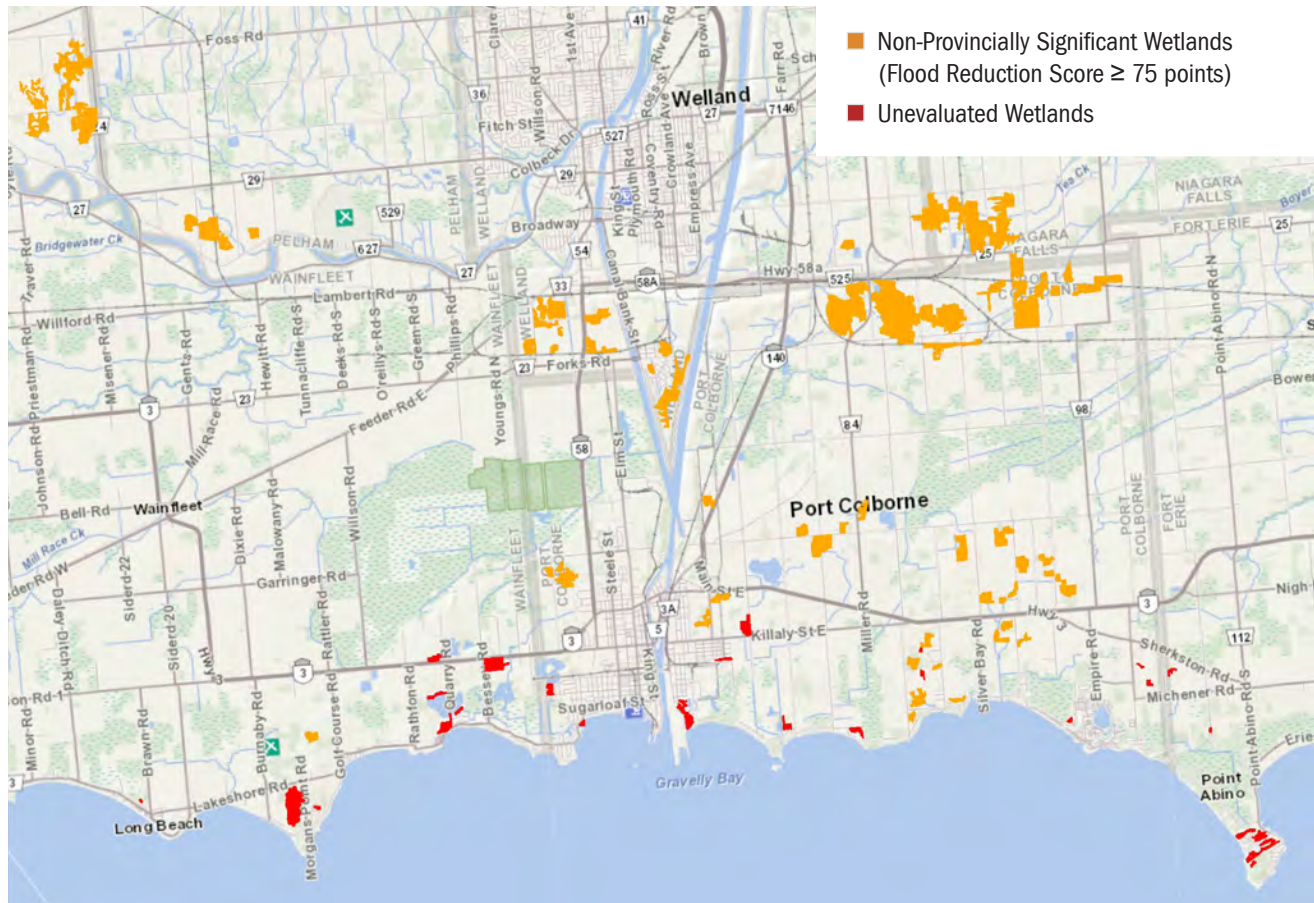
Of the 2,257 wetland evaluations that have been completed in the Mixedwood Plains, 909 (40%) did not achieve provincially significant status. Of these, 54 evaluations had digital data on the flood reduction score. We found that 27 (50%) of these 54 wetlands were considered to be particularly important for flood reduction, receiving a score of 75 points or more in this category. Moreover, 20 (37%) of these wetlands received the maximum score of 100 points for flood reduction benefits.

Despite their importance for flood reduction, these wetlands did not achieve provincially significant status. For example, in the suburban headwaters of Welland (in the Niagara Region) there are numerous evaluated wetlands that did not achieve provincially significant status but still scored 75 points or more on their ability to lessen flooding (see **Figure 15**).

In October 2022, the Natural Resources Ministry posted a proposal on the Environmental Registry to revise the Ontario Wetland Evaluation System, including revisions that could make it harder for wetlands to achieve provincially significant status. For example, the threshold for significance would remain the same in the proposed system, but wetlands would no longer score points for providing habitat for endangered or threatened species, which reduces the likelihood of some wetlands being deemed provincially significant. Moreover, wetland complexes, which are defined as groups of wetlands with interdependent biological, hydrological

Figure 15: Evaluated Non-Provincially Significant Wetlands with High Flood Attenuation Benefits and Unevaluated Wetlands near Welland, Ontario, August 2022

Source of data: Ministry of Natural Resources and Forestry



and/or social functions within 750 metres of one another, would no longer be evaluated and scored together as a complex. Wetlands formerly evaluated as being part of a complex could be re-evaluated as individual units. Evaluating wetlands as single units rather than complexes reduces their total size, which in turn reduces the points a wetland could score for various criteria, including the capacity to reduce flooding.

4.8.5 Province Is Reducing Its Role in Wetland Evaluation and Conservation

At the time of our audit there was no province-wide strategy, policy or framework to conserve wetlands, and former targets to reverse their loss were abandoned in 2018.

In 2017, the Natural Resources Ministry released A Wetland Conservation Strategy for Ontario:

2017–2030, which included targets to halt and reverse the loss of wetlands. The strategy recognized that, while there were existing programs and partnerships in place to protect wetlands, in the absence of additional action, wetland areas would face increasingly serious threats. It stated that shared commitment and co-operation at all levels of government are essential to conserving wetlands, and that the strategy would provide an integrated framework to help achieve this goal. In the 2020 Flooding Strategy, the Natural Resources Ministry subsequently committed to developing policy tools and approaches to prevent wetland loss and work toward a net gain of wetlands, focusing on areas where wetland loss has been greatest.

In August 2021, however, we noted that the wetland conservation targets were no longer in effect, and the strategy had been archived as the product of a previous government, following the change in government in

2018. The Ministry did not notify or consult the public on this decision through the Environmental Registry, as required under the *Environmental Bill of Rights, 1993* (see our 2021 report on the *Environmental Bill of Rights, 1993*).

Despite archiving the 2017 strategy, the Province has continued some wetland monitoring and stewardship work, as well as programs to promote wetland restoration and conserve wetlands on private land. For example, the Province has developed the Wetlands Conservation Partner Program, a five-year, \$30 million project to restore wetland habitat across the province in rural and near-urban communities. The Province also promotes wetland stewardship on private land through the Conservation Land Tax Incentive Program, a voluntary program that offers landowners who protect certain natural features a 100% tax exemption on the eligible portions of their property. While these programs can help conserve individual wetlands on private land, the lack of an overarching strategy and targets increases the risk that wetlands that can reduce urban flood risk may continue to be lost or degraded.

In October 2022, the Natural Resources Ministry proposed changes to the wetland evaluation system to support the Province's commitment to streamline housing development. Under this proposal, evaluations would no longer be reviewed and approved by Ministry staff, and would instead be deemed complete once received by a "local decision-maker addressing a land-use matter." Removing provincial oversight in the wetland evaluation process creates further risk for inconsistencies in how wetlands are evaluated, and therefore protected, across the province.

RECOMMENDATION 12

To protect the flood-control benefits afforded by wetlands, to meet relevant goals in Ontario's Flooding Strategy, and to improve urban flood resiliency, we recommend that the Ministry of Natural Resources and Forestry:

- implement a Ministry service standard for approving submitted wetland evaluations within a reasonable time frame;

- develop and implement interim protections for unevaluated wetlands;
- assess options to protect wetlands that are not designated as provincially significant wetlands with high flood-reduction benefits, including potential improvements to the Ontario Wetland Evaluation System to better recognize flood-reduction values, and implement changes as appropriate; and
- develop and implement a strategic plan to protect, conserve and restore wetlands.

NATURAL RESOURCES MINISTRY'S RESPONSE

Wetlands are managed through a diverse array of policies, programs, ministries, etc. Any changes to wetland policies and programs would be considered within the scope of broader government direction.

AUDITOR GENERAL'S RESPONSE

The Natural Resources Ministry has not committed to any of the recommended measures to improve the efficiency of wetland evaluations or the protections for unevaluated wetlands or wetlands with high flood-reduction benefits. The Ministry also did not agree to developing a strategic plan to protect wetlands, despite numerous commitments made in the 2020 Flooding Strategy intended to help prevent new wetland loss in Ontario.

4.9 Guidance on Low-Impact Development

4.9.1 Environment Ministry's Delay in Developing Its Guidance Manual Has Affected Municipal Uptake of Low-Impact Development Practices

Low-impact development practices (see **Appendix 2** for examples) can help reduce the risk of urban flooding, as they can increase water absorption on-site and reduce or delay stormwater runoff. Many low-impact development practices provide other benefits, such

as protecting water quality and conserving water. Depending on the practice that is used, their upfront cost can be comparable to conventional infrastructure, but over their full life cycle, low-impact development practices are typically more economical. Site-specific constraints such as soil type or high groundwater levels, however, may make installation of a low-impact practice challenging. These complexities highlight the need for guidance on low-impact development to help municipalities, developers and others plan, design and implement new approaches to stormwater management. However, at the time of our audit the Ministry still had not finalized detailed guidance to support municipalities in implementing these practices.

Over the past two decades, the Environment Ministry has released a number of guidance documents for municipalities and developers on the technical and design aspects of stormwater management (see **Figure 16**). Early Ministry guidance focused on traditional grey stormwater infrastructure (e.g., sewer drains and pipes), but has evolved to include

guidance on adopting low-impact development practices to manage stormwater in place. The Ministry first provided high-level guidance in 2003 on adopting low-impact development practices, and reinforced and clarified this guidance in 2015, but did not provide detailed guidance at that time.

In April 2007, a public request was made under the *Environmental Bill of Rights, 1993* for the Environment Ministry to review its municipal stormwater management policies in light of climate change. The Ministry agreed to conduct the review and formed a multi-agency working group to look at policies and best management practices to address stormwater. This review prompted work on a Low Impact Development Stormwater Management Guidance Manual (LID Guidance Manual), which has been under development since at least 2015 when a consultant was hired and a stakeholder review group was formed.

In 2017, the Environment Ministry posted two consultants' reports on the Environmental Registry, soliciting feedback to help the Ministry develop a

Figure 16: Key Environment Ministry Stormwater Management Guidance Documents

Prepared by the Office of the Auditor General of Ontario

1994 Stormwater Management Practices Planning and Design Manual

Provides guidance for the design of stormwater infrastructure. Developed in recognition that urbanization was changing stream hydrology, increasing pollution runoff, and harming local aquatic habitat.

2003 Stormwater Management Planning and Design Manual

An update to the 1994 Design Manual. Provides applicants with guidance when applying for a stormwater facility Environmental Compliance Approval. Provides detailed design guidance for some absorption practices, as well as for conventional end-of-pipe stormwater management practices, such as wet ponds and constructed wetlands.

2008 Design Guidelines for Sewage Works

Provides detailed design guidance for storm sewers; focuses exclusively on conveyance controls such as pipes.

2015 Interpretation Bulletin: Expectations Re: Stormwater Management

The Environment Ministry released this bulletin to clarify existing guidance. The bulletin reaffirms the Ministry's expectation that, as development occurs, a site's natural hydrology should be maintained and that source controls should be used to keep the rain as close as possible to where it falls. It also states that low-impact development best management practices are relevant to all forms of development.

2022 Draft Low Impact Development Stormwater Management Guidance Manual

The Environment Ministry posted this draft manual on the Environmental Registry for 60-day public comment in January 2022. In March, the public comment period was extended 30 days. The goal is to better manage stormwater runoff and reduce entry of contaminants into waterways by managing rain where it falls and snow where it melts.

stormwater management guide. Following this consultation, the Ministry incorporated the received input in the development of an initial draft of the guidance manual in 2018. Multiple revisions of the draft were subsequently made based on comments from stakeholders and internal review by staff in the Environment Ministry and other ministries. In January 2022, the Environment Ministry posted the draft LID Guidance Manual on the Environmental Registry; public consultation closed in April 2022. At the time of our audit, however, the Ministry had not established a timeline for finalizing the manual.

The seven years that it has taken the Environment Ministry to develop and revise the manual has resulted in lost opportunities within municipalities to move forward with these practices. In our municipal survey, we found that while there has been a gradual adoption of low-impact development practices, 10 (33%) of the 30 respondents indicated that they are not currently implementing any low-impact development projects, nor had they completed any in the past, and that they have no requirements to implement such practices for new developments. Seven (23%) of the municipalities indicated that the Ministry's delay in releasing the draft LID Guidance Manual affected their ability or plans to implement low-impact development practices. One municipality indicated it would not require developers to adopt low-impact development practices until the manual is finalized. Furthermore, municipal staff told us that it can be difficult to convince senior management and municipal council to invest in low-impact development without evidence of its benefits. Smaller municipalities that do not have the resources to run their own pilot projects may have particular difficulty supporting these investments.

RECOMMENDATION 13

To increase the municipal uptake of low-impact development to improve urban flood resiliency, we recommend that the Ministry of the Environment, Conservation and Parks:

- promptly finalize the draft Low Impact Development Stormwater Management Guidance Manual; and

- facilitate pilot projects and knowledge sharing of best practices and project benefits to assist municipalities in developing low-impact development projects.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry expects that the final Low Impact Development Stormwater Management Guidance Manual will be posted on the Environmental Registry of Ontario in early 2023.

The Ministry is working on facilitating pilot projects and knowledge sharing of best practices and project benefits to assist municipalities. Currently, the Ministry is providing \$15 million to 18 municipalities in the Lake Ontario basin to make improvements to their wastewater and stormwater management systems. Funding can be used to undertake low-impact development projects.

4.10 Oversight of Municipal Stormwater Management

Since 1972, all stormwater infrastructure built in Ontario has required an approval from the Environment Ministry under the *Ontario Water Resources Act*. The Environment Ministry is responsible for setting conditions of approval (such as requirements for design and maintenance) and for oversight and enforcement of these requirements.

The Environment Ministry is currently revising its approvals process for municipal stormwater infrastructure. In March 2021, following public consultation, the Ministry posted a notice on the Environmental Registry stating that it is moving forward with a new approach where all of a municipality's existing individual stormwater approvals will be combined into one new Consolidated Linear Infrastructure Environmental Compliance Approval (consolidated approval). The Ministry's new consolidated approvals process requires that municipalities provide comprehensive information on their stormwater infrastructure upon application, and sets various conditions that will be included in granted approvals (**Figure 17**). The new consolidated

approval will apply to all of a municipality's existing grey stormwater infrastructure, as well as its built green stormwater infrastructure. The Ministry anticipates issuing the first consolidated approvals to the majority of municipalities that have applied by the end of 2022.

Figure 17: Overview of the Province's Consolidated Linear Infrastructure Environmental Compliance Approval Requirements for Municipal Stormwater Management Systems

Prepared by the Office of the Auditor General of Ontario, with information from the Ministry of the Environment, Conservation and Parks

Information Municipalities Must Submit When Applying for Approval

- ☐ A list and map of stormwater infrastructure (including streets, storm sewers, ditches, culverts, low-impact development and pumping stations)
- ☐ A description of the stormwater management system
- ☐ List of previous approvals and associated unique system-specific conditions
- ☐ Status of any asset management plan
- ☐ Status and copy of any stormwater master plan, watershed plan or sub-watershed plan

Conditions to Be Attached to Approvals

Municipalities must:

- ☐ Develop an operations and maintenance manual
- ☐ Develop a monitoring plan that includes the frequency of maintenance and inspection
- ☐ Submit annual reports to the Ministry of the Environment, Conservation and Parks on their stormwater management activities, starting April 2024. Reports must include:
 - public complaints and steps taken to address them
 - alterations made to stormwater system
 - operating problems encountered
 - summary of inspections, maintenance and repairs made to major infrastructure
- ☐ Apply for a review of their Compliance Approval at regular intervals (i.e., every five years)

4.10.1 Changes to Environment Ministry's Approval Program Have Potential to Reduce Flood Risk through Flood-Control Performance Criteria

In accordance with the purpose of the *Ontario Water Resources Act*, the Environment Ministry's main goal when issuing approvals for stormwater infrastructure is to protect Ontario's water resources, which includes protecting water quality from the discharge of contaminated stormwater into lakes, rivers and creeks or preventing other environmental impacts such as stream erosion from high stormwater flows. The Act does not, however, direct the Ministry to consider flood control when approving stormwater infrastructure—for example, requiring that a stormwater management pond be designed and built to account for higher intensity storm events. As a result, the Environment Ministry has historically not included flood control as an explicit consideration when approving stormwater infrastructure.

The Ministry's new approach to its stormwater approvals program establishes a number of performance criteria that new or altered stormwater systems must meet. Flood control is one of these criteria. This means that municipalities will be explicitly required to consider flood risk in the design process of new or upgraded infrastructure. The new approvals framework will also require municipalities to consider low-impact development practices that absorb stormwater on-site, which can reduce the volume of stormwater runoff that contributes to flooding. These new stormwater approval criteria have the potential to help reduce the risk of flooding over time, as municipalities build or upgrade their stormwater infrastructure.

With many aging systems that are due to be replaced, and much new development planned, such requirements to consider flood risk are important to help ensure that new infrastructure is designed to better withstand urban flooding, particularly in light of projected climate patterns.

The importance of ensuring future-looking, resilient design when building stormwater infrastructure is demonstrated by the expensive legacy problem that many municipalities continue to face from their combined stormwater-sewage sewer systems. Municipalities were permitted to build these systems throughout most of the 20th century, even though their use can result in sewer backups and the discharge of raw sewage into lakes and rivers (**Section 2.2.3**). Replacing these problematic combined sewer systems is both challenging and expensive. For example, the City of Hamilton is examining options to increase its storm sewer capacity to reduce flooding, as well as replace its combined sewer systems. An August 2022 assessment (conducted by city staff and consulting engineers) estimated that the total cost over 20 years would exceed \$1 billion, with \$475 million required to separate the combined sewer systems.

RECOMMENDATION 14

So that the revised consolidated linear approvals process is effective in ensuring that new or altered stormwater infrastructure is built in a manner that meets all performance criteria and enhances environmental protection, we recommend that the Ministry of the Environment, Conservation and Parks undertake a formal evaluation of the approvals program on a timely basis and incorporate improvements as identified.

ENVIRONMENT MINISTRY'S RESPONSE

The consolidated linear infrastructure approvals (CLI-ECAs) contain new conditions for monitoring and reporting on the performance of municipal stormwater infrastructure, including the submission of annual performance reports, which will enable the Ministry to make informed decisions on future improvements to the approvals program. In addition, all CLI-ECAs will be reviewed during each renewal cycle (approximately every five years) and updated as needed to address identified risks.

4.10.2 Changes to Environment Ministry's Approval Program Have Potential to Increase Oversight of Municipal Stormwater Management

The Environment Ministry has historically provided little oversight of municipalities' operation and maintenance of their stormwater infrastructure, increasing the risk of improperly maintained infrastructure and, in turn, of urban flooding.

Older stormwater approvals, like those issued in the 1970s and 1980s, typically lacked any conditions. As a result, many municipalities, including Toronto, Hamilton, and Ottawa, have extensive stormwater infrastructure (often with combined sewer systems) that still lack maintenance and monitoring conditions. Further, approvals were historically issued piecemeal, such that thousands of approvals may have been issued for different components of a municipality's stormwater infrastructure. With so many approvals issued over the past 50 years, the Ministry does not have consolidated information on all municipal stormwater approvals.

The Ministry's new consolidated approvals requirements and conditions (**Figure 17**) have the potential to address several problems with the current approvals process. If implemented effectively, the new approach has the potential to increase municipal accountability and oversight for the operation and maintenance of municipal stormwater infrastructure:

- the requirement to list and map all municipal infrastructure should result in better information and inventories of municipal stormwater assets (and according to municipal staff we spoke with, already is having this effect);
- conditions attached to each approval should increase municipal accountability for maintaining, inspecting and monitoring stormwater infrastructure;
- requiring municipalities to submit annual reports on stormwater management activities, which the Ministry states will each be reviewed by technical staff within its Environmental Permissions Branch, should improve provincial oversight; and

- requiring municipalities to apply for a regular review of their consolidated approvals will allow the Ministry to amend and update conditions as needed.

The Environment Ministry had not, at the time of our audit, proposed any changes to increase the inspection and enforcement of municipal compliance with stormwater approvals. We found that the Ministry has historically provided minimal oversight or enforcement of municipal stormwater infrastructure, relying on municipalities to address issues themselves. Over the past five years, the Environment Ministry has conducted only 38 compliance inspections of municipal stormwater infrastructure across the province. The Ministry advised our Office that it does not typically conduct proactive compliance inspections for stormwater infrastructure, but rather generally conducts responsive or complaints-based inspections when an issue is brought to its attention. This is because the Ministry's water inspectors are mainly focused on water quality and therefore prioritize inspections of drinking water, and then sanitary sewer, systems. Unless water quality is affected, or complaints are received, stormwater systems are a lesser focus.

We reviewed the 38 inspection reports from the past five years and found that 17 (45%) of the stormwater facilities inspected by the Ministry had not been operated and maintained as required by conditions in their approvals.

RECOMMENDATION 15

So that the conditions in Environmental Compliance Approvals for stormwater infrastructure are adhered to and increase oversight and accountability of stormwater management, we recommend that the Ministry of the Environment, Conservation and Parks develop and implement formal procedures with regard to risk-based compliance inspections.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry will work to incorporate risk-based compliance inspections of stormwater infrastructure into the Ministry's annual inspection planning process.

4.11 Regional Flood Control Facilities

4.11.1 A Lack of Provincial Design Standards for Regional Flood Control Facilities May Put Nearby Residents at Risk

Provincial oversight and standards are lacking for the structural design of certain large flood control facilities. Although such facilities are increasingly being relied upon to control urban flooding, risks to communities from their increased use are largely unknown.

The Natural Resources Ministry distinguishes between two different types of flood control facilities:

- **Online facilities:** Built on a lake or river, these facilities are considered to be dams that require approvals under the Natural Resources Ministry's *Lakes and Rivers Improvement Act*.
- **Offline facilities:** Facilities that are built to hold water, but are not located on a lake or river. Because of their location, they do not require approvals under the *Lakes and Rivers Improvement Act*. Offline facilities can include traditional stormwater management ponds, or purpose-built regional flood control facilities.

Traditional stormwater management ponds are designed to collect and contain runoff from typical rain events, and primarily to protect water quality. As their role is to protect the environment, the Environment Ministry is responsible for approving these ponds under the *Ontario Water Resources Act*. In contrast, regional flood control facilities are much larger stormwater management ponds that are purpose-built to contain stormwater resulting from major rainfall events that exceed a 1-in-100-year storm. Because they are built to control flooding, and not to protect water quality, the Environment Ministry does not require these facilities to obtain an Environmental Compliance Approval. The Environment Ministry advised us that these facilities will also not be covered by Consolidated Linear Infrastructure Environmental Compliance Approvals (**Section 4.10**) as they are built for flood-control purposes only, and flooding does not lie within the Ministry's responsibility. Because neither the Environment Ministry nor the Natural Resources Ministry are approving these large facilities, there is a

gap in oversight with respect to their structural design. According to the Special Advisor on Flooding, many are being constructed larger than their original design specifications with the goal of holding back even larger volumes of water.

In November 2016, the Natural Resources Ministry commissioned an engineering consultant to conduct an inventory and preliminary site-specific hazard assessment of these facilities. The consultant surveyed a total of 46 municipalities, including all those within the Greater Golden Horseshoe, and six other municipalities across the province to determine the location and design details of these facilities. Conducted as a desktop exercise, the purpose was to evaluate the risk that downstream populations or properties may face in the event of structural failure and the release of a large volume of water.

At the time of the study, the number and characteristics of existing facilities was unknown, as there is no requirement for these facilities to have an environmental compliance approval. The consultant surveyed each of the above municipalities to obtain information about the age, location and design details of these facilities. Ten municipalities reported a total of 51 offline facilities within their boundaries (21 indicated they did not have any such facilities and 15 did not respond to the survey). However, there was sufficient information for the consultant to conduct a risk assessment of only 34 of those facilities.

Of the 34 facilities assessed, the consultant identified nine offline facilities (those not built on a lake or river) that appeared to pose a risk if they failed during extreme rain, based on pond configuration and location relative to populated areas. In most cases, risk of failure had not been considered by the host municipality, and the consequences of failure were not typically considered in the design of the ponds. The study also found that information on the maintenance and performance of these facilities was not generally available and did not appear to be kept as part of municipal monitoring programs.

In May 2019, the Environment Ministry conducted its own assessment to validate the risk concerns identified by the consultant. Of the nine offline facilities, the

Ministry concluded that four were of medium concern based on, among other findings, the presence of residential areas downstream of the pond, and five were of low concern.

At the time, the Environment Ministry proposed several next steps, including obtaining more information from municipalities about the presence and condition of the offline facilities within their boundaries and then consulting with senior staff from both the Environment and Natural Resources Ministries to determine whether a multi-ministry regulatory approach should be initiated. However, during our audit, the Environment Ministry advised us that the proposed steps were never undertaken, as the lead staff on the project had all either retired or moved to different positions. No other staff were reassigned to continue this work.

In April 2022, the Natural Resources Ministry indicated that it was working with the Association of Municipalities of Ontario to conduct a municipal survey regarding the operation and maintenance of stormwater ponds, including large regional flood control facilities. The goal is to help inform any guidance or policy that the Ministry might develop on their use.

RECOMMENDATION 16

To address the regulatory gap that exists regarding the structural design of large regional flood control facilities, and to reduce the risks they may pose, we recommend that the Ministry of Natural Resources and Forestry and the Ministry of the Environment, Conservation and Parks identify clear roles and responsibilities, and collaborate as needed, on developing regulatory requirements for offline regional flood control facilities.

ENVIRONMENT MINISTRY'S RESPONSE

The Ministry does not have a role in the design of large regional flood control facilities.

The Ministry's mandate under the *Environmental Protection Act* is to protect Ontario's air, land and water from the discharge of contaminants. The Ministry does not have the mandate to address

flood hazards (e.g., flooding from rivers and lakes). The mandate for managing flood hazards rests with conservation authorities.

Regional flood control facilities are in place solely for the management of flood hazards and are not intended to address water quality.

NATURAL RESOURCES MINISTRY'S RESPONSE

Under Ontario's Flooding Strategy, the Natural Resources Ministry has committed to evaluating the strengths, weaknesses, opportunities and threats of using regional flood control facilities to mitigate risks posed by flooding and determine whether the Province should take steps to further regulate their use.

The Ministry has no legislative authority over the design and construction of offline stormwater management ponds or regional flood control facilities. As noted by the Auditor General, the Ministry has already taken steps to begin investigating the use of regional flood control facilities and has committed to working with municipal partners to determine whether additional policy or guidance governing their use should be developed.

Appendix 1: Glossary of Terms

Prepared by the Office of the Auditor General of Ontario

Term	Definition
1-in-100-year storm	Rainfall event of a certain depth (mm of rain) and over a certain duration (hours) that has a 1% chance of occurring in a location in any given year, based on historical data for that area.
Backwater valve	Device that can prevent municipal sewers from backing up into homes.
Built stormwater drainage system	The network of grey stormwater infrastructure and low-impact development features that manage stormwater . While grey stormwater infrastructure is typically built to meet the primary goal of protecting water quality from pollutants, it can also help reduce flooding risk. The built drainage system works in conjunction with the natural stormwater drainage system .
Combined sewer systems	An older form of infrastructure that was designed to carry both sanitary sewage (sewage from toilets, sinks and drains) and stormwater in the same pipe to a sewage treatment plant. During and after heavy rainfall, rain can overwhelm the capacity of the combined sewer system or sewage treatment plant, which can cause sewage to overflow untreated into lakes and rivers or back up into homes and businesses.
Conservation authorities	Local watershed management agencies that deliver programs to manage natural hazards within a particular watershed. There are 31 conservation authorities in southern Ontario, and five in Northern Ontario.
Flood hazard	Risk of flooding of areas adjacent to a shoreline or a river or stream not ordinarily covered by water. Includes shorelines of the Great Lakes and inland lakes. Flood hazard mapping identifies areas along rivers, streams and lakes that are at risk of flooding.
Floodplain	Area adjacent to a river, stream or small inland lake, which has been or may be subject to flooding.
Flood risk map	Used to assess risk of flooding from rivers, streams, shorelines, storm sewer backups or overland flow. Flood risk maps are based on the actual impacts of flooding, as they incorporate the effect of stormwater infrastructure features (e.g., sewers and culverts) in reducing flood risk by storing and conveying stormwater.
Green spaces	Areas that are partly or completely covered with grass, trees, shrubs or other vegetation. They include parks, grassy boulevards, community gardens, cemeteries and farm land, as well as natural features . While it is typically not their intended purpose, green spaces play an important role in stormwater management .
Green stormwater infrastructure	An umbrella term that includes both natural features that provide stormwater management functions, as well as built features that are designed to mimic the functions of nature in managing stormwater, known as low-impact development .
Grey stormwater infrastructure	Built structures, often made of concrete and metal, that provide stormwater management services (see Appendix 2 for examples).
Impervious surface	Hardened surface where water cannot infiltrate, such as asphalt or concrete. Contrasts with pervious surface .
Land cover	Refers to the surface cover on the ground, such as vegetation, bare soil or infrastructure.
Locally significant wetland	A wetland that is considered by a municipality as having local significance, but does not meet the threshold for a provincially significant wetland .
Low-impact development	An approach to managing stormwater that aims to reduce stormwater runoff and pollutants by mimicking natural functions to absorb and treat rain where it falls (see Appendix 2 for examples). This term is used to describe the built portion of green stormwater infrastructure .
Natural features	Natural elements, such as wetlands , woodlands and meadows, that can play an important role in stormwater management . Often referred to as natural heritage features.

Term	Definition
Natural stormwater drainage system	The network of natural features and green spaces that impact stormwater flow and absorption across the landscape.
Pervious surface	Surface where water can infiltrate, such as soil with plant cover. Contrasts with impervious surface .
Provincially significant wetland	A wetland area designated as provincially significant by the Province using evaluation procedures established in the Ontario Wetland Evaluation System.
Regional flood control facilities	Facilities that are designed to control flooding from large storm events. Depending on their proximity to a water course, they are classified either as online facilities (e.g., a dam in a river or lake) or offline facilities (e.g., a flood control pond not in a lake or river) and are regulated differently.
Sewer (storm sewer or sewer system)	System of catch basins and pipes designed to carry stormwater to treatment plants or ponds or directly to a waterbody.
Stormwater	Rainwater or melted snow, which can soak into the ground or run off along the ground into sewers , streams, rivers or lakes.
Stormwater infrastructure	All infrastructure related to the collection, conveyance, treatment, retention, absorption, control or discharge of stormwater. It includes both grey stormwater infrastructure and low-impact development (see Appendix 2 for examples).
Stormwater management	The process of controlling stormwater runoff , with the goals to protect the environment (e.g., reduce erosion in receiving rivers, streams and lakes and protect their water quality from pollutants in stormwater), as well as reduce flooding.
Stormwater runoff	Rain that does not soak into the ground and runs over the land surface. Where the ground surface is impervious , a greater amount of runoff is generated compared to a natural surface such as grass.
Urban flooding	Flooding that is caused by rainfall and cumulative overland flow that overwhelms the capacity of built and natural stormwater drainage systems .
Watershed	An area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater.
Wetlands	Lands that are often covered by shallow water or where the water table is close to the soil surface, which provide transitional habitat where land and aquatic ecosystems are connected.
Woodlands	Forested areas that provide environmental and economic benefits, such as erosion prevention and water absorption, to both the landowner and the general public.

Appendix 2: Examples of Built Green and Grey Stormwater Infrastructure

Prepared by the Office of the Auditor General of Ontario

Examples of Grey Stormwater Infrastructure

Catch basin	Underground structure that typically captures rainwater and snowmelt from grate on the side of a road and routes it through underground pipes.
Culvert	A relatively short conduit (such as a pipe), typically made from reinforced concrete or corrugated metal, that can convey stormwater runoff under a road or embankment.
Open ditches	Narrow channels in the ground used to capture and convey stormwater runoff along roadways.
Sewer drain	A pipe that serves one building and transports water and wastewater away to a sewer.
Sewer pipes (or sewers)	Underground pipes that carry sewage, wastewater and surface water runoff from drains to treatment facilities or disposal points.
Stormwater retention tank	Large underground tank that retains stormwater.
Stormwater management pond	A pond located at the end of a storm sewer that holds stormwater runoff, which allows suspended solids to settle, before releasing the water in a controlled way into a waterbody. Can be either a dry or wet pond.
Stormwater pumping station	A facility that pumps large volumes of water and typically discharges it into a lake or river.

Examples of Built Forms of Green Stormwater Infrastructure (Low-Impact Development Practices)

Bioswale/ Dry swales	Vegetated channel over engineered soil bed, with specific mix of sand and organic material. Gently sloping sides and modified geometry slow runoff flow-over. Rainwater runoff can be slowly filtered and absorbed into the ground more effectively through engineered soil bed.
Bioretention	Vegetated area over engineered soil bed. Rainwater can be stored temporarily and treated before being absorbed into the ground below.
Downspout disconnection	Roof downspouts disconnected from sewer system. Rainwater that would have gone directly into stormwater sewer system is redirected elsewhere, such as a backyard garden.
Enhanced grass swales	Vegetated channels over native soil, with gently sloping sides and modified geometry, such as a small dam, to slow runoff flow-over. They allow rainwater runoff to be slowly filtered and absorbed into the native soil.
Green roofs	Vegetation on roofs. Rainwater on roof can be drawn into plants, reducing the amount of runoff.
Perforated pipes	Pipes similar to stormwater pipes that carry water away, but with holes throughout. Rainwater that enters pipe can then escape and be distributed in surrounding area below ground.
Pervious pavements	Pavements that allow rainwater to pass through, such as porous asphalt, interlocking concrete blocks, or plastic grid pavers. Rainwater flows through pavement and into ground below.
Rainwater harvesting	Use of containers to collect rainwater, such as a barrel at downspout from a roof. Rainwater from relatively clean sources, such as a roof, is collected and stored for later use, such as watering plants.
Soakaways and infiltration trenches	Excavations in native soil lined with geotextile fabric and filled with clean granular stone. Typically, rainwater from a relatively clean source, such as a roof, is collected in the excavated area and allowed to infiltrate into the ground.
Tree best management practices	Range of urban forestry practices including tree conservation during and after construction, tree trenches, tree boxes and tree pits. Trees in urban areas can intercept and absorb rainwater.
Vegetated strips	Vegetated, gently sloping area located beside impervious area. Vegetation can include trees, shrubs and native plants. Used to filter and absorb rainwater runoff from impervious area into the ground.

Appendix 3: 2018 Made-in-Ontario Environment Plan Commitments Relating to Urban Flooding

Prepared by the Office of the Auditor General of Ontario

Commitment	Status at the Time of Our Audit
Establish a climate change advisory panel that would provide advice to the Environment Minister on further developing climate change actions and activities.	In November 2019, the Environment Minister appointed a 10-member panel with a two-year term. In November 2021, the panel submitted to the Minister its final report and recommendations. While the recommendations cover a range of policies and programs, they are focused primarily on land-use planning, natural infrastructure and flooding.
Develop a user-friendly online tool to make practical climate impact information available for the public and private sectors.	Environment Ministry staff have developed potential options and are awaiting further direction on this initiative.
Modernize the Building Code to increase the ability of homes and buildings to withstand extreme weather events, such as flooding.	The Municipal Affairs Ministry is updating the Building Code but is not currently proposing measures to increase the ability of homes and buildings to withstand flooding.
Consult on tax policy options to support homeowners in adopting measures to protect their homes against extreme weather events, such as ice and wind storms and home flooding.	The Ministry of Finance regularly considers tax policy options within the context of the government's priorities and fiscal plan. The Ministry of Finance has not consulted on tax policy options to support homeowners in adopting measures to protect their homes against extreme weather events.
Work with the real estate and insurance industries to raise awareness among homeowners about the increasing risk of flooding.	The Environment Ministry has not begun to work with the real estate and insurance industries to raise awareness about the increasing risk of flooding.
Update policies relating to municipal wastewater and stormwater to make them easier to understand, and consider how financing could be updated to improve investment.	The Environment Ministry is in the process of updating municipal wastewater and stormwater policies.
Protect vulnerable or sensitive natural areas such as wetlands through good policy, strong science, stewardship and partnerships.	The Natural Resources Ministry provided \$455,000 to Ducks Unlimited Canada in 2021/22 for wetland conservation.

Appendix 4: Actions and Activities Identified in Protecting People and Property: Ontario's Flooding Strategy (2020)

Prepared by the Office of the Auditor General of Ontario

Actions	Proposed Activities (Including Sub-Activities Where Relevant)
Priority #1. Understand Flood Risks	
Enhance Flood Mapping (of hazard areas near rivers or shorelines)	Establish a multi-agency flood mapping technical team
	Develop a multi-year approach to updating flood mapping, including to: • create mechanisms to share, maintain, access and distribute data; and • make necessary updates to policies, regulations and legislation to ensure flood mapping information can be shared with other agencies and the public.
	Maintain flood-related foundational geospatial data
	Establish a provincial elevation mapping program Update provincial standards for flood mapping, including to: • investigate other types of flood maps (beyond floodplain maps), such as flood risk maps or flood awareness maps, that identify vulnerable areas based on additional factors, such as built and natural drainage systems
Increase Public Awareness and Education	Increase access to flood-related information, including to: • work with external partners to share best practices and raise awareness about the increasing risk of flooding
	Increase transparency around water management decisions
Priority #2. Strengthen Governance of Flood Risks	
Clarify Roles and Responsibilities	Clarify roles and responsibilities in identifying natural hazards
	Clarify roles and responsibilities for urban flooding, including to: • establish an Urban Flooding Work Group with representatives from the Natural Resources Ministry, Environment Ministry, Municipal Affairs Ministry, Infrastructure Ministry, Ministry of Transportation and select municipalities
Promote Sound Land-Use Planning Decisions	Update the Provincial Policy Statement to improve the linkages between land-use planning and natural hazard management
	Update existing natural hazard technical guidelines
	Review policy and ideological approaches of existing guidance, including to: • evaluate the use of regional flood control facilities in Ontario
	Maintain wetlands and pervious surfaces, including to: • improve wetland mapping and policy approaches to encourage wetland conservation; • develop best management practices for wetland creation and restoration; and • promote the use of pervious pavement
	Enhance the resiliency of provincial infrastructure and other built form, including to: • account for climate change considerations in the design and rehabilitation of drainage works; and • encourage municipalities to update their requirements for new development to mandate the use of higher intensity and duration storms in design standards
	Update existing policy, legislative and regulatory requirements, including to: • develop a new stormwater policy to improve the way stormwater is planned and managed; and • require municipalities to conduct flood vulnerability studies and develop resiliency plans

Priority #3. Enhance Flood Preparedness

Enhance Flood Forecasting and Early Warning	Maintain flood forecasting and warning
	Enhance flood forecasting and warning
	Enhance science and research
	Enhance use of satellite imagery
	Maintain Ontario's road weather information system

Priority #4. Enhance Flood Response and Recovery

Enhance Emergency Response	Enhance emergency response activities
Review Disaster Recovery Assistance	Review the results of the Municipal Disaster Recovery Assistance Pilot Climate Resilience Initiative
	Review the implementation of Disaster Recovery Assistance for Ontarians for spring 2019
	Support the development of federal flood insurance and relocation programs

Priority #5. Invest in Flood Risk Reduction

Secure Funding for Flood Risk Reduction	Leverage existing funding programs

Shaded rows identify actions that relate directly to, or could help to, reduce urban flooding.

Appendix 5: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. The Province clearly defines the roles and responsibilities of all parties involved in reducing the risk of urban flooding.
2. The Province facilitates the collection and sharing of timely and practical information about current and projected future precipitation patterns to help government ministries, municipalities and other relevant parties understand, assess and reduce the risk of urban flooding.
3. The Province provides guidance and other support to help municipalities collect and analyze accurate information about the state and capacity of their natural and built stormwater drainage systems.* The Province also supports municipalities in developing and sharing information about urban flood risk areas.
4. The Province provides guidance and best practices on stormwater management and low-impact development to relevant parties that incorporates climate change considerations. The Province has measures in place to encourage widespread adoption of stormwater management best practices.
5. The Province regulates stormwater management systems in a manner that reduces the risk of urban flooding.
6. The Province has oversight mechanisms to ensure municipalities have sufficient financial resources to sustainably operate, maintain and enhance municipal stormwater management systems to effectively reduce the risk of urban flooding, including under future projected climate scenarios.
7. The Province has policies and programs to increase the adoption by property owners and developers of flood-proofing measures for homes.
8. The Province has effective policies and programs to reduce the risk of urban flooding through the protection, restoration and construction of wetlands and other natural features.

Note: Urban flooding refers to the flooding that is caused by rainfall that overwhelms the capacity of built and natural stormwater drainage systems.

* The natural stormwater drainage system refers to the network of natural features and green spaces that impact stormwater flow and absorption across the landscape. The built stormwater drainage system refers to the network of grey stormwater infrastructure and low-impact development features that have been built to manage stormwater.

Appendix 6: Recommendations by the Special Advisor on Flooding (2019) Relating to Urban Flooding

Prepared by the Office of the Auditor General of Ontario

Recommendations Focused on Urban Flooding Prevention

- #26 That, due to the increased use of the **regional flood control facilities**, the Natural Resources Ministry review whether the Province should take steps to regulate the use of these structures or let municipalities decide their use.
- #27 That the Province create a **working group** of all pertinent ministries to define their respective roles as they pertain to **pluvial [heavy rainfall] flooding**.
- #28 That the Province consider whether it should take steps to **regulate drainage standards** in urban areas, such as the requirement to restrict runoff flows to pre-development rates and flood protection measures for private property, and if so, what is the most appropriate legislation.
- #29 That the Environment Ministry reach out to the **Intact Centre on Climate Adaptation**, as part of their commitment to consult with the insurance and real estate industry under the 2018 Environment Plan, to work collaboratively to raise awareness among homeowners about the increasing risk of flooding and to **disseminate the basement flooding protection information** to homeowners.
- #30 That the **Ministry of Infrastructure** ensure that the **Ontario Community Infrastructure Fund** supports municipalities in enhancing and implementing asset management plans (which includes stormwater management and consideration of climate change adaptation and mitigation activities), which will help municipalities make the best possible investment decisions for their infrastructure assets.

Other Recommendations That Indirectly Relate to Urban Flooding Prevention

- #4 That the Natural Resources Ministry **update floodplain mapping technical and implementation guidelines** recognizing new technology and approaches for flood hazard and flood risk mapping, and that the Natural Resources Ministry collaborate with conservation authorities on this initiative.
- #5 That the Province update its technical guides pertaining to floods and natural hazards. This should include undertaking a review of the flood event standards (e.g., 1%, Timmins storm, Hurricane Hazel), with a view to providing for **current science and climate change**.
- #6 That the Province establish a working group with provincial departments, conservation authorities and municipalities to prepare a **multi-year approach to floodplain mapping**.
- #9 That the Province consider establishing a **provincial custodian for floodplain mapping information** and make the necessary updates to policies, regulations and legislation.
- #14 That the Province consider new legislation to improve the existing flood policy framework by having a **lead minister** responsible for all flood-related policy, standards, regulations and legislation.
- #17 That the Province support municipalities and conservation authorities to ensure the conservation, restoration and creation of **natural green infrastructure** (i.e., wetlands, forest cover, pervious surfaces) **during land use planning** to reduce runoff and mitigate the impacts of flooding.
- #31 That the **Infrastructure Ministry** work specifically with the Natural Resources Ministry on the design of future intakes of the Green stream of the **Investing in Canada Infrastructure Program** to ensure flood-related projects are eligible.
- #33 That the Province continue to issue **Green Bonds** in 2020 and beyond to help **finance extreme-weather resistant infrastructure**.
- #46 That the Province have a **central website** for flooding issues that provides answers (for conservation authorities, municipalities and the public) to a myriad of typical and frequent questions, or at the very least, a link to the agency (provincial department, power company, etc.) that provides the answers to the questions.
- #49 That the Province consider including a **“build back better”** component under the Disaster Recovery Assistance for Ontarians program.
- #52 That the Province continue the dialogue with the **Insurance Bureau of Canada** and the federal government on the steps needed to make **flood insurance** more available to more Ontarians.



Niagara Escarpment Commission

Ministry of Natural Resources and Forestry

Conserving the Niagara Escarpment

1.0 Summary

The Niagara Escarpment is one of the most prominent natural features in southern Ontario and widely seen as one of Canada's natural wonders. This ridge extends 725 kilometres through southern Ontario from the Bruce Peninsula to the New York border, where the Niagara River plunges over the Escarpment at Niagara Falls. The Escarpment area includes the largest stretch of continuous forest in southern Ontario and some trees along its cliff face are over 1,500 years old. It is also a source of agricultural land. Because of its ecological significance, it is recognized internationally as a World Biosphere, designated by the United Nations as a place to conserve nature and promote sustainable development.

But the Escarpment's natural environment is under threat. It is located beside the most densely populated part of Ontario, with 31 upper-, lower- and single-tier municipalities along the Escarpment including the cities of Hamilton and Owen Sound. Many First Nations and Métis communities, including the Saugeen Ojibway Nation and the Six Nations of the Grand River, also have traditional and ancestral territories along the Escarpment. Population pressures are mounting, with the number of people living in the Greater Golden Horseshoe expected to grow more than 50% to over 14 million by 2051.

The proximity of so many people results in a high demand for recreation and tourism on the Escarpment, putting pressure on its natural, and in some places delicate, environment. The COVID-19 pandemic underscored the importance of the Niagara Escarpment in providing access to recreational opportunities as visits

to the parks and trails soared, straining resources and infrastructure. The Escarpment's diverse habitats are home to 300 bird species, 53 mammal species, 36 reptile and amphibian species, 90 fish species and 98 butterfly species. There are at least 70 different species at risk—plants and animals whose survival is in jeopardy—that live on the Escarpment. It also has several globally rare types of habitats, as well as eastern North America's oldest forests.

The Ministry of Natural Resources and Forestry (Ministry) is responsible for administering the *Niagara Escarpment Planning and Development Act* (Act), which was enacted in 1973 “to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment.” The Act established the Niagara Escarpment Plan (Plan) to guide land-use planning within the Plan Area, and the Niagara Escarpment Commission (Commission) to implement the Plan.

Our audit examined whether the Ministry and the Commission are effectively and efficiently conserving the Niagara Escarpment in order to meet the purpose and objectives of the Act and Plan. As part of our audit, we visited 64 (or 39%) of the 163 sites in the Niagara Escarpment Parks and Open Space System—a provincially co-ordinated network of parks and open spaces for people to enjoy nature on and around the Escarpment. During these site visits, we observed the work of many dedicated people and organizations, contributing to stewardship, recreation, education, and the conservation of the Escarpment. We also found that while the stewardship of the Ministry and the Commission has benefited the Escarpment over the years, those two entities are failing to fully provide the necessary

leadership, resources and actions to maintain the Escarpment and adjacent lands as a continuous natural environment, and to ensure that all development is compatible with that environment. Meaningful conservation actions are necessary, as land-use controls alone will not adequately protect the Escarpment.

Among our principal conclusions, we found that the Commission no longer has a long-term strategic plan to fulfill the legislative mandate to conserve the Escarpment, nor are there sufficient performance measures and targets to evaluate whether the objectives of the Act and Plan are being achieved. The Ministry does not have a plan or program to assist in financing the completion of the Niagara Escarpment Parks and Open Space System and to secure a permanent route for the Bruce Trail, which runs along the length of the Escarpment.

The Ministry provides insufficient financial and staffing resources to the Commission to ensure that the Plan is effectively implemented. There is no environmental monitoring because there are no staff, resources or program to assess the state of the Escarpment. Moreover, reports of possible violations have significantly increased over the last five years, but no charges have been laid under the Act since 2014. Also, the Commission has approved almost all development permit applications in the last five years, while the Ministry has lowered the Plan's protections for endangered species.

The following are our specific findings in more detail:

Niagara Escarpment Plan Weaknesses

- **The Plan does not cover all of the Niagara Escarpment, so not all of it is protected from incompatible development.** The current size of the Plan Area is 195,055 hectares. In 2017, the Commission concluded that 45,677 hectares could be added to the Plan Area to include all of the Escarpment's natural features, but the Ministry decided against those additions due to public opposition against an increased level of government control over land use and municipalities potentially losing out on tax revenue.

- **The Plan allows new and expanded aggregate operations on the Niagara Escarpment despite the environmental impacts, poor inspection rates, poor rehabilitation track record, and no required justification of need for pits and quarries.** Seventeen (or 31%) of the 54 aggregate operations on the Escarpment are licensed for unlimited tonnage—meaning there is no restriction on the amount of material that can be mined each year. The Ministry has only inspected 14 (or 26%) out of 54 of the active extraction sites within the Plan Area in the last five years and two of these sites failed the inspection due to non-compliance with progressive rehabilitation requirements. During the Plan review in 2017, the Commission recommended to the Ministry that new aggregate operations be prohibited within the Plan Area, but the Ministry did not change the Plan.
- **Changes to the Plan in 2017 allow development that harms endangered species' habitats.** The Ministry changed the Plan so that protecting an endangered species' habitat is no longer explicit grounds for the Commission to refuse a development permit application. We looked at a sample of 45 development permit applications submitted in 2020/21 for activities along the entire length of the Escarpment. For these applications, planners identified 27 (or 73%) as potentially having endangered species present. However, none of these cases resulted in the Ministry of the Environment, Conservation and Parks issuing a permit or other type of authorization under the *Endangered Species Act, 2007*.

Niagara Escarpment Plan Effectiveness Not Sufficiently Monitored

- **The Commission and the Ministry do not have sufficient performance measures and targets to evaluate whether the purposes and objectives of the Act and Plan are being achieved.** For example, the coverage of protected areas may be used to measure performance toward achieving conservation outcomes. We found that

only 63% of the globally rare and delicate alvar sites on the Escarpment are protected, and the single 0.6 hectare of globally rare prairie and savannah is unprotected. Additionally, natural areas in the Escarpment's southern portion and its adjacent lands are highly fragmented.

- **There is no longer environmental monitoring because there are no Commission staff, resources or programs to assess the state of the Niagara Escarpment.** The Commission had an environmental monitoring specialist on staff until 2015, but the position was not renewed. Additionally, the 2005 version of the Plan explicitly recognized the importance of consistent, long-term environmental monitoring. But the 2017 version of the Plan provides markedly less direction on the requirements for environmental monitoring and how it should be used.
- **The Commission has not assessed the cumulative effects of the more than 12,000 development permits issued since 1975.** The effect of multiple stressors poses a threat to the environment, yet the Commission considers development permits in isolation. Additionally, the Ministry amended the Plan in 2017 and removed reference to cumulative effects, despite the Commission's recommendation to strengthen those aspects of the Plan.

Insufficient Conservation Efforts

- **The Commission does not have a long-term strategic plan to achieve the legislative mandate to conserve the Niagara Escarpment.** The Commission has not developed a new strategic plan since the 2012–2016 plan expired. Additionally, the Ministry has no strategic direction to guide how it will support Ontario's four biospheres (Niagara Escarpment, Long Point, Georgian Bay and Frontenac Arch). A biosphere is an international designation that recognizes the environmental importance of an area and promotes solutions for the conservation of biodiversity and the sustainable use of resources.
- **Almost all development permit applications have been approved by the Commission in the last five years.** A development permit is an approval issued by the Commission—or in very rare cases, the Minister—to a person, company or organization, and includes conditions that must be met for a particular development to occur. We found that only 19 (or 1.1%) of 1,661 development permits were refused in those years; however, only 125 of these development permit applications were complex applications that required the Commissioners' approval or denial and some of these Commissioner-approved applications went against the Niagara Escarpment Plan. For example, in 2019, Commissioners approved an application for importing 20,000 square metres of fill—materials like earth, sand and gravel—to level a field to establish a vineyard, though the Plan directs that only topsoil can be accepted for this.
- **The Ministry does not have a plan or program to assist in financing the completion of the Niagara Escarpment Parks and Open Space System (Park System) and securing a permanent route for the Bruce Trail.** The Park System is a provincially co-ordinated network of parks and open spaces for people to enjoy nature. In 1985, the Province established a land securement program for the Escarpment and allocated \$2.5 million annually for 10 years to secure additional land. But the program was terminated in 1998 and not replaced. In 2015, the Bruce Trail Conservancy forecast that given the slow rate of land acquisition, it would take until 2055 to permanently secure a route for the Trail. The Province's Niagara Escarpment Plan commits to completing both the Park System and the Bruce Trail.
- **Only 45% of the Park System's sites have approved plans to guide their protection, despite increasing use and threats like invasive species.** These sites are managed by 23 different entities such as the Ministry,

Ontario Parks, conservation authorities and others. Despite the Niagara Escarpment Plan's requirements, we found that only 74 of the Park System's 163 sites have approved management plans. Meanwhile, threats have increased, including a doubling of the number of non-native plants found on the Escarpment in the last 40 years, and the types of invasive species found has climbed more than fourfold to 18.

- **Protected areas cover 16% of the Niagara Escarpment, but there is no target to increase their number to better conserve the natural environment.** We found that there are 215 protected areas covering 31,871 hectares of the Escarpment. However, the Act, Plan, Commission and Ministry do not have a target to increase the number of protected areas on the Escarpment even though they are an effective tool to conserve nature.

Deficiencies in Plan Administration

- **Reports of possible contraventions have climbed 82% over the last five years, but no charges have been laid under the Act since 2014.** We found that there were 156 high-risk incidents, such as the illegal construction of buildings and other structures, in the last five years. However, the Commission requested the Ministry consider laying charges only five times. In four of the five cases, the Ministry did not investigate due to insufficient documentation provided by the Commission.
- **Insufficient public outreach by the Commission to promote the Plan.** Over the last decade, the Commission has stopped delivering interpretive programs to engage the public on the Escarpment's history, importance and biosphere designation. Over the past two years, the Commission did not allocate any budget for public outreach. Prior to that, the Commission consistently spent less each year on education and outreach activities because of reduced annual operating funding from the Ministry.
- **The Commission reviews applications that do not require a development permit, contributing to a backlog of permits to be processed.** Our Office reviewed all development applications from 2016/17 to 2021/22. We found that exemptions—activities that do not require a development permit—accounted for half of the permit applications. As of April 2022, there was a backlog of 737 applications awaiting a decision. From 2016/17 to 2021/22, a development permit application took an average of 216 days to complete from submission to decision date. The processing time for an application is a function of application volume and complexity, and staff shortages.
- **Niagara Escarpment Plan amendments can languish for years.** Five years after the 2017 Plan review, the Ministry had six deferred amendments involving land-use changes, some of which would allow for an increase in urban development, that were still awaiting a decision by Cabinet. The Ministry had promised to make decisions on these Plan amendments by 2019. All six deferred plan amendments were recommended for refusal by the Commission and Ministry staff.
- **The Commission lacks a modern information management system to efficiently and effectively implement the Niagara Escarpment Plan.** The Commission's computer database currently lacks modern search capabilities, does not have the capacity for electronic submissions from the public, is prone to data-entry error, and cannot be used to accurately measure the Commission's performance over time. In 2014, the Commission had internally identified that its computer database was at a high risk for failure. The Commission is working on a new system, but it is not expected to be in place until 2023/24.
- **The Ministry provides insufficient financial and staffing resources to the Commission to ensure the Niagara Escarpment Plan and Act are effectively and efficiently implemented.**

The Commission is solely funded by the Ministry. In 1996, as part of broader cuts across government, the Province reduced the budget and staffing of the Commission by approximately one-third to the levels that generally remain today. The Commission's overall budget was again reduced by the Ministry in 2010/11, 2011/12 and 2012/13, and 2019/20. Between 2017/18 and 2019/20, the Commission maintained an operational deficit and was forced to cut costs by cancelling Commission meetings or delaying IT repairs.

- **The Commission does not charge fees for development applications or other services, although doing so could offset program delivery costs and discourage activities that negatively impact the Niagara Escarpment.** The Commission identified in 2012, 2015 and 2018 that charging fees was needed to offset program delivery costs. In 2019, the Ministry also identified the option to begin charging fees but noted that it would require Cabinet-approved amendments to the Act. It is a standard practice to charge fees for similar types of permits in Ontario. If the Province had amended the Act to allow the Commission to charge fees starting in 2012, millions of dollars in revenue could have been generated to conserve the Niagara Escarpment and recover costs.

Enhancing Processes for Commissioners

- **A lack of timeliness in the appointment process has negatively impacted the functioning of the Commission.** Delays in appointing a new Chair resulted in no Commission meetings being held from early October 2019 until mid-March 2020, when a new Chair was appointed. The April 2020 meeting was cancelled due to the COVID-19 pandemic. Three meetings were also cancelled in 2017 because no Chair was appointed. Further, there is no mechanism to temporarily designate an interim Chair when the Chair is unavailable.

- **Appointments of public-at-large Commissioners do not provide a balanced representation of regions and interests.** Six of the nine current public-at-large members, including the Chair, represent the Niagara region, creating a disproportionate number of Commissioners from one region. The membership also has a narrower variety of perspectives than prior to the turnover that occurred in 2019/20, with more public-at-large members being appointed from industry and fewer with environmental expertise.
- **Orientation and ongoing training for Commissioners needs improvement, including enhanced training for Chairs.** New Commissioners are provided with only a day of training when initially appointed, and then limited ongoing development throughout their tenure. No enhanced orientation training is provided to newly appointed Chairs, which is important given the increased responsibilities and leadership required of the role.
- **Conflict of interest disclosure processes need to be strengthened.** The Commission does not have a conflict of interest policy specific to the role of the Commissioners, nor are Commissioners required to complete an annual Conflict of Interest Declaration Form. Clarity in this area is important, as our interviews with Commissioners found that they had different interpretations of conflict of interest.

Overall Conclusion

The purpose of the *Niagara Escarpment Planning and Development Act* is to maintain the Niagara Escarpment and adjacent lands as a continuous natural environment, and to allow only compatible development. Good stewardship requires constant improvements to best address and adapt to rising pressures on the Escarpment, including from the significant population growth in the region.

While the Escarpment has benefitted from both the Act and the Plan in the almost half-century since its

conservation was enshrined into law, our audit found that both the Ministry's and Commission's systems and processes should be significantly improved. Among other things, we recommend that the Commission develop a long-term strategic plan in collaboration with the Ministry that outlines specific conservation actions that will be undertaken. We also recommend that the Commission develop a performance measurement framework in collaboration with the Ministry that focuses on successful outcomes. Ontarians need to know how effectively the Province is safeguarding the Escarpment's valuable resources and how it plans to protect them in the future.

The Ministry does not have a funding program dedicated to supporting the securement of lands to complete the Niagara Escarpment Parks and Open Space System and a permanent route for the Bruce Trail. It is obvious that the Commission does not have sufficient resources for environmental monitoring to assess the state of the Escarpment. Additionally, the Plan should include greater protections for endangered species' habitat, and prohibit new or expanded aggregate operations on the Escarpment. Further, the Commission requires additional financial and staffing resources to ensure the Plan is effectively and efficiently implemented.

This report contains 23 recommendations, with 46 action items, to address our audit findings.

COMMISSION OVERALL RESPONSE

The Niagara Escarpment Commission (Commission) thanks the Auditor General for this report and its recommendations.

The Commission was created more than 40 years ago to ensure the long-term protection of the ecological and scenic value of the Niagara Escarpment. Population growth and development pressure in the vicinity of the Escarpment have made this an increasingly challenging, but important, task.

The Commission relies on the Ministry of Natural Resources and Forestry (Ministry) and the broader government for the staff and financial resources needed to deliver the Niagara Escarpment

Program effectively. The Commission will continue to collaborate with the Ministry to identify innovative approaches to program delivery, including improvements to regulations and legislation that will contribute to better protection of the Niagara Escarpment.

The Commission will also identify opportunities for program enhancements for which it has direct responsibility, including Commissioner orientation and training.

MINISTRY OVERALL RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) thanks the Auditor General for this report and its recommendations. The Niagara Escarpment Plan (Plan) is Canada's first, large-scale environmental land use plan. The Plan serves as a framework of objectives and policies to strike a balance between development, protection, and the enjoyment of this important landform feature and the resources it supports.

The Niagara Escarpment Plan, Greenbelt Plan, Oak Ridges Moraine Conservation Plan, and the Growth Plan for the Greater Golden Horseshoe work together to accommodate growth, while protecting farmland, water resources, and the natural environment. The Niagara Escarpment Plan forms part of the Greenbelt Plan area, but has an environment-first policy objective that differs from the other plans.

The Ministry works collaboratively with the Niagara Escarpment Commission, partner ministries, municipalities, and conservation authorities to maintain the Niagara Escarpment and land in its vicinity as a continuous natural environment and to ensure compatible development.

The findings of this report acknowledge the significant challenges faced by the Ministry. The Ministry is committed to continue its efforts to provide leadership for the Niagara Escarpment Plan, and will continue to work with the Commission to evaluate and establish the necessary staffing and financial resources to effectively deliver the Niagara Escarpment Program.

2.0 Background

2.1 Overview

The Niagara Escarpment is a prominent forested ridge that extends 725 kilometres northward from Queens-
ton near Niagara Falls to Tobermory at the tip of the Bruce Peninsula. It also extends eastward into New York State, and westward into Michigan, Wisconsin and Illinois, helping shape Lake Ontario, Lake Huron and Lake Michigan.

In Ontario, the Escarpment forms the largest stretch of continuous forest in the south of the province. Formed more than 450 million years ago, this massive formation of fossil-rich sedimentary rock has caves, valleys, cliffs and crevasses that provide a variety of distinct environments for a wide diversity of plants and animals. It has more than 100 sites of geological significance containing prehistoric rocks and fossils, including some that represent the Earth's earliest complex organisms.

The Escarpment is located beside the most densely populated part of Ontario. There are 31 upper-, lower- and single-tier municipalities on the Escarpment, including the cities of Hamilton and Owen Sound. There also are many First Nations and Métis communities, including the Saugeen Ojibway Nation and the Six Nations of the Grand River, which have traditional and ancestral territories on the Escarpment. Some communities close to the Escarpment have experienced very rapid population increases in recent years, such as the Town of Milton which grew by 21% from 2016 to 2021. In 2022, more than 9.2 million people were estimated to live in the Greater Golden Horseshoe, and that number is expected to exceed 14 million by 2051.

The proximity of millions of people to the Escarpment results in a high demand for recreational opportunities and tourism. The Bruce Trail provides public access along the entire length of the Escarpment through a network of 1,376 km of marked footpaths, 70% of which sit on permanently protected lands. There are 163 parks and open spaces that run along the length of the Escarpment, as well as villages, hamlets, vineyards and ski resorts. Dozens of waterfalls,

including Niagara Falls, lie on the Escarpment, as well as the headwaters of five major river systems. Tourism on the Escarpment contributes an estimated \$100 million annually to local economies. For example, in 2019-20, Bruce Peninsula National Park and Fathom Five National Marine Park near Tobermory had more than 762,000 visitors combined.

The Escarpment area is also a significant source of agricultural land that is close to market. The Niagara Peninsula alone produces the largest amount of Ontario's tender fruit, including over 94% of Ontario's grapes. Rural and agricultural communities in the area support thousands of jobs and produce food consumed all over the world, contributing \$1.4 billion to the region's agricultural economy.

2.1.1 Conserving the Niagara Escarpment

Conserving biodiversity, including species at risk, is essential for ecosystems to stay healthy. Natural environments contribute to the estimated \$1.3 billion in ecosystem services that the Niagara Escarpment provides each year to Ontarians, like clean water, pollination and carbon storing. For example, a 2017 report prepared by the Nature Conservancy of Canada (a land conservation charity) and TD Bank Group estimated the annual value of a single hectare of forest on the Bruce Peninsula was \$19,400 because of the environmental benefits it provides to people.

The diverse habitats of the Escarpment make it home to 300 bird species, 53 mammal species, 36 reptile and amphibian species, 90 fish species, and 98 butterfly species. Almost 1,200 types of plants are found in its different ecosystems, ranging from shorelines on Georgian Bay to prominent cliff faces. There are at least 70 different types of species at risk—plants and animals whose survival is in jeopardy—that live on the Escarpment. It also has several globally rare habitat types, as well as eastern North America's oldest forests.

For years, scientists and world leaders have called for urgent action to address the global loss of nature—the plants, animals, and natural areas that form the basis of life around the planet. In 2021, the World Bank estimated that without concerted conservation

action, the loss of biodiversity and its ecosystem services could have multi-trillion-dollar impacts on the global economy. The World Economic Forum ranks biodiversity loss as one of the top three most severe risks globally over the next decade. In 2022, experts writing in the journal *Science* concluded that land conversion is one of the biggest threats to nature in the modern world.

The Escarpment has faced many pressures since colonization, such as land clearing for agriculture and development. Public concern for the Escarpment grew in the 1960s as development pressures increased, especially from pits and quarries with visible impacts on the landscape. To better protect this unique and ecologically important geographic feature, the Province passed the *Niagara Escarpment Planning and Development Act* in 1973. In 1990, the Escarpment was internationally

recognized as a World Biosphere by the United Nations because of its globally significant natural and cultural features. (See **Section 2.3.2.**)

The conservation of the Escarpment is a shared responsibility. As a World Biosphere, it is part of an international network of sites where people live and work in a region recognized for efforts to promote solutions for the conservation of biodiversity and the sustainable use of resources. **Figure 1** summarizes the roles and responsibilities of various key players. Additionally, see **Appendix 1** for relevant international agreements that pertain to the conservation of the Escarpment. The conservation efforts, however, have had mixed results. In 2022, a report by the non-profit Greenbelt Foundation found that intense growth pressures have increased over time in areas like the Escarpment. These pressures can result in the loss of

Figure 1: Key Stakeholders in the Niagara Escarpment Program

Prepared by the Office of the Auditor General of Ontario



natural areas and productive farmland, but land-use plans—like the Niagara Escarpment Plan—can be an important tool to manage growth. See **Appendix 2** for a chronology of key events affecting the Escarpment. See **Appendix 3** for a glossary of terms.

2.2 Legislation and Accountability Relationships

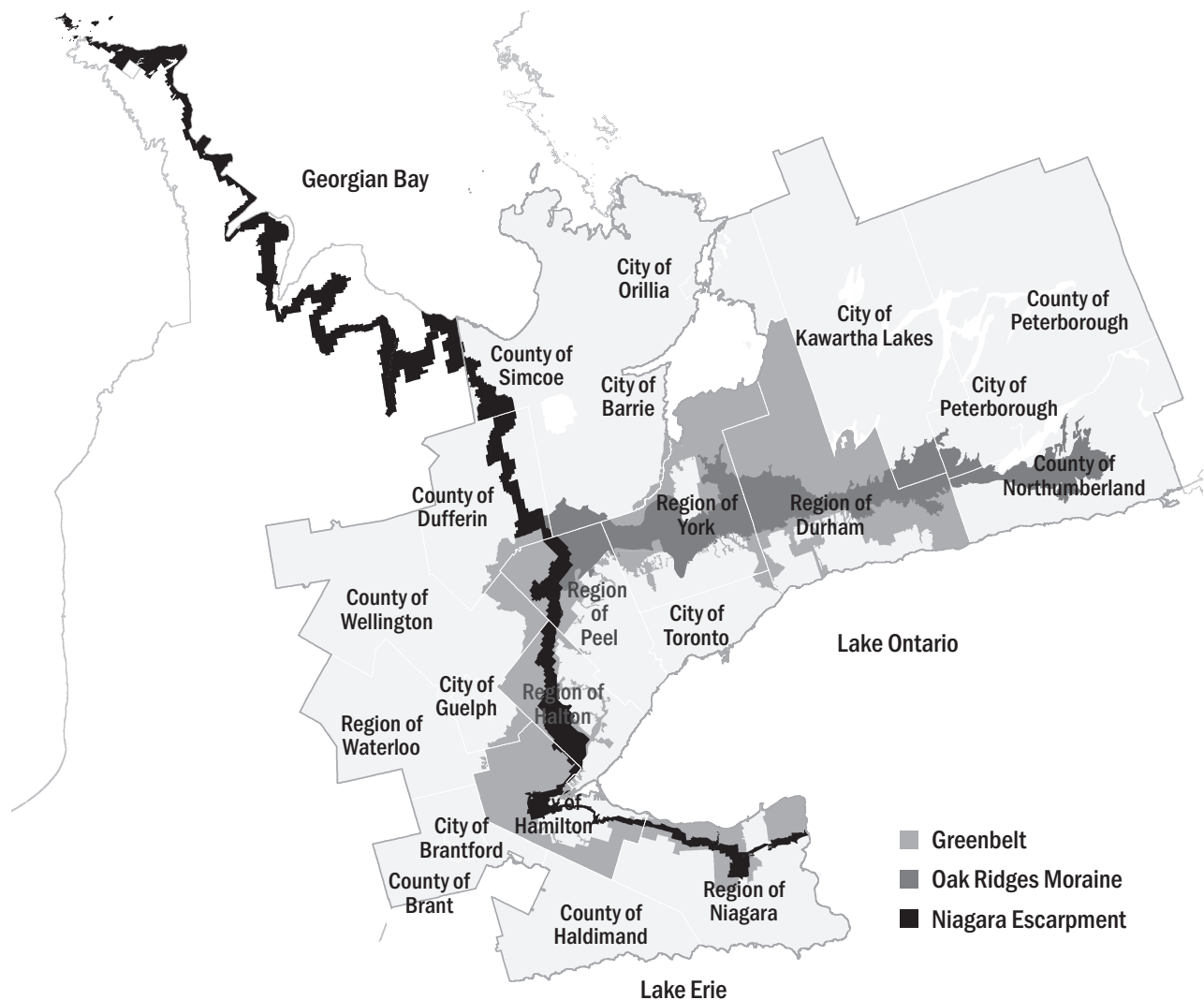
The purpose of the *Niagara Escarpment Planning and Development Act* is “to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible

with that natural environment.” Development includes any change in the use of land, buildings or structures. The Act established the Niagara Escarpment Plan to guide land-use planning within the Plan Area (see **Figure 2** for a map of the Niagara Escarpment and other land-use plan areas) and established the Niagara Escarpment Commission to implement the Plan. The Act directs that the objectives of the Plan are to:

- protect unique ecologic and historic areas;
- maintain and enhance the quality and character of natural streams and water supplies;
- provide adequate opportunities for outdoor recreation;

Figure 2: Map of the Niagara Escarpment and Other Land-Use Plans

Source: Ministry of Municipal Affairs and Housing



- maintain and enhance the open landscape character of the Escarpment;
- ensure that all new development is compatible with the purpose of the Plan;
- provide for adequate public access to the Escarpment; and
- support municipalities in planning.

There are three regulations under the Act:

- Regulation 826 establishes the parts of the Plan Area that are included in the Area of Development Control, where a development permit issued by the Commission is required for certain types of development.
- Regulation 828 exempts certain development classes from requiring a development permit issued under the Act. Examples of allowable exemptions include roof-mounted solar panels and sewage system maintenance.
- Ontario Regulation 235/10 specifies additional lands subject to the Act, such as lands in the Municipality of Grey Highlands and the City of Burlington.

Other provincial laws that provide direction for managing development and conservation on the Escarpment are listed in **Appendix 4**. For example, the *Greenbelt Act, 2005* establishes the Greenbelt Plan, which works to conserve farmland, natural resources, watersheds, cultural heritage and recreation within its boundary. The Greenbelt Plan overlays areas encompassed by the Niagara Escarpment Plan and works in conjunction with the Growth Plan for the Greater Golden Horseshoe, which directs where urban growth is to occur on the lands beyond the Escarpment. While the Greenbelt Plan includes the Escarpment within its boundary, it defers to the authority of the Niagara Escarpment Plan in these areas. The Niagara Escarpment Plan Area made up 23% of the Greenbelt at the time of our audit. In November 2022, after our audit was complete, the Province proposed amending the Greenbelt Plan and the area it applies to, but these potential changes do not alter the Niagara Escarpment Plan or its Plan Area.

Indigenous peoples have their own laws and governance systems. There are 10 First Nations and Métis

communities that have Treaties with the Crown that overlap with the Escarpment Plan Area. Additionally, other Indigenous peoples have traditional and ancestral territories on the Escarpment, including constitutional rights to be consulted. The Memorandum of Understanding between the Minister and the Commission mandates that the Commission has a duty to engage, consult and co-operate with Indigenous peoples and groups across the Plan Area.

2.2.1 Ministry of Natural Resources and Forestry

The Ministry of Natural Resources and Forestry assumed responsibility for administering the Act in 1997. The Act was previously the responsibility of the Ministry of Intergovernmental Affairs, followed by the Ministry of Municipal Affairs and Housing, and then the Ministry of the Environment.

The mandate of the Ministry of Natural Resources and Forestry is to protect and sustainably manage Ontario's diverse natural resources to support economic prosperity, environmental sustainability, and quality of life for the people of Ontario. Over time, the Ministry's Natural Heritage Section allocated up to five to six staff for the Niagara Escarpment program, as well as other support staff, based on changing priorities such as the scheduled Plan reviews. Additionally, a 2015 protocol between the Ministry and the Commission directs the Ministry's Enforcement Branch to devote the time of up to one conservation officer and a part-time prosecutor to enforce the Act. See **Figure 3** for a description of the roles of the Ministry and the Commission.

The Ministry is required to review the Commission's mandate at least once every seven years based on the Treasury Board and Management Board of Cabinet's Agencies and Appointments Directive. In 2018, the Institute on Governance completed a mandate review of the Commission for the Ministry. The review found that the Commission had enduring value as an organization and recommended areas of improvement that the Ministry and the Commission should implement (see **Appendix 5**).

Figure 3: Roles of the Niagara Escarpment Commission and the Ministry of Natural Resources and Forestry

Prepared by the Office of the Auditor General of Ontario

	Niagara Escarpment Commission	Ministry of Natural Resources and Forestry
Commissioners	Staff provide administrative support to Commissioners	The Minister makes recommendations on Commissioner appointments to the Lieutenant Governor in Council
Development Permits	Makes decisions on development permit applications	The Minister makes the final decision on development permit appeals when the Commission's decision is not confirmed by the Hearing Officer
Amendments to the Niagara Escarpment Plan	- Receives, reviews, circulates and consults the public on plan amendment applications as well as makes recommendations to the Minister - Makes recommendations during the 10-year review of the Plan	- Makes final decisions on plan amendments - During the 10-year Plan review, the Ministry consults with the public, stakeholders, and Indigenous communities, and makes final decisions subject to Cabinet approval
Changes to the Act and its regulations	Recommends regulatory and legislative changes to the Ministry	Makes regulatory and legislative changes, subject to Cabinet approval when necessary
Niagara Escarpment Parks and Open Space System	Endorses management plans prepared by the Park System's entities	- Co-ordinator of the Park System - Approves management plans prepared by Park System entities - Develops and amends the Park System's planning manual
Commission's Operations	Prepares budget, annual report and business plan	- The Ministry approves budget and staffing levels, and the Minister approves the annual report and business plan - Prepares Treasury Board requests for additional funding to cover budget shortfalls
Enforcement	- Responsible for day-to-day operations of the compliance program - Responsible for Part I offences¹ and issuing tickets for contravening the Act	Responsible for Part III offences ² and prosecutions under the Act

1. Part I offences are minor offences where the defendant must pay a fine to a maximum of \$1,000.

2. Part III offences are serious offences that require the matter to be brought to a court for a resolution.

2.2.2 The Niagara Escarpment Plan

The Niagara Escarpment Plan was first approved in 1985—12 years after the Act was passed—and it serves as the environmental land-use plan for the Escarpment. The Plan is Canada's first land-use plan that has environmental protection as its primary objective. See **Figure 4** for a description of how the Plan divides the Escarpment into seven land-use designations. In general, the level of protection from development decreases the farther the land is from the

Escarpment's cliff face. At the time of our audit, the Plan covered 195,055 hectares.

The Plan establishes a framework that seeks to sustainably manage compatible development, protection and public enjoyment of the Escarpment. Under the *Niagara Escarpment Planning and Development Act*, the Minister of Natural Resources and Forestry is to cause a review of the Plan at the same time the scheduled review of the Greenbelt Plan is carried out under the *Greenbelt Act, 2005*, which is to be every 10 years.

Figure 4: Land-Use Designations in the Niagara Escarpment Plan, Examples of Permitted Development, and Percentage of Plan Area

Prepared by the Office of the Auditor General of Ontario

Land Use Designation	Examples of Permitted Development within Each Land Use Designation	Percentage of Plan Area (as of 2022)
Escarpment Natural Area: areas that contain habitat, water resources, and support ecosystem services	Single dwellings, forest, wildlife and fisheries management, and accessory uses (e.g., garage, swimming pool)	38%
Escarpment Protection Area: areas that have visually prominent characteristics and environmental significance	Agricultural uses, single dwellings, forest, wildlife and fisheries management, and accessory uses (e.g., garage, swimming pool)	33%
Escarpment Rural Area: areas that are part of the Escarpment corridor and provide a buffer area between ecologically sensitive lands	Agricultural uses, single dwellings, accessory uses (e.g., garage, swimming pool), and new pits and quarries (up to 20,000 tonnes annually)	23%
Escarpment Recreation Area: recreational development areas along the Escarpment	Agricultural uses, single dwellings, ski centres, golf activities, and trail activities	3%
Urban Area: areas with a lot of urban growth	Urban Areas are subject to municipal zoning bylaws that are not in conflict with the Niagara Escarpment Plan	2%
Mineral Resource Extraction Area: areas where mineral aggregate operations are permitted	Agricultural uses, pit and quarry operations, pit and quarry accessory uses	1%
Minor Urban Centre: areas that contain rural villages, settlements and hamlets	Some minor Urban Centres are subject to municipal zoning bylaws that are not in conflict with the Niagara Escarpment Plan	*

* Minor Urban Centres are included in the calculations for Escarpment Natural Areas, Escarpment Protection Areas, and Escarpment Rural Areas

During this review, the Minister is to consult with the Commission, any ministry with an interest in the Plan, the council of each municipality included in the Plan Area, and any other interested public bodies, ensuring the public is given an opportunity to participate in the review.

After completion of the review, the Minister may propose amendments to the Plan, which must be consistent with and promote the objectives of the Plan. The Province revised the Niagara Escarpment Plan in 1994, 2005 and 2017. The next scheduled review of the Niagara Escarpment Plan is in 2027. The current Plan

focuses on three main areas for the conservation of the Escarpment: land-use planning policies; development criteria to protect Escarpment resources; and the parks and open spaces system.

2.2.3 Niagara Escarpment Commission

The Niagara Escarpment Commission is a non-board governed provincial regulatory agency established in 1973 under the Act to implement the Plan. Its goals are to develop, interpret and apply policies that maintain and enhance the vitality of the Escarpment's

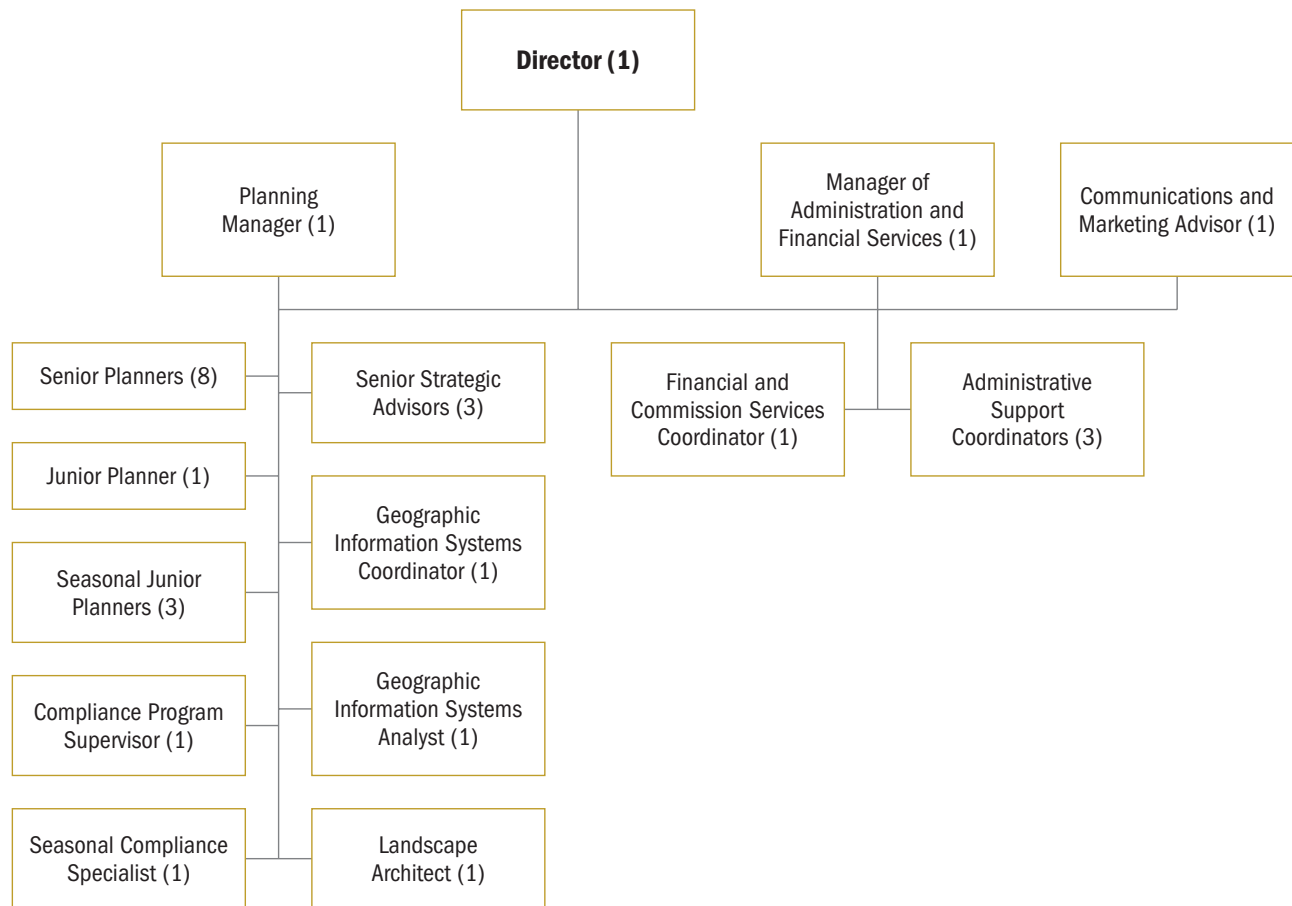
unique environmental and landscape features. This regulatory agency reports to the Minister of Natural Resources and Forestry—it is solely funded by the Ministry, and the Minister approves its budget and staffing levels. See **Figure 5** for the Commission’s

organizational chart, and **Figure 6** for the Commission’s budget for the last five years.

The Commission is composed of 17 appointed members (Commissioners), one of whom is the Chair, and 24 staff, including a Director. The Director

Figure 5: Niagara Escarpment Commission Staff Organizational Chart

Source of data: Niagara Escarpment Commission



Note: There are a total of 24 full-time-equivalent staff and four seasonal positions. The staffing varies over time due to vacancies.

Figure 6: Niagara Escarpment Commission’s Budget, 2016/17 to 2020/21 (\$)

Source of data: Niagara Escarpment Commission

Category	2016/17	2017/18	2018/19	2019/20	2020/21
Salaries and Wages (including Benefits)	2,011,461	2,089,188	2,300,783	2,474,434	2,111,167
Other Direct Operating Expenses*	388,119	388,111	353,556	212,711	273,549
Niagara Escarpment Commission Total	2,399,580	2,477,299	2,654,339	2,687,145	2,384,716**

* Includes costs for transportation, communication, supplies for equipment, and services.

** The Commission also received a Treasury Board Order for \$196,300 in 2020/21.

is responsible for the day-to-day operations of the Commission.

Commission staff responsibilities include reviewing and determining whether development permit and exemption applications are in alignment with the Plan, as well as administrative roles in Plan amendments. The Director, supported by staff, makes decisions on most development applications. Commissioners make decisions on complex applications that either require an interpretation of the Plan, or that do not align with the Plan and may need to be denied.

The Commissioners are appointed by the Lieutenant Governor in Council. Nine members, including the Chair, represent the public-at-large. The remaining eight members are municipal representatives who must be council members or employees of a municipality within the Plan Area. Under the Agencies and Appointments Directive, the Commissioners serve as regulators and make independent decisions related to the Act and Plan, but do not form a governing board. The Commissioners met on average seven times per year between 2017 and 2021 to make decisions on development permit applications. Commissioners are remunerated with a per diem rate for preparation and attendance at meetings, as well as reimbursed for approved out-of-pocket expenses.

A Memorandum of Understanding, signed by the Minister and the Chair, establishes the accountability relationships, clarifies roles and responsibilities, as well as specifies operational, administrative, financial and staffing arrangements. The Memorandum recognizes the independence of the Commission in making regulatory decisions, but directs that the Commission must comply with the Act and make decisions that do not conflict with the Niagara Escarpment Plan.

The Chair is accountable, through the Minister, to the Legislative Assembly in exercising the Commission's mandate. The Memorandum of Understanding further clarifies that the Chair is accountable to the Minister for the agency's performance in fulfilling its mandate, and for carrying out assigned roles and responsibilities. The Memorandum also specifies the roles and responsibilities of both the Director and the Deputy Minister.

2.3 Efforts to Protect and Promote the Niagara Escarpment

2.3.1 Niagara Escarpment Parks and Open Space System

The Plan establishes the Niagara Escarpment Parks and Open Space System (Park System) as a provincially co-ordinated network of parks and open spaces. At the time of our audit, the Park System was composed of 163 parks and open spaces that cover 44,017 hectares (or 23%) of the Plan area, many of which are linked by the Bruce Trail.

These lands are managed by 23 different entities, such as the Ministry, Ontario Parks (a branch of the Ministry of the Environment, Conservation and Parks), seven different conservation authorities, Parks Canada (a federal agency), the Bruce Trail Conservancy, municipalities, and others. These entities participate in the Niagara Escarpment Parks and Open Space System Council. Among other things, the Council provides a forum for park managers to share resources, identify best practices and to provide advice to the Ministry and the Commission. The Plan recognizes that the strength and public image of the system is dependent upon the co-operation of these entities in complying with and implementing the Plan.

There are nine Nodal Parks—the Park System's flagship sites—to promote the Escarpment's diverse environments for public benefit and to provide destination starting points for visitors. Some of the Park System's lands meet national criteria and are reported as protected areas, which recognizes that they meet modern standards to conserve nature.

2.3.2 Niagara Escarpment Biosphere

The Niagara Escarpment was designated as a World Biosphere in 1990 by the United Nations' Man and the Biosphere Programme. Biospheres are intended to be learning places for sustainable development in which 1) biodiversity and cultural diversity is conserved; 2) economic development that is socio-culturally and environmentally sustainable is promoted; and 3)

support for research, monitoring, education and training is provided.

There are currently 738 biospheres designated worldwide, 19 of which are in Canada (see **Appendix 6**). In addition to the Escarpment, Ontario has biospheres at Long Point on the north shore of Lake Erie, Thousand Islands-Frontenac Arch north of Kingston, and the eastern coast of Georgian Bay, stretching from the Severn River to the French River. The application process to be designated a biosphere is rigorous and takes about eight years to complete. After designation, the United Nations conducts periodic reviews of each biosphere about every 10 years. These reviews are opportunities to evaluate actions undertaken and results achieved, examine management and implementation, and identify areas for improvement. The Niagara Escarpment Biosphere underwent reviews in 2002 and 2012, and will have its next review in 2024.

The decision to designate the Niagara Escarpment as a World Biosphere was influenced by the Niagara Escarpment Plan, which seeks to balance preservation, conservation and sustainable development—a goal upheld by biospheres worldwide. The Plan was recognized as being especially well suited for the biosphere designation because there is a core area of protected lands at and near the Escarpment cliff face (also called the brow), and a series of land-use designations with decreasing levels of protection further back (see **Figure 4**). The Ministry does not have programs, provide any dedicated support, or have any strategic direction for the other three biospheres in Ontario.

An objective of the Plan for the Park System is to show leadership in supporting and promoting the principles of the Niagara Escarpment Biosphere. Maintaining the World Biosphere designation is an important source of international recognition, and failure to maintain it poses a significant reputational risk. For example, in 2010, Mount Arrowsmith Biosphere in British Columbia almost lost its World Biosphere designation after a periodic review cited concerns over a lack of sound governance. Significant public outcry can occur when a site risks losing its international status.

From its designation in 1990 until 2019, the Commission was the lead convener (or manager) for the Niagara Escarpment Biosphere. Biosphere conveners are responsible to develop, implement, manage and coordinate initiatives between the various stakeholders.

A Transitional Leadership Committee, composed of stakeholders and funded by charitable organizations, was established in 2019 to guide the development of a new governance model to act as the convener for the biosphere, instead of the Commission. The United Nations' 2012 review of the biosphere found that the public, not the government, should have a greater role in overseeing the Niagara Escarpment Biosphere. Work then began on developing stakeholder outreach tools, researching funding avenues, and exploring how to engage meaningfully with Indigenous communities and have Indigenous co-management of the biosphere transition. In March 2022, the Niagara Escarpment Biosphere Network was incorporated and work was underway to maintain the Escarpment's international biosphere designation.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Niagara Escarpment Commission (Commission) and the Ministry of Natural Resources and Forestry (Ministry) have effective systems and processes in place to:

- maintain the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, in order to meet the purpose and objectives of the *Niagara Escarpment Planning and Development Act* and the Niagara Escarpment Plan;
- ensure only such development on the Escarpment as is compatible with that natural environment, in order to meet the purpose and objectives of the Act and the Plan; and
- measure and publicly report on progress toward maintaining the Escarpment, ensuring only compatible development, and meeting the objectives of the Plan.

In planning for our work, we identified the audit criteria (see **Appendix 7**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best and leading practices. Senior management of both the Commission and Ministry reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between January 2022 and July 2022. We obtained written representation from both the Commission and Ministry management that, effective November 22, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

Our audit work was conducted at the Commission's office in Georgetown and the Ministry's office in Toronto. We also visited 64 (or 39%) of the 163 sites in the Niagara Escarpment Parks and Open Space System to observe their contributions to the conservation of the Escarpment. Due to the COVID-19 pandemic, some of our work was conducted remotely. We engaged the Commission, Ministry and other stakeholders through video-conferencing, phone calls and emails. We interviewed senior management and staff, and reviewed relevant data and documents from both the Commission and the Ministry.

We interviewed current and former Commissioners, as well as staff at the Bruce Trail Conservancy, the Niagara Escarpment Biosphere Network, the Niagara Escarpment Foundation, the Greenbelt Foundation, and other conservation entities. To identify best and leading practices, we reviewed scientific literature and international standards on nature conservation. We also interviewed academic experts in environmental land-use planning and biological sciences.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. These standards involved conducting the tests and other procedures

that we consider necessary to obtain a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standard on Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Weaknesses in the Niagara Escarpment Plan

4.1.1 The Niagara Escarpment Plan Does Not Cover All of the Escarpment, Leaving Areas Unprotected from Incompatible Development

The Act directs that the Niagara Escarpment and land in its vicinity are to be maintained as a continuous natural environment. However, the Niagara Escarpment Plan Area does not cover the entire Escarpment. Currently, some of the geographic features of the Escarpment are outside of the Plan Area and are only subject to planning by local municipalities. It is a best practice for environmental land-use plans to be based on natural and geographic features.

Some of the readily identifiable cliff and rock areas of the Escarpment are not included in the Plan Area. For example, 15,623 hectares of the Escarpment's cliff face are not included in the Plan Area, including areas near Collingwood. Additionally, there are 144 km of Escarpment toe (the lowest point on the Escarpment slope) and outlier (part of the Escarpment that has been separated from the main Escarpment by erosion) that are not included in the Plan Area. These lands

were not included when the Plan was approved in 1985.

In 1977, the Commission released a preliminary proposal for the Plan Area, which was criticized for being too large. A revised 1979 proposal reduced the Plan Area by 62%. In 1985, the first version of the Plan was approved with an area of 184,000 hectares.

Since 1985, the Plan Area has been enlarged by 6% through minor amendments and boundary additions, expanding the Plan Area to its current size of 195,055 hectares. For example, in 2005, the Ministry added lands near Burlington increasing the Plan Area by 725 hectares. In 2013, the Ministry added 400 hectares of land in the City of Hamilton to the Plan Area, but this land was not brought into the Area of Development Control—the area that the Commission regulates—until 2021 due to delays in updating the regulation.

During the 2017 Plan review, the Commission assessed 84,114 hectares of land for inclusion in the Plan Area based on ecological and geologic criteria. The Commission concluded that 45,677 hectares of land could be added to the Plan Area, which would have increased the Plan Area by 23%, but the Commission ultimately did not recommend the addition of new lands. The Ministry's internal documents showed that it decided against these additions due to public opposition to increased government control over land use and to municipalities potentially losing out on tax revenue.

Additionally, the Plan Area—the area covered by the Plan objectives—and the Area of Development Control are not aligned. For example, Dufferin County has lands in the Area of Development Control that are not in the Plan Area, which means that the policies of the Plan do not apply but the Commission must still issue development permits. Similarly, there are areas in the Plan Area that are not in the Area of Development Control. In these areas, Commission staff must still be involved as a commenting agency even though the Commission is not responsible for issuing a development permit. In total, there are 456 hectares of land that are in the Area of Development Control but not in the Plan Area, and 3,074 hectares of land that are in the Plan Area but not in the Area of Development

Control. The Commission has identified that aligning the Plan Area and the Area of Development Control would reduce confusion and simplify the development permit application process.

RECOMMENDATION 1

So that the Niagara Escarpment and land in its vicinity are maintained as a continuous natural environment, as mandated by the *Niagara Escarpment Planning and Development Act*, we recommend that the Ministry of Natural Resources and Forestry, in preparation for the next review of the Niagara Escarpment Plan, work with the Niagara Escarpment Commission to assess:

- the completeness of the Plan Area in including the entire Niagara Escarpment and sufficient adjacent lands, including natural heritage features; and
- opportunities to align the Area of Development Control and the Plan Area.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees that the objective of the Plan and the *Niagara Escarpment Planning and Development Act* is to maintain the Niagara Escarpment and land in its vicinity as a continuous natural environment.

As mentioned in the Auditor General's report, in 2016 the Niagara Escarpment Commission (Commission) assessed over 80,000 hectares (ha) and proposed over 45,000 ha of additions for inclusion to the Niagara Escarpment Plan (Plan) Area, based on a set of ecological criteria related to the purpose and objectives of the Plan.

As land-use designations were not applied to the proposed additions, additional consultation would be required if the Province decides to proceed with any or all the Plan additions.

During the next scheduled review of the Plan in 2027, the Ministry will review the Plan Area, considering the Commission's previous assessment that more than 45,000 ha could be potentially added.

4.1.2 The Plan Allows New and Expanded Aggregate Operations on the Niagara Escarpment Despite the Environmental Impacts of Pits and Quarries

Concern about the impact of aggregate operations—pits and quarries that mine sand, gravel or bedrock—was a driving reason why the Province enacted the *Niagara Escarpment Planning and Development Act* in 1973. Yet the Plan continues to allow this type of development to occur. During the 2017 Plan review, the Commission recommended to the Ministry that new aggregate operations be prohibited within the Plan Area. The Commission raised concerns about potential negative impacts of extracting aggregates below the water table and the long-term effects on the ecosystems of the Niagara Escarpment. The Ministry did not make this change to the Plan. Instead, it updated the Plan to align it with the broader planning rules for other parts of southern Ontario. Both the Plan and the Provincial Policy Statement now direct that the demonstration of need for mineral aggregate resources, including any type of supply and demand analysis, is not required.

Aggregates are materials that are extracted from pits and quarries in accordance with the *Aggregate Resources Act* and are used for building roads or making products like cement. The Ministry has licensed more than 6,000 pits and quarries across Ontario, and 54 are located within the Plan Area. The *Niagara Escarpment Planning and Development Act* allows pits and quarries on lands that are designated as Mineral Resource Extraction Areas, which account for 1% of the total Plan Area (see **Figure 4**). Though there are thousands of aggregate sites across Ontario, the Escarpment's proximity to areas of high aggregate demand, like the Greater Toronto Area, can cause increased pressure for aggregate extraction there.

The establishment of new or expanded pits and quarries on the Escarpment presents challenges for maintaining the Escarpment's natural environment and visual character. Aggregate operations generate significant public outcry as found in our review of media coverage, public comments posted on Ontario's

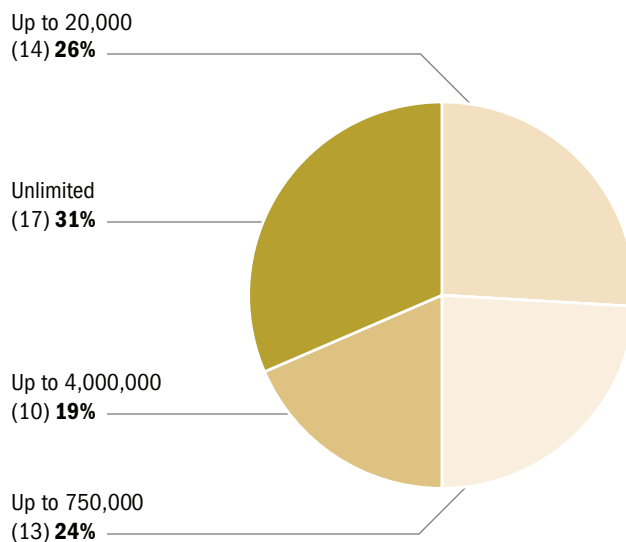
Environmental Registry, and our observations of signs of protest posted on private properties near some Park System sites. For example, we visited several Park System sites, such as Forks of the Credit Provincial Park near Erin and the Esquesing Tract near Milton, and observed ongoing management challenges and impacts posed by neighbouring aggregate operations.

Figure 7 shows that 17 of the 54 (or 31%) aggregate operations on the Escarpment are licensed for unlimited tonnage—meaning there is no restriction on the amount of material that can be mined each year. Out of the 17 sites licensed for unlimited tonnage, 12 (or 71%) of them extract materials below the water table. Extraction that occurs below the water table can reduce water levels, may require perpetual water management, and can permanently alter surrounding ecosystems. Conditions in aggregate licences attempt to address such environmental impacts.

Pits and quarries generally have a long operational lifetime—some quarries on the Escarpment have been in operation for over 100 years—which suggests that the quarries licensed for unlimited tonnage will be able to provide a steady supply of aggregate resources well into the future. Due to the negative environmental

Figure 7: Number of Licensed Aggregate Sites within the Niagara Escarpment Plan Area by Annual Maximum Tonnage, 2022

Prepared by the Office of the Auditor General of Ontario



effects of pits and quarries, as well as the lack of information about Ontario's true demand for aggregates, many municipalities—including Milton, Halton Hills and Peel Region, which are within the Plan Area—have called for a temporary province-wide moratorium on all new aggregate licences, approvals and amendments. The municipalities called for this moratorium in 2022 and want to keep it in place until there has been a comprehensive review of aggregate needs and uses in Ontario. However, the Province has not initiated or committed to such a review.

The Plan states that an objective of the Mineral Resource Extraction Area is to minimize the impact of pits and quarries on the Escarpment environment. To achieve this, the Plan directs that pits and quarries must have a rehabilitation plan and companies implement that plan after extraction ends. We reviewed the rehabilitation plans for all licensed sites within the Plan Area and found that all 54 licensed sites have a rehabilitation plan that outlines steps for site restoration.

In sites where extraction had ceased, only five out of 26 (or 19%) sites had a rehabilitation plan that could still be accessed. The Ministry could not provide our Office with a list of all rehabilitation plans for unlicensed sites as the Ministry destroys records 10 years after an aggregate license has been surrendered, according to their record-retention schedule.

In the last five years, the Ministry has only inspected 14 out of 54 (or 26%) of the active extraction sites within the Plan Area. Inspections are important to maintain the environmental standards set out in the *Aggregate Resources Act*, as well as the objectives of the Act and the Plan. Out of these 14 site inspections, two sites failed due to non-compliance with progressive rehabilitation requirements. Additionally, every licensed pit in Ontario is required to submit a Compliance Assessment Report once a year to ensure that pits and quarries are complying with the *Aggregate Resources Act*, the regulations, their site plan, and licence conditions. However, the Ministry was unable to provide us with 10 of the 54 Compliance Assessment Reports that were required to be submitted for 2021.

Some pits and quarries can be approved even when the Commission opposes them due to their environmental impacts and inconsistencies with the Plan. In a 2014 hearing decision, an application for a quarry expansion was approved against the recommendation of the Commission. The Commission had concluded the application was inconsistent with the Plan due to potential impacts on water quality, harm to endangered species and their habitats, and had inadequate justification. A former Environmental Commissioner of Ontario and a former provincial Minister of the Environment both testified at the hearing against the approval of the quarry, citing environmental harm to the Escarpment.

RECOMMENDATION 2

To maintain the natural environment of the Niagara Escarpment and meet the purpose of the *Niagara Escarpment Planning and Development Act*, we recommend that the Ministry of Natural Resources and Forestry, in preparation for the next scheduled review of the Plan, assess the environmental impacts of aggregate extraction on the Niagara Escarpment, gathering the necessary information needed to conduct such an assessment and considering the Commission's recommendation to prohibit all new and expanded aggregate operations on the Escarpment.

MINISTRY RESPONSE

The Ministry considered the Niagara Escarpment Commission's recommendation to restrict new mineral aggregate extraction within the Niagara Escarpment Plan (Plan) area. It was determined that such a restriction would not be in keeping with the objectives of the Co-ordinated Land Use Planning Review, and it would not support provincial interests.

The Plan continues to provide for aggregate extraction in limited areas of the Escarpment where it can be demonstrated that extraction can be compatible with the Escarpment environment and rehabilitation measures are in place to ensure long-term impacts are mitigated.

The 2017 Plan adopted new concepts such as the requirement for Agricultural Impacts Assessments in certain circumstances, and restrictions on mineral aggregate operations in significant woodlands in alignment with the Provincial Policy Statement.

The next opportunity to revisit the Commission's recommendation to prohibit all new and expanded aggregate operations on the Escarpment is during the next scheduled review of the Plan in 2027. The Ministry will revisit the Commission's recommendation at that time.

4.1.3 Changes in 2017 to the Niagara Escarpment Plan Allow Development That Harms Endangered Species' Habitat

In 2017, the Ministry changed the Niagara Escarpment Plan to align it with changes made in 2007 to Ontario's endangered species legislation. The *Endangered Species Act*, which was passed in 1971, previously prohibited harm to endangered species and the destruction or damage of their habitat under any circumstance. However, in 2007 this legislation was replaced with the *Endangered Species Act, 2007*, which allows for harm to endangered species and their habitat, often with conditions. As a result of the changes made in 2017 to the Plan, development is now allowed on lands with endangered species and their habitat, subject to the *Endangered Species Act, 2007*, which is administered by the Ministry of the Environment, Conservation and Parks (Environment Ministry). Up until 2017, the Plan did not allow new development in endangered species' habitat.

Endangered species are plants, animals, fish or other forms of life that live in the wild, but are facing imminent extinction or being lost from Ontario. At the time of our audit, there were at least 70 species at risk on the Escarpment including 33 endangered, 19 threatened, and 18 species of special concern. Species at risk on the Escarpment include the wood turtle, nine-spotted lady beetle, and eastern flowering dogwood. Though the Commission and Ministry did not have this information readily available, they were

able to compile information on species at risk on the Escarpment at our request. Province-wide, the number of species at risk has risen by 22% in the last decade to 258 species.

As a result of the Ministry's changes to the Plan in 2017, endangered species' habitat is no longer explicit grounds for the Commission to refuse a development permit application. Previously, the presence of endangered species resulted in either the Commission denying the permit application or the application being withdrawn. For example, in 2013 Bell Mobility proposed to build a telecommunications tower on endangered Jefferson salamander habitat, but the Commission disagreed and it was not built in that location. Additionally, in 2012 the Commission denied an application for a single dwelling in the Region of Halton due to the presence of Jefferson salamander habitat on the property. Some species at risk, like Jefferson salamander, have significant portions of their province-wide habitat on or adjacent to the Escarpment.

We tested a sample of 45 development permit applications submitted in 2020/21 for activities along the length of the Escarpment. We found that 37 (or 82%) had species at risk occurrences, which are based on government records that a species at risk was recorded in a general area at a particular point in time. Out of those 37 development applications, 27 (or 73%) had potential for the presence of at least one species classified as endangered in the area.

Records of species at risk at a site can prompt the Commission to conduct further work to determine whether the property is considered habitat for the species or whether the species is present. Commission staff then determine whether a permit application should be circulated to the Environment Ministry based on the amount of potential species at risk habitat present, if the occurrence species is still thought to be in the area, if it may be a provincially or locally significant population, and whether the proposed development has the potential to impact species at risk or their habitat. We found that, of the 37 permit applications for sites that had records of species at risk, the Commission did not circulate 24 (or 65%) of them

to the Environment Ministry. At the time of our audit, there was no staff position for a biologist or ecologist at the Commission to provide expertise or investigate occurrences further.

Of the 13 (or 35%) of the 37 applications that were flagged to the Environment Ministry, the Commission received four responses stating that there were no species at risk concerns, five applications where the Ministry provided no comments, two requesting that additional species surveys be conducted by the applicant, one stating that fencing must be put up to protect the affected species, and one stating that it is the responsibility of the applicant to determine whether an approval is required.

In five of the 37 applications, the Commission required the applicant to have an environmental impact assessment conducted to determine the potential impact on species at risk. In one of the five assessments, there was an eastern meadowlark, which is a species at risk, confirmed at the site. In two other assessments, species at risk were expected to occur on site due to the presence of habitat regulated under the *Endangered Species Act, 2007*. However, this did not result in the Environment Ministry issuing a permit or other type of authorization under the *Endangered Species Act, 2007*.

In 2021, our Office completed a value-for-money audit on *Protecting and Recovering Species at Risk*. We found that the Environment Ministry's systems and processes for approvals facilitate and enable harm to species at risk and their habitats. We found that the Environment Ministry had never denied issuing an approval to harm species at risk and that little enforcement of the *Endangered Species Act, 2007* occurs.

RECOMMENDATION 3

To effectively implement and improve the efficiency of the Niagara Escarpment Plan (Plan) to maintain the natural environment, we recommend that the Ministry of Natural Resources and Forestry, during the next scheduled review of the Plan, consult the Ministry of the Environment, Conservation and Parks and those with relevant expertise in species at risk to assess the sufficiency of the Plan and its measures at protecting endangered species and

their habitat on the Escarpment, including the need to explicitly enable the Niagara Escarpment Commission to deny development permit applications that harm endangered species or their habitat, or to impose conditions when warranted.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees that the objective of the Plan and the *Niagara Escarpment Planning and Development Act* is to maintain the Niagara Escarpment and land in its vicinity as a continuous natural environment.

In 2017, the Niagara Escarpment Plan's (Plan's) natural heritage policies were updated and refined to recognize key natural heritage features, acknowledge requirements for endangered and threatened species in alignment with the *Endangered Species Act, 2007*, and provide for improved consistencies between definitions and policy approaches in the Provincial Policy Statement and the other land-use plans.

The next opportunity to review the policies for development affecting natural heritage, including habitat of endangered species and threatened species, is at the next scheduled review of the Plan in 2027. At that time, the Ministry will review the sufficiency of measures to protect endangered species and their habitat on the Escarpment, and take corrective action as necessary. At that time, the Ministry will review the policies to ensure continued policy alignment between the Plan and the *Endangered Species Act, 2007*.

4.2 Lack of Tools to Measure Effectiveness of Escarpment Plan

4.2.1 Performance Measures Are Insufficient to Evaluate Conservation Efforts

The purpose of the *Niagara Escarpment Planning and Development Act* is to maintain the Niagara Escarpment and adjacent lands as a continuous natural environment, and to allow only compatible development. However, the Commission and the Ministry do not

have sufficient performance measures and targets to evaluate whether the purposes and objectives of the Act and Plan are being achieved in order to inform future actions. Accordingly, almost 50 years after it was passed by the Legislative Assembly of Ontario, the public is unable to know whether the Niagara Escarpment is being effectively and efficiently conserved as a continuous natural environment as mandated by the Act.

The Treasury Board Secretariat establishes policies and standards for organizational practices across government. The Secretariat has provided guidance to ministries emphasizing the importance of developing key performance indicators and targets to track performance, report on progress and drive continuous improvement. Performance measures are important to drive meaningful progress on outcomes, not simply on operational outputs.

The Plan directs that performance indicators will be developed, and performance monitoring will be undertaken, as follows:

- The Province will develop a set of performance indicators to measure the implementation of the Plan, and will monitor and report on them.
- The Commission will monitor and report on the Plan.
- The Province may require the Commission to provide information to demonstrate progress made toward the implementation of the Plan.
- The Commission shall consider performance indicators and monitoring information in the day-to-day implementation of this Plan.

The lack of sufficient performance measurement is a risk. It creates the inability to identify, analyze and communicate the environmental benefits of the Niagara Escarpment Plan. Additionally, insufficient performance measures are a missed opportunity to increase public support, knowledge and appreciation of the Escarpment.

Performance measures enable informed corrective actions to be taken. For example, we found that the Ontario Biodiversity Council uses some indicators that may be applied to the Escarpment:

- **Extent and protection of rare ecosystems**—At the time of our audit, we found that only 63% of the 75.7 hectares of 23 globally rare alvar sites on the Escarpment were protected, and the single 0.6 hectare area of globally rare prairie and savannah was unprotected.
- **Connectivity of ecosystems**—In 2015 and 2020, the Ontario Biodiversity Council reported that natural areas in the southern portion of the Escarpment and its adjacent lands were highly fragmented and not well connected, raising concern about the maintenance of the continuous natural environment as directed by the purpose of the Act.
- **Extent of protected-areas coverage**—At the time of our audit, we found that protected areas covered 16.3% of the Plan's area. See **Section 4.3.5** for a discussion on the lack of a target for protected areas coverage, which is an internationally accepted measure of how effectively nature is being conserved in a region.
- **Private landowner enrolment in conservation programs**—The Ministry administers the Conservation Land Tax Incentive Program that enables private landowners to receive a 100% property tax exemption for conserving eligible natural heritage features such as the habitats of endangered species or provincially significant wetlands. The Ministry does not publicly report on participation levels in this program on the Escarpment. At the time of our audit, we found that there were 2,740 properties covering 24,665.5 hectares on the Escarpment enrolled in this program, after increasing by 298 properties in the past five years. The 2012 periodic review of the Biosphere recommended that such programs be used as performance indicators of sustainability.

4.2.1.1 The Commission's Performance Measures Are Inadequate

The Commission has 21 performance measures in its 2021–2024 business plan and reports on them in its annual report. These performance measures are

operational in nature. However, few of the performance measures have quantifiable targets to track progress over time, and some of the measures that have targets are not tracked. For example, the Commission has a target to respond to compliance issues within 48 hours, but its 2020-21 annual report does not contain measures that report on response times.

The Commission stated that it will undertake work in 2021/22 to develop more quantifiable targets to optimize service delivery, but that its outdated database and lack of an online platform for electronic applications were barriers (see **Section 4.4.5**). The Commission's 2012–2016 strategic plan also had committed to produce “State of the Escarpment” reports on selected monitoring work and indicators to provide recommendations for future action (see **Section 4.2.1**). At the time of our audit, no such reports were publicly available on the Commission's website.

In its 2018 review of the Commission, the Institute on Governance concluded the Commission should improve its performance measurement in order to evaluate outcomes that lead to the successful implementation of the Niagara Escarpment Plan's goals. For example, the Institute concluded that a field-based environmental monitoring program could measure outcomes using indicators such as tracking tree coverage, and the number of native and invasive species (see **Section 4.2.2**).

4.2.1.2 The Province's Performance Measures Are Insufficient

In 2015, the Ministry of Municipal Affairs and Housing released a report with a partial set of performance indicators for the Greenbelt Plan, including indicators for the Niagara Escarpment Plan. This report found that the rate of houses being built outside of settlement areas had tripled over time and less growth proportionally was being concentrated in settlement areas. In other words, development was occurring over a larger area over time, rather than being concentrated in select areas.

The report found that wetlands covered 9% and woodlands covered 49% of the Escarpment, and that measuring changes over time would allow for an

evaluation of the Plan's effectiveness. We note that Environment and Climate Change Canada recommends having at least 50% forest cover in a region in order to have a low-risk approach to supporting the habitat of most species. Likewise, it recommends having 10% of each major watershed or 40% of the historical watershed wetland coverage protected and restored.

The Ministry of Municipal Affairs and Housing committed in the 2015 report to future performance indicator reporting for the Greenbelt Plan on aggregates, infrastructure, rural communities, agricultural economy, tourism, recreation and cultural heritage. However, no subsequent reports have been publicly released.

Ministry of Natural Resources and Forestry staff identified in their 2022 internal work plan the need to develop performance indicators for the Niagara Escarpment program, but this work was delayed due to other priorities and staffing capacity.

Our Office reported on Setting Indicators and Targets, and Monitoring Ontario's Environment in 2020 and found that the Ministry had not set public targets to meet provincial objectives to protect and maintain the Escarpment. At the time of our current audit, the Ministry does not have any key performance measures to assess its own responsibilities, administration of the Act to evaluate the effectiveness of the Escarpment program as a whole, or to oversee the operations of the Commission in meeting its legislated responsibilities. Without robust performance measures, the Ministry is unable to gauge progress toward its key program initiative in its 2020/21 published plan and annual report to conserve the Niagara Escarpment as an important feature, and the social and economic benefits it provides.

RECOMMENDATION 4

To measure the effectiveness of conserving the Niagara Escarpment, we recommend that the Niagara Escarpment Commission, adhering to guidance from the Treasury Board Secretariat:

- develop a performance measurement framework in collaboration with the Ministry of

Natural Resources and Forestry that focuses on successful outcomes in achieving the purposes of the Niagara Escarpment Plan and the *Niagara Escarpment Planning and Development Act*;

- include the performance measurement framework within the long-term strategy described in **Recommendation 7**; and
- publicly report on actual results against these performance measures every five years as part of a State of the Niagara Escarpment report.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) acknowledges that performance measurement is an effective and appropriate evaluation tool. The Commission recognizes that environmental monitoring and cumulative impacts would benefit in being integrated into a performance plan framework.

Because others, such as the Ministry of Municipal Affairs and Housing and the Ministry of Natural Resources and Forestry, also have responsibility in the area of developing performance indicators for the Niagara Escarpment Plan, with government direction, the Commission will collaborate with and support, as needed, other government partners in developing, implementing and reporting on a performance measurement framework.

4.2.2 No Environmental Monitoring to Assess the State of the Escarpment Due to Lack of Dedicated Staff, Resources or Program

At the time of our audit, the Commission had no staff, resources or program dedicated to on-the-ground scientific monitoring of the Niagara Escarpment's environment. The Niagara Escarpment Plan directs that its effectiveness be monitored and reported on. The Plan also directs that one of the objectives of the Park System is to show leadership in supporting the biosphere designation through environmental monitoring, which is required to meet additional Park System

objectives—namely, to protect and enhance the natural environment of the Escarpment and to provide a common understanding and appreciation of its value.

The 2005 version of the Plan explicitly recognized the importance of consistent, long-term environmental monitoring to evaluate and refine management, planning policies and practices. Previously, environmental monitoring information was used in the day-to-day implementation of the Plan, and monitoring results and analyses were shared on the Commission's website and through conferences, presentations and regular publications. In contrast, the 2017 version of the Plan provides markedly less direction on the requirements for environmental monitoring and how the data will be used.

At the time of our audit, responsibility for leading an environmental monitoring program was unclear. The 2020 Memorandum of Understanding between the Ministry and the Commission directs that the Commission lead environmental monitoring in co-operation with the Ministry and other partners. However, the Plan states that the Province, in consultation with the Commission, municipalities other public bodies and stakeholders, will develop a set of performance indicators to measure the implementation of the policies in this Plan, and that the Province will monitor and report on the effectiveness of the policies in this Plan.

The Commission had an environmental monitoring specialist on staff from 1997 to 2015, assisted by a summer student. During this time, for example, the Commission co-ordinated environmental monitoring in five forest plots in partnership with the University of Waterloo; was involved with projects to assess changes to trees and other plant species in biosphere forests; and evaluated the effectiveness of Plan policies in protecting provincially significant Life Science Areas of Natural and Scientific Interest, which are areas where biodiversity is representative of the natural region.

When the monitoring specialist position was eliminated in 2015, another Commission staff person co-ordinated the forest plot monitoring project in addition to their regular duties. In 2020, the monitoring partnership with the University of Waterloo was

terminated and at the time of our audit the Commission had not yet identified how it will monitor these sites in the future.

The Ministry has a science and research program that leads and co-ordinates applied research, including developing and implementing provincial resource inventories and monitoring programs. Different program areas within the Ministry and across government may request that staff in this program area undertake scientific research work. However, at the time of our audit, neither the Commission nor the Ministry's Natural Heritage Branch, which is responsible for the Niagara Escarpment program, had made any research requests.

In 2020, our Office conducted an audit entitled *Setting Indicators and Targets, and Monitoring Ontario's Environment*. Our Office found that the previous monitoring program for the Escarpment lacked performance measures, a data management plan and had no program evaluation. The Commission has not released regular reports on the state of the Escarpment despite the 2005 update to the Niagara Escarpment Plan stating that the results of an environmental monitoring program would be provided through the Commission's website, regular reports, conferences, presentations and publications. Additionally, the two reports the Commission had prepared on the condition of the Escarpment in 2008 and 2011 are not available on the Commission's website.

RECOMMENDATION 5

To assess the effectiveness of the Niagara Escarpment Plan, and to promote a greater understanding of the Niagara Escarpment, we recommend that the Niagara Escarpment Commission in co-operation with the Ministry of Natural Resources and Forestry (Ministry):

- develop an environmental monitoring program, including leveraging existing Ministry datasets and resources, to effectively and regularly assess the state of the Escarpment and the effectiveness of Plan policies;

- provide sufficient staffing and resources for the monitoring program; and
- publicly and regularly report on the Commission's website the results of environmental monitoring.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) acknowledges environmental monitoring as an important assessment tool. Monitoring the Escarpment environment is a significant undertaking given the size of its geography, diversity of features and landscapes and the number of partners and agencies that have a mandate or interest in the environment of the Escarpment.

Proceeding with this recommendation requires additional provincial funding (e.g., financial and staffing resources) and collaboration with other partners with responsibility for environmental monitoring (e.g., the Ministry of Natural Resources and Forestry).

4.2.3 The Commission Has Not Assessed the Cumulative Effects of Development Permits Issued Since 1975

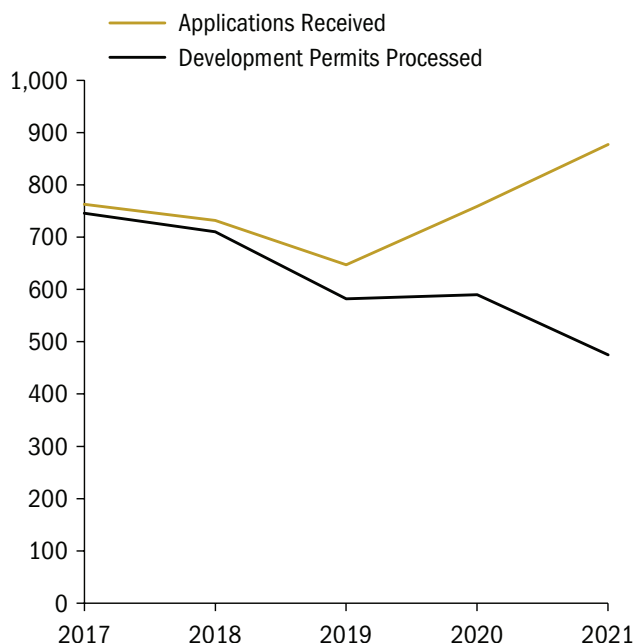
Since 1975, there have been 12,294 development permits issued by the Commission. See **Figure 8** for the number of annual development permit applications since 2017. Yet, the Commission has not assessed the total impact of all development permits, nor development requiring an exemption, over time.

The cumulative effects of multiple stressors—particularly those involving large developments—pose a threat to the environment. For example, the approval of a single new dwelling on the Escarpment may potentially have a low impact, but the sum total of such permits may result in significant impacts over time.

The 2005 version of the Plan recognized cumulative effects and the incremental impacts of development in conjunction with other actions over time. For example, it recognized that the cumulative impacts of

Figure 8: Development Permit Applications Received and Processed by the Commission, 2017 to 2021

Source of data: Niagara Escarpment Commission



development must not have serious detrimental effects on the Escarpment's environment, including water quality, vegetation, soil, wildlife and landscape.

However, the Ministry amended the Plan in 2017 and removed reference to cumulative effects, despite the Commission's recommendation to strengthen those aspects of the Plan. For example, the Commission recommended strengthening the definition of negative impacts by recognizing the degradation to the Escarpment's open landscape character due to single, multiple or successive developments. Instead, the Ministry updated some parts of the Plan to further align it with the broader planning rules for other regions in southern Ontario.

RECOMMENDATION 6

To minimize the impact of development on the natural environment, we recommend that the Niagara Escarpment Commission:

- evaluate the cumulative effects of development permit approvals on the Niagara Escarpment's natural environment and factor that into the permit approval process;

- publicly report on this information; and
- take corrective actions to ensure that only compatible development is allowed on the Niagara Escarpment.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) notes that the Niagara Escarpment Plan (Plan) states that the Escarpment environment shall be protected, restored and where possible enhanced for the long term, having regard to single, multiple or successive development that have occurred or are likely to occur. Proceeding with this recommendation requires collaboration with other ministries and additional provincial funding (e.g., financial and staffing resources). The Commission will work with the Ministry of Natural Resources and Forestry to review the policies for development control at the next scheduled review of the Plan in 2027.

4.3 Insufficient Effort to Conserve the Escarpment

4.3.1 No Long-Term Strategic Plan to Conserve the Niagara Escarpment

The Niagara Escarpment Commission does not have a long-term strategic plan to achieve the legislative mandate to conserve the Niagara Escarpment. The Commission had a strategic plan for 2012–2016, but did not develop a new one after it expired. In 2018, an employee engagement survey found that 78% of Commission staff believed that the Commission was not on the right track for the future.

Strategic direction serves as a road map to guide effective decision-making. It should describe the organizational values, identify priority program areas to leverage the best possible use of resources, show how collaboration will occur with other parties, and detail the tactics that staff will use to effectively and efficiently achieve successful outcomes.

The Commission's 2012–2016 strategic plan recognized that the Act and the Plan were increasingly relevant in Ontario's growing urban environment. It

contained 10 goals and 40 action items to preserve, protect and promote the Escarpment, and uphold the World Biosphere designation. At the time of our audit, many of the action items were unfulfilled, including:

- streamlining decision-making by exploring opportunities to use new technology;
- filling Commission vacancies in a timely way; and
- publishing state of the Escarpment reports based on monitoring.

The 2012–2016 strategic plan was developed in consultations between Commission and Ministry staff, as well as a subcommittee of Commissioners. Additionally, stakeholders were given the opportunity to offer input. In 2012, the then-Minister approved this strategic plan, noting that it provided valuable guidance to the Commission to help it fulfill its challenging task of maintaining the integrity of the Niagara Escarpment and its surrounding lands as a continuous natural environment.

In its 2018 review of the Commission, the Institute on Governance concluded that the Commission should develop a standalone strategic plan to ensure planning and reporting activities maintain a focus on the medium- to long-term perspective. The Institute noted that there was support for a central role for Commission staff in developing a strategy in consultation with the Ministry.

The Ministry itself does not have a specific strategic plan for the Escarpment, but it does have a strategic plan for the Ministry as a whole with five broad goals for 2020–2025. The Ministry's published plan and annual report for 2020/21 states that a key program initiative is to work with the Commission to implement the *Niagara Escarpment Planning and Development Act* and the Niagara Escarpment Plan to conserve this important feature and the social and economic benefits it provides, but it gives no details.

Additionally, the Ministry has no strategic direction or policies on how it will support Ontario's four Biosphere Regions (Niagara Escarpment, Long Point, Georgian Bay and Frontenac Arch). In contrast, it is a best practice for a provincial or territorial government to actively support biospheres. For example, the Government of the Northwest Territories was actively

involved in the designation of the Tsá Tué biosphere in 2016 and collaborates in its ongoing management of 9,331,300 hectares.

RECOMMENDATION 7

To guide decisions to effectively, efficiently and accountably achieve successful outcomes in conserving the Niagara Escarpment, we recommend that the Niagara Escarpment Commission:

- develop a long-term strategic plan in collaboration with the Ministry of Natural Resources and Forestry that outlines specific actions, with associated timelines, that will be undertaken in association with its partners;
- implement the strategy; and
- publicly report annually on the progress toward achieving the strategy's objectives.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) acknowledges the importance of long-term strategic direction. The Niagara Escarpment currently has a five-year business plan and annual reports. Over the next two years, the Commission will review its business plan to determine any opportunities for enhancements as related to identifying longer-term outcomes. If opportunities for enhancements are identified, the Commission will report on those through its public annual reports.

RECOMMENDATION 8

To better conserve nature, promote sustainable development, and maintain United Nations biosphere designations, we recommend that the Ministry of Natural Resources and Forestry develop and implement strategic direction and policies to support Ontario's other three Biosphere Regions (Long Point, Georgian Bay and Frontenac Arch).

MINISTRY RESPONSE

The Ministry has shown leadership in supporting and promoting the principles of the Niagara Escarpment's UNESCO World Biosphere designation by

developing Biosphere guidance in the 2021 Niagara Escarpment Parks and Open Space System Planning Manual. The guidance directs that a park or open space will include policies that recognize the Biosphere designation (e.g., biodiversity conservation through establishing and expanding conserved and protected areas, protection of species and habitats, and conservation of biodiversity and natural heritage features through park zoning). As United Nations' biospheres are international designations, they receive support and direction from the federal government. The Ministry will continue to work collaboratively with the federal government as it is the lead for biosphere reserves.

4.3.2 The Commission Has Approved 98.9% of Development Permit Applications in the Last Five Years

Our Office reviewed all development permit applications made to the Commission from 2016/17 to 2021/22. We found that only 19 (all on complex applications) of 1,661 (or 1.1 %) of the applications were refused by the Commission in the last five years.

A development permit is an approval issued by the Commission—or in very rare cases, the Minister—to a person, company or organization, and includes conditions that must be met for development to proceed. A development permit is required for any type of development activity within the Area of Development Control—the area regulated by the Commission—unless it is exempted in Regulation 828.

Overall, we found that the Commission approved 1,642 (or 99%) of 1,661 development applications in the past five years. In addition, the Commission also provided confirmation that 1,687 other applications that it received over the same period did not require a development permit.

Complex applications that require an interpretation of the Plan, or that do not align with the Plan and may need to be denied, can only be made by the Commissioners. From 2016/17 to 2021/22, there were 125 (or 7.5% of 1,661) complex applications that required

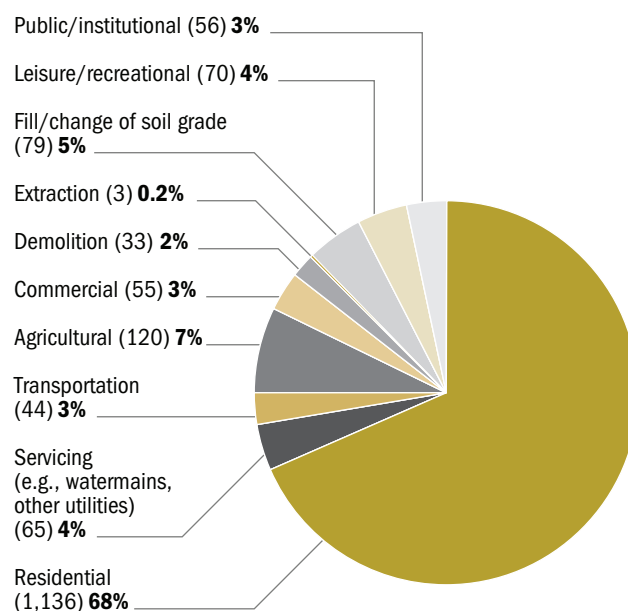
interpretation of the Plan and a decision made by the Commissioners. The Commissioners only refused to issue a permit in 19 (or 15%) of 125 cases.

Commissioners have made decisions contrary to the Niagara Escarpment Plan. For example, in 2019, Commissioners approved an application for importing 20,000 square metres of fill—materials like earth, sand and gravel—to level a field to establish a vineyard, although the Plan directs that topsoil is the only material allowed to be added into crop or pasture land. Furthermore, the Ministry of Agriculture, Food, and Rural Affairs raised concerns that importing this much fill for the establishment of a vineyard was not a common practice used by farmers. In 2021, the Commissioners also approved an application for the development of a pick-your-own lavender farm in the Escarpment Protection Area, despite it not being an allowable type of development there as per the Plan.

We reviewed all development permits that were issued from 2016/17 to 2021/22. We found that 1,136 (or 69%) development permits were issued for residential development, such as building garages and home additions. See **Figure 9** for the types of development

Figure 9: Types of Activities in Development Permit Applications Received by the Niagara Escarpment Commission, 2016/17 to 2021/22

Prepared by the Office of the Auditor General of Ontario

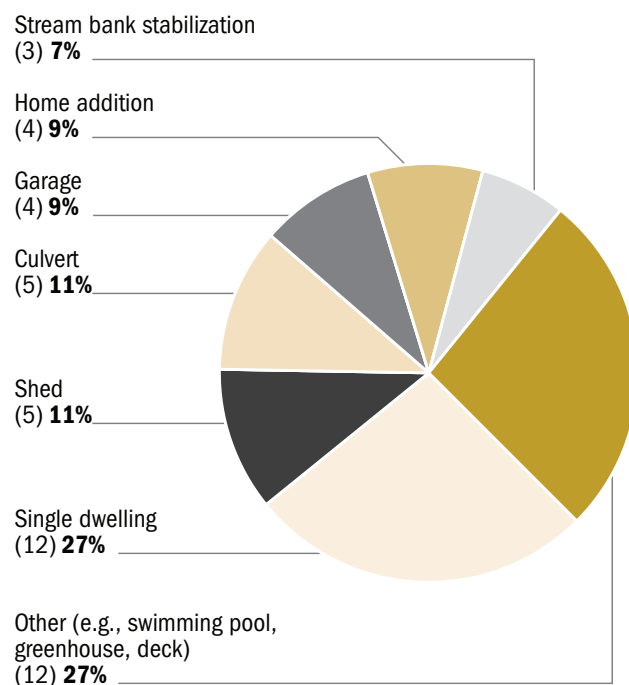


permit activities from 2016/17 to 2021/22. **Figure 10** shows the types of development activities in a sample of 45 development permit applications submitted in 2020/21. We found that the highest number of applications were specifically for the construction of single dwellings (27%).

Development permit approvals, their conditions, or refusals can be appealed and heard by the Ontario Land Tribunal. An appeal is a process where a person, company or organization can dispute the approval, refusal, or conditions of a development permit issued by the Commission. If the Hearing Officer—the person appointed to make recommendations on development permit appeals—disagrees with the Commission’s original decision, then the Minister makes the final decision on the application. From 2016/17 to 2021/22, the Minister ultimately decided on two (or 2.2%) of the 92 appeals submitted to the Commission. Concerns about the environment or permit conditions were cited in 52 (or 57%) of these appeals. Environmental concerns included potential impacts on nearby water

Figure 10: Types of Activities in a Sample of 45 Development Permit Applications Received by the Niagara Escarpment Commission, 2020/21

Prepared by the Office of the Auditor General of Ontario



resources, wildlife and natural features, as well as odour impacts from the proposed development activity.

RECOMMENDATION 9

So that the natural environment is effectively conserved and only compatible development is allowed on the Niagara Escarpment, consistent with the purpose of the *Niagara Escarpment Planning and Development Act*, we recommend that the Niagara Escarpment Commission:

- evaluate the permitted uses under the Niagara Escarpment Plan so that the criteria for what is considered compatible development is strengthened, providing the Commission greater means to deny permits when appropriate; and
- work with the Ministry of Natural Resources and Forestry during the next Plan review to update the types of, and criteria for, compatible development.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) agrees that the objective of the Plan and the *Niagara Escarpment Planning and Development Act* is to ensure that all new development is compatible with the purpose of the Plan. With government direction and support, the Commission will work with the Ministry of Natural Resources and Forestry during the next scheduled review of the Plan in 2027 to evaluate the permitted uses under the various Niagara Escarpment Plan (Plan) designations.

4.3.3 The Ministry Has No Plan to Assist in Financing the Completion of the Park System and Securing a Permanent Route for the Bruce Trail

The Niagara Escarpment Plan directs the creation and completion of a public system of major parks and open spaces through land acquisition—the legal transfer of land through donation or purchase for the purpose of permanent preservation. To this end, the Niagara Escarpment Parks and Open Space System

(Park System) aims to protect significant Escarpment features and provide the public with opportunities for compatible recreation. As part of our audit, we visited 64 Park System sites and observed the positive contributions that they make to maintaining the Niagara Escarpment and its adjacent lands. Additionally, the Plan directs that a permanent route for the Bruce Trail along the Escarpment be secured. However, we found that the Ministry does not have a plan or program to assist in financing the acquisition of lands for the Park System sites, to expand its own properties, or to secure a permanent route for the Bruce Trail. For example, we observed some Park System sites that were isolated and small and could be better connected through the Bruce Trail to maintain a continuous natural environment.

A 1968 report commissioned by the then-Premier of Ontario identified land acquisition as an important preservation tool for the Niagara Escarpment. The report was done in response to growing public concern about the future of the Escarpment in the face of increasing pressure from urban development and quarries. The report determined that significant natural features added to the Park System would need to be purchased, because land-use controls alone would not adequately protect the Escarpment. Though land acquisition has the benefit of protecting land from development, the cost of purchasing land can be very expensive.

In 1985, the Province established the Niagara Escarpment Land Acquisition and Stewardship Program for land acquisition on the Escarpment, which included accepting donations. The Province allocated \$2.5 million per year to this fund for 10 years from 1985 to 1994, for a total of \$25 million. Of this, \$20 million was used for land acquisition and \$5 million was used for stewardship and educational projects. In 1998, this stewardship program was terminated after a change in government, leaving no dedicated land acquisition fund for the Escarpment. In 2010, the Province then ended province-wide conservation funding for land securement. In 2020, the Province created a new land acquisition fund of \$20 million over four years, which helped the Nature Conservancy of Canada

acquire lands to protect the Saugeen Bruce Peninsula Natural Area on the Escarpment. Because of increasing land prices along the Escarpment, additions are becoming smaller and more infrequent. In 2015, the Bruce Trail Conservancy forecast that, given the slow rate of land acquisition, it would take until 2055 to permanently secure a route for the Bruce Trail.

At the time of our audit, the Niagara Escarpment Parks and Open Space System Council has a confidential draft Land Securement Strategy (Strategy) to advise the Ministry, as well as municipal, provincial and federal governments, of lands on the Escarpment that should be prioritized for acquisition to complete the Park System. The Council developed the Strategy in 2018 in response to the growing pressures on the parks and natural spaces that result from being located in one of the fastest growing regions in North America.

The Bruce Trail Conservancy, which is focused on securing land for the optimum route for the Bruce Trail, is the most active land securement organization within the Plan Area. This charity has been involved in preserving 7,644 hectares of land since it incorporated in 1963. The Bruce Trail's optimum route was identified with assistance from the Ministry in the 1980s. By spring 2022, 70% of the optimum route had been protected. In 2021-22, the Conservancy spent \$12.3 million to acquire 14 properties covering 420 hectares of land along the Escarpment—only 0.3% of its overall budget came from government grants. In 2022, the federal government committed to renewed federal funding of \$11 million annually for five years to support the Trans-Canada Trail, the longest recreational, multi-use trail network in the world.

The Conservancy has identified several opportunities that would allow it to protect land in the Plan Area more quickly and with reduced cost, but this would require assistance from the Commission. For example, the Conservancy has requested that the Commission identify thresholds to determine when a proposal for conservation purposes requires a full development permit process versus when a faster review would be adequate. The Conservancy also has identified that delays in receiving comments from other commenting

agencies have raised the Conservancy's administrative and property management costs, decreasing its ability to acquire additional lands.

RECOMMENDATION 10

To meet the Niagara Escarpment Plan objectives of completing the Niagara Escarpment Parks and Open Spaces System and securing a permanent route for the Bruce Trail, we recommend that the Ministry of Natural Resources and Forestry, in collaboration with the Niagara Escarpment Commission:

- demonstrate a commitment for the completion of the Park System and the securement of a permanent route for the Bruce Trail by using both goals as key indicators in the performance measurement framework described in **Recommendation 4**;
- establish a funding program dedicated to securing lands to complete the Park System and a permanent route for the Bruce Trail; and
- work with the Bruce Trail Conservancy to realize efficiencies that would expedite the process, and decrease the expense, of securing a permanent route for the Bruce Trail.

MINISTRY RESPONSE

In 2022, the Ministry of the Environment, Conservation and Parks created a new land acquisition fund of \$20 million over four years, which helped the Nature Conservancy of Canada acquire lands to protect the Saugeen Bruce Peninsula Natural Area on the Escarpment.

Targeted provincial program funding (e.g., Niagara Escarpment Parks and Open Space System Land Securement Program) requires government direction and support. The Ministry will support the Niagara Escarpment Commission (Commission), the implementing agency of the Niagara Escarpment Plan, in working with the Bruce Trail Conservancy to review the Commission's development permit process for conservation land applications.

4.3.4 Less than Half of the Park System's Sites Have Approved Management Plans Despite a Rising Number of Visitors and Threats Like Invasive Species

The Niagara Escarpment Plan establishes the Niagara Escarpment Parks and Open Space System (Park System) as a provincially co-ordinated network of parks and open spaces. At the time of our audit, the Park System was composed of 163 parks and open spaces that cover 44,017 hectares (or 23%) of the Plan area. These lands are managed by 23 different entities, such as the Ministry, Ontario Parks, seven different conservation authorities, Parks Canada, the Bruce Trail Conservancy, and municipalities. These entities participate in a Park System Council to collaborate and share information.

We visited 64 of the Park System's sites as part of our audit. We observed that these sites individually and collectively make a meaningful contribution to conserving the Escarpment. Additionally, we observed that these sites provide a range of benefits to the public, from places to access the outdoors to areas protecting drinking water supplies.

Since 1985, the Plan has directed that each site within the Park System have a management plan. Management plans are an accountable way to identify and address priorities for a park or open space to guide its protection and management over the long-term. The management planning process is also a way to engage Indigenous communities, the public, and stakeholders in how the Escarpment should best be conserved. Management plans must be endorsed by the Commission and then approved by the Ministry, except for sites owned or managed by the Bruce Trail Conservancy, Ontario Parks or a federal agency like Parks Canada. Additionally, the Ministry developed a planning manual, which provides minimum standards and best practices for management plans, including direction to address pressures that impact different sites.

Despite the Plan's requirements, we found that only 74 (or 45%) of the Park System's 163 sites have approved management plans. Among the 88 sites in the Park System managed by conservation authorities,

only 41 (or 47%) had approved management plans. For example, Grey Sauble Conservation Authority has 28 of its properties in the Park System, but 20 (or 71%) did not have management plans at the time of our audit. Additionally, Queenston Heights (Brock's Monument) is one of the nine Nodal Parks—the Park System's flagship sites—but the Niagara Parks Commission has yet to develop a management plan.

The Ministry manages 14 Park System sites. These sites have planning direction that was finalized in 1983, pre-dating the Plan, but they were not later endorsed by the Commission. Additionally, only one (or 7 %) of the 14 sites' current planning direction refers to the Niagara Escarpment and being subject to the Plan—despite the Ministry being the co-ordinator for the Park System and having a leadership role in developing the planning guidance for the entire system. The Ministry has no work plans or inspection plans for these sites as this work is only carried out on a case-by-case basis. Ministry staff have also not attended some sites at all for any purpose, such as the Laird Property (37-hectare nature reserve site) and Fairmount (26-hectare Escarpment access site), in the last five years.

The Ministry has provided no capital funding in support of infrastructure that is needed at sites, such as for visitor management, since 2007. The Ministry states that dedicated capital funding is typically not provided for visitor infrastructure on Crown lands as they are “unmaintained” sites. However, the lack of sufficient management can affect not only the Ministry's sites, but can also impact adjacent properties. For example, in 2021, the Bruce Trail Conservancy—at its own expense—installed fencing at the Ministry's Pine River Fishing Area and hired off-duty police to address vehicles and all-terrain vehicles that were causing damage to their adjacent property (Pine River Nature Reserve). As part of our audit, we visited Pine River Fishing Area and observed that the new fencing had subsequently been cut and later repaired.

Similarly, Ontario Parks does have plans for each of its 15 provincial parks in the Park System, but they are on average 25 years old. Ten of these provincial parks (or 67%) have been identified by Ontario Parks as needing replacement plans. Two additional provincial parks (Cabot Head Provincial Park and Little

Cove Provincial Park) are intended to be transferred to Parks Canada to become part of Bruce Peninsula National Park. In our 2020 audit on Conserving the Natural Environment with Protected Areas, we found that Ontario Parks did not collect sufficient information about species at risk, invasive species and the impact of activities like hunting, fishing, and trapping that may harm native species in provincial parks and conservation reserves. As part of our audit, we visited Boyne Valley Provincial Park and observed some trails in poor condition, such as at water-crossings of creeks. In contrast, we visited numerous conservation authority properties where small wooden pedestrian bridges had been built for trail users to cross creeks to limit environmental damage.

Parks and open spaces face increasing pressures and threats that should be addressed in up-to-date management plans to best protect their natural values. The growing population in the province, exacerbated by the COVID-19 pandemic, dramatically increased park visits in the last several years. For example, Credit Valley Conservation (a conservation authority), which has six sites in the Park System, reported an increase of 170% in the number of visitors at all its properties from 2019 to 2021. Some provincial parks in the Park System also have experienced a surge in popularity, such as Mono Cliffs Provincial Park, which from 2020 to 2021 saw the number of visitors increase 55% to 104,519. The park has been relying on a management plan from 1998 that did not anticipate pressures such as large volumes of visitors and high demand for parking.

The pressures have taken a toll on the environment. From 1979 to 2012, the number of non-native plants found on the Escarpment more than doubled, the types of invasive species increased more than fourfold to 18, and aggressive invasive species were found at 56 of 88 (or 64%) sampling plots. Similarly, other threats have caused the number of species at risk to increase, necessitating up-to-date management plans to provide protective measures like signage for environmentally sensitive areas. For example, we observed that conservation authority properties we visited consistently had signage informing the public of when restoration projects were underway.

The 2021 Terms of Reference for the Park System's Council, composed of the 23 entities with sites, directs it to provide the Ministry with an annual report describing the activities and achievements during the past year. The Council will also develop a bi-annual work plan that will set its goals, objectives and strategic directions. In turn, the Ministry's continued financial support will be based on the annual report of objectives met and activities completed. However, no annual report was prepared in the last five years as the Council members were variously pre-occupied with managing large increases in visitors at their sites, challenges of dealing with the pandemic, the temporary lack of a Chair, and focusing their efforts on the 2017 Plan review. In 2021/22, the Ministry provided \$253 to support the work of the Council by paying for meeting expenses.

The cost of developing a plan varies depending on a site's size, pressures, threats, and location. These expected costs have been identified as a barrier to the development of management plans, especially for some smaller and more rural conservation authorities. Without a plan, sites are more likely to be managed in an ad hoc manner.

RECOMMENDATION 11

To effectively conserve the Niagara Escarpment's natural environment and meet the requirements of the Niagara Escarpment Plan, we recommend that the Ministry of Natural Resources and Forestry:

- develop management plans for its sites in the Niagara Escarpment Parks and Open Space System that reflect the minimum standards and best practices in its planning manual; and
- provide needs-based financial assistance to other entities to develop management plans for their sites in the Park System.

MINISTRY RESPONSE

The 2021 Niagara Escarpment Parks and Open Space System Planning Manual provides guidance and a consistent approach for the development, implementation, and maintenance of management

plans. With government direction and support, the Ministry of Natural Resources and Forestry will develop management plans for its sites in the Niagara Escarpment Parks and Open Space System, reflecting the minimum standards and best practices in the planning manual. Government direction is required for targeted provincial program funding (e.g., capital funding for entity management plan development, and Ministry program and operational funding for staff to undertake management plan development and implementation).

4.3.5 No Target to Expand Protected Areas to Better Conserve the Environment

The Act, Plan, Commission, and the Natural Resources Ministry do not have a target for protected areas coverage on the Niagara Escarpment. The Commission and the Ministry also do not publicly report on the current extent of protected areas on the Escarpment.

Protected areas are places where nature is allowed to function relatively unaffected by human activities—where the living and non-living components exist in their natural environment, and ecological processes can occur with little or no intervention by people. Protected areas, like national and provincial parks, are an effective tool to conserve nature and the benefits it provides us. For example, as part of our audit, we visited Bruce Peninsula National Park and observed extensive stewardship, outreach, and opportunities for appropriate recreation all contributing to the conservation of the Escarpment.

National criteria have been established to assist jurisdictions in screening lands in order to report them as protected areas or as having other area-based conservation measures. Areas that do not meet the criteria may contribute to conservation efforts generally, but are not reported. For example, the Niagara Escarpment as a whole or its individual zones provide many conservation benefits, but do not meet the criteria to be considered a protected area.

The coverage of protected areas is used as an indicator to assess the state of the environment in an area,

as well as to drive continuous improvement and action in conserving nature. Additionally, protected areas are often managed to provide public access for people to enjoy nature and allow appropriate site-specific types of recreation like hiking.

At the time of our audit, we found that there were 215 protected areas covering 31,871 hectares (or 16%) of the Escarpment. See **Figure 11** for the protected areas on the Niagara Escarpment by landowner and total area. Bruce Peninsula National Park, Fathom Five National Marine Park, and 17 provincial parks account for 81% of lands covered by protected areas within the Niagara Escarpment Plan's area. Sixteen of these 19 national and provincial parks were established in the 1980s, the most recent being Nottawasaga Lookout Provincial Park in 1994.

In a 2020 article in the journal *Science Advances*, experts concluded that protected coverage in the world would have to increase to 50% to slow or halt the loss of biodiversity. Additionally, it is a best practice for legislation to reflect government commitments to conserve nature made in international agreements. Canada's current national commitment is to protect 30% of lands and oceans by 2030. It also is a best

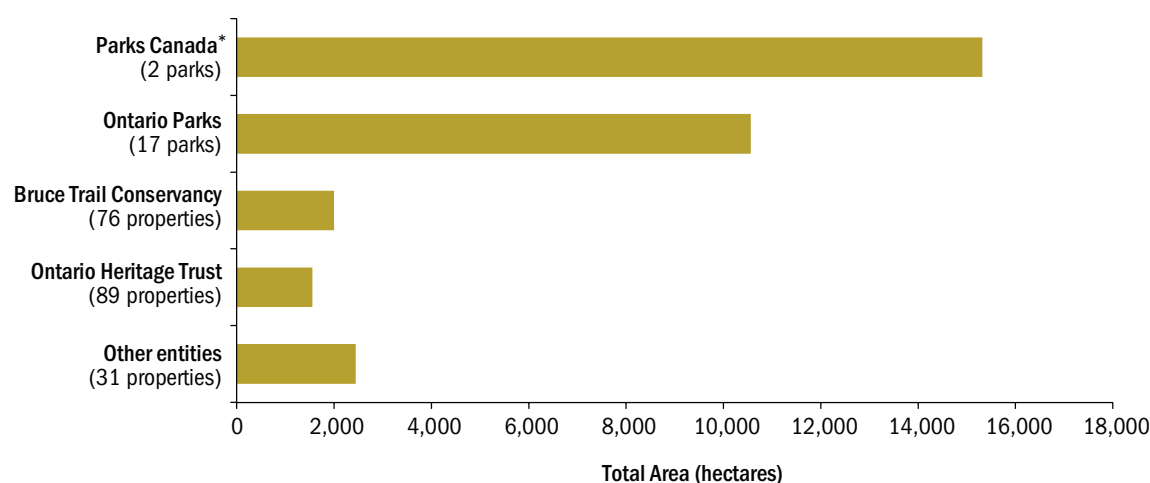
practice for legislation and land-use plans to include protected-area targets.

While the Plan provides direction for the Niagara Escarpment Parks and Open Space System, only some of its 163 sites are currently reported as protected areas by the provincial and federal governments. For example, only three of nine Nodal Parks—select places to promote the Escarpment's diverse environments for public benefit—are reported as protected areas. See **Figure 12** for a list of Nodal Parks and the status of each site as a protected area. Additionally, the Ministry's 14 properties that it manages cover 4,788 hectares within the Park System, but none are reported as protected areas.

Some entities with sites in the Park System are evaluating whether their lands qualify and can be reported as protected areas. However, neither the Ministry nor the Commission provide funding to help Park System entities with this process. Our Office's 2020 value-for-money audit *Conserving the Natural Environment with Protected Areas* found that the lack of funding to assist external parties in gathering the necessary information for their submissions to screen (and ultimately report) their sites as protected areas

Figure 11: Protected Areas within the Niagara Escarpment Plan Area by Landowner and Total Area, 2022

Prepared by the Office of the Auditor General of Ontario



* Parks Canada data only includes the portion of Bruce Peninsula National Park within the Niagara Escarpment Plan Area.

Figure 12: Nodal Parks in the Niagara Escarpment Parks and Open Space System, 2022

Sources of data: Niagara Escarpment Plan and the Canadian Protected and Conserved Areas Database

Nodal Park	Classification	Management Entity	Hectares within the Niagara Escarpment Plan Area	Reported as a Protected Area to the Canadian Protected and Conserved Areas Database
Bruce Peninsula National Park	National Park	Parks Canada	9,915	Yes
Inglis Falls Conservation Area	Natural Environment	Grey Sauble Conservation Authority	211	No
Mono Cliffs Provincial Park	Natural Environment	Ontario Parks	732	Yes
Terra Cotta Conservation Area	Natural Environment	Credit Valley Conservation and the Ontario Heritage Trust	159	No
Crawford Lake Conservation Area	Natural Environment	Halton Region Conservation Authority	223	No
Cootes Paradise Sanctuary	Natural Environment	Royal Botanical Gardens	557	Yes
Dundas Valley Conservation Area	Natural Environment	Hamilton Conservation Authority and the Ontario Heritage Trust	1,259	No
Ball's Falls Conservation Area	Historical	Niagara Peninsula Conservation Authority and the Ontario Heritage Trust	126	No
Queenston Heights (Brock's Monument)	Historical	Niagara Parks Commission	103	n/a*

* Queenston Heights (Brock's Monument) is a national historic site. It is not managed primarily for the purpose of conserving nature and would likely not constitute a protected area.

was a barrier. Our Office also found that an effective network of protected areas is necessary to slow or stop the loss of biodiversity—particularly critical in southern Ontario—so that Ontarians can more fully realize the benefits that nature provides, including recreational opportunities.

RECOMMENDATION 12

To help drive continuous improvement and achieve the purpose of the *Niagara Escarpment Planning and Development Act* to conserve the natural

environment, we recommend that the Niagara Escarpment Commission:

- develop in collaboration with the Ministry of Natural Resources and Forestry, the Niagara Escarpment Parks and Open Space System Council, and other partners, a long-term area-based target for expanding the number and size of protected areas on the Niagara Escarpment; and
- include the protected-areas target in the performance measurement framework described in **Recommendation 4**.

COMMISSION RESPONSE

The Niagara Escarpment Parks and Open Space System (NEPOSS) is a provincially co-ordinated system that secures and protects significant Escarpment features and scenic landscapes and provides the public with opportunities for compatible recreation in a manner that satisfies the broad park and open space objectives set out in the Niagara Escarpment Plan. Because the development of protected-areas targets for the Escarpment is not solely within the Niagara Escarpment Commission's responsibility, the Commission will, with government direction, collaborate with the Ministry of the Environment, Conservation and Parks and other partners to develop a protected-areas target for the Escarpment.

4.4 Deficiencies in the Plan's Administration

4.4.1 No Charges Have Been Laid Under the Act Since 2014, Yet Reports of Potential Violations Have Increased by 82% over the Last Five Years

The Act prohibits any development activity in the Area of Development Control unless a permit is obtained

from the Commission or the activity is exempt. The Act allows for fines of up to \$25,000 for a person and \$50,000 for a corporation for a first offence. Subsequent convictions allow for a fine up to \$10,000 for each day the contravention has continued after the person was first convicted, and \$25,000 for corporations. The Commission and the Ministry may also issue demolition or restoration orders, as well as stop work orders. Failure to comply with an order may result in the Ministry undertaking the demolition or restoration of a development and recovering any associated costs from the responsible party. See **Figure 13** for warnings, orders and charges from 2017/18 to 2021/22. The Ministry last laid a charge under the Act in 2014, which resulted in a \$2,000 fine for a corporation undertaking development without a permit.

Compliance is a shared responsibility between the Commission and the Natural Resources Ministry based on the 2015 Inspections, Investigation and Enforcement Protocol (Protocol). The Commission is responsible for the daily operation of the compliance program and the Ministry becomes involved when more serious offences may have potentially occurred. Commission enforcement staff may issue tickets with a set fine of \$365, whereas the Ministry's conservation officers can lay charges under the Act that could result in a fine up to the maximum allowable penalty.

Figure 13: Warnings, Orders, Tickets and Charges under the *Niagara Escarpment Planning and Development Act*, 2017/18 to 2021/22

Source of data: Niagara Escarpment Commission and the Ministry of Natural Resources and Forestry

	2017/18	2018/19	2019/20	2020/21	2021/22
Warnings (#)	9	23	15	27	11
Demolition or Restoration Orders (#)	0	1	2	3	1
Stop Work Orders (#)	0	0	1	0	2
Tickets issued by Commission staff, Part I Offences (\$365 set fine) (#)	7	5	7	3	2
Total fines, Part I Offences (\$)	2,555	1,825	2,555	1,095	730
Charges laid by the Ministry of Natural Resources and Forestry, Part III Offences (Maximum penalty of \$25,000 for individuals/\$50,000 for corporations) (#)	0	0	0	0	0
Total fines, Part III Offences (\$)	0	0	0	0	0

The Protocol prescribes the roles and responsibilities for staff, and establishes mechanisms for the shared administration and oversight of the compliance program. In their 2022 work plan, Ministry staff noted the Commission had requested that the Protocol be reviewed, but they saw little need to do so and ranked it a low priority.

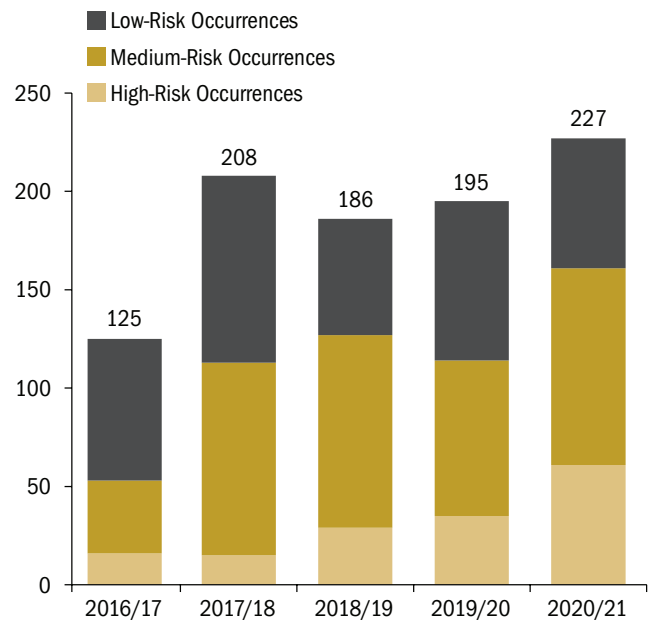
The number of potential violations of the Act recorded by the Commission have increased 82% to 227 2016/17 to 2020/21. The Commission assesses occurrences as low, medium or high risk. Tickets may be the appropriate enforcement mechanism for low- or medium-risk occurrences, whereas charges or orders may be appropriate for high-risk occurrences. See **Figure 14** for the number of potential violations and the level of risk.

The most significant increases in occurrences in the last five years were in the most heavily populated regions of the Escarpment: Niagara, Halton and Peel. The Commission attributes this increase to the COVID-19 pandemic, when more people stayed home and worked on their properties, and were able to witness and report possible infractions. In 2021, high-risk occurrences included potential violations regarding construction of buildings and other structures (10%), tree cutting (26%), and site alteration and the importation of fill (61%). In July 2022, the Town of Caledon's council voted unanimously to ask the Ministry for enhanced enforcement tools for lands that fall within the Plan Area. The Town of Caledon is experiencing an increased number of complaints about properties within the Plan Area, and is frustrated with its lack of authority to protect the environment and the Commission's limited enforcement capacity.

Commission staff almost always pursue voluntary compliance when working with a landowner. There were 156 high-risk occurrences in the last five years, but the Commission made only five requests (or 3% of occurrences) for the Ministry's assistance in investigating and possibly prosecuting an incident. In four of the five cases, the Ministry did not proceed with laying charges due to Commission staff providing insufficient documentation, failing to follow up with Ministry staff, or because of the need for further compliance

Figure 14: Number of Potential Violations and Level of Risk, 2016/17 to 2020/21

Prepared by the Office of the Auditor General of Ontario



monitoring. In the fifth case, the Ministry's investigation was focused on potential non-compliance with an order previously issued. In 2022, Commission staff reported a need for more efficient co-ordination with the Ministry when there is a repeat offender or significant environmental damage that warrants a substantial fine.

At the time of our audit, the Commission had one full-time staff member for enforcement, who started in their position in November 2021, and is assisted by two part-time staff. Commission enforcement staff are responsible for compliance issues covering the entire Plan area from Tobermory south to the Niagara River. The Protocol directs that the Ministry allocate the equivalent of at most one conservation officer and a part-time prosecutor for enforcement of the Act.

The Commission is meant to take a risk-based approach to compliance using an informed judgment matrix—a decision-making tool used to classify the severity of an incident and then decide on a response. This approach prescribes responses of increasing severity, ranging from education and voluntary compliance to inspection, investigation, enforcement and prosecution. However, the Commission does not have detailed

guidance on what constitutes a particular level of risk and each incident is decided case-by-case based on experience and precedent. An example of a low-risk violation could be the illegal construction of a fence or a shed, whereas a high-risk violation could be illegal construction at a gravel pit that damages key natural heritage features.

Several requirements of the 2015 Protocol have not been met. The Protocol requires the Commission and Ministry staff responsible for enforcement of the Act to meet at least annually to ensure efficient and effective processes are in place—but the last meeting was in January 2017. The Protocol also directs a committee composed of the Commission’s Director and the applicable Ministry directors to meet as necessary to discuss enforcement-program design and oversight, but no formal meetings have occurred. Additionally, the Protocol calls for the Commission to prepare an annual compliance operation plan, but no reports were prepared in the five years up to February 2022. Likewise, the Protocol directs the Ministry to prepare a report annually on its enforcement activities under the Act, but no reports have been prepared since 2015.

The Commission reduced inspections with the onset of the COVID-19 pandemic and provincial stay-at-home orders in 2020. In 2020/21, 30% of incidents triggered an inspection compared to an average of 71% in the preceding four years. The Commission suspended its proactive compliance-monitoring program of permit holders due to the pandemic, but in 2019-20 Commission staff found during inspections of development permit-holders that 7 of 22 (or 32%) were non-compliant with the approved conditions.

In 2022, Commission staff recommended legislative changes to improve inspection and enforcement powers. Likewise, in 2011 an Ontario Internal Audit recommended that the Ministry work with the Commission to review inspector powers under the Act. For example, the Act provides very limited grounds for inspectors to enter properties. That stipulation frequently leads to either no action being taken to prevent

or reduce environmental damage, or significant delays in taking enforcement action. The staff report notes that it has been 16 years since any changes have been made to the enforcement powers of the Commission, and that it is experiencing an increase in the number of non-compliance occurrences, as well as an increase in the degree of risk associated with these occurrences. Ministry staff identified legislative reform in their 2022 workplan, but noted it was delayed because of other priorities and staffing capacity.

RECOMMENDATION 13

So that only development compatible with the natural environment occurs, as directed by the *Niagara Escarpment Planning and Development Act*, we recommend that the Niagara Escarpment Commission work with the Ministry of Natural Resources and Forestry (Ministry) to:

- fully implement the 2015 Inspections, Investigation and Enforcement Protocol, including conducting all required meetings between Commission and Ministry staff to collaborate on enforcement issues; and
- develop procedures and protocols to better address occurrences of non-compliance, including how staff gather information, how high-risk occurrences should be dealt with, and how information is exchanged with the Ministry.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) will work with the Ministry of Natural Resources and Forestry (Ministry) to immediately implement the 2015 Inspections, Investigation and Enforcement Protocol, including conducting all meetings. Within the next two years, the Commission, with the support of the Ministry, will develop procedures and protocols leveraging existing information and tools of the Ministry to effectively address occurrences of non-compliance with the *Niagara Escarpment Planning and Development Act*.

4.4.2 Insufficient Public Outreach and Education to Promote the Niagara Escarpment Plan

The Commission is mandated to promote the objectives of the Plan and the Act through public relations, publications, marketing and stakeholder consultation. Additionally, it is mandated to engage, consult and co-operate with Indigenous peoples and groups across the Plan Area. In 2022, a report by the Greenbelt Foundation found that strong public awareness and support are important because environmental land-use plans are often vulnerable to development and political pressures. However, the Commission does not have enough staff or resources to meet its outreach mandate.

The Commission currently employs a single staff member dedicated to communications and public outreach, and relies on the participation of additional staff who have a full complement of other duties (see **Section 4.4.6**) to implement outreach activities. Over the past two years, the Commission did not budget anything for public outreach because of the COVID-19 pandemic. Prior to that, the Commission's 2019/20 annual report notes that it consistently spent less on education and outreach activities because of reduced annual operating funding from the Ministry.

Over the last decade, the Commission has stopped delivering its public lecture series and interpretive programs to engage the public on the Escarpment's history, importance and biosphere designation. It also no longer gives out its Niagara Escarpment Achievement Award to recognize individuals or groups for outstanding initiatives such as conservation, enhancement and land stewardship. The Commission's 2019/20 annual report notes that, to mitigate a budget deficit, the Commission reduced spending on activities such as education and outreach.

The only funds currently dedicated to outreach are in legacy accounts held by the Ontario Heritage Trust on behalf of the Commission. In 2021, these accounts held a total of \$13,997 for outreach. The Commission does not expect to receive additional funds from the Trust once these legacy funds have been spent. In contrast to the level of funding for outreach at the time of our audit, the Province provided \$500,000 of dedicated annual funding for public education and other

stewardship activities related to the Niagara Escarpment between 1985 and 1995.

Recent outreach efforts have been focused on the Commission's role as a regulator as opposed to more broadly informing the public about the value of conserving the Escarpment as directed by the Act and the Plan Area. Informing stakeholders on land-use policies and navigating the development application process accounted for 37 (or 80%) of the 46 public education and outreach events held by the Commission between 2018 and 2021. Though the positive impact of these sessions has been recognized by the Chair and Commission, Commissioners have repeatedly recognized and encouraged additional outreach to educate private landowners on the value of the Plan and to promote protection of the Escarpment. Furthermore, internal Commission analysis identified that savings would result from improved outreach activities—specifically by reducing the large number of inquiries currently fielded by Commission staff.

In its 2018 review of the Commission, the Institute on Governance found that the outreach conducted by the Commission failed to adequately improve awareness of the Plan and the Commission's mandate among the general public, and that there was a need to better communicate with the public directly impacted by the development permit process. The Institute also found that, in light of the recent changes to the Plan and policies, it was important to set clear expectations for stakeholders, and recommended that the Commission enhance its public outreach efforts.

The Commission has drafted a four-page communications strategy for 2022/23. The goals of this strategy include outreach activities to help clients understand the development permit process, raise the public profile of the Escarpment and the Commission, and implement the duty to consult with Indigenous communities in the Plan Area. Though the strategy does not include a budget, it does identify the monies in the above-mentioned legacy Trust accounts.

The Commission changed its website in 2021, migrating it onto a government-managed server. The Commission states that it undertook this project to reduce costs, improve user experience, and increase

the public's ability to access information. As part of this website migration, the Commission removed all information related to the Escarpment's ecology, geology, monitoring programs, the biosphere and public education. Further, though the Commission's website has an open data web page to promote transparency and public access to information, 13 of 19 listed datasets were inaccessible at the time of our audit. Commission staff submitted these datasets to the government's Ontario Data Catalogue website, but they had yet to be approved for public access. The inaccessible datasets include information on the Escarpment's geological features, nature preserve properties, and the historical evaluation of lands to add to the Plan Area.

RECOMMENDATION 14

So that Ontarians are effectively informed about the Niagara Escarpment in a way that contributes to the effective and efficient implementation of the Niagara Escarpment Plan, we recommend that the Niagara Escarpment Commission, in collaboration with the Ministry of Natural Resources and Forestry:

- assess the resources needed to expand the Commission's public outreach and education program, including improving the information shared with the public on its website; and
- allocate such resources for the Commission to implement a renewed public outreach and education program.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) acknowledges the importance of public education and outreach, including that its website is up-to-date, accessible and meets clients' needs. The Commission will review its current public education and outreach, and develop a workplan toward improvements and timelines for outcomes. Where needed, the Commission will request provincial funding (e.g., financial and staffing resources) to implement this workplan.

4.4.3 The Commission Reviews Applications That Do Not Require Development Permits, Contributing to a Backlog That Slows the Whole Process

Our Office reviewed all development applications between 2016/17 to 2021/22. We found that exemptions—development activities that do not require a development permit—accounted for half of the 3,348 development permit applications. In other words, a large volume of Commission staff's work involved processing permit applications for activities that did not need one.

There is no requirement for applicants to apply for an exemption. The Commission chooses to process and screen these applications to reduce later potential non-compliance issues and to ensure all development is compatible with the Plan. However, we found that the Commission's website lacked sufficient information for the public to know whether a development activity is exempt or how to interpret the required conditions in the exemption regulation. We note that, prior to issuing a building permit, municipalities often request written confirmation from the Commission that a proposed development is exempt.

In 2015, Commission staff identified that automating the exemption process would reduce the number of development permit applications received, thereby reducing the number of applications processed by staff. For this to occur, the Commission would first need significant upgrades to its current information system and website (see **Section 4.4.5**).

An applicant looking to see whether they need a development permit would ideally be able to go onto the Commission's website and be prompted to fill out an online screening form. The applicant would be walked through a decision tree that would determine if the applicant was exempt or if the application warranted further analysis. In both cases, a planner would be electronically notified to either complete the exemption or to begin the development permit process.

As of April 2022, there was a backlog of 737 applications in which no decision has been reached. In three

of the past seven years, the number of development permit applications received has exceeded the number of applications processed. We reviewed all development permits issued between 2016/17 to 2021/22 and found that a development permit application took an average of 216 days to complete from the time it was submitted to the decision date. As part of the permit process, the Commission staff must wait for agencies to comment on the application, for documents to be uploaded by the applicant, and for the 14-day appeal period.

Development activities that are eligible for exemption include, but are not limited to, constructing or installing sewers, pipes or cables, and drilling wells to supply water. In 2018, Ministry staff identified 36 additional items that could be clarified or added to the exemption regulation to decrease the number of development permits processed by Commission staff. For example, an applicant is currently allowed 72 square metres (m²) of accessory structures like garages or decks on their property. This value is cumulative, so if a property owner wanted to build a garage under the threshold but then later wanted to build a deck that put them over the total 72 m², they would have to apply for a development permit instead of an exemption, adding months to the building timeline.

Despite the need to update the exemption regulation, the Commission is reliant on the Ministry to finalize any regulatory changes. The exemption regulation was last updated in 2012. In 2022, Ministry staff internally identified the need to update the exemption regulation. However, due to other priorities and a lack of staffing capacity, this has been delayed with no given timeline for completion.

Moreover, there are also exemptions that are currently allowed that could be reviewed to ensure that the exemptions are upholding the objectives of the Act and the Plan. For example, tennis courts are exempt from requiring a development permit and are not assessed for environmental impacts despite drainage and grading considerations that may impact natural heritage features.

RECOMMENDATION 15

So that only compatible development occurs on the Niagara Escarpment, as required by the *Niagara Escarpment Planning and Development Act*, and so that the Commission is effectively and efficiently implementing the Niagara Escarpment Plan, we recommend that the Ministry of Natural Resources, and Forestry, in collaboration with the Niagara Escarpment Commission, review and update Regulation 828 (Development within the Development Control Area) to modernize which activities are exempted from requiring a development permit.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation and will work with the Niagara Escarpment Commission to review Regulation 828 and modernize which activities are exempted from requiring a development permit.

4.4.4 Niagara Escarpment Plan Amendments Can Languish for Years

A plan amendment is a policy or land-use designation change to the Niagara Escarpment Plan that is initiated by the Commission or the Minister on behalf of a person, company or public body requesting the amendment. A plan amendment differs from a development permit in that it proposes a land use that is not permitted under the Plan, and must contain a justification for the proposed changes.

Urban amendments—land-use designation changes that result in the expansion of urban areas and uses—may only be considered during a scheduled Plan review. Applicants for urban amendments often want to make the land-use designation less restrictive to increase development opportunities. During the last Plan review in 2017, the Ministry deferred 12 plan amendments to allow for additional information and increased consultation.

In 2019, the Ministry brought the 12 proposed amendments before Cabinet, which then approved four of them—two amendments were also withdrawn by the applicants during this time. During the 2017 review, applicants were informed of a two-year timeline for the Ministry to decide on their amendments.

At the time of our audit, five years after the 2017 review, the Ministry had six deferred Plan amendments that were still awaiting a decision. All six plan amendments included proposals to re-designate lands from a more protective designation—like Escarpment Protection Area—to an urban area designation to allow for increased development. Ministry staff have attempted to bring these deferred Plan amendments before Cabinet three times since 2019, but Cabinet has not considered them. However, at the time of our audit, no decisions had been made by Cabinet on the six outstanding amendments. All six deferred plan amendments were recommended for refusal by the Commission and Ministry staff.

Plan amendments are often used to allow for increased development, provided that it is consistent with the Act and the Plan. However, the process for plan amendments is lengthy, even for non-contentious amendments, causing delays on development decisions. We examined all 35 decided Plan amendment applications from 2006 to 2021, excluding those that were withdrawn or that only dealt with policy changes. We found that the average time between the end of the public comment period for the proposed Plan amendment and the date of the actual decision was 717 days—just under two years. For example, relatedly, it took the Ministry eight years to regulate 400 hectares in the City of Hamilton as an Area of Development Control, despite both the City and the Commission being in support.

RECOMMENDATION 16

So that the Niagara Escarpment Plan is efficiently implemented and decisions on Plan amendments are made in a reasonable time, we recommend that the Ministry of Natural Resources and Forestry

work with Cabinet to make final decisions on the six outstanding urban amendments.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with ensuring that the Niagara Escarpment Plan (Plan) is implemented efficiently and that decisions on Plan amendments are made in a reasonable time. The Ministry will seek government direction on all outstanding Plan amendments.

4.4.5 The Commission Lacks a Modern Information Management System to Efficiently Implement the Niagara Escarpment Plan

The Commission's existing information system was developed in the early 2000s, and does not meet the needs of Commission staff or align with e-government initiatives. The information system is used daily by Commission staff for activities such as permitting and enforcement. However, it lacks modern search capabilities, does not have the capacity for electronic submissions by the public, is prone to data-entry error, and cannot be used to accurately measure the Commission's performance over time. The Commission's 2012–2016 strategic plan recognized the need to streamline decision-making by exploring opportunities to use new technology.

Answering public inquiries on permit application timelines, and processing exempted applications, make up a substantial part of the staff's workload. Having an information system that is capable of doing some of these tasks automatically would increase efficiencies, reduce staff workload, and provide the public with a streamlined application process.

In 2021, an employee engagement survey found that only 29% of Commission staff had a high degree of confidence that they were provided the technology, equipment and other tools needed to do their jobs well. As early as 2014, the Commission internally identified its computer database was at a high risk for failure,

and submitted a proposal to the Ministry for a database upgrade as early as 2017.

In 2019/20, the Commission began working with the Ministry to replace the existing database with a modern information system. The first phase of the project was completed in 2019/20 and examined existing applications used by the Province that could be customized for the Commission's purposes. Phase two was underway at the time of our audit, aiming to replace the existing database and achieve digital application and file management. The Commission has secured \$825,000 in each of the 2022/23 and 2023/24 fiscal years for this project, and has an expected completion timeline of 2023/24.

Additionally, in April 2022 the Commission received \$90,000 from the Recovery and Renewal Secretariat to digitize paper records for files related to development permit applications, plan amendments and compliance. Commission staff identified these records as a high priority as the Commission's paper filing system was a fire risk due to the lack of a sprinkler system in the Commission's office space. Moreover, the staff are unable to access these files remotely, which was made more problematic during the COVID-19 pandemic.

RECOMMENDATION 17

So that staff are more able to effectively and efficiently operate and implement the Niagara Escarpment Plan, we recommend that the Niagara Escarpment Commission complete the design and implementation of a modern information management system.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) is committed to the modernization of an information management system. The Commission was successful in gaining funding from 2022–2024 to undertake this important work toward a digital solution. A discovery phase to determine the needs of client and staff was completed in March 2022. Work is continuing in 2022/23 with a goal for the development of a new system by March 2024.

4.4.6 The Ministry Provides Insufficient Financial and Staffing Resources to Ensure the Niagara Escarpment Plan and Act are Efficiently Implemented

The Niagara Escarpment Commission employed 24 full-time employees (FTEs) and four seasonal positions at the time of our audit. The Commission had a budget of \$2,384,716 in 2020/21. See **Figure 5** for the Commission's organization chart and **Figure 6** for the Commission's budget in the last five years. The Commission's budget and staffing levels are approved by the Ministry.

In 1996, the Province significantly reduced the funding and staffing of the Commission by approximately a third. The Ministry made further cuts to the budget in 2010/11, 2011/12 and 2012/13, and then again in 2019/20. In recent years, the Commission has struggled to maintain its full staffing complement within its allocated budget. For example, prior to the 2017/18 fiscal year, the Commission was operating at 20 FTEs—four FTEs below its full staffing complement—due to an insufficient budget allocation.

In 2017/18, the Commission requested permission from the Ministry to hire up to its full staffing complement of 24. While the Ministry approved this request, it meant that the Commission started its fiscal year with a deficit of \$220,000. Between 2017/18 and 2019/20, the Commission maintained an operational deficit and found cost savings by cancelling Commission meetings or delaying IT repairs to reduce spending. Additionally, the Ministry does not factor salary and wage increases for inflation into the annual budget allocation. This means that the Commission is forced to cut costs on customer services to maintain its staffing levels. For example, over the last three years, the Commission has reduced spending on training, meetings and outreach to mitigate its ongoing budget deficit.

The Commission has reported that it continually faces challenges maintaining current levels of productivity and customer service given the budget allocation set by the Ministry. What's more, the Ministry has continued to cap the Commission's staffing levels at 24 FTEs despite the increase in the number of

development permit applications (see **Figure 8**). With the COVID-19 pandemic increasing development pressure in southern Ontario, this raises concerns about the Commission's future ability to process applications in a timely and effective manner.

The Commission projects in its 2020/21 annual report that it will have no deficit in the next three fiscal years, as long as the current allocation remains the same. However, internal forecasting shows a projected deficit starting in 2022/23 even if the current budget allocation is maintained. Additionally, for the past three fiscal years, the Ministry has had to file for a Treasury Board Order to provide extra funds to the Commission. This raises concerns about the effectiveness of its operations and funding model, as well as its commitment to, and ability to deliver on, its monitoring and education obligations.

At the time of our audit, there were no positions at the Commission to meet its need for environmental experts such as biologists, ecologists or geologists. This gap exists despite the Plan's objectives directing the protection of unique ecologic areas, the maintenance and enhancement of water supplies, and the necessity of maintaining an open landscape character on the Escarpment through the preservation of natural scenery. For example, see **Section 4.2.2** for a discussion about the lack of a monitoring program due, in part, to the Commission not employing an ecological monitoring specialist since 2015. Likewise, see **Section 4.4.2** for a discussion of the Commission's public outreach and education program, which has only a single dedicated staff member.

The Commission has experienced high staff turnover in recent years. For example, there have been eight different Directors in charge of the operations of the Commission since 2011. Additionally, during the course of our audit, seven different staff resigned from the Commission and two other staff left on secondment.

Of the seven planners at the Commission as of July 2022, all had less than two years' work experience at the Commission due to high rates of turnover.

Planning is regulated as a profession in Ontario in order to uphold standards and best practices, but the Commission's planners are not required to hold this designation. None of these planners hold a Registered Professional Planner designation or were working toward one as of July 2022.

Moreover, compliance cases are often handled based on experience in the position, yet the single full-time enforcement staff member began their job in November 2021 and subsequently resigned during the course of our audit (see **Section 4.4.1**).

The Ministry has reduced its own internal support for programs over time. For example, see **Section 4.3.3** for a discussion of the lack of a Ministry program to provide financial support to partners to secure lands for the Park System sites or to secure a permanent route for the Bruce Trail. Additionally, since 2007 the Ministry has not provided any capital funding for projects at its own Park System sites. (see **Section 4.3.4**).

RECOMMENDATION 18

So that the purposes of the *Niagara Escarpment Planning and Development Act* (Act) and the Niagara Escarpment Plan (Plan) are upheld, we recommend that the Ministry of Natural Resources and Forestry:

- evaluate the financial and staffing resources needed to effectively and efficiently implement the Act and Plan, in collaboration with the Niagara Escarpment Commission and conservation partners;
- take corrective action by allocating sufficient financial and staffing resources.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) acknowledges the importance of sufficient resources to implement the *Niagara Escarpment Planning and Development Act* (Act) and the Niagara Escarpment Plan (Plan). The Ministry will evaluate the necessary resources to effectively implement the Act and the Plan and, where required, will take corrective action.

4.4.7 Charging Fees for Development Applications and Other Services Could Help Finance Program Delivery and Discourage Activities That Negatively Impact the Niagara Escarpment

The Niagara Escarpment Commission currently does not charge fees for development permit applications, plan amendment applications, appeals or other services to recover program costs. In 2012, 2015, and 2018, the Commission concluded that charging fees was needed to offset program delivery costs. In 2019, as part of a broader review of agencies by the Province, the Ministry also identified the option for the Commission to be able to charge fees and noted that it would require a legislative amendment. Ministry staff sought various legislative amendments to modernize the Act five times since 2016, but Cabinet has not provided the necessary approval.

Fees are a standard expectation and business practice for services delivered by a public agency. Additionally, it is best practice to charge fees to serve as a disincentive for activities that harm the environment. In 2012, the Commission on the Reform of Ontario's Public Services recommended full cost recovery and user-pay models for environmental programs and services. Charging fees would also be consistent with the direction taken by other provincial ministries and government agencies as most local and regional municipalities and conservation authorities have established fees relating to permit applications and plan amendments. Municipalities and agencies also have the ability to charge a fee for reviewing an application where they are only a commenting agency and not the approval authority, as is the case with the Commission's function and mandate. For example, British Columbia's Agricultural Land Commission, which works to preserve agricultural land, charges a \$1,500 fee to applicants for development permits.

In 2012, Commission staff conducted an analysis for a proposed fee structure based on comparable fee structures at 33 different agencies, conservation authorities and municipalities within the Plan area. Based on comparable rates, Commission staff recommended fees of \$200–\$300 for minor permit applications,

\$2,000–\$6,000 for major permit applications, \$7,000–\$10,000 for Plan amendment applications, and other fees such as \$70,000 or full cost recovery for applications for new pits and quarries. Had these fees been in place, the Commission estimated that it could have generated revenue of more than \$440,000 in 2010/11 and \$312,100 in 2011/12.

The volume of development applications has increased since 2012. For example, the number of development permit applications increased 32% to 757 from 2011/12 to 2020/21. Accordingly, if the Province had amended the Act to allow the Commission to charge fees starting in 2012, potentially millions in revenue could have been generated to pay for conservation efforts and recover costs.

RECOMMENDATION 19

To improve the sufficiency of financial resources available for actions to conserve the Niagara Escarpment, we recommend that the Ministry of Natural Resources and Forestry take the steps necessary to have the *Niagara Escarpment Planning and Development Act* amended to enable the Niagara Escarpment Commission to charge fees.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) acknowledges the importance of sufficient resources to implement the *Niagara Escarpment Planning and Development Act* and the Niagara Escarpment Plan (Plan). The Ministry will require government direction with respect to pursuing service cost recovery and instituting fees for development permits, Plan amendments, appeals and other services provided by the Niagara Escarpment Commission.

RECOMMENDATION 20

To improve the sufficiency of financial resources available for actions to conserve the Niagara Escarpment, we recommend that the Niagara Escarpment Commission:

- develop a fee schedule for development permit applications, plan amendment applications, appeals and other services to recover program costs; and
- implement the fee schedule once enabled to do so.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) will develop a draft fee schedule within the next two years. The Commission will then seek government direction to enable and approve the fee schedule.

4.5 Opportunities to Enhance Commission Oversight, Transparency, and Representation

4.5.1 Lack of Timeliness in Appointment Process Has Negatively Impacted Functioning of Commission, Resulting in Cancelled Meetings and Delayed Decisions

Although a full complement of Commissioners had been appointed at the time of our audit, we found that the Commission had a number of vacancies from 2017 to 2021. The lack of timeliness in filling the vacancies negatively impacted the functioning and decision-making of the Commission. Quorum for the Commission is defined as nine members, including the Chair, and must be met in order for formal business to be conducted at meetings.

Each of the eight upper and single-tier municipalities identifies and submits ranked lists of candidates for municipal members to be reviewed by the Chair and Ministry program staff, who then identify their support of submitted names and put that forward to the Minister. Public-at-large members may be identified through several sources, including applications to Ontario's Public Appointments Management Secretariat website.

Until 2019, public-at-large candidates were screened and ranked by Ministry program staff using standard criteria, including knowledge of the Plan Area, commitment to the Commission mandate,

relevant background and experience, and community involvement. This process was changed in 2019, so that program staff no longer screen and rank all candidates. Ultimately, the Minister is responsible for making recommendations on appointments and reappointments to the Lieutenant Governor in Council.

Delays in appointing a new Chair resulted in no Commission meetings being held from early October 2019 until mid-March 2020, when a new Chair was appointed. The April 2020 meeting was cancelled due to the COVID-19 pandemic. This also occurred in 2017, when three meetings were cancelled because no Chair was appointed. To ensure that the Commission could continue to function until a new Chair was appointed, Ministry staff recommended that the Minister temporarily reappoint the former Chair, but this was not done.

The Act does not provide for a Vice Chair position on the Commission. Our review of the Commission's Guidelines for Procedures at Meetings further noted that there is no mechanism to temporarily designate an interim Chair if the Chair is unable to fulfil their responsibilities for any reason. Additionally, delays in re-appointing some Commissioners in 2019 meant that they could not attend meetings for almost four months. Furthermore, the May 2017 meeting was cancelled because there were too few Commissioners appointed to meet quorum.

Our review noted that the terms of municipal representatives on the Commission all expire at the same time as their appointments are aligned with the municipal election cycle. Moreover, several of the public-at-large appointments have the same term ending date. Since 2017, there have been gaps ranging from three to 10 months each time the municipal representative for a given region has changed. The Agencies and Appointments Directive advises that appointment terms for members should be staggered where possible to maintain continuity and experience on provincial agencies, commissions and advisory bodies.

As also noted in our Office's 2016 report on the provincial public appointment process, "it is considered best practice (in Ontario and other jurisdictions) that, where possible, terms of appointments do not all end in the same year."

We further noted that delays in appointments have resulted in an imbalance in the composition of the Commission. From 2017 to 2021, there were seven months when there were at least twice as many municipal than public-at-large members on the Commission. During 2017, there was a two-month period when there was only a single public-at-large Commissioner. Similar concerns with timely appointments to the Commission were raised in the Institute on Governance's 2018 review (see **Appendix 5**), which noted that the lack of balance between municipal and public-at-large representatives created unexpected dynamics in terms of debate at meetings.

4.5.2 Appointments of Public-at-Large Commissioners Do Not Provide a Balanced Representation of Regions and Interests

Maintaining representation that brings a diverse mix of experience, perspectives and professional backgrounds to the Commission's decision-making is an important leading practice that can enhance the deliberations and quality of decisions made in order to better achieve the Commission's mandate. Under the Memorandum of Understanding, the Chair is responsible for working with the Ministry to oversee the recruitment of Commission members, and providing recommendations to the Minister on appointments and reappointments, as applicable, that respect and promote the principles of equity, diversity, quality, merit and regional representation.

However, at the time of our audit, six of the nine current public-at-large members, including the Chair, represented the Niagara region, creating a disproportionate number of Commissioners from one region, rather than a more broadly distributed membership across the Plan Area's eight geographical regions. Also, the membership had a narrower variety of perspectives than previously, with more public-at-large members from industry and few with environmental expertise. Additionally, only four of the 17 Commissioners were women (see **Appendix 8**).

Since its establishment in 1973, there has also been a lack of meaningful Indigenous representation on the

Commission, with only a single individual appointed for a three-year period (2004–2007). Many First Nations and Métis communities have traditional and ancestral territories on the Escarpment, and the lack of Indigenous representation contrasts with the Province's commitment to reconciliation with Indigenous peoples through initiatives including the *Political Accord with the Chiefs of Ontario*. This lack of Indigenous representation also contrasts with the Commission's business plans which, since 2016, have explicitly recognized the need for meaningful Indigenous consultation and participation in land-use planning and development in the Plan Area.

RECOMMENDATION 21

To support the Niagara Escarpment Commission in operating with a full and diverse complement of Commissioners to conduct meetings and consistently achieve quorum, we recommend that the Minister of Natural Resources and Forestry:

- appoint Commissioners on a timely basis, with staggered terms, where possible, to provide for an orderly transition of appointees; and
- appoint a balanced composition on the Commission that better reflects a diverse mix of perspectives, professional backgrounds, geographical regions and gender.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) acknowledges the importance of timely appointments and a diverse complement of members on the Niagara Escarpment Commission (Commission). Ministry staff advise the Minister on upcoming appointment vacancies.

Municipal member appointments expire two months after municipal elections to ensure that the Commission continues to provide direction and make decisions until new municipal members are appointed post-election.

The Commission includes municipal elected councillors and members of the public at large. Various factors are considered when evaluating

candidates from the public at large including relevant knowledge and expertise, community involvement and governance experience. The Ministry will strive to ensure that there is a quorum of Commissioners, that Commissioners are appointed on a timely basis, and that the Commission reflects a diverse complement of appointees.

4.5.3 Orientation and Ongoing Training for Commissioners Requires Improvement, Including Enhanced Training for Chairs

The 17 Commissioners hold meetings to consider and make decisions on complex development permit applications that require interpretation of the Plan, or that do not align with the Plan and may need to be denied. From 2017–2021, the number of regular Commission meetings during which permitting decisions were made ranged from six to nine per year. Commissioners made decisions on 125 complex applications during this time (see **Section 4.3.2**). Despite the important decision-making role and responsibilities of the Commissioners, we found the process for orientation of new members was limited.

Under the Memorandum of Understanding, the Chair is responsible for ensuring that an appropriate framework is in place for Commission appointees to receive adequate orientation and training with respect to the business and operations of the Commission and their particular responsibilities. Newly appointed Commissioners are sent an information package from the Director that includes a copy of the Act and an orientation binder. This binder includes information on Commission meetings and members, the development permit application system, compliance program and amendments process, and the Commission's annual report and business plan. A training presentation is later provided to new Commissioners and the Chair by the Director, including a presentation by the legal counsel for the Ministry. No specific training about the Commission's decision-making processes or other formal orientation program is provided.

During our interviews, current and former Commissioners identified gaps in the orientation process and made a number of suggestions for improvement. Providing a more comprehensive orientation program that specifies Commissioner responsibilities and the decision-making process would better enable new Commissioners to fully contribute as quickly as possible.

Our review also found that little ongoing training and development was provided to Commissioners. In 2020, a session was held for members on Indigenous engagement, after it was requested by a Commissioner. As noted in **Appendix 5**, the Institute on Governance's 2018 review also recommended that Commissioner orientation and ongoing education be improved. Training and development throughout a Commissioner's tenure are important, as even experienced members benefit from continual upgrading. This could include training in relevant emerging issues and topics such as regulatory practices and decision making, ethics, conflict of interest and risk management. External opportunities for training could also be explored, such as conferences and custom training provided by the Society of Ontario Adjudicators and Regulators.

Further, we found that the Chair receives similar orientation training to new Commissioners but with a few additional items highlighted relevant to the role of Chair. However, enhanced orientation training for Chairs is important given the increased leadership and meeting facilitation responsibilities required of the role. The Chair is responsible for the conduct of Commission meetings, which follow Bourinot's Rules of Order, requiring the Chair to acknowledge and give the floor to each speaker, be neutral in all discussions, and not vote except in the case of a tie. In addition, the Chair is delegated key responsibilities in the Memorandum of Understanding, such as evaluating the performance of the Commission and consulting with the Deputy Minister in the evaluation of the Director's performance.

RECOMMENDATION 22

To strengthen the orientation processes for new Commissioners, and the ongoing training and development for existing Commissioners, we recommend that the Niagara Escarpment Commission (Commission):

- provide a comprehensive orientation program for newly appointed members that includes training on the Commission's decision-making processes;
- provide opportunities for the ongoing training and development of Commissioners over a specified time frame; and
- provide enhanced orientation training for Chairs with respect to the increased responsibilities and requirements of the role.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) recognizes the importance of onboarding of new Commissioners, as well as continued training and education of Commissioners. Within one year, the Commission will review the existing onboarding package and make any necessary changes to ensure that the necessary information and tools are provided to support Commissioners. The Commission will also undertake an annual exercise to determine training needs and, in collaboration with the Chair and Commissioners, identify an annual training plan.

4.5.4 Conflict-of-Interest and Expense-Disclosure Processes Need to Be Strengthened

The Memorandum of Understanding specifies the need for the Commission's regulatory decisions to be made, and be seen by the public to be made, independently and impartially. The Memorandum designates the Chair as the Ethics Executive for the Commission. This role is responsible for promoting ethical conduct and "ensuring that appointees to the agency are informed of the ethical rules to which they are subject, including the rules on conflict of interest, political activity

and protected disclosure of wrongdoing that apply to the agency."

During our audit, we were informed that a Commissioner had simultaneously attended virtual Commission and municipal meetings at the same time in 2021 and 2022. The Commissioner claimed per diems from the Commission for three of these meetings, while also claiming per diems from the municipality. At the time of our audit, the Director was in the process of attempting to recover these monies. As Ethics Executive, the Chair has a role in discussing the matter with the Commissioner, and taking actions to ensure all Commissioners are provided training regarding their ethical duties, the code of conduct and conflict-of-interest rules. The Chair has a duty to advise the Minister and discuss any concerns about any contentious matters.

The Commission does not have a conflict-of-interest policy specific to the role of the Commissioners. The orientation binder only provides an information sheet related to conflicts of interest for current and former public servants of the Ministry, based on the *Public Service of Ontario Act, 2006*. This legislation lacks sufficient guidance and processes for the regulatory decision-making role of the Commissioners. We noted that the Act allows for public bodies to create their own more specific conflict-of-interest policies, with the approval of the Integrity Commissioner of Ontario, but the Commission has not done so.

Our interviews with Commissioners noted different interpretations and definitions of conflict of interest for Commissioners. For example, some Commissioners held different opinions on whether conflicts should be declared in instances when a member or their immediate family did not stand to benefit monetarily from an outcome of a decision, and some disagreed on whether or not it was necessary for a municipal member to declare a conflict of interest in situations where their municipality would be positively or negatively affected by a decision. As regulatory decision makers, Commissioners must act, and must be perceived to act, in a manner that does not result in any conflict-of-interest situations. Having a more specific conflict-of-interest

policy in place would clarify what constitutes a conflict of interest and assist the Commissioners in avoiding situations in which there is, or may appear to be, a conflict of interest that could be seen to interfere with their ability to fulfill their role and make decisions in an impartial manner.

Further, we found Commissioners are not required to complete an annual Conflict of Interest Declaration Form, which is a recognized good practice for managing conflicts of interest. Such declaration forms should require members to list all professional and community involvements as well as identify any potential conflicts that may exist. The Chair should then review the completed form and record any mitigating actions that will be taken. If any changes occur during the year, the member must update the form within the year.

For Commission meetings, it is the practice of the Chair to call for conflicts of interest at the beginning of the meeting, and our review of meeting minutes noted some instances of Commissioners self-identifying conflicts. However, we found that some meeting minutes did not document the resolution of identified conflicts, or whether the member with the conflict of interest recused their self from the meeting when the item arose. Minutes should document when a member with a conflict of interest is recused from the discussion and when they return to the meeting.

Regardless of whether appointed as a municipal or public-at-large representative, all Commissioners have a fiduciary duty to serve the best interests of the Commission in fulfilling its mandate. All members bring their previous experience, current involvements, and personal or professional connections to their role, which may result in a conflict of interest arising during their tenure on the Commission. This should be discussed in an open and transparent manner so that mitigating actions can be taken to protect the integrity of the Commission's decision-making. Even if it is only the perception of, or potential for, a conflict of interest, the Chair has the responsibility for ensuring issues are handled appropriately and in a manner that demonstrates the Commission's due diligence. As the Ethics

Executive, the Chair should also ensure training is provided to all members in recognizing and managing conflicts of interest specific to the Commission.

The Memorandum of Understanding also requires the Commission, through the Chair, to ensure that the expense information for appointees is posted on the Commission's or Ministry's website. However, at the time of our audit we found that this information, as well as other datasets submitted by Commission staff to the government's Ontario Data Catalogue, have not been approved for public access and have not been disclosed (see **Section 4.4.2**). Subsequently, in June 2022, the Commission posted on its website the Commissioners' expenses for the first quarter of 2022/23. In 2021 and into 2022, Commissioners' expenses were \$0 due to the lack of transportation, accommodation and meal costs during the COVID-19 pandemic.

RECOMMENDATION 23

To strengthen its conflict-of-interest policies and processes, and its expense-disclosure processes, we recommend that the Niagara Escarpment Commission:

- establish a conflict-of-interest policy for Commissioners;
- require all members to complete an annual Conflict of Interest Declaration Form that is reviewed by the Chair; and
- ensure that Commissioners' expense information is disclosed on the Commission website.

COMMISSION RESPONSE

The Niagara Escarpment Commission (Commission) recognizes the importance of ensuring Commissioners are aware of their statutory responsibilities and obligations, including conflicts of interest. The Commission will establish a conflict-of-interest policy for Commissioners, require all members to complete an annual Conflict of Interest Declaration Form, and disclose the Commissioners' expense information on the Commission's website.

Appendix 1: Relevant International Agreements

Prepared by the Office of the Auditor General of Ontario

United Nations Man and the Biosphere (MAB) Programme, 1971

The United Nations MAB Programme was launched in 1971 to improve the relationship between people and the environment. Sites designated as biospheres are places where people and organizations have made a commitment to balance the conservation of cultural and biological diversity and economic development, and are meant to provide examples to inspire people globally.

National governments nominate sites for biosphere designation, and the application process takes about eight years to complete. After designation, 10-year reviews are conducted to assess the functioning and management of each biosphere, and to identify any issues with implementation.

While the biosphere designation is awarded by an international body, biospheres remain under local jurisdiction. Local authorities for a designated biosphere are responsible for ensuring that the management of the biosphere is consistent with specific conservation and development objectives. This may necessitate co-operation between national, provincial and municipal governments depending on a biosphere's location and management needs.

United Nations Convention on Biological Diversity, 1992

This international agreement, which aims to slow or halt the loss of biodiversity, was ratified by Canada in 1993. In 2010, Canada and the other parties to the Convention—now 196 countries—met in Nagoya, Japan, and agreed to a new 10-year Strategic Plan for Biodiversity that established 20 targets. Biospheres contribute to biodiversity conservation by offering varying levels of protection—the cornerstone of biodiversity protection—to natural areas.

United Nations 2030 Agenda for Sustainable Development, 2015

A 15-year plan that aims to end poverty, protect the planet, and improve the lives and prospects of people everywhere. The agenda includes goals for water and land-based ecosystems, sustainable communities, economic growth and climate. In 2019, world leaders called for a “Decade of Action” to ensure that the sustainable development goals are achieved by the 2030 target date. Biospheres contribute to the achievement of the United Nations Sustainable Development Goals by undertaking actions and by providing examples of how sustainable development practices can be employed elsewhere.

United Nations Declaration on the Rights of Indigenous Peoples, 2007

The Declaration affirms the rights of Indigenous peoples to live in dignity, to maintain and strengthen their own institutions, cultures and traditions, and to pursue self-determined development. Biospheres uphold the Declaration on the Rights of Indigenous Peoples by effectively consulting with and building partnerships with Indigenous peoples. Canadian biospheres have committed to incorporate significant Indigenous representation in governance and management. Additionally, reconciliation is one of the four themes addressed by Canada's biospheres.

Appendix 2: Key Events Affecting the Niagara Escarpment

Prepared by the Office of the Auditor General of Ontario

Date	Jurisdiction	Description of Event
1950s	Ontario	Conservationists recognize the importance of the Niagara Escarpment as a refuge and natural corridor for wildlife.
1962	Ontario	An aggregate company mines the Escarpment near Milton, with the aggregate extraction visible from Highway 401. The public uproar over this development helps prompt the Province to look for ways to protect the Escarpment.
1968	Ontario	The Premier commissions an expert taskforce and a report on the protection of the Escarpment is released.
1971	International	The United Nations Educational, Scientific and Cultural Organization (UNESCO) launches the Man and the Biosphere Programme. The program promotes sustainable use and conservation of biological diversity with the aim of improving the relationship between people and the environment.
1973	Ontario	The Province enacts the <i>Niagara Escarpment Planning and Development Act</i> and the Niagara Escarpment Commission is formed.
1975	Ontario	The Niagara Escarpment Commission starts to issue development permits in the Area of Development Control.
1985	Ontario	The Province approves the Niagara Escarpment Plan.
1990	International	Niagara Escarpment Biosphere is designated by UNESCO. The Niagara Escarpment Commission is the convener (or manager) of the biosphere.
1994	Ontario	The Province reviews and amends the Niagara Escarpment Plan.
1996	Ontario	The Province reduces the budget and staffing of the Niagara Escarpment Commission by approximately one-third to the levels that generally remain today.
2005	Ontario	The Province reviews and amends the Niagara Escarpment Plan as part of the 10-year review.
2017	Ontario	The Province reviews and amends the Niagara Escarpment Plan as part of the 10-year review.
2019	Ontario	A Transitional Leadership Committee is elected by stakeholders to guide the development of a new governance model for the biosphere. The Niagara Escarpment Commission is no longer the manager of the biosphere.
2022	Ontario	The Niagara Escarpment Biosphere Network is formed and takes over as manager of the biosphere.

Appendix 3: Glossary

Prepared by the Office of the Auditor General of Ontario

Term	Definition
Aggregates	Sand, gravel and bedrock that are extracted from pits and quarries.
Biodiversity	The variety of life on Earth—plants, animals and all other living things—and how they interact with one another and their environment.
Biosphere	An international designation of recognition from the United Nations Educational, Scientific and Cultural Organization under the Man and Biosphere Programme (MAB) that recognizes the unique natural features and socio-economic characteristics of the area.
Conservation	The maintenance and sustainable use of the Earth's resources.
Culvert	A structure that forms an opening through soil.
Development	Includes a change in the use of any land, building or structure.
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and the non-living environment interacting as a functional unit.
Ecosystem Services	Direct and indirect benefits derived from properly functioning ecosystems. These include food and water supply, oxygen production, climate regulation, flood and storm control and pollination.
Habitat	The place or type of site where an organism or population naturally occurs and depends on to carry out its life processes such as reproduction, rearing, hibernation, migration or feeding. Species may require different habitats for different uses throughout their lifecycle.
Natural Environment	The air, land and water or any combination or part thereof.
Niagara Escarpment	A prominent geologic feature that extends 725 kilometres from Queenston near Niagara Falls to Tobermory on the northern tip of the Bruce Peninsula. It also extends into parts of the United States.
Nodal Park	A park that represents distinct regional features and characteristics on the Niagara Escarpment. Managed by entities such as Parks Canada and Ontario Parks.
Park System	A provincially co-ordinated network of parks and open spaces on the Niagara Escarpment.
Protected Area	A clearly defined space, dedicated and managed to achieve the long-term conservation of nature with associated ecosystem services and cultural values.
Sustainable Use	The use of components of biodiversity in a way and at a rate that does not lead to their long-term decline, thereby maintaining the potential for future generations to meet their needs and aspirations.
United Nations Educational, Scientific and Cultural Organization	UNESCO seeks to promote peace through international co-operation. It is responsible for overseeing the biosphere program worldwide.

Appendix 4: Other Legislation, Entities, and Their Effect Within

Prepared by the Office of the Auditor General of Ontario

Legislation	Responsible Entity	Example of Effect
<i>Planning Act</i>	Ministry of Municipal Affairs and Housing	Provides for land-use control by municipalities within the Plan Area where the Area of Development Control is not in place. Additionally, provides planning direction in the Provincial Policy Statement.
<i>Greenbelt Act, 2005</i>	Ministry of Municipal Affairs and Housing	The Greenbelt Area includes the Niagara Escarpment Plan Area, and the Niagara Escarpment Plan provides the planning direction with some exceptions
<i>Provincial Parks and Conservation Reserves Act, 2006</i>	Ministry of the Environment, Conservation and Parks (Ontario Parks)	Management of sites to maintain ecological integrity such as Mono Cliffs Provincial Park
<i>Environmental Protection Act</i>	Ministry of the Environment, Conservation and Parks	Prohibits new or expanded waste disposal sites in the Plan Area
<i>Endangered Species Act, 2007</i>	Ministry of the Environment, Conservation and Parks	Approvals to impact regulated species at risk and their habitats
<i>Environmental Bill of Rights, 1993</i>	Ministry of the Environment, Conservation and Parks	Allows for public consultation on plan amendments posted by the Ministry of Natural Resources and Forestry
<i>Conservation Authorities Act</i>	Ministry of Natural Resources and Forestry	Management of sites by conservation authorities
<i>Aggregate Resources Act</i>	Ministry of Natural Resources and Forestry	Approvals for pits and quarries
<i>Public Lands Act</i>	Ministry of Natural Resources and Forestry	Management of provincial Crown lands
<i>Canada National Parks Act</i>	Environment and Climate Change Canada; Parks Canada	Management of sites to maintain ecological integrity such as Bruce Peninsula National Park

Appendix 5: Institute on Governance's Recommendations from the Mandate Review of the Niagara Escarpment Program, 2018

Source of data: Institute on Governance

Recommendation	Key Activities	Responsible Entity	Timeline	Risk
Timely Appointments to the Commission (High Impact, Medium Effort)	Fixed municipal and staggered public-at-large appointments to the Commission	Treasury Board Secretariat, Niagara Escarpment Commission's Chair, municipalities	2 years	Irregular member appointment process may result in decline in public support, uncertainty, delays in commercially sensitive decisions, and possible imbalance in Commission membership and decisions.
Improved Commission Orientation and Education (Medium Impact, Low Effort)	Strengthen appointee orientation and ongoing education	Natural Resources Ministry and Commission staff	1 year	May result in increased uncertainty and decisions that are inconsistent with the Niagara Escarpment Plan's policies and intent.
Operational Strategy Implementation (Medium Impact, Medium Effort)	Operational and organizational development initiatives	Ministry and Commission staff	2 years	Efficiencies and improvements unable to keep pace with expected demand, resulting in delays in decisions and possible erosion of public support.
Performance Indicators (Medium Impact, Medium Effort)	Outcome measurement and continuous assessment	Ministry and Commission staff	1 year	Inability to identify, analyze and communicate the true environmental benefit of the Niagara Escarpment Plan. Missed opportunity to increase public support and appreciation.
Public Education (Medium Impact, Low Effort)	Increase public awareness activities	Commissioners and Commission staff	1 year	Missed opportunity to increase public awareness and support for the Niagara Escarpment Plan and government commitment to environmental stewardship.

Appendix 6: Canadian Biospheres Designated by UNESCO

Prepared by the Office of the Auditor General of Ontario

Province	Biosphere Name	Year Designated	Ecosystem Class(es)	Size (hectares)
British Columbia	Mount Arrowsmith	2000	Mountains	118,592
	Clayoquot Sound	2000	Mountains; Marine, Coastal and Island Areas	349,947
	Howe Sound	2021	Mountains; Marine, Coastal and Island Areas	218,723
Northwest Territories	Tsá Tué	2016	Marine, Coastal and Island Areas	9,331,300
Alberta	Waterton	1979	Mountains	767,450
	Beaver Hills	2016	Wetlands	159,560
Saskatchewan	Redberry Lake	2000	Wetlands	112,200
Manitoba	Riding Mountain	1986	Mountains	1,331,000
Ontario	Long Point	1986	Wetlands	40,600
	Niagara Escarpment	1990	Mountains	195,055
	Georgian Bay Littoral	2004	Mountains; Wetlands; Marine, Coastal and Island Areas	347,270
	Thousand Islands-Frontenac Arch	2002	Mountains; Marine, Coastal and Island Areas	220,973
Quebec	Mont Saint-Hilaire	1978	Mountains	1,100
	Charlevoix	1988	Mountains	1,290,000
	Lac-Saint Pierre	2000	Wetlands	739,400
	Manicouagan Uapishka	2007	Mountains; Wetlands	5,480,000
New Brunswick	Fundy	2007	Mountains; Marine, Coastal and Island Areas	432,310
Nova Scotia	South West Nova	2001	Marine, Coastal and Island Areas	1,546,374
	Bras d'Or Lake	2011	Mountains; Marine, Coastal and Island Areas	356,788

Appendix 7: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Roles, responsibilities and accountability requirements for conserving the Niagara Escarpment are clearly defined.
2. Programs to conserve and monitor the Niagara Escarpment exist and are based on best practices, and are developed and implemented in an effective and efficient manner.
3. Processes and procedures for development permits, plan amendments, and compliance are based on best practices and are implemented in an effective and efficient manner to ensure that only development that is compatible with the natural environment occurs on the Niagara Escarpment.
4. Meaningful performance measures and targets are established for conserving the Niagara Escarpment, status and progress are regularly monitored and publicly reported on, and corrective actions are taken on a timely basis when issues are identified.

Appendix 8: Niagara Escarpment Commissioners, May 2022

Prepared by the Office of the Auditor General of Ontario

Member	Terms	Background
Municipal Representatives		
Barry Burton (Simcoe County)	Apr 11, 2018–May 10, 2019 Aug 16, 2019–Dec 31, 2022	Deputy Warden, County of Simcoe; Deputy Mayor, Clearview Township.
Brad Clark (City of Hamilton)	Jan 17, 2020–Dec 31, 2022	City Councillor, City of Hamilton (also served 2006 to 2014).
Johanna Downey (Peel Region)	Nov 4, 2015–Nov 3, 2019 Nov 21, 2019–Dec 31, 2022	Councillor, Peel Regional Council (since 2014).
Laurie Golden (Bruce County)	Oct 17, 2019–Dec 31, 2022	Councillor, Northern Bruce Peninsula (since 2019).
Janet Horner (Dufferin County)	Dec 2, 2015–Dec 1, 2019 Nov 21, 2019–Dec 31, 2022	Councillor, Township of Mulmur; Mayor, Township of Mulmur.
Gordon Krantz (Halton Region)	Mar 11, 1996–Mar 10, 1998 Mar 4, 1998–Feb 28, 2001 Mar 1, 2001–Feb 29, 2004 Oct 31, 2019–Dec 31, 2022	Mayor and Head of Milton Town Council (since 1980); Councillor, Halton Regional Council (since 1980).
Paul McQueen (Grey County)	May 4, 2011–May 3, 2015 May 27, 2015–May 26, 2019 Sep 13, 2019–Dec 31, 2022	Deputy Mayor, Municipality of Grey Highlands; Warden, Grey County.
Albert Witteveen (Niagara Region)	Oct 17, 2019–Dec 31, 2022	Councillor, Township of West Lincoln (since 2018, and from 2000 to 2006).
Public-at-Large Representatives		
Rob Nicholson (Chair) (Niagara Falls)	Jun 10, 1998–Feb 28, 2001 Mar 1, 2001–Feb 28, 2003 Mar 12, 2020–Mar 11, 2022 Mar 12, 2022–Mar 10, 2023	Former Member of Parliament for Niagara Falls (1984 to 1993 and 2004 to 2019). Former Niagara Regional Councillor (1997 to 2003). Former member of the Niagara Escarpment Commission (1998 to 2003).
Michael Curley (Stoney Creek)	Oct 31, 2019–Oct 30, 2021 Oct 31, 2021–Oct 30, 2024	Business owner of a project and construction management company in Grimsby.
Gordon Driedger (Waterloo)	Apr 24, 2020–Apr 23, 2022 Apr 24, 2022–Apr 24, 2025	President, Skyline Retail Asset Management Inc. Member of several industry associations, including the International Council of Shopping Centers. Chairs the Halton Hills Committee of Adjustment.
Ronald Gibson (Niagara Falls)	Jul 2, 2020–Jul 1, 2022 Jul 2, 2022–Jul 1 2025	Twenty years of experience in municipal social services and 10 years in administration (strategic planning and project management).
David Hutcheon (Toronto)	Apr 24, 2020–Apr 23, 2022 Apr 24, 2022–Apr 24, 2025	Previously volunteered on the Humber River Watershed Task Force and Alliance. Previously served as the Vice Chair of the Environmental Review Tribunal and as a Hearing Officer for appeals and hearings related to the Niagara Escarpment.
Ken Lucyshyn (Grimsby)	Apr 24, 2020–Apr 23, 2022 Apr 24, 2022–Apr 23, 2025	Executive Vice President of an aggregate and road-building business. Serves on the boards of the Ontario Stone, Sand & Gravel Association, the Ontario Aggregate Resources Corporation, and the Cornerstone Standards Council.

Member	Terms	Background
Bruce Mackenzie (Grimsby)	Apr 11, 2018–Apr 10, 2020 Apr 11, 2020–Apr 10, 2023	Retired Director of Customer Services at the Hamilton Conservation Authority. Director of Bird Studies Group at Hamilton Naturalists' Club. Involved with the environmental projects Grimsby Wetlands and Save the Woodlot.
Duncan McKinlay (Ravenna)	Jun 28, 2017–Jun 27, 2019 Sep 13, 2019–Sep 12, 2022	Beef farmer in Ravenna. Previously a Municipal Councillor, County Councillor and Grey County Warden.
Jennifer Vida (Niagara Falls)	Jan 14, 2021–Jan 13, 2023	Planner, land development and construction. Sits on the Government Liaison Committee for the Niagara Home Builders' Association, a network of professionals that manage residential construction issues in the Niagara Region.

Treasury Board Secretariat
Ministry of Public and Business Service Delivery
Ministry of Health
Ministry of Education
Ministry of Infrastructure
Ministry of Long-Term Care

COVID-19 Contracts and Procurement

1.0 Summary

Between March 2020 and March 2022, Ontario approved \$7.0 billion in spending on COVID-19-related procurements. This includes completed or planned procurements of goods and services such as personal protective equipment (PPE) and testing supplies. For about \$3.5 billion of these procurements, ministries received Treasury Board/Management Board of Cabinet (TB/MBC) approval before entering into contracts. The remaining \$3.5 billion of procurements was approved by ministries using an exception allowed by the Ontario Public Service Procurement Directive (Procurement Directive), where TB/MBC's prior approval is not required in an unforeseen situation of urgency. Our audit reviewed \$1.6 billion of COVID-19-related procurements, which represents 127 of an approximate total of 600 contracts related to COVID-19 procurements.

Purchases related to COVID-19 that we audited include PPE, contracts for clinics dedicated to conduct COVID-19 testing or administer COVID-19 vaccines, rapid antigen test kits, and information technology and other consulting services to establish the

necessary processes and infrastructure to support these initiatives.

We found that the COVID-19-related procurements we reviewed were generally conducted in accordance with the Procurement Directive, with appropriate business plans, and in a timely and cost-effective manner given the urgency of the pandemic. Competitive procurements followed the required process of requesting proposals and evaluating the bids received. Most of the non-competitively procured contracts followed the appropriate approvals process, except for 11% of the emergency procurements where the Secretary of TB/MBC was not promptly notified of the procurement as required.

We identified some contracts that could have been managed more effectively to achieve their intended purposes, and maximize potential cost savings. Both Ontario Health and the Ministry of Education contracted with vendors to operate COVID-19 testing clinics in 2021, but they did not co-ordinate on locations to better meet demand for testing services. Between Ontario Health and the Ministry of Education, \$18.7 million, or 58% of the total of \$32.3 million paid went toward underutilized mobile COVID-19 testing capacity. With better co-ordination, service providers operating these

clinics could have been asked to reduce testing services earlier to save costs, or more individuals could have been tested at these locations at the same cost to the Province.

As of September 2022, the Ministry of Public and Business Service Delivery estimated that approximately 100 million units of N95 respirators, worth \$81 million, are expected to exceed provincial demand and will expire by March 2030, should demand remain constant and a surge not occur. The plans to allocate and use these N95 respirators need to be further developed. The Ministry of Public and Business Service Delivery has committed to these purchases to build the provincial stockpile in case of future emergencies; however, these N95 respirators will be disposed of if a surge in demand does not occur and the plans to allocate and use these N95 respirators are not further developed. Further planning is important as the Province continues to implement the recommendations from our 2021 value-for-money audit report on COVID-19 Personal Protective Equipment Supply, which includes a recommendation that inventory management and control guidelines should be developed that include the requirement to monitor expiration dates and plan for the rotation of PPE with instructions on when to ship out PPE to health-care providers for use before it expires.

In addition, we noted that for the contracts reviewed in this audit, the Ministries did not formally evaluate vendor performance upon the completion of contracts and did not require corrective action where indicators demonstrated it was needed prior to renewing the contracts.

The following are some of our significant observations:

- **A total of \$66 million worth of personal protective equipment (PPE) purchased by the Province during the COVID-19 pandemic required disposal as of March 31, 2022, because the PPE was expired, damaged or obsolete.** We noted that millions were written off in expired PPE purchased during the pandemic. These expired, damaged or obsolete inventory included certain items that were not in

demand by the public sector or could not be used in time prior to expiry. More planning is needed to minimize future waste of PPE. This is especially true for the items that the Province has contractually committed to continue to purchase annually, such as N95 respirators, to establish a reliable, domestic supply chain to meet the demand of Ontario's public sector and to maintain a stockpile in case of future emergencies. To establish this stockpile, the Ministry of Public and Business Service Delivery (Business Service Delivery Ministry) and the Government of Canada entered into five-year contracts with 3M Canada. The Province committed to purchase 10 years' worth of supply for a value of \$98.8 million of N95 respirators over five years, in addition to units it expects to receive from the federal government.

- **Over \$18 million was paid to private companies for underutilized mobile COVID-19 testing.** Ontario Health and the Ministry of Education (Education Ministry) separately entered into contracts for mobile testing. The deployment of testing sites was not co-ordinated between Ontario Health and the Education Ministry to maximize available testing at sites with underutilized capacity. Vendors were paid a guaranteed minimum daily payment to cover overhead costs even if a minimum number of COVID-19 tests were not performed, ranging from \$991 to \$8,255 per site. For example, one vendor charged the Education Ministry its guaranteed minimum daily payment of \$8,255 whether zero tests or 250 tests were performed in a day. We noted that about 58%, or \$18.7 million, of the total \$32.3 million paid to vendors was for the guaranteed minimum daily payments, confirming that sites were commonly underutilized. This includes 105 instances (totalling \$0.8 million) where the guaranteed minimum daily payment was made to vendors by the Education Ministry despite the fact they had tested no one that day.

- **COVID-19 testing appointment information was not collected by the Ministry of Education for scheduled testing sites to maximize public benefit of COVID-19 testing services.** The mobile COVID-19 testing clinics operated by the Education Ministry mainly operated on a walk-in basis. Since no prior appointment bookings were collected prior to the day of testing at schools, the Education Ministry could not proactively identify locations with little testing demand. The vendors tested between 2% and 7% of their potential capacity on average, throughout the contract term.
- **Vaccination clinic contracts could have been procured competitively.** Between January 2021 and January 2022, the Ministry of the Solicitor General (Solicitor General Ministry) entered into several non-competitively procured contracts for vaccination clinics. The unforeseen situation of urgency exception of the Procurement Directive was used for each contract instead of switching to a competitive procurement process. For each of these procurements, part of the Solicitor General Ministry's rationale for using a non-competitive process was that a competitive procurement would take over six months. However, we noted that similar contracts were competitively procured by Ontario Health for mobile testing clinic vendors and were completed in one to two months during the same period.
- **The Business Service Delivery Ministry did not request evidence of market rates from one vendor even though it was a contract requirement.** In June 2020, the Business Service Delivery Ministry contracted with a vendor for warehousing and logistics services. This contract was amended later in 2020 and renewed through 2021 and 2022. The contract contains clauses that promote continuous improvement, such as providing evidence of competitive pricing charged and that corrective action plans are developed when performance targets were not met continuously. While the

Ministry held meetings with the vendor, it did not request evidence that the rates charged were competitive with the market. This information was also not requested prior to renewing a contract, with increased rates, to confirm that the new contract was at a competitive price.

- **Better monitoring of usage is needed to promote equal and fair distribution when the supply of rapid antigen tests is limited.** The Ministry of Health (Health Ministry) provided eligible workplaces with free rapid antigen test kits to test asymptomatic employees starting in November 2020. Outside of programs such as this, these tests were not widely available to schools until December 2021 or to members of the general public until February 2022. Workplaces were required to report weekly on the number of tests used, but often the information was not complete. The Health Ministry and its partnering ministries often did not verify that the rapid antigen tests had been used by workplaces before fulfilling more orders, or that workplaces were ordering a reasonable quantity for the number of employees they had.
- **Of all emergency COVID-19 procurements, 11% did not follow the Procurement Directive's emergency process.** While the Procurement Directive allows ministries to use an emergency procurement process in times of urgent need (such as during a pandemic), it still requires that they promptly notify the Secretary of TB/MBC when they do so. According to the Secretariat's definition, prompt notification means as soon as the ministries know they will be procuring goods or services. However, we noted that as of March 31, 2022, 51 (or about 11%) of the 475 emergency procurements during the pandemic, totalling \$218 million, were not reported promptly as required—sometimes over a month later. Prompt notification was required so that the Treasury Board Secretariat could have accurate information on COVID-19 spending at any point in time.

This report contains 12 recommendations, with 26 action items, to address our audit findings.

Overall Conclusion

We concluded that the COVID-19 contracts we reviewed were mostly procured in a timely and cost-effective manner, given the circumstances. Also, these procurements were conducted in a fair, open and transparent manner, where applicable. Competitive procurements were conducted in accordance with the Ontario Public Service Procurement Directive (Procurement Directive), including the requirements to obtain appropriate approvals before signing the contract, and to assess proposals from interested vendors against pre-established criteria. Non-competitive procurements generally complied with the Procurement Directive, except for 11% of emergency COVID-19 procurements where the Secretary of Treasury Board/Management Board of Cabinet was not promptly notified of the procurement activity as required.

However, we identified some procurements that could have been better co-ordinated or managed so that provincial spending of about \$84.7 million (\$66 million in personal protective equipment, of which about \$36 million relates to the Ministry of Health and about \$30 million relates to the Ministry of Public and Business Service Delivery; and \$18.7 million in contracted mobile testing services, of which \$11.8 million relates to Ontario Health and \$6.9 million relates to the Ministry of Education) on the COVID-19 response would have been saved with better planning and contract terms.

OVERALL TREASURY BOARD SECRETARIAT RESPONSE

Treasury Board Secretariat (Secretariat) thanks the Auditor General and her staff for their work in reviewing the government of Ontario's spending on contracts and procurements to address the health, social and economic impacts of COVID-19. We welcome the insights and recommendations presented in this report.

We were pleased to hear that the majority of procurements related to COVID-19 were in compliance with the direction provided in the OPS Procurement Directive. The Secretariat is committed to performing our oversight function during unforeseen and urgent situations, and we welcome opportunities to enhance the rules and guidance to support decision-making.

The recommendations presented in this audit will be considered as we continue to collaborate with our partner ministries and with Supply Ontario to identify actions to improve government procurement direction and support for ministries in times of unforeseen urgency and in times where an emergency does not exist.

We look forward to a continued constructive relationship with the Auditor General and her staff as we move forward with addressing the recommendations in this report.

OVERALL MINISTRY OF PUBLIC AND BUSINESS SERVICE DELIVERY RESPONSE

The Ministry of Public and Business Service Delivery would like to thank the Auditor General and her staff for their work on this report and the audit recommendations. The Ministry of Public and Business Service Delivery welcomes feedback on how the government managed contracts, procurements and spending to address emerging impacts from COVID-19. The areas identified in this report will help the Ministry of Public and Business Service Delivery to further improve our systems and processes to ensure efficient and cost-effective management of government procurements.

The Ministry of Public and Business Service Delivery will work with our partners in the Treasury Board Secretariat to implement the recommendations outlined in this report.

We look forward to continuing engagement with the Auditor General as we move forward to address this report.

OVERALL MINISTRY OF HEALTH RESPONSE

The Ministry of Health accepts the overall conclusions of the report and the recommendations that impact the Ministry of Health.

Recommendations for increased clarification on expedited administrative procedures and the application of the Procurement Directive during extraordinary times are valuable suggestions should similar circumstances arise in the future. The Ministry of Health also acknowledges improved co-ordination and management of contracts as an improvement goal.

The Ministry of Health recognizes that some recommendations that are directed at other ministries may impact the Ministry of Health. We look forward to working with other ministries and our agencies on the implementation of the Auditor's recommendations and thank the Auditor for her work.

OVERALL MINISTRY OF EDUCATION RESPONSE

The Ministry of Education would like to thank the Office of the Auditor General of Ontario for the opportunity to review the accuracy and completeness of the Ministry of Education's information and records related to the value-for money audit, COVID-19 Contracts and Procurement.

While there were no recommendations for the Ministry of Education specifically resulting from this audit, the Ministry of Education will take into consideration all recommendations and best practices in relation to the future co-ordination and management of external contracts and procurements.

The Ministry of Education remains committed to fulfilling its obligations. Once again, thank you for the opportunity to review.

OVERALL MINISTRY OF INFRASTRUCTURE RESPONSE

The Ministry of Infrastructure would like to thank the Office of the Auditor General of Ontario for their work and appreciates the value of this audit. While these recommendations are not specifically directed toward the Ministry, the Ministry of Infrastructure will take into consideration all recommendations regarding best practices for the co-ordination and management of external contracts and procurements.

OVERALL MINISTRY OF LONG-TERM CARE RESPONSE

The Ministry of Long-Term Care thanks the Office of the Auditor General for the audit findings and recommendations. While there were no recommendations for the Ministry of Long-Term Care specifically resulting from this audit, the Ministry will consider the recommendations in relation to any future contract or procurement activity.

2.0 Background

2.1 COVID-19 Spending in Ontario

COVID-19 is a flu-like respiratory illness caused by the SARS-CoV-2 novel coronavirus. It was first identified in China in late 2019 and spread quickly across the globe in early 2020. Ontario's first known case was identified on January 25, 2020. COVID-19 was declared a pandemic by the World Health Organization on March 11, 2020, and a provincial emergency was declared shortly thereafter on March 17, 2020. To deal with the health, social and economic impacts of COVID-19, the government of Ontario undertook a variety of initiatives (ranging from COVID-19 testing and vaccinations, to financial support to businesses and individuals). As of March 31, 2022, Ontario had approved COVID-19

initiatives totalling about \$58 billion (**Appendix 1**), including future spending; \$30.6 billion has been incurred related to these initiatives as of March 31, 2022 (**Figure 1**).

COVID-19-related spending includes monetary support to individuals, businesses, the broader public sector (for example, hospitals and schools) and other provincially funded transfer-payment recipients and programs. COVID-19 initiatives also include purchases of (or funding provided to purchase) goods, services and other capital improvements related to limiting the transmission of the virus and protecting Ontarians. Such procurements include personal protective equipment (PPE), COVID-19 testing supplies, information technology, temporary staffing, and ventilation and air conditioning improvements (such as those in schools and in long-term-care homes).

2.1.1 Federal Government COVID-19 Support

As part of the COVID-19 pandemic response, the federal government contributed monetary support and supplies to the provinces and territories. In

Figure 1: Budgeted and Actual COVID-19 Spending in Ontario, as of March 31, 2022 (\$ billion)

Prepared by the Office of the Auditor General of Ontario

Fiscal Year	Budgeted ¹	Actual ²
2019/20	– ³	0.6
2020/21	13.3	19.1
2021/22	10.7	10.9
2022/23	6.9	n/a ⁴
Total	30.9	30.6

1. Consists of one-time funding budgeted for COVID-19 initiatives, announced annually in the Ontario Budget, and subsequently updated as part of the Fall Economic Update, with the exception of the fiscal year 2020/21, when the *2020 Ontario Budget* was released along with the Fall Economic Update in November 2020. The budgeted amounts represent the government's estimates of required spending and are based on COVID-19 case counts at that time and projected cases for the year.
2. Amounts categorized as COVID-19-related spending by the ministries in the Public Accounts of Ontario. Actual spending differs from budgeted spending because COVID-19 cases can vary significantly from expected such as with the highly transmissible Omicron variant identified in November 2021.
3. The COVID-19 pandemic was declared in March 2020, just prior to the fiscal year-end, so COVID-19 spending was not budgeted for in 2019/20.
4. Actual spending will be released after fiscal year-end of March 31, 2023.

Ontario, the total funding received from the federal government between March 2020 and March 2022 was \$11.6 billion (38% of total expected provincial COVID-19 spending).

The federal funding included:

- Safe Restart Agreement (\$5.1 billion) for restarting the economy, including increased capacity for testing and tracing, PPE and support for municipalities, transit and child care;
- Additional Health Payment and COVID-19 Immunization Plan (\$1.9 billion) to support the financial pressures of the provincial health-care system as a result of the pandemic;
- Pandemic Pay Program (\$1.1 billion) to support essential workers by increasing wages for eligible workers (such as health-care professionals) at hospitals and home and community care settings;
- Safe Return to Class (\$0.8 billion) to improve air quality and ventilation in schools, support online learning, promote student mental health and hire additional staff;
- support for PPE and rapid antigen tests (\$1.4 billion) to provide in-kind federal PPE and rapid antigen test kits; and
- other support such as a COVID-19 response fund, safe long-term-care fund, virtual health care, employment skills training, remote air carrier support and safe voluntary isolation sites (\$1.3 billion).

In addition to the above, the federal government procured all COVID-19 vaccinations used by the provinces and territories (including Ontario).

2.2 Ministry Spending and Procurement Approvals

Ministries can obtain approval for COVID-19 expenditures, including funding for procurement activities, in various ways. Ministries are generally required to submit a business case to the Treasury Board/Management Board of Cabinet (TB/MBC), a committee of Cabinet, when they are seeking a change in operations, organization, activities and spending that goes beyond

the scope of their annual business plan. For example, this could include changes to ministries' total approved annual expenditures. TB/MBC makes decisions based on each request it receives. Decisions may include approving all or part of a ministry's request with or without conditions, or approving a request in principle with additional information to be provided at a later date. TB/MBC may also defer a decision to a later date, make recommendations (such as orders in council, regulations, and legislation) for Cabinet approval, or confirm receipt of new information, such as updates it requested on previous approvals. TB/MBC also makes decisions relating to public sector corporate governance policies, exceptions and exemptions to directives, and certain procurement project approvals.

Ministries must submit requests for approval to TB/MBC for procurements of goods and services if the value is \$2 million or more, or if the value is \$1 million or more for procurements where funding has not been allocated to the ministry. For non-competitive procurements of consulting services, approvals are required if the value is \$500,000 or more (**Appendix 2**). A key exception to this requirement is summarized in **Section 2.2.2** when procurements are conducted in an unforeseen situation of urgency.

2.2.1 Procurement Directive

The Treasury Board Secretariat (Secretariat) is responsible for developing and updating the procurement requirements within the Ontario Public Service Procurement Directive (Procurement Directive). The purpose of the Procurement Directive is to ensure ministries receive the best value for money when buying goods or services, in a way that is fair and transparent for both the ministries and suppliers, and is geographically neutral and accessible to qualified vendors.

The Secretariat added Interim Measures to the Procurement Directive (**Appendix 3**) in March 2019 to make procurement-related decisions and data collection more consistent and to support a future transition to a centralized procurement system for the Province. In September 2020, the Interim Measures were updated to include new requirements for

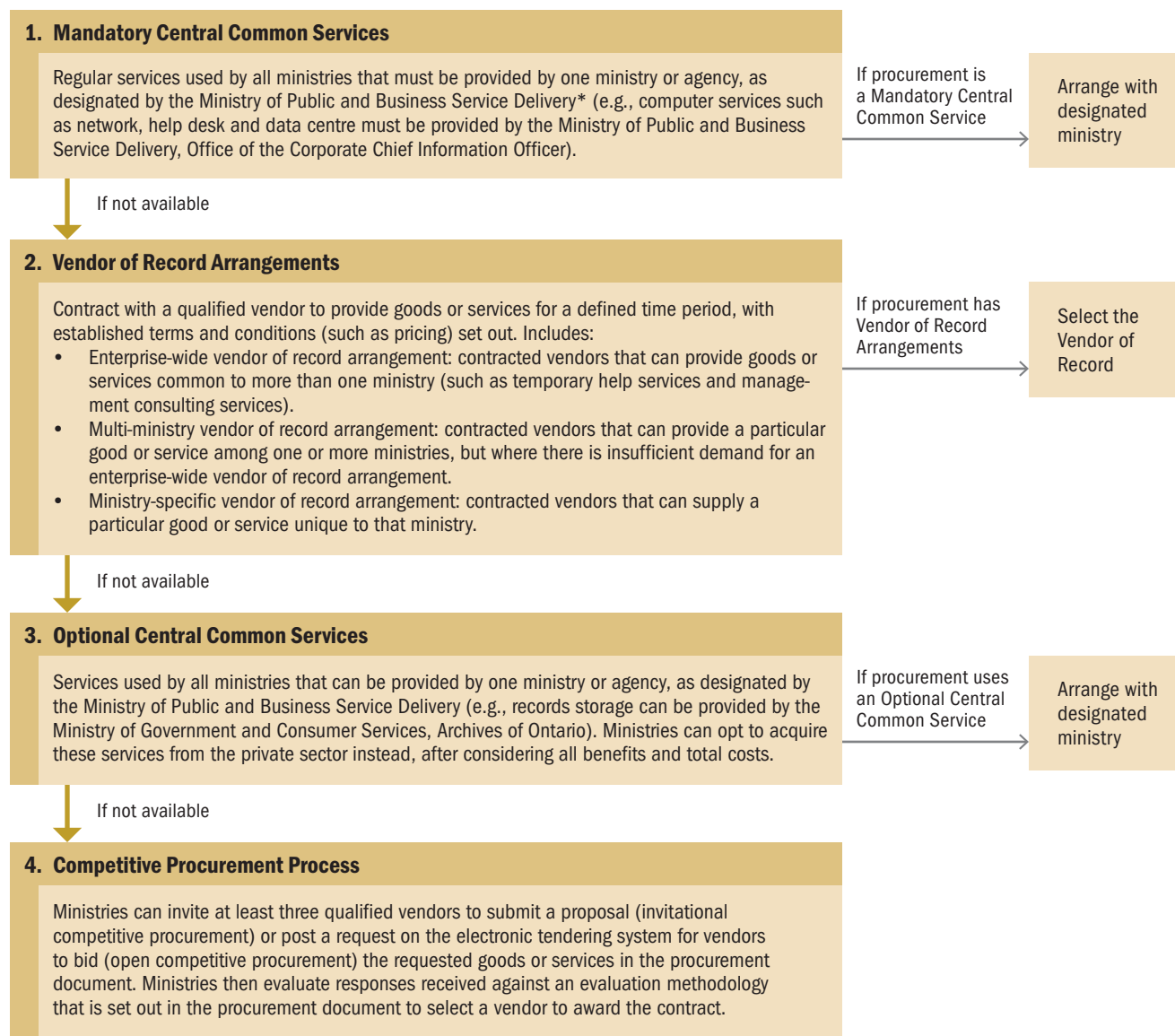
consulting contracts. The Interim Measures remain in effect and were to be followed in any cases that deviate from what is otherwise included in the Procurement Directive. In limited circumstances where ministries do not find it possible or appropriate to comply with the requirements of the Interim Measures, they must provide a reason through the submission of a Procurement Rationale Form to the Ministry of Public and Business Service Delivery (Business Service Delivery Ministry) (also known as the Ministry of Government and Consumer Services prior to June 24, 2022). The Business Service Delivery Ministry is responsible for overseeing the Interim Measures, including receiving the required reporting information. As of July 2022, the Business Service Delivery Ministry did not have plans to stop the Interim Measures while it continued to develop an approach for how centralizing procurement in the public sector should occur going forward (see **Section 2.3**).

When a ministry seeks to procure goods or services, the Procurement Directive requires the ministry to first check whether the goods and services can be obtained using available internal resources. If internal resources are not available, then the ministry must follow the order described in **Figure 2** to fulfill the procurement. The Procurement Directive also requires approval from the appropriate authority (per the ministry's delegation of authority or by Deputy Minister, Minister or TB/MBC) depending on the type and value of the procurement, prior to conducting all procurements (**Appendix 2**). The different procurement methods include vendor of record arrangement, invitational competitive procurement, open competitive procurement, and non-competitive procurement (defined in a glossary of terms in **Appendix 4**).

A non-competitive procurement process can be used under specific circumstances—for example, in an unforeseen situation of urgency (emergency procurements), where a competitive process could interfere with the government's ability to maintain security or order (such as policing activities), or confidential matters that would require government disclosure of confidential information. During the COVID-19 pandemic, the unforeseen situation of urgency exception

Figure 2: Goods and Services Procurement Requirements in the Ontario Public Service Procurement Directive, Where Internal Resources Are Not Available

Prepared by the Office of the Auditor General of Ontario



* Formerly the Ministry of Government and Consumer Services

was used often. Due to the volume of procurements using this exception, the Secretariat developed a process to monitor the reporting of these COVID-19-related procurements and first communicated it to all ministries on April 2, 2020. It also informed the ministries that the Interim Measures under the Procurement Directive continue to remain in effect.

2.2.2 COVID-19 Emergency Procurement Process

The unforeseen situation of urgency exception (emergency exception) (described in **Section 2.2.1**) was most commonly used by the ministries during the COVID-19 pandemic to conduct non-competitive procurements (about 85% of all non-competitive

procurements). This allowable exception for emergencies is not to be used in situations where the ministries fail to allow sufficient time to conduct a competitive procurement process.

When using the non-competitive procurement method during an unforeseen situation of urgency under the Procurement Directive, ministries may conduct the procurement prior to obtaining the appropriate approvals. Where the procurement would typically require TB/MBC approval, ministries must promptly notify the Secretary of TB/MBC of the procurement activity and report back to TB/MBC when the situation of unforeseen urgency is under control. The information required as part of the report back includes: supplier name, type of good or service being purchased, quantity, cost, contract status and length, any variance from previous notification to the Secretary of TB/MBC and explanation of variance, type of procurement method, and information on the value for money being obtained based on unit price or other factors.

The Treasury Board Secretariat (Secretariat) developed a unique process for ministries conducting emergency procurements under this exception during the COVID-19 pandemic. On April 2, 2020, the Deputy Minister of the Secretariat provided a memo to each ministry's Deputy Minister outlining the requirements for updating the Secretariat and a COVID-19 Procurement Proposal Template to assist with providing updates. The updates were to include details relating to:

- what is being procured and for what purpose;
- the anticipated value (based on information available);
- which ministry executive is authorized to sign the contract, per the ministry's Financial Delegation of Authority;
- the intended source of funding (that is, whether the ministry is using internally available funds or requesting COVID-19 contingency funds);
- the supplier (or anticipated supplier); and
- the expected duration of the contract (for services) or expected delivery date of goods.

The Secretariat tracked COVID-19 emergency procurements by the ministries using the updates received.

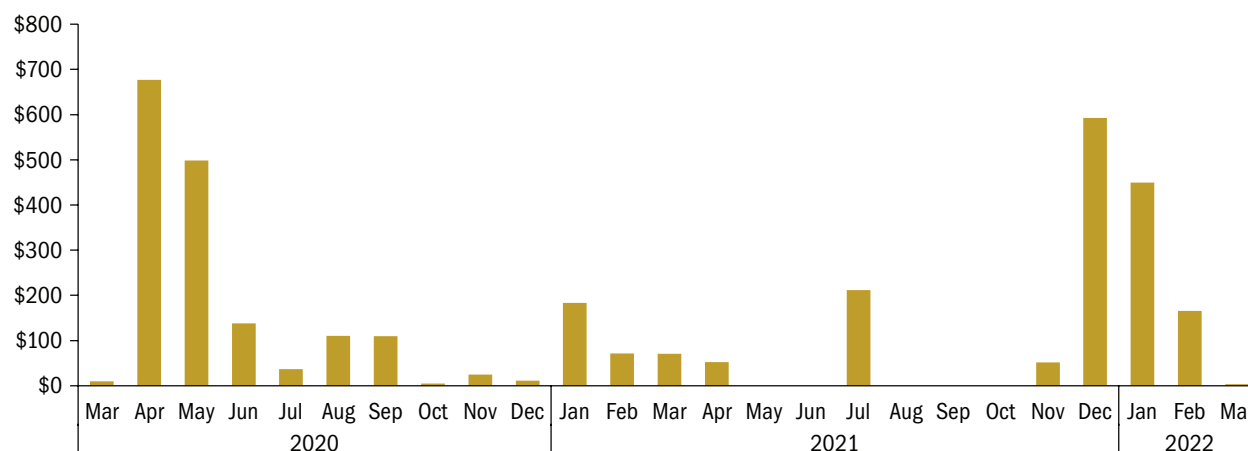
From March 2020 (when the Province first declared the state of emergency due to the pandemic) to March 31, 2022, ministries procured a total of \$3.5 billion in COVID-19 emergency goods and services that were tracked and reported to the Secretariat (**Appendix 5**). **Figure 3** shows the trend of when the majority of COVID-19 emergency procurements were conducted by the ministries. About 73% of these procurements were conducted between March 2020 and June 2020 (in response to the initial declaration of the pandemic) and between December 2021 and February 2022 (in response to the highly transmissible Omicron variant). At the beginning of the pandemic, the majority of emergency procurement notifications were related to the acquisition of personal protective equipment, such as masks and gowns (\$0.9 billion as of June 30, 2020). From December 2021 to February 2022, the main emergency procurements that the Secretary of TB/MBC was notified of in response to the Omicron variant were for rapid antigen test kits and high-efficiency particulate air filter units to improve ventilation in schools and other congregate care settings (\$1.0 billion during this period).

Up until October 1, 2021, notices of emergency procurements were shared with the President of the Treasury Board and TB/MBC members for their awareness, usually weekly. After October 1, 2021, the use of the COVID-19 Procurement Proposal Template and weekly notices to the President of the Treasury Board were discontinued to reduce administrative burden and allow for the standard TB/MBC oversight mechanism to be reintroduced (since emergency procurements related to COVID-19 had declined significantly in the prior months). However, the ministries were still required to update the Secretary of TB/MBC of their emergency procurements and report back to TB/MBC on the status of emergency procurements.

On January 25, 2022, in response to the increase in emergency procurements and use of the unforeseen situation of urgency exception of the Procurement Directive by ministries during a new wave in the pandemic caused by the Omicron variant, the Secretariat communicated to all Deputy Ministers an update on the emergency procurement process. The update included

Figure 3: Ministries' Total Contract Value¹ Using the COVID-19 Emergency Procurement Exception, March 2020–March 2022² (\$ million)

Source of data: Treasury Board Secretariat



Note: The majority of emergency procurements conducted by the ministries occurred at the beginning of the COVID-19 pandemic, from March 2020–June 2020, and then again in response to the highly transmissible Omicron variant from November 2021–February 2022.

1. Total emergency procurements where the Secretary of Treasury Board/Management Board of Cabinet (TB/MBC) received a notification from ministries as of March 31, 2022. The contract values represent TB/MBC's best estimate of emergency procurements during the COVID-19 pandemic. The total value may not reflect the actual spending if a contract or purchase order was updated or cancelled.
2. The month represents the date that the Secretary of TB/MBC received notification from ministries, which can be several months after the date a contract was signed or purchase order was issued.

a new template for providing prompt notification to the Secretary of TB/MBC and the reinstatement of the regular tracking of emergency procurements to TB/MBC members. Compared to the template developed in April 2020, which was used at the beginning of the pandemic and until October 1, 2021, the new notification template required ministries to provide additional details such as their vendor selection rationale and whether the Business Service Delivery Ministry was consulted on the procurement strategy.

2.2.3 Vendor Performance Management Framework

The Procurement Directive requires the retention of information related to the procurement process, from the initial business case to evidence of the deliverables being received or completed. It also includes information on how the vendor's performance was monitored.

In March 2020, the Business Service Delivery Ministry developed a Vendor Performance Management Framework (Vendor Performance Framework) in

response to one of the recommendations of our Office's 2016 Supply Chain Ontario and Procurement Practices value-for-money audit. The purpose of the Vendor Performance Framework is to help ministries establish guidelines to manage and assess vendor performance so that the results can be used to improve future procurement decisions. As of March 2022, the Vendor Performance Framework was still in the process of being fully implemented by the ministries.

The Vendor Performance Framework recommends that key performance indicators should be established in the procurement planning process. The minimum service level, performance target and measurement of the key performance indicators should be part of the contract, which can be used to assess vendor performance throughout the contract's duration and at its completion. At the end of a contract, the Vendor Performance Framework recommends the use of a scorecard to rate the vendor's performance across different categories and provide a final score, so this information can be used as part of the evaluation of new procurements and bids.

2.3 Centralization of Supply Chain During the Pandemic

Ministries are responsible for conducting their own procurement activities. The *Supply Chain Management Act (Government, Broader Public Sector and Health Sector Entities)*, 2019 (Supply Chain Management Act) sets out roles and responsibilities for supply chain management, including procurement. On March 27, 2020, O. Reg. 92/20: Coronavirus (COVID-19) Response and Recovery was introduced under the Supply Chain Management Act. Under this regulation, two ministries were designated as supply chain management entities for the purposes of responding to, and recovering from, COVID-19: the Business Service Delivery Ministry for government and broader public sector entities, and the Ministry of Health (Health Ministry) for health sector entities. Government and broader public sector and health sector entities reported their inventory requirements and future procurement activities to their respective supply chain management entity. Using this reporting, the Ministry of Public and Business Service Delivery (Business Service Delivery Ministry) and Health Ministry maintained consolidated inventory tracking for the Province and a procurement plan for in-demand goods, such as personal protective equipment (PPE). They also reported back to TB/MBC periodically on the use and allocation of these goods. Absent these specific arrangements, supply chain is decentralized across the Ontario Public Service and broader public sector.

In November 2020, a provincial agency, Supply Ontario, was established to centralize procurement for the public sector. Supply Ontario was accountable to the Ministry of Government and Consumer Services prior to June 24, 2022. As of June 24, 2022, the Treasury Board Secretariat has the expanded mandate for emergency management and procurement, including oversight of Supply Ontario. During the pandemic, including while Supply Ontario was being established, the Business Service Delivery Ministry, in collaboration with the Health Ministry, was responsible for the centralized procurement of PPE for the other ministries and for distributing the goods to the ministries as they

are requested. The initial plan was to transfer the pandemic supply chain contracts from the Business Service Delivery Ministry to Supply Ontario by April 1, 2022, starting with the procurement of PPE. This has been delayed while the agency continues to develop its operational capacity and works toward becoming more fully operational by December 31, 2023. Supply Ontario is currently gathering procurement data from ministries and the broader public sector to inform its future work and identify areas to enable the government to buy as one organization, providing goods and services at the best value for Ontarians. Once it is fully operational, it will work to advance centralizing the public sector supply chain.

As a result, the Business Service Delivery Ministry was one of the main entities responsible for managing the centralized supply chain for ministries and the broader public sector. During the pandemic, the main focus was on the centralized procurement of critical supplies and PPE, including receiving requests and distributing these supplies to other ministries, and all public sector entities such as schools and long-term-care homes.

Several other organizations also contribute to centralized procurement for ministries and the broader public sector. For example, OECM (formerly Ontario Education Collaborative Marketplace) is a not-for-profit entity that provides access to collaborative purchasing for the education sector, broader public sector and other not-for-profit organizations. During the pandemic, the provincial government also used the already-established contracts with vendors from OECM to procure goods and services, in addition to the ministries' own contracts and suppliers. From September 1, 2020, to March 31, 2022, the Business Service Delivery Ministry had procured \$88.3 million of critical supplies and PPE, including non-medical-grade masks, high-efficiency particulate air (HEPA) filtration units, and cleaning supplies through OECM agreements. These purchases were part of the provincial stockpile of PPE and were ultimately distributed to other ministries and all public sector entities such as schools and long-term care-homes.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Province of Ontario had effective systems and processes in place to manage contracts and procurements, and spending related to COVID-19 by:

- approving COVID-19-related contracts and procurements based on a detailed and costed business plan and justification for procurement activity;
- procuring COVID-19-related goods and services in a timely, cost-effective, fair, open and transparent manner in compliance with the Ontario Public Service Procurement Directive, including the emergency procurement process developed during the COVID-19 pandemic;
- responding to a pandemic emergency effectively by distributing goods and services, and allocating resources, to manage the response to COVID-19 with due regard for public safety; and
- evaluating whether the COVID-19 contracts and procurement, including associated spending, were effective in achieving their purpose.

In planning for our work, we identified the audit criteria (see **Appendix 6**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management of the ministries included in the scope of this audit have reviewed and agreed with the suitability of our objective and audit criteria.

We conducted our audit between November 2021 and August 2022. We obtained written representation from senior management at the ministries that, effective November 21, 2022, they had provided us with all information they were aware of that could significantly affect the findings or the conclusion of this report.

Between March 25, 2020, and March 31, 2022, approximately \$7.0 billion (about 600 contracts) was spent, or planned to be spent, related to COVID-19 initiatives (**Appendix 5**). This includes \$0.9 billion for competitive procurements and \$6.1 billion for

non-competitive procurements. Of this \$6.1 billion, there were 475 contracts totalling \$3.5 billion that ministries procured using the unforeseen situation of urgency exception to the Ontario Public Service Procurement Directive instead of the TB/MBC approval process. There were approximately 124 additional procurements related to COVID-19, totalling \$3.5 billion (\$0.9 billion competitive, \$2.6 billion non-competitive), where ministries obtained TB/MBC approval.

Our audit sampled 127 contracts totalling about \$1.6 billion (representing approximately 23% of the total \$7.0 billion of approved COVID-19 procurements). About 23%, or \$0.3 billion, of the contracts were competitively procured and 77%, or \$1.3 billion, were non-competitively procured. The contracts selected are highlighted in **Appendix 7a** and **Appendix 7b**. These contracts primarily relate to:

- health-related procurements, such as COVID-19 testing capacity and supplies, critical supplies and equipment (including personal protective equipment), COVID-19 vaccine administration and related information technology systems to support the related initiatives; and
- infrastructure and ventilation-related procurements to mitigate the risk of COVID-19 transmission, such as procurement of standalone high-efficiency particulate air (HEPA) filter units, and funding provided to school boards, long-term-care homes and municipalities to upgrade ventilation or infrastructure to protect against the pandemic.

For the 127 contracts we reviewed, we assessed whether Ministry-led procurements complied with the Ontario Public Service Procurement Directive. For example, we looked at whether proper approvals were obtained, the procurement method, the rationale for procuring the goods or services, and the vendor selection process. Where contracts included performance indicators, we assessed contract outcomes to determine whether the ministries applied proper oversight for their COVID-19 procurement activities. We also reviewed two funding initiatives across three ministries that related to procurement activities for the broader public sector and transfer payment recipients. We

reviewed how the funding was allocated, the funding eligibility criteria, and whether organizations complied with any requirements that were included as part of the funding agreement.

In performing our audit work, we met with management and staff at the following ministries to obtain contracts and information relating to COVID-19 procurement planning and decisions:

- Treasury Board Secretariat;
- Ministry of Public and Business Service Delivery (formerly named Ministry of Government and Consumer Services prior to June 24, 2022);
- Ministry of Health;
- Ministry of Education;
- Ministry of Infrastructure; and
- Ministry of Long-Term Care.

In addition to the above ministries, we also reviewed selected contracts with the Ministry of the Solicitor General and Ontario Health, and had discussions with their management and staff about the procurement process for specific COVID-19 initiatives they undertook.

These ministries were selected for audit because they spent the most on goods and services related to the Province's COVID-19 response that was not covered in previous value-for-money audit reports of our Office (**Appendix 1** details other initiatives we have audited previously).

To understand the procurement activities in the broader public sector, we met with senior management at school boards, long-term-care homes and the Ontario Long Term Care Association to discuss COVID-19 funding and procurement activities. To understand the process of centralizing the provincial supply chain, we met with Supply Ontario to discuss its status and future plans, and also met with OECM to understand the organization's role in supporting school boards and ministries with procurement activities during the pandemic.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and

Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Most COVID-19 Procurements Complied with the Ontario Public Service Procurement Directive

All ministries are expected to comply with the Ontario Public Service Procurement Directive (Procurement Directive). We found that, generally, the COVID-19-related procurements included in our audit scope complied with most of the requirements of the Procurement Directive. For example:

- approvals were received to conduct competitive and non-competitive procurements prior to entering into the contract (except those under the emergency procurement process, where approvals were not required); and
- use of the allowable exception for competitive procurements was supported by a valid business case that identified the connection of the procurement to the COVID-19 pandemic.

However, for COVID-19 procurements that used the emergency exception, we found that ministries did not always promptly notify the Treasury Board/Management Board of Cabinet (TB/MBC) as required.

4.1.1 Requirement for Prompt Reporting Was Not Met in 11% of Emergency COVID-19 Procurements

Many COVID-19-related procurements included in our audit used the emergency exception, allowable under the Procurement Directive (about 79% of the approximately 600 COVID-19 procurements used the emergency exception). As a result, ministries were subject to fewer requirements prior to signing these contracts or issuing these purchase orders, as detailed in **Section 2.2.2**. For example, the emergency exception removed the requirements to perform a competitive procurement and to obtain TB/MBC approval prior to engaging in the procurement. However, ministries were still required to promptly notify the Treasury Board Secretariat (Secretariat) of any procurements that used the emergency exemption, even though prior approval was not needed. In April 2020, the Secretariat communicated COVID-19 emergency procurement requirements to ministries, and provided a COVID-19 Procurement Proposal Template they should use for updating the Secretariat. Prompt notification was described as “as soon as [the ministries] know [they] will be procuring.” The COVID-19 Procurement Proposal Template requires ministries to include how the initiative is related to the pandemic response, the reason for the urgency, risks and mitigation strategy for the initiative, and communication to affected stakeholders. The information in this form was important for TB/MBC’s oversight and ongoing fiscal planning.

Of the 475 COVID-19 emergency procurements identified as of March 31, 2022, we found that the Secretary of TB/MBC was not promptly notified as required in 51 (11%), totalling \$218 million. The majority (30) of these were from the Health Ministry and its agencies, and the remainder were from the Secretariat (11), the Business Service Delivery Ministry (6) and four other ministries (Cabinet Office, Ministry of Children, Community and Social Services, Ministry of Northern Development, Mines, Natural Resources and Forestry, and Ministry of the Solicitor General) that participated in one procurement each. Instead, the Secretary of TB/MBC was notified of these procurements as part of the quarterly reporting process, which

can be almost three months after the purchase order or contract was issued.

Additionally, the COVID-19 Procurement Proposal Template did not require ministries to indicate the date that a contract was expected to be signed or when the purchase order was expected to be issued. This made it difficult to assess whether notification was received promptly by the Secretariat using the notification template alone. We reviewed 75 contracts for personal protective equipment (PPE) by the Business Service Delivery Ministry that used the emergency procurement process. By comparing the purchase order date and the date that the Secretary of TB/MBC received notification, we found 13 contracts where the notification was sent at least one month after the date of the purchase order or effective date of contract; the Secretary of TB/MBC was notified of one of these 104 days after the purchase order was issued. The delayed reporting of these procurements prevented the Secretariat from having accurate information on COVID-19 spending.

Since TB/MBC approvals are not required for procurements in an unforeseen situation of urgency, such as the pandemic, the prompt notification process becomes a key component of TB/MBC’s oversight function. Without it, TB/MBC’s records on total emergency procurements would be inaccurate throughout the year (at least until quarterly reporting is received), and the accuracy of this data is important for ongoing fiscal planning, including managing the fiscal pressures of the ministries.

RECOMMENDATION 1

So that it can effectively perform its oversight function during unforeseen situations of urgency, we recommend that the Treasury Board Secretariat:

- require the expected date of procurement to be identified as part of the notification for emergency procurements under the Ontario Public Service Procurement Directive (Procurement Directive); and
- remind ministries of the requirement to submit a notification within a specified and reasonable

time when a contract or purchase order is issued for emergency procurements under the Procurement Directive, and provide guidance of what is considered reasonable.

MINISTRY RESPONSE

Treasury Board Secretariat (Secretariat) agrees with this recommendation. The Secretariat will update existing support materials to incorporate the expectation that the expected date of procurement is to be identified as part of the notification for emergency procurements, as well as reminding ministries of the requirement to submit a notification within a specified and reasonable time when a contract or purchase order is issued for emergency procurements. The Secretariat will communicate broadly to help ensure ministry awareness.

4.2 The Ontario Public Service Procurement Directive Has Not Been Updated Since 2014

The Procurement Directive contains thresholds for procurement values where the ministries must follow specific processes, such as a competitive procurement process, or obtain approvals from TB/MBC (**Appendix 2**). Excluding the amounts from the Interim Measures that were added in 2019 and 2020 (**Appendix 3**), the procurement values were last updated in February 2014. For example, the minimum threshold where a competitive procurement process is required under the Procurement Directive is \$25,000. This value, adjusted for inflation from 2014 to 2022, would be approximately \$30,000.

When comparing Ontario's Procurement Directive to other provinces, or to the Broader Public Sector Procurement Directive, the thresholds where a competitive procurement process is required also differ (**Figure 4**). For example, Quebec and Canada have higher thresholds for requiring a competitive procurement process, starting at \$30,300 for goods in Quebec, or \$40,000 for services in Canada.

RECOMMENDATION 2

To provide relevant information and guidance in the Ontario Public Service Procurement Directive (Procurement Directive), we recommend that the Treasury Board Secretariat:

- assess the dollar thresholds in the Procurement Directive, and update them with consideration for inflationary increases since the thresholds were first established and the thresholds in other jurisdictions;
- establish a process to continuously review the Procurement Directive, such as every three years, so that information continues to be relevant, including roles and responsibilities; and
- conduct an overall review of the Procurement Directive within the next year.

MINISTRY RESPONSE

Treasury Board Secretariat (Secretariat) agrees with this recommendation and will incorporate the elements (assessing thresholds and establishing a requirement for a regular review) into considerations to be addressed as part of a comprehensive review of the procurement rules. This review will involve many partners, including Supply Ontario and supporting ministries. The Secretariat supports the commitment to modernize procurement, and a review of the rules is a necessary element that must fit within this larger complex initiative.

4.3 A Total of \$66 Million of Personal Protective Equipment (PPE) Expired, Was Damaged or Became Obsolete and Required Disposal

As of March 31, 2022, the Business Service Delivery Ministry and Health Ministry held a combined total of \$66 million of expired, damaged or obsolete PPE inventory (the Business Service Ministry had about \$30 million and the Health Ministry had about \$36 million). This was approximately 15% of the Business Service Ministry's \$201 million total inventory

Figure 4: Comparison of Competitive Procurement Requirements of Different Jurisdictions

Prepared by the Office of the Auditor General of Ontario

Jurisdiction	Procurement Type	Procurement Value Requiring Competitive Procurement ¹	Procurement Value Requiring Minimum Posting Period	Minimum Posting Period
Ontario (Public Service²)	Goods and services	> \$25,000	< \$100,000	No specific minimum bid time ³
			\$100,000–\$548,699	15 calendar days ³
			\$548,700 and up	30 calendar days ^{3,4}
Ontario (Broader Public Sector⁵)	Goods and services	\$100,000 and up	< \$100,000	No minimum posting period
			\$100,000 and up	15 calendar days ⁶
Alberta and British Columbia	Goods	\$10,000 and up	\$10,000 and up	No specific minimum bid time ³
	Services	\$75,000 and up	\$75,000 and up	
	Construction	\$100,000 and up	\$100,000 and up	
Saskatchewan	Goods	\$10,000 and up	\$10,000 and up	22 calendar days
	Services	\$75,000 and up	\$75,000 and up	
	Construction	\$100,000 and up	\$100,000 and up	
Quebec	Goods	\$30,300 and up	\$30,300 and up	15 calendar days
	Services	\$121,200 and up	\$121,200 and up	
	Construction	\$121,200 and up	\$121,200 and up	
Nova Scotia	Goods	\$10,000 and up	\$30,300 and up	15 calendar days ^{3,7}
	Services		\$121,200 and up	
	Construction		\$121,200 and up	
Canada	Goods	> \$25,000	> \$25,000	15 calendar days ⁷
	Services			
	Construction	> \$40,000	> \$40,000	

1. Unless the procurement falls under an allowable exception, a competitive procurement process must be used for contract values that exceed this threshold. In some provinces, an invitational competitive procurement process is allowable if the contract value is within a certain threshold; this process invites selected vendors to respond and still requires more than one bid to be obtained from potential vendors, but does not require the procurement to be open to the public.
2. Applies to all ministries and any agency that is required by a Memorandum of Understanding to comply with the Ontario Public Service Procurement Directive.
3. For any procurement value, a minimum bid response time for an open competitive procurement must be given based on factors such as complexity, risk, seasonality and best practices in the industry.
4. The minimum posting period can be reduced to 20 calendar days if a notice of procurement is issued more than 40 days in advance of the planned procurement. A notice could include a draft Request for Proposal or a pre-release notice posted on an electronic tendering system.
5. Applies to hospitals, school boards, colleges, universities, community care access corporations, Children's Aid Society, and any other publicly funded organizations that received public funds of \$10 million or more in the previous fiscal year of the Government of Ontario.
6. If the procurement is highly complex, high-risk and/or has a high dollar value, a minimum response time of 30 days must be considered.
7. The minimum posting period can be reduced under the urgency exception to less than 15 calendar days. In Nova Scotia, it may not be shorter than 10 days.

value (or 7% of the total units in inventory) and 3% of the Health Ministry's \$1.3 billion total inventory value (or 1% of the units in inventory), prior to disposal. As the Health Ministry and the Business Service Ministry continue to implement the recommendations from our Office's 2021 audit on COVID-19 Personal Protective Equipment, further development of a plan for the use of PPE is important when managing future purchases. The Business Service Delivery Ministry currently

expects to have an excess of 100 million N95 respirators, which is expected to form part of the provincial stockpile in case of future emergencies. If this surge in demand does not occur, further development to the plan for the use of N95 respirators will be needed before their expiry. Beyond the \$81 million cost of these masks, there will be additional costs to rent warehouse space for their storage.

4.3.1 Additional Warehouse Space Was Rented That Stored PPE Stockpile, Including Expired and Obsolete PPE

As of March 31, 2022, 15% of the Business Service Delivery Ministry's total inventory value was expired, damaged or obsolete (or approximately \$30 million of \$201 million) and required disposal. Expired, damaged and obsolete inventory included masks that require assembly and are therefore undesirable, and certain disinfectants such as hand sanitizer that have alcohol content endorsed by Health Canada at the time of purchase, but later not recommended by some Public Health Units. Many of these products were acquired earlier in the pandemic, when there was a shortage of masks and sanitizer, so the government procured many different types in order to meet demand. Once the supply chain stabilized, some products became more desirable than others by the end users, so certain products were not used prior to expiry.

With the large quantity of PPE that was purchased for the provincial stockpile, the Business Service Delivery Ministry rented additional warehouse space throughout the pandemic to store the stockpile. Two warehouse locations had to be added to a vendor's existing contract. From June 2021 to March 2022, the total rent paid for the two additional locations was \$3.8 million, compared to the total rent for the main warehouse of \$3.4 million over the same period. The two overflow warehouses stored inventory that was expired, damaged or obsolete (items that had little to no demand from sectors) and also stored the stockpile of PPE that the Business Service Delivery Ministry purchased to keep on hand for any future surge in demand or disruption to the existing supply chain.

4.3.2 September 2022 Forecast Predicts Purchases of N95 Respirators Will Exceed Provincial Demand by 100 Million Units, Costing \$81 Million

To attract companies to establish manufacturing within Ontario, the government committed to purchase from them a minimum quantity of PPE annually over the contract term for certain types of PPE. These

arrangements differ from other PPE contracts because the government cannot reduce the quantity it orders from the vendor if it does not require as many units. Between October 1, 2020, and March 31, 2022, the Business Service Delivery Ministry entered into five contracts with domestic manufacturers of PPE to produce N95 respirator masks and surgical masks. Subsequently, in April 2022, the Business Service Delivery Ministry entered into a 10-year agreement for the domestic production of nitrile gloves (estimated total contract value between \$400 million and \$430 million).

In January 2021, the Business Service Delivery Ministry entered into a five-year, \$98.8 million contract for N95 respirators with 3M Canada in Ontario. Ontario also provided a \$23.3 million grant to the manufacturer to support capital improvements at 3M Canada's Brockville, Ontario facility, such as installing manufacturing lines. This grant matched the company's investment in its facility and another grant provided by the federal government.

Over the five-year period of the contract, the Business Service Delivery Ministry is committed to purchase a minimum quantity of N95 respirators each year (25 million units) in addition to the units it will receive annually from the federal government (7.8 million units). The number of respirators that Ontario will receive under this contract during the five-year term is currently expected to fulfill and exceed the anticipated quantity needed in Ontario over a 10-year period (N95 respirators have a useful life of five years before expiry). The Business Service Delivery Ministry indicated that the quantity the Province is committed to purchasing includes extra units to establish a stockpile that can be used in the event of a surge in demand. If this surge does not happen, plans to allocate and use available N95 respirators will need to be enhanced and further developed, or some of this stockpile of units will eventually require disposal.

Based on projections as of September 2022, the Business Service Delivery Ministry currently expects N95 respirators to be available to address surge requirements, but if a surge in demand does not occur, plans to allocate and use available N95 respirators will

need to be further developed, as otherwise it forecasts that the stockpile of N95 respirators will exceed 100 million units, worth over \$81 million (**Figure 5**). In our audit on COVID-19 Personal Protective Equipment Supply in our *2021 Annual Report*, we recommended that the Ministry of Health develop and implement inventory management and control guidelines to monitor expiration dates for PPE and plan for the rotation of PPE. As part of the Business Service Delivery Ministry's contracts with domestic PPE manufacturers, the quantity of PPE that the Province is committed to purchasing includes maintaining a stockpile for the Health Ministry for use during periods with surge demand and to protect against potential future supply chain disruptions. Therefore, it is important for the inventory management plan to be continuously coordinated between the two ministries to identify when the PPE stockpile is significantly higher than anticipated usage.

Since the contracts for domestically produced PPE required the Province to commit to minimum purchases and to keep units on hand to build the stockpile, additional warehouse space is required throughout the contract duration. If the demand for PPE decreases, or if there is no surge in demand in the future, storage needs (and the associated costs of this storage) will

increase and eventually the PPE will require disposal, as seen with other types of PPE purchased earlier in the pandemic. Therefore, as previously mentioned, it is essential that the Business Service Delivery Ministry manage this stockpile and encourage health-care and non-health-care entities within the public sector and the broader public sector to order from them and use these products before they expire.

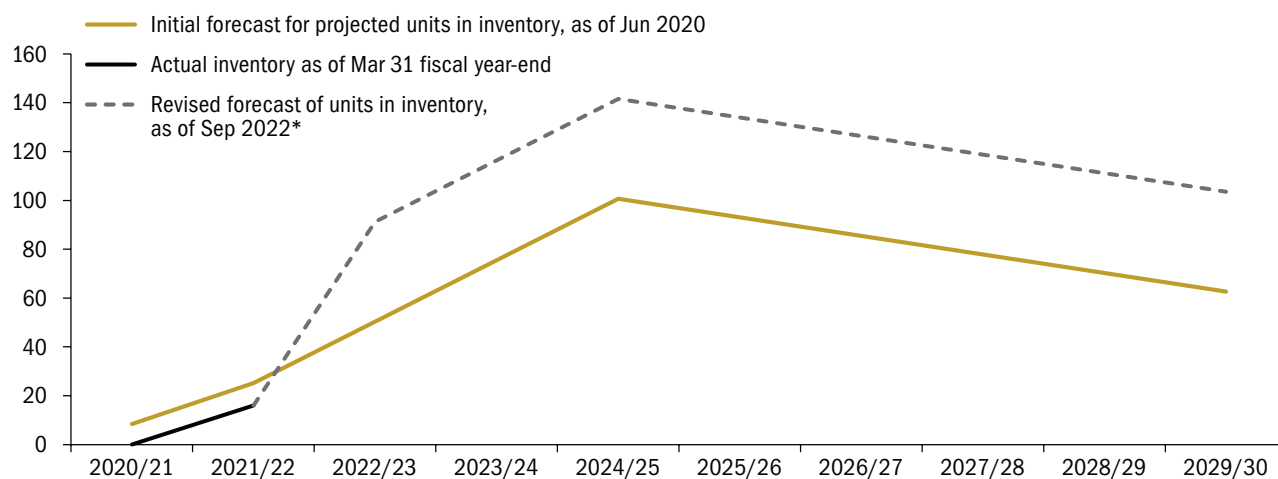
RECOMMENDATION 3

To manage the inventory of personal protective equipment (PPE) that the Ministry of Public and Business Service Delivery (Business Service Delivery Ministry) is contractually committed to purchase from domestic manufacturers, and to minimize storage costs, we recommend that the Business Service Delivery Ministry:

- semi-annually (at a minimum) update its forecast of PPE usage and compare this to its required purchases, to anticipate what excess inventory will need to be distributed to other sectors or organizations before expiry;
- co-ordinate with the Ministry of Health and Ontario Health (on behalf of hospitals) so that the portion of PPE inventory held by the

Figure 5: Projected Number of Units in N95 Respirator Stockpile, 2020/21–2029/30 (million)

Source of data: Ministry of Public and Business Service Delivery



* An additional 79 million respirators were purchased by the Ministry of Public and Business Service Delivery in 2022/23 as part of the Omicron response, resulting in a large increase in the number of units in stockpile that is expected at March 31, 2023, compared to the initial forecast.

Business Service Delivery Ministry for the health sector is incorporated into the Ministry of Health's and hospitals' inventory management plans;

- work with other health-care and non-health-care sectors, ministries and the broader public sector (including long-term-care homes and school boards) to identify ways to use forecast excess inventory; and
- distribute inventory in accordance with the identified plans, including any forecast excess inventory.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Office of the Auditor General of Ontario (OAGO) for this recommendation and for highlighting the ongoing value of and need for effective inventory management. The Ministry has begun to implement the recommendations from the OAGO's 2021 value-for-money audit on Personal Protective Equipment Supply and will include improvements to its activities to include purchases of PPE that the Ministry is contractually committed to purchase from domestic manufacturers. This includes incorporating these purchases in the Ministry's:

- supply and demand planning process, which on a quarterly basis reviews demand and supply (purchases and federal allocations), and forecasts inventory position for an 18-month period;
- co-ordination with the Ministry of Health and Ontario Health to incorporate the stockpile as the single source of supply for products that are held in the stockpile (e.g., PPE) as part of their overall material management program;
- engagement with all public sector organizations to incorporate the stockpile as the single source of supply for products held in the stockpile; and
- distribution of inventory to all Ontario public sector entities in accordance with agreed-upon plans.

4.4 Better Co-ordination When Purchasing Similar Goods and Services Would Have Allowed the Province to More Effectively Respond to COVID-19 at a Lower Overall Cost

Different ministries and broader public sector entities procured the same goods and services at the same time. From June 2020 to April 2022, Ontario Health contracted vendors to conduct mobile COVID-19 testing. Separately, from January 2021 to June 2021, the Ministry of Education (Education Ministry) contracted with vendors for the same services to test staff and students at schools and child-care centres. A co-ordinated effort by the Province when deploying these sites could have reduced costs by eliminating test sites with underutilized capacity, and still tested the same number of individuals, or possibly more, for the same cost at fewer sites.

4.4.1 Over \$18 Million Paid to Private Companies for Underutilized Mobile COVID-19 Testing Capacity

Vendors contracted by Ontario Health and the Education Ministry were paid a fee per swab collected for mobile COVID-19 testing. So that each vendor recovered its fixed costs for running a site each day, a guaranteed minimum payment per day was also included in each contract. This was billed if the site tested less than the required minimum that day—including if they performed no tests at all. This guaranteed minimum payment per day varied in each contract, from approximately \$991 to \$8,255 for a single mobile testing team (see **Section 4.4.2**), although most contract daily guaranteed minimum payments ranged from \$3,000 to \$4,000. **Appendix 8** summarizes the procurements by Ontario Health and the Education Ministry related to mobile COVID-19 testing, including the key costs and minimum testing requirements of each vendor.

We noted that about 58% of the fees paid to mobile testing vendors (\$18.7 million out of \$32.3 million)

were for the guaranteed minimum daily payments. Ontario Health was invoiced the guaranteed minimum daily payment 46% of the time (\$11.8 million) and the Education Ministry was invoiced the guaranteed minimum daily payment 99% of the time (\$6.9 million). Some examples of clinics with underutilized testing capacity are described in **Figure 6**.

Ontario Health and the Education Ministry conducted their own procurement processes separately. Ontario Health shared some information with the Education Ministry, including a list of potential testing vendors in Ontario, types of testing service models, and details of the requests for proposal they used to competitively procure the vendors for mobile COVID-19 testing. However, Ontario Health and the Education Ministry executed their contracts separately. Details of the different procurement methods are provided in **Appendix 8**.

Co-ordination between the two could have helped them better match the number of sites offered with demand for services. If individual operators had been asked to serve community needs identified by both Ontario Health and the Education Ministry, testing

sites could have been used more efficiently rather than continually paying for underutilized capacity.

4.4.2 One Vendor Was Awarded Two Separate Contracts for Mobile Testing Two Weeks Apart and with Different Guaranteed Minimum Payments

Ontario Health and the Education Ministry conducted procurements for COVID-19 mobile testing separately, and both parties contracted with the same vendor within weeks of each other. The fee per swab was the same under both contracts, but the guaranteed minimum payment per day for deploying a single mobile team was significantly different—\$991 compared to \$8,255. **Appendix 9** shows a comparison between some of the key contract terms.

The Education Ministry entered into a contract with the vendor on January 25, 2021, through a non-competitive procurement process. The contract had a higher guaranteed minimum payment compared to Ontario Health, because the Education Ministry required the vendor to be able to perform up to 5,000

Figure 6: Examples of Testing Clinics with Underutilized Capacity

Prepared by the Office of the Auditor General of Ontario

Ministry or Agency	Details
Ontario Health	- One provider was paid by Ontario Health to operate a COVID-19 testing location in Oakville, Ontario, from September 2021 to March 2022. The province changed PCR testing eligibility at the end of December 2021, so the number of individuals qualifying for a PCR test and seeking appointments decreased significantly after this change. - Starting in December 2021, the vendor provided three testing teams at this location every day (at a minimum cost of \$4,200 per team) and did not adjust the level of service promptly once the demand for testing decreased significantly. Fewer than six people visited this location for testing per day, on average, from February 6 to March 6, 2022. The contract required a minimum of 100 tests daily, per team; this was not met, so Ontario Health paid the guaranteed minimum payment of \$12,600 per day for three teams. - Once Ontario Health decreased the number of teams deployed to this location and reduced the number of days per week the location operated (from seven days to four) starting March 8, 2022, the guaranteed minimum payment per day was reduced to \$4,200. - The level of service after the reduction was still sufficient to meet the testing demand for this location; if this was done sooner, the province could have saved costs while still providing community access to testing services.
Ministry of Education	Three vendors under contract with the Ministry of Education operated 863 testing sites across 564 unique geographical locations. The vendors invoiced the guaranteed minimum daily payment for 850 (98%) of the testing days, including 105 testing days when they had performed no tests at all.

tests daily, compared to Ontario Health requiring the vendor to be able to perform 30 tests per day. Therefore, the vendor required a guaranteed minimum payment per day of \$8,255 (or the equivalent to the cost for 250 tests) for any number of tests completed from zero to 250. The Education Ministry had overestimated the number of tests that would be required at each location; during the contract period, there was an average of 31 tests conducted at each site (compared to the minimum of 250). This includes 17 times when no tests were conducted that day, and the highest number of tests was 300 on one day. Instead of each test costing \$33 according to the contract's per test fee, the actual average cost per test became approximately \$266 because of the guaranteed minimum payment required per day and the lower-than-estimated daily average of 31 tests actually conducted.

In comparison, Ontario Health entered into a competitively procured contract with the same vendor in February 2021, but the guaranteed minimum payment per day was \$991, based on a projection of 30 daily tests. However, out of a total of 127 mobile sites deployed, even the minimum of 30 tests was not reached about 27% of the time. Better co-ordination during the contracting process between Ontario Health and the Education Ministry could have resulted in a more strategic deployment of testing sites with this vendor and more consistent contract terms with the same vendor.

RECOMMENDATION 4

So that spending on COVID-19 testing sites is cost-effective, we recommend that the Ministry of Health co-ordinate all COVID-19 testing to reflect the consolidated needs of the Ministry of Education, Ontario Health, and Public Health Units in the future.

MINISTRY RESPONSE

The Ministry of Health accepts this recommendation and agrees that a co-ordinated approach to COVID-19 testing services, including tracking testing needs identified by other ministries and

system partners (e.g., Ministry of Education, Public Health Units) will help to ensure effective use of testing resources.

4.4.3 Ministry of Education Did Not Collect Appointment Information for Scheduled Testing Sites to Maximize Public Benefit

Mobile testing clinics can operate on a walk-in basis, by appointment only, or both. Not all mobile clinics that had appointment bookings were required to report their appointment data to the Province. Further, the mobile clinics contracted by the Education Ministry did not have appointment bookings set up consistently, and many operated on a drop-in basis.

The purpose of the Education Ministry's mobile testing contracts was to provide voluntary, asymptomatic testing of staff and students in schools and child-care settings. When the three contracts first began, the Education Ministry anticipated that the testing sites would be based on an appointment system. However, because of timing challenges with bilingual registration systems, testing sites operated on a drop-in basis. For short periods of time (from January 25 to March 12, 2021, with one vendor and from February 17 to March 12, 2021, with another vendor), two of the three vendors who operated these clinics offered online appointment booking to eligible individuals. The vendors were not required to report the number of appointments booked to the Education Ministry.

Throughout the terms of the three contracts, the vendors completed between 2% and 7% of the total number of tests they had the capacity to complete each day, on average. The Education Ministry often did not meet the contracted minimum testing level and paid for unused capacity (see [Section 4.4.1](#)). When procuring these contracts, the Education Ministry estimated that up to 50,000 tests would be required weekly across the Province, but the actual tests amounted to about 1,900 weekly. (The number of tests ranged from 21 to 5,609 weekly across all sites.)

Allowing pre-booking of appointments on the number of staff and students interested in COVID-19 testing services, in advance of the vendor providing

the service, could have provided useful information to the Education Ministry on the estimated demand. If the number of individuals that were interested in the testing was low, this information could have been passed on to the Health Ministry or other ministries to identify if asymptomatic COVID-19 testing could be offered to other priority groups in the community.

The Province decided to contract with private companies for mobile testing because there was a limited number of staff from public health units and other publicly funded health-care providers available to be redeployed for COVID-19 testing at schools and other settings. The mobile testing contracts were intended to increase the testing capacity of the Province without straining the resources of public health providers, but this increased capacity was not used effectively to maximize the benefits to the public.

RECOMMENDATION 5

To maximize the benefit to the public of future contracted COVID-19 testing resources, we recommend that the Ministry of Health:

- regularly collect and assess data on the performance of testing sites, including on the number of appointments compared to site capacity, and the number of swabs collected by the site;
- use this data to make decisions on future COVID-19 testing options, site operations and any need to contract for additional sites; and
- negotiate future contract terms that allow for the cost-effective early termination of the contract or cancellation of testing sites, and take such action when the above analysis justifies its use so that the Province does not pay for excessive unused services.

MINISTRY RESPONSE

The Ministry of Health accepts this recommendation. The majority of contracts for COVID-19 testing services are held by Ontario Health, which regularly collects and assesses data on the performance at each of its testing sites as well as monitoring the volume of patrons accessing services to inform and

improve optimization of testing resources and delivery. In its co-ordination role for testing services, the Ministry of Health will ensure that these activities are done regularly by all partners negotiating and executing testing contracts. The Ministry of Health will additionally ensure that partners negotiating future testing contracts are encouraged to include clauses that allow for the cost-effective early termination of the contract or cancellation of testing sites.

4.5 Use of Emergency Exception to Non-competitively Procure Contracts Was Appropriate in Most Cases, Except for Certain Vaccination Clinic Contracts

Using a non-competitive procurement process in an unforeseen situation of urgency (emergency), such as responding to the COVID-19 pandemic, is allowable under the Ontario Public Service Procurement Directive (Procurement Directive). The majority of COVID-19 contracts that we reviewed as part of this audit (98, or 77% of the 127 contracts) were non-competitive. We found that the ministries generally had a valid business case to use this exception to procure goods and services quickly when they were in high demand. However, our audit identified competitive procurements completed in a timely manner that suggests that competitive procurement could have been more widely used for certain COVID-19 initiatives, such as vaccination clinics.

4.5.1 Vaccination Clinic Contracts Could Have Been Procured Competitively

The Ministry of the Solicitor General (Solicitor General Ministry) conducted several non-competitive emergency procurements from January 2021 to May 2021 for mobile vaccination clinics or community clinics (four contracts). Some of these contracts were amended in November and December 2021 to increase the Province's capacity to vaccinate individuals at the time of the highly transmissible Omicron variant. In

addition to the existing vendors, in January 2022, the Solicitor General Ministry entered into a new contract with FH Health (fifth contract) to operate COVID-19 vaccination clinics, with a priority to support the Education Ministry in vaccinating education workers. The Solicitor General Ministry told us it was uncertain how long the emergency period would be needed, so the contract was single-sourced because these services were required immediately whereas a competitive procurement process would likely take more than six months to complete. It selected FH Health because the Province (through Ontario Health) had previous experience with the vendor operating mobile COVID-19 testing clinics, and the vendor had available capacity and could start operating quickly.

The Solicitor General Ministry informed us that it entered into its contract with FH Health after the company approached the Ministry on January 5, 2022, to indicate it had capacity to take on vaccination clinics with its existing infrastructure and staffing. The Solicitor General Ministry indicated that because of the urgent nature of this procurement, it did not contact Ontario Health for feedback on its experience with FH Health's COVID-19 mobile testing. The Solicitor General Ministry executed its contract with FH Health on January 8, 2022. We found that the vaccination clinics operated by FH Health had a relatively low percentage of individuals booking appointments (from January 2022 to March 2022 when the clinics were operating, only about 6% of daily available appointments were actually used to vaccinate individuals, on average). As identified in our audit on the Province's COVID-19 Vaccination Program in our *2022 Annual Report*, some clinics (including FH Health) had appointment booking systems that were separate from the provincial booking website, which likely contributed to the underutilization of certain clinics despite them having the capacity available to vaccinate individuals. We also identified that FH Health's collective sites had higher-than-normal vaccine wastage (20% of vaccine doses received were disposed of, instead of being administered to an individual or returned to the province) compared to the average of all sites in the province (9%). A competitive procurement process

would have required planning as part of the tendering process, including assessing whether existing vendors could have taken on the priority of vaccinating education workers, or if any other vendors could have provided a similar service.

We noted examples (**Figure 7**) where competitive procurements were conducted in a much shorter time frame than the six months suggested by the Solicitor General Ministry. This includes the competitive procurements of mobile testing contracts that Ontario Health completed in one to two months.

The Procurement Directive requires a minimum of 30 calendar days of open tendering for procurement values of \$548,700 and higher. This is compared to the Broader Public Sector Procurement Directive, applicable to broader public sector entities such as schools and hospitals, which only requires a minimum of 15 days. Additionally, across other Canadian provinces, British Columbia and Alberta do not have minimum tendering periods as part of their procurement policy, other than specifying that a response time must be sufficient to allow interested vendors to respond. Under certain international trade agreements (such as the World Trade Organization Agreement on Government Procurement) that the provinces follow, the minimum posting period of 25 days may be shortened to 10 days for urgent procurements (see **Figure 4**).

RECOMMENDATION 6

So that competitive procurements are encouraged and can be conducted in a timely manner in unforeseen situations of urgency, we recommend that the Treasury Board Secretariat modify the Ontario Public Service Procurement Directive to allow for shorter minimum bid response times (less than the current minimum of 30 days) for open competitive procurements with contract values above \$548,700 for better alignment with the policies used in other Canadian provinces.

MINISTRY RESPONSE

Treasury Board Secretariat (Secretariat) agrees that this is a necessary element to be considered

Figure 7: Examples of Competitive Procurements Conducted in a Timely Manner

Prepared by the Office of the Auditor General of Ontario

Ministry/Agency/Entity	Area	Details
Ontario Health	Competitive Procurements of Mobile COVID-19 Testing Contracts Completed Quickly	Ontario Health conducted several competitive procurements for mobile testing, in June 2020, November 2020, February 2021 and March 2021. Each of these times, the tender was posted for up to one month. Contracts with successful vendors were signed within one to two months after the bidding process ended (additional details in Appendix 8).
Ministry of Public and Business Service Delivery	Approval Obtained for Accelerated Competitive Procurement Process	The Ministry of Public and Business Service Delivery (Business Service Delivery Ministry) was engaged by the Ministry of Education in February 2021 to establish master agreements for the education sector to purchase stand-alone high-efficiency particulate air (HEPA) filter units for schools. To select vendors for these master agreements, the Business Service Delivery Ministry sought Treasury Board/Management Board of Cabinet (TB/MBC) approval to conduct a competitive procurement, but with a reduced minimum bid response time of 15 days. The Request for Bids was posted on March 15, 2021, and closed on March 29, 2021 (15 days). Without prior TB/MBC approval, the minimum tendering time under the Ontario Public Service Procurement Directive is 30 days for any procurement values \$548,700 or more. Through the accelerated tendering process, the Business Service Delivery Ministry received nine bids. When assessing the vendors against the technical requirements, the Business Service Delivery Ministry identified three vendors that met the requirements and entered into master agreements with the successful vendors on April 11, 2021 (less than 30 days from when the Request for Bids was posted). The competitive procurement was conducted within a short turnaround time and ultimately resulted in master agreements that allowed any school board or the Business Service Delivery Ministry to purchase directly from the vendor at the terms and rates in the contract.
OECM (formerly Ontario Education Collaborative Marketplace)	Established Master Agreements for Face Masks, Following the Broader Public Sector Procurement Directive Requirements	Following the Broader Public Sector Procurement Directive where the minimum tendering period is 15 days, OECM conducted several competitive procurements in a short time frame. OECM, a collaborative sourcing organization, established master agreements with vendors to supply goods during the pandemic, particularly in school settings. For example, in March 2021 it opened tendering for a competitive procurement for 30 days (from March 8, 2021, to April 8, 2021) for stand-alone HEPA filter units, and in June 2020 it completed tendering in 19 days to establish master agreements for the supply of face masks. Both of these contracts were used by school boards and the Ministry of Public and Business Service Delivery during the COVID-19 pandemic.

as part of a comprehensive review of the procurement rules. The Secretariat will incorporate consideration of bid response times for open competitive procurements with contract values above \$548,700, as well consideration of policies in other Canadian jurisdictions as part of the comprehensive review of procurement rules (see response to **Recommendation 2**).

4.5.2 Competitive Process Could Have Minimized Perceived Conflict of Interest with A Non-competitively Procured Vaccination Clinic Contract

For vendor access, transparency and fairness, the Procurement Directive requires that “conflicts of interest, both real and perceived, must be avoided during the procurement process and the ensuing contract.” We found that the Solicitor General Ministry awarded a non-competitively procured contract to FH Health in January 2022 (as mentioned in **Section 4.5.1**), which occurred after several members of the company’s board of directors made political donations to the Progressive Conservative Party of Ontario. Between September 3 and September 27, 2021, at least 18 individuals including members of FH Health’s board of directors (including the Chairman and President/Vice Chairman), employees, and individuals sharing the same names as family members of board members or employees, contributed \$54,000 in total (many of them contributed the personal maximum of \$3,300 each) to the Progressive Conservative Party of Ontario. On January 27, 2022, a former Member of Provincial Parliament requested Elections Ontario investigate the donations. Elections Ontario responded on February 4, 2022, that there was no contravention of the *Election Finances Act* because the individuals did not donate over the personal annual limit.

While the Province already had an existing contract with FH Health for COVID-19 mobile testing (managed by Ontario Health) at the time of the donations, some circumstances with the contracting process for the second contract likely gave rise to the perceived conflict of interest in this case. For example, the new

contract was signed in January 2022, several months after the donations occurred in September 2021. Also, the vendor approached the Vaccine Operations team (consisting of members from the Health Ministry and the Solicitor General Ministry) directly to inform them of their capacity to hold vaccination clinics when, typically, the Vaccine Operations team would reach out to potential vendors.

From the overall 127 contracts we reviewed as part of our audit, we also identified that eight vendors had registered for lobbying activity for the purpose of obtaining contracts related to the Province’s COVID-19 response (five of these vendors were registered before they were awarded a contract). This includes personal protective equipment (PPE) manufacturers and COVID-19 testing providers.

The *Lobbyists Registration Act, 1998* establishes the requirements and guidelines for lobbying activities, including that the lobbyist shall not knowingly place a public office holder in a position of potential conflict of interest.

With a competitive procurement process, all interested vendors can submit a bid. The tendering document includes the evaluation criteria that the contracting party will apply in their selection process. An evaluation team will review all bids and provide a score against the criteria. The Procurement Directive requires that individuals participating in the evaluation process of bid responses must declare any potential conflict of interest. We noted this principle was used by Ontario Health when assessing the bids for COVID-19 mobile testing clinics. The Business Service Delivery Ministry also informed us that its evaluation team follows communication “black-out” protocols during the procurement process to limit any contact between an interested party and the procurement team. Senior ministry leadership and political staff are also discouraged from vendor communication at this time where feasible, and where not possible, they are instructed to limit interactions to those that do not pertain to the procurement.

With a non-competitive procurement process, these practices are more difficult to manage because there is no tendering process or bids to evaluate. When the

pandemic was first declared in 2020 and there was a global shortage of PPE, the Business Service Delivery Ministry had to procure many types of PPE urgently. The Business Service Delivery Ministry noted to us that while a competitive procurement process was not possible, other practices were used to mitigate bias. The Ontario Together portal was established by the Business Service Delivery Ministry on March 21, 2020, so that all PPE manufacturers could publicly view the government's requirements for PPE and indicate their interest in becoming a supplier. The Business Service Delivery Ministry established a team to review the vendors on the Ontario Together portal separate from the team that would be negotiating the final procurements.

The Solicitor General Ministry noted to us that it had implemented a safeguard to minimize conflicts of interest in the non-competitively procured vaccination contracts by including a conflict of interest clause. The clause includes the requirement that the vendor avoid conflict of interest in its performance obligation, disclose any actual or perceived conflict of interest that arises, and comply with requirements of the Ministry to resolve any conflict of interest. In our review of COVID-19 contracts, including the standard terms and conditions recommended for contracts, we noted that this is consistent with the standard terms of the Ontario Public Service contracts, including those that are competitively procured. Therefore, additional opportunities for the ministries to safeguard against perceived or actual conflicts of interest are an important consideration for non-competitive procurements.

RECOMMENDATION 7

So that procurements are made free from bias and perceived or actual conflicts of interest, we recommend the Treasury Board Secretariat update the Ontario Public Service Procurement Directive to require that ministries document what safeguards they must use to prevent bias and perceived and actual conflicts of interest during the procurement process for all non-competitive procurements.

MINISTRY RESPONSE

Treasury Board Secretariat (Secretariat) agrees that procurements should be free from bias and from actual or perceived conflicts of interest. The Secretariat will incorporate consideration of including requirements that ministries document the safeguards that they will use to prevent bias and perceived and actual conflicts of interest during the procurement process for all non-competitive procurements as part of a comprehensive review of procurement rules (see response to **Recommendation 2**).

4.6 Better Monitoring of Usage Is Needed to Promote Equal and Fair Distribution When Supply of Rapid Antigen Tests Is Limited

The Health Ministry began a pilot program to provide free COVID-19 rapid antigen test kits to certain workplaces in November 2020. This program became the Provincial Antigen Screening Program (Screening Program), which enabled workplaces to test their employees weekly to try to limit the spread of COVID-19 by screening for any individuals who tested positive so that they could self-isolate away from the workplace.

While the test kits were available for free to workplaces under this program, the members of the general public, including students at schools, generally did not have access to similar asymptomatic testing until later in the Screening Program. While workplaces that received tests were required to report weekly to the Health Ministry on the number of tests used, we found that this reporting was not always complete before workplaces were allowed to order more test kits. This created the risk of unauthorized use of test kits at that time—for example, stockpiling excess kits or distributing kits to individuals for personal use outside of the workplace, or the selling of kits for profit when they were not widely available to the public. A review of media articles showed that, before a broader distribution to the public, rapid antigen test kits were in high

demand by Ontarians, with reports of individuals selling the kits they had received for free for up to \$100 each.

The sectors that were eligible to receive free rapid antigen tests through the Screening Program changed from the program's inception based on the availability of test kits and changes in health guidance. **Figure 8** and **Figure 9** outline the changes in eligibility since the program began and how eligible sectors were prioritized.

Until November 2021, rapid antigen tests distributed by the Province were also mostly provided by the federal government. Due to the increasing demand for rapid antigen tests at that time (particularly from the increase in COVID-19 case counts associated with the COVID-19 Omicron variant), the Province significantly increased its own procurement of such tests starting in November 2021 (see **Figure 10**).

4.6.1 Order Limits Imposed on Small- and medium-Sized Organizations, but not on Large Organizations

The Health Ministry partnered with other ministries to distribute the rapid antigen tests to organizations, but it did not have sufficient monitoring in place to assess whether the number of test kits that large workplaces ordered through the Screening Program was reasonable. Two distribution methods were established for organizations to receive rapid antigen tests as part of the Screening Program, one for large organizations with more than 150 employees and one for small- and medium-sized organizations with 150 employees or less (**Figure 11**).

We found that the Province did not limit the number of rapid antigen test kits that large organizations could order through the Health Ministry's portal. During the ordering process, organizations

Figure 8: Eligible Workplaces for Rapid Antigen Test Screening

Prepared by the Office of the Auditor General of Ontario

Date	Eligible Sectors
November 2020 (inception)	• Long-term-care homes • Retirement homes • Congregate living (such as shelters and group homes) • Essential industries (such as manufacturing, warehousing, mining, construction and food production) • High-priority communities based on factors such as areas with low levels of testing completed, numbers of new COVID-19 cases identified and other socioeconomic indicators
March 2021	Organizations previously eligible since inception of the program in November 2020, plus other essential services and broader public sector including: • Energy, energy stakeholders (e.g., utility providers) • First responders (e.g., police and fire departments) • Emergency Medical Services, hospices, hospitals, primary-care settings • Trucking and transportation • Wastewater management and water treatment facilities • Post-secondary institutions
May 2021	• Any organization permitted to open (based on provincial health guidelines at the time), and that requires employees to be physically present
December 2021	• Organizations previously eligible under of the program in May 2021, plus schools

Note: From January to June 2021, students and teachers in certain schools and child-care settings were eligible for testing through mobile clinics and pharmacies contracted by the Ministry of Education.

Figure 9: Priority Distribution of Rapid Antigen Test Kits, January 2022

Source of data: Ministry of Health

Priority Level*	Eligible Sectors
Tier 1	- Hospitals - Paramedic services - Congregate settings (including long-term-care homes and retirement homes) - First Nations, Inuit and Métis communities - Urgent Public Health Unit demand, assessment centres and clinical assessment centres
Tier 2	Education and child-care settings
Tier 3	- Lower-risk workplaces (such as colleges, universities and small- and medium-sized businesses) - Workplaces applying through the Provincial Antigen Screening Program for voluntary testing of employees
Tier 4	Public distribution, made available after provincial inventory was able to withstand demand from Tiers 1 to 3, which began in February 2022

* Once the needs of the first tier were met, rapid antigen tests were then distributed to fulfill the demand of the next tier, and were distributed to the following tier only when demand was met in that tier.

Figure 10: Rapid Antigen Tests Purchased, Received and Distributed in Ontario, October 2020–August 2022 (million)

Source of data: Ministry of Health

Date	Procured by Ontario	Received from Federal Government	Total Received	Distributed ¹	Inventory at Month End ²
October 2020	–	–	–	–	–
November 2020	–	1.7	1.7	(0.2)	1.5
December 2020	–	2.5	2.5	(0.3)	3.7
January 2021	–	0.8	0.8	(0.8)	3.7
February 2021	2.6	4.5	7.1	(1.6)	9.2
March 2021	6.4	1.6	8.0	(2.1)	15.1
April 2021	–	–	–	(2.5)	12.6
May 2021	–	–	–	(4.3)	8.3
June 2021	–	0.3	0.3	(3.6)	5.0
July 2021	–	3.8	3.8	(1.3)	7.5
August 2021	–	3.3	3.3	(2.9)	7.9
September 2021	–	1.8	1.8	(6.7)	3.0
October 2021	–	3.1	3.1	(3.5)	2.6
November 2021	10.5	4.1	14.6	(13.9)	3.3
December 2021	3.3	3.3	6.6	(11.7)	(1.8) ³
January 2022	19.0	25.1	44.1	(18.3)	24.0
February 2022	18.4	52.9	71.3	(45.4)	49.9
March 2022	65.5	49.7	115.2	(40.8)	124.3
April 2022	54.0	11.7	65.7	(32.6)	157.4
May 2022	19.2	3.8	23.0	(27.9)	152.5
June 2022	15.2	7.6	22.8	(19.1)	156.2
July 2022	7.8	12.0	19.8	(12.1)	163.9
August 2022	18.8	13.7	32.5	(14.4)	182.0
Total	240.7	207.3	448.0	(266.0)	182.0

1. Tests distributed are those shipped to the final point-of-care setting where they were administered.
2. Approximate number held in inventory at the end of each month. The number is based on total units on hand from the month prior plus total purchases or tests received from the federal government, less the total number of units deployed to the final point-of-care setting.
3. The negative inventory is due to a delay in recording the shipments received in December. Provincial warehouses experienced a large number of inbound shipments, resulting in a delay in reporting, with shipments being logged later than the actual date received.

were advised on appropriate ordering volumes, such as a four-week supply, or a two-week supply during the Omicron variant, but the Health Ministry did not check to ensure that large organizations complied. Health Ministry staff indicated that they did not have the information to verify the number of employees at each organization. Therefore, they could not determine whether organizations were using the rapid antigen tests according to provincial health guidance that recommended each employee be tested at least once, and up to three times per week. However, as part of Screening Program requirements, organizations were already required to state whether they had more or less than 150 employees, and attest to the accuracy of their application and compliance with the Screening Program guidelines. Had the large organizations complied with the requirement to report the exact number of employees at their workplace, the Health Ministry would have had the data it needed to assess

if the quantity of test kits ordered by an organization was reasonable for its size. As well, the Health Ministry could have monitored that an organization's use of rapid antigen tests was in accordance with the provincial guidance. With this information, it could also have applied reasonable ordering limits to better manage the provincial stockpile of rapid antigen test kits and support expanded eligibility to other sectors or the public.

Conversely, we noted that small- and medium-sized organizations were required to order tests through local Chambers of Commerce and Boards of Trade, and many had a limit on the number of test kits they could order at a time. As part of the ordering process, these local Chambers and Boards required organizations to provide the number of employees at their workplace. This was used to determine whether the quantity of test kits ordered was reasonable for their size. For some of the local Chambers and Boards we sampled,

Figure 11: Provincial Antigen Screening Program Process

Prepared by the Office of the Auditor General of Ontario

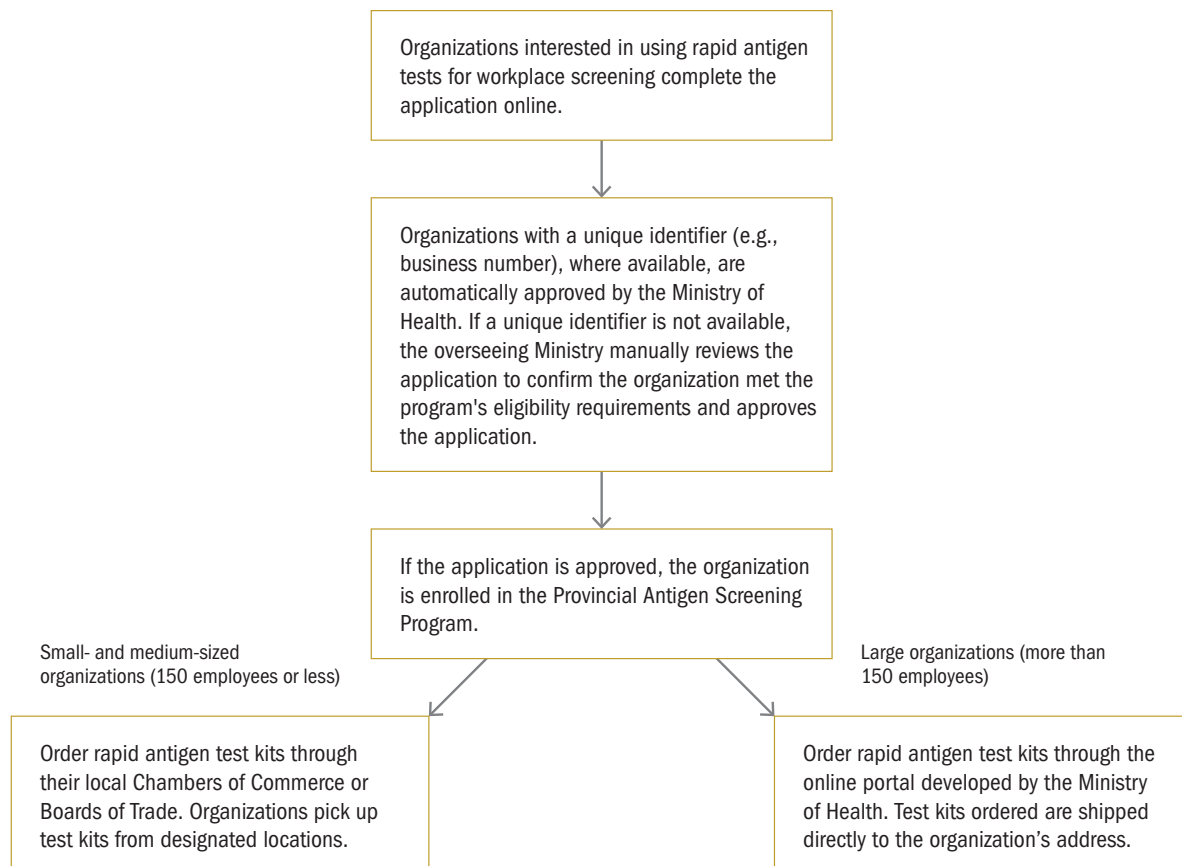


Figure 12: Examples of Controls Implemented Over Ordering Process for Small- and Medium-Sized Organizations Under the Provincial Antigen Screening Program (Screening Program)

Prepared by the Office of the Auditor General of Ontario

Controls Implemented	Examples from Chambers of Commerce and Boards of Trade
Limit on number of rapid antigen test kits ordered using reported employee headcount	We selected a sample of 20 local Chambers of Commerce or Boards of Trade (local Chambers) across the health regions. These 20 local Chambers account for 60% of the rapid antigen test kit shipments to all local Chambers from October 2020 to April 2022. All 20 local Chambers placed a limit on the number of test kits an organization could order under the Screening Program. Some of the local Chambers informed us that they altered the limits based on availability of the test kits being received from the Province. For example, the Ottawa Board of Trade provided a two-week supply of kits for each employee to be tested two to three times per week. However, when the demand slowed and inventory increased, the Ottawa Board of Trade adjusted the limit to provide three to four weeks of supply to organizations.
Monitor reporting compliance prior to fulfilling subsequent orders	The Cambridge Chamber of Commerce required organizations to report results from 75% of the test kits they previously received before they could place an order for additional tests.

the number of tests they provided to organizations was based on provincial guidelines for recommended testing frequency (Figure 12).

4.6.2 Ministry Did Not Monitor If Large Organizations Reported Results for the Majority of their Rapid Antigen Tests Before Fulfilling More Orders

Since the start of the Screening Program, the Health Ministry required organizations who received rapid antigen tests to report weekly on the number of rapid antigen tests used and on the test results (positive, negative and invalid). In March 2022, the reporting requirements were removed by the Health Ministry to align with changes in reporting requirements from Health Canada, which only required provinces and territories report deployment data on tests distributed.

Prior to the reporting change in March 2022, we noted that organizations did not consistently report results for the majority of their rapid antigen tests. The Health Ministry informed us that each ministry was responsible for overseeing the organizations within their sector. Each ministry was supposed to work with its respective sector to ensure organizations reported results from all their test kits before fulfilling additional orders. However, we noted that even if reporting

showed that an organization received more tests than it used, the Health Ministry still fulfilled additional orders for test kits.

For example, from January to March 2021, a large long-term-care organization received about 264,000 tests, but reported results for about 46,000 tests, or 17% of what was received. Despite this, in April 2021, the organization ordered and received 138,000 more tests. Throughout 2021, in total, this organization received around 800,000 rapid antigen tests and only reported 38% (around 310,000) of the test results.

Similarly, an organization in the energy sector made an initial order of 9,600 tests in June 2021, did not report any results that month, and ordered 75,000 more tests in July 2021. By the end of July 2021, it had only reported the use of about 2,000 tests. In total, this organization received around 385,000 rapid antigen tests in 2021 and only reported 6% (around 25,000) of the test results.

In January 2022, the Health Ministry surveyed all organizations to obtain updated data on the number of tests used to date. By this time, however, rapid antigen tests were more widely accessible to the general public as well. Better controls—especially during periods of limited supply, such as in 2021—would have helped to ensure an equitable supply for those who need them the most. For example, Figure 12 shows a control put

in place by a local Chamber to monitor the number of test kits used by each small- and medium-sized organization before fulfilling subsequent orders.

RECOMMENDATION 8

To provide equitable access to COVID-19 testing resources in the future when needed, we recommend that the Ministry of Health implement the following controls for future orders under a program with requirements that would be similar to the Provincial Antigen Screening Program:

- require and ensure that all organizations report their number of employees;
- compare the number of employees against the requested number of tests to monitor that organizations' orders correspond to public health guidance; and
- follow up on variances and use this information to determine whether further distribution of product is needed.

MINISTRY RESPONSE

The Ministry of Health accepts this recommendation to implement stricter administrative controls for organizations seeking access to free COVID-19 testing resources to ensure appropriateness of volumes requested, should a program similar to the Provincial Antigen Screening Program be required in future.

4.7 Risk of Contracting with Poor Performing Vendors Because Vendor Performance Assessments Are Not Documented Prior to Entering into New Contracts

Vendor performance was not formally documented during, or at the expiry of, COVID-19 contracts. Where a contract was completed, we found that ministries had not formally evaluated vendors in any of the contracts we reviewed in this audit. Ministries informed us that they may hold meetings, sometimes daily, during the contract to discuss issues, performance and outcomes,

but we found this had not always been documented. We also noted that ministries often did not specify key performance indicators in the contracts, which is one of the best practices suggested in the Vendor Performance Management Framework (Vendor Performance Framework) published by the Business Service Delivery Ministry in 2020.

Under the Procurement Directive, during the procurement planning stage, ministries must assess the level of performance expected, including performance standards and remedies for non-performance, for each contract. During the contract term, vendor performance must also be managed and documented.

As included in our *2016 Annual Report*, our Office conducted a value-for-money audit titled Supply Chain Ontario and Procurement Practices. We found that supplier performance was not assessed at the completion of a contract so this information could not be used to inform future procurement decisions. As a result, we recommended that “In order to ensure that ministries receive highest quality goods and services, ministries should:

- ensure that performance evaluations are completed for each supplier;
- develop and implement a fair and transparent process for considering past supplier performance when making new procurement decisions; and
- assess ways in which this information can be stored centrally in electronic form.”

In response to this recommendation, the Business Service Delivery Ministry developed a Vendor Performance Framework in March 2020. This Vendor Performance Framework provides best practices to guide the ministries in evaluating vendor performance. These include establishing key performance indicators as part of the contract, regular meetings with the vendor to review performance against these metrics, and a final evaluation of the vendor against a vendor performance scorecard at the completion of a contract.

The responsibility of evaluating vendor performance resides within the individual ministries since they manage their own contracts and procurements. As of August 2022, our recommendation was not yet

fully implemented. Not all ministries have adopted the Vendor Performance Framework or documented performance evaluations. The Business Service Delivery Ministry indicated that it estimates the recommendation will be implemented by December 2022; this includes developing processes for ministries to confirm performance evaluations are completed, and storing this information centrally.

The Education Ministry, Health Ministry and Solicitor General Ministry indicated that staff in each program area are responsible for performance management, that they have access to various resources including the Vendor Performance Framework, and that they can reach out to procurement advisors. However, in our review of procurement documents, no scorecards or evaluations were completed.

- As previously noted, for one contract for vaccination clinics that the Solicitor General Ministry contracted with the vendor, FH Health, it cited Ontario Health's prior experience with this vendor as part of the rationale for selecting this vendor without a competitive process. However, the Solicitor General Ministry did not contact Ontario Health to obtain feedback on their experience with this vendor (**Section 4.5.1**). The Ministry told us it did not inquire about the vendor's performance under Ontario Health's testing clinics contract because of the urgent nature of setting up the vaccination clinics.
- In the enterprise-wide Vendors of Record database (maintained by the Business Service Delivery Ministry), a Vendor Performance Scorecard survey was included for three types of consulting services. Ministries or organizations using a vendor of record for information and information technology (I&IT) solutions consulting services, management consulting services and task-based I&IT consulting services can fill out a short survey at the completion of their contract with the vendor. The responses to the surveys are maintained by the Business Service Delivery Ministry, which shares the information with ministries when requested. Completion of the Vendor Performance Scorecard survey is

not mandatory, and in one consulting contract we reviewed that used a vendor of record, we noted that the ministry had not completed the evaluation.

RECOMMENDATION 9

So that vendor performance is assessed and taken into consideration for future procurements, we recommend that the Treasury Board Secretariat and Ministry of Public and Business Service Delivery:

- require the use of the Vendor Performance Management Framework under the Procurement Directive, including the formal documentation of the roles and responsibilities by each ministry; and
- implement a method for sharing Vendor Performance Management Scorecards across ministries for all vendors that ministries contract with as part of the assessment being completed in response to the recommendation from the Office of the Auditor General of Ontario's *2016 Annual Report of Supply Chain Ontario and Procurement Practices*.

MINISTRY RESPONSE

Treasury Board Secretariat (Secretariat) and the Ministry of Public and Business Service Delivery (Ministry) agree that assessing vendor performance is a critical part of managing procurements; and that sharing information on vendor performance across ministries supports due diligence and accountability, as well as addressing a 2016 Office of the Auditor General of Ontario audit recommendation. The Secretariat will incorporate consideration of a requirement to use the Vendor Performance Framework, including the formal documentation of the roles and responsibilities of each ministry, as part of a comprehensive review of procurement rules (see response to **Recommendation 2**). The Ministry will implement a Vendor Management Performance Framework, and will work with the Secretariat to explore opportunities

to share Vendor Performance Management Scorecards across ministries for all vendors that ministries contract with.

4.7.1 Ministry Did Not Request Evidence of Market Rates from One Vendor Even Though It Was a Contract Requirement

The Business Service Delivery Ministry entered into non-competitive contracts for warehousing, logistics and transportation services (see **Section 4.3.1**) to establish the supply chain for acquiring and distributing personal protective equipment (PPE) to non-health sectors. The transportation services contract required the vendor to provide documented evidence of competitive pricing to the Business Service Delivery Ministry as part of its quarterly review process, but this information was not received or requested by it during the contract term.

The initial contract started in June 2020 and was expanded in August 2020 because more warehouse space and increased shipping volume was needed. The Business Service Delivery Ministry engaged two consulting firms to review its existing contract, research market rates and provide recommendations for performance indicators to include in the contract. New contracts were entered into in January 2021 (warehousing services) and February 2021 (logistics and carrier services) with this feedback and included more performance indicators and additional performance review periods. The transportation services contract also added clauses to promote value for money by allowing the Business Service Delivery Ministry to request evidence of competitive rates, particularly with the shipping services that one of the vendors used.

The contracts were further extended as of July 1, 2022, to maintain continuity of the supply chain. With the new contract, the performance indicator targets remained mostly the same, although some reporting was required less frequently than under the previous contract. New pricing was also established. However, while the Business Service Delivery Ministry was permitted to request documentation from the vendor on

the competitive pricing to support the contract rates, it did not do so prior to signing the new contract.

As part of contract management, if the vendor did not continuously meet performance indicator targets, the Business Service Delivery Ministry could require a formal corrective action plan from the vendor to improve results. The Business Service Delivery Ministry established a dashboard to track the results of the performance indicators, and did note areas of underperformance; however, no formal corrective action plan was requested from the vendor as per the contract terms. In our discussions with the Business Service Delivery Ministry, it indicated that it engaged in daily reviews and monthly performance meetings with the vendor and, as needed, corrective actions were identified and followed up on. For example, large volumes in shipments resulted in some performance indicators falling below target (such as outbound shipments from the warehouse not being completed by the date required), including those for the shipment of masks and air filter units to schools in December 2021 and early 2022. In response to extraordinary events such as the Omicron variant surge, instead of requiring a formal corrective action plan, the Business Service Delivery Ministry indicated to us that it worked with the vendor to implement corrective actions such as increasing the number of employees and adding another shift at the warehouse to make the shipments during these busy times. However, we noted that certain performance indicators often did not meet targets for consecutive weeks, even outside these surge periods. A formal corrective action plan to improve performance measures, as established in the contract, is recommended for longer-term outlook and continuous improvement, especially for some of the performance indicators that often failed to meet targets (such as orders being shipped when requested).

RECOMMENDATION 10

To promote continuous improvement in current and future contracts for transportation services, we recommend the Ministry of Public and Business Service Delivery:

- conduct a pricing review as part of the quarterly review meetings with the vendor and use this information to inform further discussions and pricing negotiation;
- work with the vendor to develop a corrective action plan if key performance indicators do not meet targets for consecutive periods; and
- include these best practices in future contracts.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) is committed to continuous improvement. Consistent with this commitment, the Ministry will:

- implement a review by requesting evidence of market rates from the contracted transportation supplier on a quarterly basis, consistent with contract terms and best practice;
- leverage information gathered through these quarterly reviews and use it to inform further discussions and future negotiations;
- continue to work with the vendor to enhance corrective action plans if key performance indicators do not meet targets for consecutive periods, taking into consideration operational constraints; and
- continue, as part of the Vendor Performance Framework, these best practices in future logistics contracts.

4.8 Requirements under the Interim Measures of the Procurement Directive Were Unclear During the Pandemic

The Interim Measures of the Procurement Directive were added in March 2019 to establish rules for consistency in procurement-related decisions made by ministries and the broader public sector, and in the collection of procurement data to support a transition to a centralized procurement system. The Interim Measures also continue to be in force when ministries used the COVID-19 Emergency Procurement Process, but the

requirements were not always enforced or clear to the ministries.

4.8.1 Centralized Procurement Reporting Not Collected Since Introduced in 2019

The Business Service Delivery Ministry did not initiate two reporting requirements under the Interim Measures: the Planned Procurement Report and Activity Update Report (**Appendix 3**). The Planned Procurement Report requires ministries to submit an initial procurement plan to the Business Service Delivery Ministry. This information would then be updated twice a year, through the Activity Update Report, to identify variances between the planned and actual procurement activities, including a rationale for the variance.

However, since the requirement was introduced in March 2019, this information has not been collected. The Business Service Delivery Ministry told us it will look into starting this reporting in the near future, but as of July 2022, no time frame had been established. These forms are important for the Business Service Delivery Ministry and Supply Ontario to collect purchasing information from the ministries to support planning for a centralized supply chain for the public and broader public sectors.

RECOMMENDATION 11

So that the Treasury Board Secretariat and the Ministry of Public and Business Service Delivery obtain the necessary information for Ontario to move toward a centralized supply chain process as part of the Interim Measures of the Ontario Public Service Procurement Directive, we recommend that the Ministry of Public and Business Service Delivery initiate reporting requirements similar to those under the Interim Measures and collect procurement information across the ministries and, where applicable, the broader public sector.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) and Treasury Board Secretariat

(Secretariat) agree that obtaining information is a necessary step toward a centralized supply chain. The Secretariat will work with the Ministry to address reporting requirements as part of a comprehensive review of the procurement rules. This review will involve many partners and supporting ministries. The Secretariat supports the commitment to modernize procurement, and a review of the rules is a necessary element that must fit within this larger complex initiative.

To address the immediate need for information, the Secretariat has incorporated a requirement for procurement planning information as part of the 23/24 Strategic Planning Process.

4.8.2 Two Ministries Did Not Always Comply with New Requirements Meant to Improve Procurement Decisions, Including for Consulting Contracts

An update was made to the Interim Measures of the Procurement Directive (**Appendix 3**) effective September 1, 2020, to help improve the cost-effectiveness of procurements of consultant services. The Interim Measures are separate from the COVID-19 emergency procurement process, and applicable to all procurements, even those undertaken with an emergency exception. These new requirements for ministries procuring consulting services include:

- identifying the cost for each deliverable within consulting service contracts; and
- completing the Procurement Lifecycle Checklist (for any consulting services valued at more than \$5,000), which is a tool that guides the procurement team through each of the steps of the procurement process to help manage risks in procuring and managing consulting services.

Of the 127 contracts we reviewed for this audit, 10 were consulting service contracts (that had a total value of \$16.6 million) entered into after September 1, 2020. We noted four contracts (entered into by two separate ministries) that did not comply with one or both of these new requirements.

In one example, Health Ministry staff told us they did not complete the Procurement Lifecycle Checklist (Checklist) because the contract was procured under the emergency exception, even though the Checklist is required for all procurements including those under emergency situations. In the second example from the Health Ministry, we noted that another staff member correctly identified (in internal communications) that the Procurement Lifecycle Checklist must be completed; however, it was not completed by the procuring group in its entirety. The Checklist is designed to ask a series of questions about the procurement and to provide relevant information based on users' responses. For example, if a user chooses "non-competitive, consulting service contract" as the type of procurement in the form, the Checklist presents additional requirements to be completed, such as engaging with the Risk Management and Insurance Services Branch of the Business Service Delivery Ministry, and providing information related to the business case. If the user misses any steps in the Checklist along the way, the form is not completed as required.

The two remaining consulting contracts that did not comply with the new requirements were from the Business Service Delivery Ministry. The Procurement Lifecycle Checklist was not completed in either of the contracts, and one of these contracts also did not identify the cost for each deliverable. The Business Service Delivery Ministry told us that they did not complete these Interim Measures requirements because of the urgency of getting contracts completed to respond to the COVID-19 pandemic.

RECOMMENDATION 12

To improve compliance with the requirements under the Interim Measures of the Ontario Public Service Procurement Directive, we recommend that the Ministry of Public and Business Service Delivery:

- review the Interim Measures on procurement requirements, including those conducted using the emergency exception, and update them for clarity if necessary; and

- provide guidance to the ministries (including the Ministry of Health) on how procurement requirements under the Interim Measures should be followed in both emergency and non-emergency situations.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) and Treasury Board Secretariat (Secretariat) agree that the requirements in the Interim Measures should be reviewed and updated if necessary to support compliance. The Secretariat will work with the Ministry to review the Interim Measures during a comprehensive review of the procurement rules. This review will involve many partners and supporting ministries. The Secretariat supports the commitment to modernize procurement, and a review of the rules is a necessary element that must fit within this larger complex initiative. This review will include providing clarity on how procurement requirements under Interim Measures will apply to both emergency and non-emergency situations.

Appendix 1: Approved COVID-19 Initiatives, March 2020–March 2022

Prepared by the Office of the Auditor General of Ontario (OAGO) with information provided by Treasury Board/Management Board of Cabinet (TB/MBC)

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Health			
Hospital COVID-19 expenses	Support provided to hospital sector for incremental expenses related to COVID-19		4,735
Hospital beds and critical care capacity	Funding to increase hospital beds and critical care capacity to support surge in COVID-19 cases	○ ¹	2,643
Personal protective equipment (PPE) and critical supplies and equipment (CSE)	Purchase of PPE and CSE to support the health sector, including hospitals	○ ^{1, 2}	1,594
Fall preparedness strategy to test, trace and monitor through influenza season	Includes additional funding for COVID-19 testing and contact tracing	●	1,514
Rapid antigen test procurement and testing supplies	Purchase additional rapid antigen tests for provincial supply and procurement of COVID-19 testing consumables	●	1,171
Vaccine implementation ³	Costs to support provincial vaccination plan, including immunization clinics and IT resources	●	1,151
Vaccine program, COVID-19 testing, extraordinary costs and PPE	Additional funding allocated to offset costs incurred related to provincial vaccine program, purchases of PPE and other extraordinary COVID-19-related costs	●	799
Pandemic pay	Increase in hourly wage for front-line workers during the pandemic	○ ¹	525
Advance payments to health-service providers to support costs	Temporary income advance payments to health-service providers against future Ontario Health Insurance Plan-related billings	○ ¹	486
Mental health and addictions services and paramedic services	Funding to support mental health and addictions services, including support to front-line service providers	○ ¹	441
Personal support worker (PSW) wage enhancement	Increase in hourly wage rate for personal support workers, established during the pandemic		406
Nursing retention incentive	To provide nurses with a lump sum payment for hours worked over a specified period		382
Year-end COVID-19 pressures	Additional funding allocated toward COVID-19-related initiatives, such as vaccination clinics, PPE procurement and testing supplies	●	377
Laboratory and testing capacity	Increase laboratory and testing capacity through purchases of tests or other supplies	○ ¹	194
Case and contact management and COVaxON IT services	IT services, including those to develop the case and contact management and vaccine portal (COVaxON) systems; staffing supports for contact tracers as part of case and contact management	●	173
Increase community sector capacity and home care	For enhanced virtual home care and community care capacity	○ ¹	120
Increase surgical capacity	To increase surgical capacity to address backlog during the pandemic		117

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Public Health Units extraordinary costs	Additional funding provided to Public Health Units at the beginning of the pandemic (March 2020) to address sudden extraordinary costs related to COVID-19	○ ¹	100
COVID-19 testing kits – Project Spartan	COVID-19 test kits that were being developed	○ ¹	80
Ventilators	Purchase of ventilators that were manufactured by a domestic supplier	○ ¹	80
Emergency health system funding	For municipalities, First Nations, ambulance communications centres and hospitals to assist with extraordinary costs at the beginning of the pandemic (March 2020)	○ ¹	77
Temporary reduction in drug co-payments for Ontario Drug Benefit Program	To temporarily reduce co-payments for recipients under the Ontario Drug Benefit program	○ ¹	70
Mobile COVID-19 testing	For Ontario Health to establish mobile COVID-19 testing services	●	69
Internet-based cognitive behavioural therapy services	To provide internet-based cognitive behavioural therapy services to the public		63
Increase Telehealth capacity	In response to higher demand during the pandemic	○ ¹	50
Wastewater monitoring	For wastewater monitoring as part of COVID-19 testing strategy/surveillance and the Provincial Diagnostic Network		50
Enhance virtual healthcare services	To support adopting and enhancing virtual healthcare services, net of federal funding		42
Physician services for assessment centres	Physician services provided to patients at COVID-19 assessment centres	○ ¹	38
Advertising campaigns	Various advertising campaigns designed to educate the public on COVID-19 emergency measures and vaccine roll-out	○ ⁴	31
Locum coverage	For temporary assistance by physicians in emergency departments and for urgent services and primary care in northern, rural, and remote areas		25
IT software and hardware for vaccine clinics	To support an increase in mass vaccination clinics and additional technical support to clinics and pharmacies	●	23
Case and contact management solution	Centralized province-wide COVID-19 case and contact management solution	○ ⁵	20
Establish a health data platform	To launch a health data platform to better understand COVID-19 disease transmission, infection, spread and prevention	○ ¹	15
Reimburse Home and Community Care Support Services organizations for COVID-19 operating expenses	To reimburse service provider organizations for incurred expenses related to COVID-19 operating expenses, specifically PPE		14
Warehousing and logistics for PPE/CSE	Non-competitive procurement for additional warehousing and logistics services for PPE/CSE with current service provider	●	14

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Remove waiting period for Ontario Health Insurance Plan (OHIP) coverage	Waiver of three-month waiting period for new recipients of OHIP for eligible persons returning to the province	○ ¹	10
Settlement of COVID claims for public-private partnership projects	To settle COVID-19 claims associated with delivery of public-private partnership projects		10
Virtual health to increase primary care capacity	Support for primary care physicians for technology to interact virtually with patients (such as video cameras)	○ ¹	10
Investment in drugs and devices	For alternative drugs if shortages arose, and to increase the use of home oxygen therapy in the community or long-term-care homes	○ ¹	9
Various digital health initiatives	Digital health solutions for Ontario Health teams		8
Consulting services for vaccine distribution	Non-competitive procurement of consulting services to continue critical support of advisory and project services related to COVID-19 vaccine implementation with current service provider	●	6
Ornge maintenance and service operations	Additional funding for air ambulance maintenance and service operations		5
Vaccine administration for temporary foreign agricultural workers	Increase in existing agreement ceiling value for vaccine administration of temporary foreign agricultural workers	●	2
Total			17,749
Finance			
Temporary interest- and penalty-free period for businesses	Five-month interest- and penalty-free period for business on provincially administered taxes		6,000
Support for municipalities	Agreement with federal government to provide funding to municipalities, including public transit systems, to manage operating cost pressures during the pandemic		4,000
Temporary deferral of Workplace Safety and Insurance Board (WSIB) premiums	Six-month deferral of collection of WSIB premiums		1,900
Doubling Employer Health Tax (EHT) exemption	Increasing the EHT exemption limit for eligible employers, which was later extended indefinitely through the <i>2020 Ontario Budget</i>		355
Canada Emergency Commercial Rent Assistance	Cost-sharing agreement with the federal government to provide financial assistance to small business tenants and commercial property owners		241
New Regional Opportunities Investment Tax Credit	New corporate income tax credit to encourage investment in construction, renovation or acquiring commercial and industrial buildings in certain eligible areas		145
Temporary increase in Guaranteed Annual Income System (GAINS) benefit	Six-month increase in GAINS benefit to support low-income seniors		75
Advertising campaigns	Advertising campaigns designed to educate the public on post-COVID-19 pandemic recovery	○ ⁴	15

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Transitional mitigation payment for long-term-care homes	Payment program to assist municipalities with the revenue adjustment associated with the 2016 property tax exemption of non-profit long-term-care homes		4
Total			12,735
Education			
School re-opening	Various funding to support safe re-opening, including deficit management, additional staff and custodians, and PPE	●	3,304
Deferral of education property tax payments	Deferred remittance of property taxes from municipal sector to school boards		1,800
One-time supports for families	Subsidy provided to families to address increase in costs during the pandemic		446
Child-care reopening	Funding to support gradual reopening of the child-care sector		325
COVID-19 testing and vaccination clinics, high-efficiency particulate air (HEPA) filter units for schools, and child care	Allocation of funding for COVID-19 testing and vaccination clinics, procuring additional HEPA filter units for schools and child-care costs	●	299
Emergency child care	Providing emergency child care for front-line workers		217
Child-care sustainability	Funding to support child-care centres and ongoing child care and early services during a period of closures or lower enrolments as a result of provincial health restriction		161
Child-care funding	Support to child-care centres to prevent an increase in fees		106
Summer learning programs for students	New summer learning programs for students		57
School ventilation	Improve ventilation in schools	●	36
Funding for technology for students	Provide funding to schools for technological devices to support students	●	25
HEPA filters	Procurement of HEPA filter units and additional funding to school boards to purchase HEPA filter units	●	25
Increase students served at demonstration schools	Temporarily increase the number of students at demonstration schools due to provincial health restrictions and impact on in-person learning		12
Mental health and addictions services	Funding to implement COVID-19 mental health and addictions support		7
Support for school boards and school authorities	Funding to support school boards, school authorities, hospital boards and child-care centres		5
Total			6,825
Long-Term Care			
Prevention and containment in long-term-care homes	To support extraordinary operating costs to protect residents in long-term-care homes, including COVID-19 screening, staffing and equipment	○ ¹	1,003
PSW wage enhancement	Increase in hourly wage rate for PSWs, established during the pandemic	○ ¹	667

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Accelerated PSW training program	For bursaries for public colleges, private colleges and district school boards to provide accelerated program delivery to train personal support workers		309
Pandemic pay	Increase in hourly wage for front-line workers during the pandemic	○ ¹	256
Emergency surge capacity in long-term-care homes	Temporary increase in long-term-care beds for surge capacity during the pandemic		169
Long-term care stabilization	Support for long-term-care homes with reduced occupancy as a result of pandemic, funding for minor capital renovations, funding to improve infection prevention and control, and other personnel and training costs	●	114
Minor capital funding for cooling systems	For long-term-care homes to implement air conditioning in resident rooms	●	104
Waive co-payments for alternate-level-of-care patients	Waive co-payments for eligible alternate-level-of-care patients to be transferred from hospitals to a long-term-care home		74
Deferral of resident co-payment increase	Deferral of resident accommodation co-payment for long-term-care homes	○ ¹	48
Independent commission for long-term care	Approval to remunerate members of an independent commission to examine issues associated with the spread of COVID-19 in long-term-care homes		4
Total			2,748
Labour, Immigration, Training and Skills Development (formerly the Ministry of Labour, Training and Skills Development)			
COVID-19 Worker Income Protection Benefit	Provincial top-up of the federal Canada Recovery Sickness Benefit, to provide employees with an additional three days of paid sick leave for COVID-19-related reasons		1,971
Employment Ontario training programs	To provide various training programs to support economic recovery		624
Enhance Occupational Health and Safety Enforcement capacity	Increase in funding and resources to enhance the Occupational Health and Safety Enforcement capacity, specifically for the industrial and health-care sectors		17
Increase in full-time equivalent (FTE) to Pandemic Workplace Safety Branch	Increase the FTE employees in the Occupational Health and Safety program division		2
Total			2,614
Economic Development, Job Creation and Trade			
Ontario Small Business Grant	For small businesses that had to close or were otherwise severely restricted during the pandemic	○ ⁶	2,043
Ontario Together Fund	Grants and loans for businesses to help build domestic capacity in manufacturing PPE and other goods that aid Ontario's emergency response	○ ⁶	70
Main Street Relief	Grant for businesses to offset the cost of purchasing PPE to operate during the pandemic	○ ⁶	65

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Moderna vaccine manufacturing mandate	Negotiations with Moderna to support the establishment of a new vaccine manufacturing site in Ontario		55
Enhanced Digital Main Street grants	Grants and other resources to help small businesses adopt technologies and move online	○ ⁶	8
Digital export market development initiative	Digital tools and platforms to support Ontario businesses in virtual environment		6
Advisory services for the Ontario Small Business Grant	Advisory services for the review of Ontario Small Business Grant		4
Total			2,251
Public and Business Service Delivery⁷			
PPE and CSE	Purchase of PPE and CSE to support non-health sectors	●	1,027
Purchase PPE/CSE and sanitization products	Purchase of PPE, CSE and other sanitization products to support non-health sectors	○ ¹	257
PPE/CSE and supply chain support costs	Additional funding for COVID-19 fiscal pressures including PPE costs and supply chain support costs	●	242
Purchase of PPE and CSE and non-consulting services	Extend and increase the ceiling values of pandemic supply chain contracts and competitive procurement of PPE	●	74
Funding for uninterrupted service delivery	To support operating costs to ensure uninterrupted service in key business areas at the beginning of the pandemic		37
Waste management to support the Provincial Antigen Screening Program	Non-competitive procurements to extend existing contracts for waste disposal services	●	12
Funding to Travel Industry Council of Ontario	To support operating costs		5
ServiceOntario Modernization	Additional support to offset reduced revenue during the pandemic		5
Funding to Bereavement Authority of Ontario	To support operating costs		4
Fee relief for amusement and ski sectors	Waiver of the Technical Standards and Safety Authority oversight fee, for financial relief to the amusement and ski sectors		1
Total			1,664
Municipal Affairs and Housing			
Municipal homelessness supports	To help municipalities provide supports for people experiencing homelessness, including increasing shelter capacity, providing housing allowances, food and enhanced cleaning	○ ⁵	755
Social services relief fund	To help municipalities and Indigenous communities deliver critical services including longer-term housing	○ ⁵	298
Support to municipalities	Agreement with federal government to provide funding to municipalities to manage operating cost pressures during the pandemic, including for public transit systems		259

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Isolation centres	Establish isolation centres for those with COVID-19 who are unable to self-isolate		99
Pandemic pay	Increase in hourly wage for front-line workers		15
Mental health and addictions services	To implement COVID-19 mental health and addictions support		2
Total			1,428
Transportation			
Operating subsidy to transit agencies	Subsidy to Metrolinx, Ontario Northland Transportation Commission and Owen Sound Transportation Company who faced financial pressures due to revenue decline during the pandemic		614
Contract settlement for delay claims	Negotiated settlements to resolve disputes, including COVID-19 delay claims		269
Cancel fee increase for vehicle and carrier fees	Cancellation of a previously scheduled fee increase for driver, vehicle and carrier fees		161
Support for municipalities and transit agencies	To manage operating cost pressures		150
Funding for Metrolinx	To address operating pressures from reduced ridership		73
Highway toll rate freeze	Freeze tolls on highways 407, 412 and 418 for financial relief		48
New regulation to update driver licensing and vehicle registration after emergency period	To implement new regulations to recover fees for driver, vehicle and carrier products and implement a deferred payment plan to provide financial relief to heavy commercial vehicle operators		45
Connecting Links Program	For municipalities to repair roadways and bridges connecting to provincial highways		20
Enhanced cleaning on urban and regional transportation program	To support enhanced cleaning for municipal transit agents to reduce risk of spread of COVID-19		15
Support for remote northern airports	Financial support to remote northern airports		4
Funding to address Drive Test Centres backlog	To address backlog resulting from public health restrictions and increase road test capacity		2
Deferral of high-occupancy toll lane permits	Refunds and deferral of high-occupancy toll lane permit for holders		1
Total			1,402
Finance, Energy, Northern Development, Mines			
Property Tax and Energy Cost Rebates Program	Rebate program for eligible businesses required to close or significantly restrict services by provincial public health measures	○ ⁶	731
Ontario Business Costs Rebate Program	Rebate program for eligible businesses impacted by the provincially mandated capacity limits (2021/22)		300
Time-of-use electricity rates	Temporary off-peak electricity rate for financial relief		98
Total			1,129

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Infrastructure, Education, Long-Term Care			
Investing in Canada Infrastructure Program - COVID-19 Resilience Stream	Bilateral agreement with the federal government to provide funding for capital projects to support COVID-19 physical distancing measures, ventilation system improvements, and other measures for infrastructure improvements for COVID-19 recovery	●	1,050
Total			1,050
Energy, Northern Development, Mines			
Time-of-use electricity rates	Temporary off-peak electricity rate for financial relief		856
Energy rebate grant for businesses	To assist eligible businesses with electricity, natural gas and other energy costs		143
Expand low-income Electricity Energy Assistance Program	Expansion of low-income Electricity Energy Assistance Program		9
Energy Assistance Program - Small Businesses	Temporary program to provide financial support to small businesses		8
Recovery of deferred electricity generation costs	To recover the temporarily deferred Global Adjustment costs from eligible industrial and commercial electricity consumers		7
Total			1,023
Treasury Board Secretariat			
PSW wage enhancement	Increase in hourly wage rate for PSWs, established during the pandemic		371
Pandemic pay	Increase in hourly wage for front-line workers		270
Grants to support emergency preparedness	Includes initiatives from multiple ministries, to provide grants for various programs to support emergency preparedness such as infection prevention and control, and nursing-related human resource programs		74
Advertising campaigns	To educate the public on COVID-19 emergency measures and vaccine rollout	○ ⁴	57
Central agencies increased IT demand	Increase central agencies IT consulting services to mitigate service disruption		50
Support communities with testing, vaccination and wastewater surveillance	Emergency preparedness funding to support communities with COVID-19 testing, vaccination and wastewater surveillance		50
Consulting services for Future State Modernization Initiative	Non-competitive procurement for consulting services for a future state modernization initiative and operating in a pandemic situation		3
Temporary response pay	For adult institutions and operational managers in youth justice facilities		2
Total			877
Children, Community and Social Services			
PSW wage enhancement	Increase in hourly wage rate for PSWs, established during the pandemic		333

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Reallocation of funds to higher-use programs such as PSW wage enhancement, Ontario Disability Support Program	Increase in wages for PSWs and for the Ontario Disability Support Program		132
Changes to social assistance payments and benefits, including alignment with federal emergency assistance programs	Increase in social assistance payments and benefits to align with federal emergency assistance programs		116
Pandemic pay	Increase in hourly wage for front-line workers		60
Social services relief fund	Increase individuals' access to emergency assistance and to support vulnerable populations during the pandemic, including Ontario Works discretionary benefits		52
Prevention and containment in residential facilities	To implement additional infection prevention and control measures		20
Sustaining agency operations during pandemic	Increase in transfer payments to agencies to support operating costs during the pandemic		20
Support to maintain operating capacity	Support to agencies in beginning of pandemic to maintain operating capacity		18
Mental health and addictions services	To implement COVID-19 mental health and addictions support		11
Establish emergency fund to maintain operating capacity	To agencies at beginning of pandemic to support operating capacity		10
Total			772
Public and Business Service Delivery⁷, Economic Development, Job Creation and Trade			
Domestic production of nitrile gloves	Contract with a domestic producer of nitrile gloves over a 10-year commitment	●	633
Total			633
Public and Business Service Delivery⁷, Health			
Warehousing and logistics for PPE/CSE	Additional warehousing and logistics services for PPE/CSE with current service provider	○ ²	236
Purchase PPE and CSE	PPE, CSE and other sanitization products to support health and non-health sectors	○ ²	150
Case and contact management solution	IT services, including those to develop the case and contact management and vaccine portal (COVaxON) systems, and staffing supports for contact tracers as part of case and contact management	●	73
Total			459
Solicitor General			
Vaccine Secretariat and COVID-19 costs in corrections facilities	To support the Vaccine Secretariat and Task Force with, for example, procuring community vaccination clinics and COVID-19 costs in correctional facilities related to overtime and staffing	●	128
Mitigate labour disruptions in correctional institutions	Compensation for staff working in correctional institutions to mitigate labour disruptions		83

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Funding for correctional facilities	Additional funding to address COVID-19 costs including enhanced cleaning and salaries		23
Pandemic pay	Increase in hourly wage for front-line workers		19
Nursing retention incentive, freedom convoy protests	Incentive to retain nursing staff and resources for province-wide protests		17
Procure medical supplies	Phone services, medical and drug supplies for inmates at the beginning of the pandemic		13
Support increase in costs within correctional services	Additional funding to correctional facilities to address COVID-19 costs such as staff overtime		10
Mental health and addictions services	To implement COVID-19 mental health and addictions support for planning community reintegration, First Nations police, correctional facilities and crisis training		8
Municipal Fire Protection Grant	One-time additional support to municipal fire departments for high-speed internet to support virtual training and inspection solutions to address COVID-19 challenges		5
Medical protection for front-line staff	Costs to acquire additional medical protection for front-line staff		4
Mental health crisis response training for First Nation police services and Ontario Police College	Mental Health Crisis Response Training curriculum for municipal and First Nation police services and for the Ontario Police College		4
Mitigate overcrowding in corrections	To procure monitoring devices for inmates allowed to return home to alleviate overcrowding in correctional institutions		4
Establish Vaccine Distribution Secretariat	To advise on and support the logistics and operational planning required to ensure that the vaccine is delivered across the province		1
Settle outstanding COVID-19 claims	Approval for project cost escalation and settlement of COVID-19-related delay claims		1
Total			320
Finance, Municipal Housing and Affairs, Transportation			
Support for municipalities	Agreement with federal government to provide funding to municipalities, including public transit systems, to manage operating cost pressures during the pandemic		396
Total			396
Health, Economic Development, Job Creation and Trade, Public and Business Service Delivery⁷			
Purchase PPE and CSE	PPE, CSE and other sanitization products to support health and non-health sectors	○ ²	312
Total			312
Colleges and Universities			
Support for postsecondary education sector	For postsecondary institutions impacted by COVID-19	○ ⁴	121

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Virtual learning for postsecondary sector	Implementation of a virtual learning strategy for postsecondary institutions		108
Pause Ontario Student Assistance Program (OSAP) payments	Pause on required payments under the OSAP at the beginning of the pandemic		20
Support for research and innovation	For postsecondary institutions to support research and innovation that was suppressed because of the pandemic		20
Mental health and addictions services	To implement COVID-19 mental health and addictions support		7
Total			276
Tourism, Culture and Sport			
Sports and tourism recovery	To provincial entities impacted by temporary closures and decline in revenue		106
Support for provincial, sport, tourism and culture agencies temporarily closed	To provincial entities impacted by temporary closures and decline in revenue		81
Support for tourism agencies and attractions	To provincial agencies impacted by temporary closures and decline in revenue		61
Sport participation bilateral agreement	Bilateral agreement with federal government to provide operating funding to sport programs		8
Funding to provincial sport organizations	To sport organizations impacted by temporary closures and decline in revenue		3
Sport4Ontario Program	To increase kids' and families' confidence in sports and recreation to support recovery		3
Increase digital capacities for community museums	For community museums and agencies to create digital capacity		2
Player scholarship commitments for Ontario Hockey League	For the Ontario Hockey League through player scholarship commitments		2
Total			266
Treasury Board Secretariat, Health, Long-Term Care, Children, Community and Social Services			
PSW wage enhancement	Increase in hourly wage rate for PSWs		239
Total			239
Agriculture, Food and Rural Affairs			
Enhancement to AgriStability business risk management program	To enhance the business risk management program in agricultural sector		90
Agri-Food Supply Chain Sustainability Fund	Modernize agri-food processing capacity to strengthen the food supply chain		26
Agri-Food Sector Support	To mitigate disruptions to the agri-food supply chain caused by COVID-19 and the Omicron variant		21
Emergency On-Farm Support Fund	Joint program with federal government to assist with incremental costs to improve safety for domestic and temporary foreign workers to address COVID-19 outbreaks on farms		15
Agri-Tech Innovation Program to support COVID-19 prevention and control	To agri-food sector to improve workers' safety and enable physical distancing measures		10

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Agricultural drainage infrastructure program	For agricultural drainage infrastructure		7
Extension of AgriRecovery COVID-19 response program	Extension of AgriRecovery COVID-19 response program		2
Total			171
Seniors and Accessibility			
Pandemic pay	Increase in hourly wage for front-line workers	○ ¹	70
Prevention and containment in retirement homes	To implement additional infection prevention and control measures	○ ¹	35
Support seniors in retirement homes	To encourage infection control procures and active screening for COVID-19		15
Support delivery of food, meals, services and medicine to seniors	Support seniors in retirement homes through coordinated delivery of food, meals, medicines and other essential needs		10
Seniors Affairs Program	Increased funding to support older adults in retirement homes through increases in inspections, food supply and staffing		5
Total			135
Attorney General			
Support to Alcohol and Gaming Commission of Ontario (AGCO) for decrease in recoveries	Funding to AGCO due to a decrease in recoveries normally collected from horse racing, gaming and other industries impacted by the pandemic		35
Legal Aid Ontario funding	For financial pressures arising from the pandemic		30
Increase virtual courts usage	To support increased usage of virtual technology in courtrooms and extended hours for video bail hearings		7
Enhanced cleaning of courthouses	To enhance cleaning in courthouses		6
Mental health and addictions services	To implement COVID-19 mental health and addictions support		6
Victim Crisis Assistance Ontario program	Increase victim services funding to serve a greater number of clients		3
Total			87
Health, Indigenous Affairs			
Vaccine implementation	Vaccine implementation and public health support to Indigenous communities		50
Total			50
Environment, Conservation and Parks			
Wastewater surveillance	For provision of wastewater sample analysis		25
Free day-use at Ontario Parks	Promote use of provincial parks		7
One-time funding for food rescue organizations	To support food rescue and redistribution infrastructure		5

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Various COVID-19 support	Various small initiatives to protect the environment at the beginning of the pandemic, including litter clean up and educational tools		3
Support for water and wastewater service	To ensure continuity of services at water and wastewater treatment plants		3
Relief from select license and fees for resource-based tourism businesses	Fee deferrals or reductions to resource-based tourism businesses impacted by the pandemic		2
Total			45
Infrastructure			
Investing in Canada Infrastructure Program – COVID-19 Resilience Stream	Amendment to increase the bilateral agreement with the federal government to provide additional funding to support ventilation improvement projects in public and community buildings	●	33
Payment relief for borrowing costs by municipalities, housing and health-care providers	Payment relief for borrowing costs through lending programs		1
Total			34
Indigenous Affairs			
Financial support for Indigenous enterprises	For Indigenous small- and medium-sized businesses affected by the COVID-19 pandemic		10
Mental health and addictions services	To implement COVID-19 mental health and addictions support		4
Pandemic planning and emergency management for First Nations communities	Pandemic planning for First Nations communities including purchase of PPE and support infection control and prevention of outbreaks		4
Transportation of health professionals and distribution of supplies	Transportation of health professionals and distribution of supplies to provide assistance to Indigenous communities		4
Urban Indigenous Support	To urban Indigenous service providers to support vulnerable members and purchase essential supplies		4
Indigenous Community Awareness and Prevention	For community health care in First Nations communities		2
Indigenous Self-Isolation Facilities	Secure physical space to support effective self-isolation for suspected or confirmed COVID-19 cases in First Nations communities		2
Total			30
Transportation, Energy, Northern Development, Mines			
Highways rehabilitation project	To advance highway rehabilitation projects as part of economic stimulus		25
Total			25
Northern Development, Mines, Natural Resources and Forestry			
Forest Sector Safety Measures Fund	Relief program to help small businesses in the forestry sector with costs of implementing COVID-19 safety measures		5

○ Included in past reports ● Included in current report

Category	Description	Audited by OAGO	Approved Amount (\$ million)
Relief from select license and fees for resource-based tourism businesses	Fee deferrals or reductions to resource-based tourism businesses impacted by the pandemic		3
Relief from commercial fish royalty payments	Temporarily suspend and refund royalty payments for fish harvesting to provide economic relief to commercial fishing industry		1
Total			9
Total			57,754⁸

Note: This appendix contains information and amounts compiled manually by the OAGO based on submissions to TB/MBC and Treasury Board Secretariat assessment notes. Final approved commitments may differ from the amounts presented in this appendix. Actual spending may also differ; TB/MBC approval authorizes ministries to spend up to the authorized amount.

1. These initiatives were audited for the Office of the Auditor General's **Chapter 4: Special Report on Management of Health-Related COVID-19 Expenditures**, published in 2021. Certain new contracts entered into subsequent to the Special Report are reviewed as part of this audit.
2. These initiatives were audited for our value-for-money audit report on COVID-19 Personal Protective Equipment Supply, published in our *2021 Annual Report*. Certain new contracts entered into subsequent to our *2021 Annual Report* audits are reviewed as part of this audit.
3. Additional details on Ontario's vaccine implementation can be found in our value-for-money audit report on the COVID-19 Vaccination Program, published in our *2022 Annual Report*.
4. Additional details in the Review of Government Advertising in our *2020* and *2021 Annual Reports*.
5. These initiatives were audited as part of our value-for-money audit reports published in 2020 and 2021, specifically Homelessness; Public Colleges Oversight; and **Chapter 3: Special Report on Laboratory Testing, Case Management and Contact Tracing**.
6. These initiatives were audited for our value-for-money audit report on COVID-19 Economic Response and Supports for Businesses, published in our *2021 Annual Report*.
7. Formerly the Ministry of Government and Consumer Services.
8. Total approved amount for COVID-19 initiatives includes estimated spending in future years that has been approved by TB/MBC. The amount does not represent all new spending related to the pandemic on the part of the Province. Certain COVID-19 initiatives may be authorized by TB/MBC and require ministries to budget for the spending within their annual allocation of funding. Therefore, the total does not equal the COVID-19 funding in **Figure 1** of this report, which only represents new, budgeted COVID-19 spending up to March 31, 2023, as announced annually in the Ontario Budgets.

Appendix 2: Ontario Public Service Procurement Directive Approval Requirements

Source of data: Ontario Public Service Procurement Directive

Procurement Method	Procurement Value	Approval Authority for Submission of Procurement Rationale	Approval Authority for Procurement and Entering into Contract
Goods and Non-Consulting Services			
Ministry Process	< \$25,000	Ministry Delegation of Authority ¹	Ministry Delegation of Authority
Invitational Competitive (only applicable to non-consulting services)	\$25,000 ² –\$100,000	Ministry Delegation of Authority	Ministry Delegation of Authority
Open Competitive	\$25,000 ² –\$999,999	Ministry Delegation of Authority	Ministry Delegation of Authority
	\$1,000,000–\$1,999,999	Ministry Delegation of Authority	Deputy Head ³
	\$2,000,000–\$19,999,999	Deputy Head	Supply Chain Leadership Council ⁴
	\$20,000,000 and up	Minister	Treasury Board/Management Board of Cabinet (TB/MBC)
Non-Competitive (Allowable Exceptions)⁵	< \$1,000,000	Ministry Delegation of Authority	Ministry Delegation of Authority
	\$1,000,000–\$1,999,999	Ministry Delegation of Authority	Deputy Head
	\$2,000,000–\$19,999,999	Deputy Head	Supply Chain Leadership Council
	\$20,000,000 and up	Minister	TB/MBC
Non-Competitive (Exemptions)⁶	< \$1,000,000	Ministry Delegation of Authority	Ministry Delegation of Authority
	\$1,000,000–\$1,999,999	Ministry Delegation of Authority	Deputy Head
	\$2,000,000–\$9,999,999	Minister	Supply Chain Leadership Council
	\$10,000,000 and up	Minister	TB/MBC
Vendor of Record (VOR) Arrangement	Approval required if procurement value exceeds VOR arrangement ceiling price	Minister	TB/MBC
Consulting Services			
Invitational Competitive	< \$100,000	Ministry Delegation of Authority	Ministry Delegation of Authority
Open Competitive	\$25,000 ² –\$999,999	Ministry Delegation of Authority	Ministry Delegation of Authority
	\$1,000,000–\$1,999,999	Ministry Delegation of Authority	Deputy Head
	\$2,000,000–\$19,999,999	Deputy Head	Supply Chain Leadership Council
	\$20,000,000 and up	Minister	TB/MBC
Non-Competitive (Allowable Exceptions and Exemptions)^{5,6}	< \$500,000	Ministry Delegation of Authority	Deputy Head
	\$500,000–\$999,999	Deputy Head	Supply Chain Leadership Council
	\$1,000,000 and up	Minister	TB/MBC
Vendor of Record (VOR) Arrangement	Approval required if procurement value exceeds VOR arrangement ceiling price	Minister	TB/MBC

- Each ministry has its own Financial Delegations of Authorities and processes. The Financial Delegation of Authorities document provides additional details of approval authorities for each range of procurement value, which can range from Manager/Senior Manager, Director, Assistant Deputy Minister, Associate Deputy Minister and Deputy Minister levels of authority.
- Competitive procurement process is not required for contract values less than \$25,000.
- Deputy Head refers to either the Deputy Minister of a ministry or the Chief Executive Officer, or equivalent role, in an agency.
- The Supply Chain Leadership Council (Council) was proposed as part of a broader government Supply Chain Management strategy. It comprised 12 procurement and corporate leads from 12 ministries. Starting in June 2018, the Council was suspended and its role was assumed by TB/MBC.
- Examples of allowable exceptions include when an unforeseen situation of urgency arises, when a competitive process could interfere with government's ability to maintain security or order, or when confidential matters preclude an open, public process.
- In instances where a ministry seeks an exemption from a competitive procurement process where no allowable exception in the Ontario Public Service Procurement Directive exists.

Appendix 3: Ontario Public Service (OPS) Procurement Directive Interim Measures

Prepared by the Office of the Auditor General of Ontario

Area	Requirement
Date implemented	Effective March 18, 2019, updated on September 1, 2020
Applicability	New procurement of goods and services (consulting and non-consulting, except construction work) valued at \$25,000 or higher.
Vendor of Record (VOR) arrangements	Government entities must use existing VOR arrangements whenever possible and appropriate, regardless of the value of the procurement.
Contract term	Any new contract, including any extensions, must not exceed two years.
Operational flexibility	In limited and exceptional circumstances, if a government entity finds it not possible or appropriate to comply with the two requirements (using VOR and/or restricting contract term duration to two years), then the entity must complete and submit a Procurement Rationale Report at least 45 calendar days before the procurement is released to the vendor community.
Regular reporting	- Government entities must prepare and submit reports to the Ministry of Public and Business Service Delivery (formerly Ministry of Government and Consumer Services). Ministries are not required to review the information submitted by the organizations for which they are responsible. - Required reporting includes: - Planned Procurement Report: Information on planned procurements for 2019–21.* - Activity Update Report: Information on procurement activity over the past six months, highlighting any variance from the Planned Procurement Report; includes a rationale for any variances. Submit every six months following the initial submission of the Planned Procurement Report.* - Procurement Rationale Report: Describes the rationale for a procurement's exclusion from Interim Measure requirements; required for proposed procurements where the contract term exceeds two years or if an existing Vendor of Record arrangement is not used. Submit at least 45 days before the procurement is released to the vendor community.
Procurement-related data	When requested by the Ministry of Public and Business Service Delivery, government entities must provide procurement data and other information including any current and past procurement, with spending and contract information; and/or resources currently assigned to procurement-related work.
Consulting service requirements (effective as of September 1, 2020)	- The OPS Procurement Directive Interim Measures must be followed for all consulting services, regardless of contract value. - Government entities must provide a cost for each deliverable in any consulting service contract. - For consulting services valued at greater than \$5,000, ministries and any provincial agency that follows the OPS Procurement Directive in full must use the Procurement Lifecycle Checklist. It is not mandatory for other government entities to use this checklist.
Exemptions	There are no exemptions to the Interim Measures. However, for COVID-19-related emergency procurements, if ministries were submitting a notification to the Secretary of TB/MBC relating to an unforeseen situation of urgency, they were not required to submit a Procurement Rationale Form.

* The Ministry of Public and Business Service Delivery has not initiated and required ministries to submit the Planned Procurement Report or the Activity Update Report since they were introduced in the Interim Measures.

Appendix 4: Glossary of Terms

Prepared by the Office of the Auditor General of Ontario

Term	Definition
Competitive procurement	Goods or services acquired from one or more suppliers from those who have responded to the request to supply goods or services; includes invitational competitive procurement and open competitive procurement.
COVID-19 Procurement Proposal Template	Required submission by ministries to Treasury Board/Management Board of Cabinet when conducting a procurement using the urgency exception of the Ontario Public Service Procurement Directive due to COVID-19. This template was required for procurements from April 2, 2020, to September 30, 2021, and required details such as what is being procured and the purpose, the anticipated value, the anticipated supplier, and the connection to the COVID-19 pandemic.
Invitational competitive procurement	A minimum of three qualified vendors are requested to submit a written proposal to the Ministry's requirements to provide the required goods or services.
Non-competitive procurement	Goods or services acquired from one specific supplier; includes single source and sole source procurements.
OECM (formerly Ontario Education Collaborative Marketplace)	Not-for-profit entity that provides access to collaborative purchasing for the education sector, broader public sector and other not-for-profit organizations.
Ontario Public Service Procurement Directive	Issued by the Management Board of Cabinet, sets out the rules and processes to ensure that the best value for money is received when buying goods or services in a way that is fair and transparent for vendors.
Ontario Public Service Procurement Directive Interim Measures (Interim Measures)	Added to the Ontario Public Service Procurement Directive in March 2019 (subsequently updated in September 2020) to collect data on ministries' procurement activities for the purpose of transitioning to a centralized supply chain. The Interim Measures continue to remain in effect during the COVID-19 emergency procurement process.
Open competitive procurement	The requested goods or services are posted on Ontario's designated electronic tendering system for vendors to view and provide a bid in response to the requirements.
Procurement Lifecycle Checklist	Effective September 1, 2020, under the Interim Measures, to be completed for procurements of consulting services valued at more than \$5,000 to support successful planning, acquisition, award and management of consulting contracts.
Single source procurement	Goods or services are procured from a specific supplier even if more than one supplier could deliver the same goods and services.
Sole source procurement	Goods or services are procured from a specific supplier where no other suppliers can provide the required goods or services.
Vendor of record (VOR) arrangement	Procurement arrangement with one or more qualified vendors to provide goods or services for a defined time period, under established terms and conditions in the particular VOR arrangement (such as pricing). Enterprise-wide VOR arrangements are with contracted vendors that can provide goods or services common to more than one ministry. Ministry-specific VOR arrangements are those established for the supply of a particular good or service unique to that ministry.

Appendix 5: COVID-19-Related Procurements by Ministries, March 2020–March 2022

Prepared by the Office of the Auditor General of Ontario (OAGO) with information provided by the Treasury Board Secretariat

- Contracts in these procurement categories are included in this report¹
- Contracts in these procurement categories have been included in previous reports by our Office²

Procurement Category	Audited by OAGO	Emergency Procurements		Procurements Approved by TB/MBC		Total	
		# of Procurements ³	Procurement Value ⁴ (\$ million)	# of Procurements ⁵	Procurement Value ⁶ (\$ million)	# of Procurements	Procurement Value (\$ million)
Health							
Rapid antigen test kits	●	24	1,028.2	1	606.6	25	1,634.8
Testing supplies	○	53	534.9	1	47.6	54	582.5
Gowns and coveralls	○	35	446.9	-	-	35	446.9
IT equipment and software, including IT support for vaccination program ⁷	●	-	-	19	333.0	19	333.0
Masks, including N95 respirators	○	47	226.9	-	-	47	226.9
Ventilators	○	12	108.5	-	-	12	108.5
Temporary staffing resources to support mass vaccination program ⁷ and call centre information line	●	-	-	2	100.1	2	100.1
Vaccination teams	●	1	90.0	-	-	1	90.0
Gloves	○	8	85.7	-	-	8	85.7
IT and consulting services for vaccination program ⁷	●	5	25.7	13	58.8	18	84.5
Advertising campaigns to educate the public on emergency measures and vaccine rollout	○	2	24.0	1	47.5	3	71.5
Mobile testing services	●	-	-	1	68.5	1	68.5
Warehousing and logistics services	●	2	23.1	4	40.2	6	63.3
Temporary staffing resources to support pandemic response		-	-	2	55.1	2	55.1
Critical care beds		7	50.5	-	-	7	50.5

- Contracts in these procurement categories are included in this report¹
- Contracts in these procurement categories have been included in previous reports by our Office²

Procurement Category	Audited by OAGO	Emergency Procurements		Procurements Approved by TB/MBC		Total	
		# of Procurements ³	Procurement Value ⁴ (\$ million)	# of Procurements ⁵	Procurement Value ⁶ (\$ million)	# of Procurements	Procurement Value (\$ million)
IT equipment and software, including IT support for pandemic response		-	-	2	46.9	2	46.9
Face shields and goggles		7	38.3	-	-	7	38.3
IT equipment and software, including IT support		15	29.8	1	0.7	16	30.5
IT equipment and software, including IT support for case and contact management		-	-	4	25.7	4	25.7
IT consulting services for pandemic response	●	-	-	7	21.5	7	21.5
IT and consulting services for case and contact management	●	-	-	5	20.7	5	20.7
Temporary staffing resources to support case and contact management		-	-	1	20.3	1	20.3
Mental health services		-	-	3	18.3	3	18.3
Cardiac monitors		1	14.1	-	-	1	14.1
Lab/medical supplies and equipment		8	10.0	-	-	8	10.0
IT Consulting Services for COVID-19 Laboratory and Testing	○	-	-	2	8.5	2	8.5
Consulting and non-consulting services for pandemic response	●	-	-	4	7.2	4	7.2
Hand sanitizer	○	7	7.2	-	-	7	7.2
Other ⁸		11	4.1	-	-	11	4.1
Consulting services to establish a crisis response strategy		1	0.8	-	-	1	0.8
Cleaning and disinfectant products		4	0.5	-	-	4	0.5
Total		250	2,749.2	73	1,527.2	323	4,276.4

● Contracts in these procurement categories are included in this report¹

○ Contracts in these procurement categories have been included in previous reports by our Office²

Procurement Category	Emergency Procurements		Procurements Approved by TB/MBC		Total		
	Audited by OAGO	# of Procurements ³	Procurement Value ⁴ (\$ million)	# of Procurements ⁵	Procurement Value ⁶ (\$ million)	# of Procurements	Procurement Value (\$ million)
Public and Business Service Delivery (Formerly the Ministry of Government and Consumer Services)							
Gloves	○	38	56.7	4	820.0	42	876.7
Masks, including N95 respirators ⁹	●	44	228.5	7	420.0	51	648.5
Warehousing and logistics services	●	2	6.7	8	197.9	10	204.6
Hand sanitizer	○	20	65.0	2	107.2	22	172.2
Temporary staffing resources to support provincial programs, such as the mass vaccination program ⁶ and call centre information line	●	8	66.5	2	85.8	10	152.3
Cleaning and disinfectant products		18	15.6	6	98.7	24	114.3
Face shields and goggles		36	24.3	6	89.5	42	113.8
High-efficiency particulate air filter units and wall mounts	●	12	62.6	1	21.0	13	83.6
Consulting services for centralized procurement planning and review of best practices for warehousing and logistics vendors	●	5	9.6	5	42.2	10	51.8
Waste management for rapid antigen tests program	●	-	-	2	34.0	2	34.0
Consulting and non-consulting services for pandemic response		-	-	3	28.0	3	28.0
Gowns and coveralls		5	10.0	-	-	5	10.0
Other ⁸		8	2.3	-	-	8	2.3
Total		196	547.8	46	1,944.3	242	2,492.1
Solicitor General							
Vaccine clinics and related staffing and logistics support	●	6	90.0	-	-	6	90.0
Supplies for correctional facilities operations		2	13.8	1	12.5	3	26.3

- Contracts in these procurement categories are included in this report¹
- Contracts in these procurement categories have been included in previous reports by our Office²

Procurement Category	Audited by OAGO	Emergency Procurements		Procurements Approved by TB/MBC		Total	
		# of Procurements ³	Procurement Value ⁴ (\$ million)	# of Procurements ⁵	Procurement Value ⁶ (\$ million)	# of Procurements	Procurement Value (\$ million)
Global Positioning System (GPS) and monitoring devices		1	3.6	-	-	1	3.6
IT equipment and software, including IT support		-	-	2	3.5	2	3.5
Total		9	107.4	3	16.0	12	123.4
Education							
Mobile testing for schools ¹⁰	●	2	45.0	-	-	2	45.0
Consulting services for school bus driver pilot program		1	0.3	-	-	1	0.3
Total		3	45.3	-	-	3	45.3
Treasury Board Secretariat							
IT and consulting services to support COVID-19 initiatives		12	5.6	1	3.4	13	9.0
Total		12	5.6	1	3.4	13	9.0
Environment, Conservation and Parks							
Wastewater surveillance		-	-	1	13.0	1	13.0
Total		-	-	1	13.0	1	13.0
Attorney General							
IT equipment and software, including IT support		1	4.5	-	-	1	4.5
Total		1	4.5	-	-	1	4.5
Cabinet Office							
Consulting services to establish a crisis response strategy		1	4.2	-	-	1	4.2
Total		1	4.2	-	-	1	4.2

- Contracts in these procurement categories are included in this report¹
- Contracts in these procurement categories have been included in previous reports by our Office²

Procurement Category	Audited by OAGO	Emergency Procurements		Procurements Approved by TB/MBC		Total	
		# of Procurements ³	Procurement Value ⁴ (\$ million)	# of Procurements ⁵	Procurement Value ⁶ (\$ million)	# of Procurements	Procurement Value (\$ million)
Natural Resources and Forestry (formerly the Ministry of Northern Development, Mines, Natural Resources and Forestry)							
Rapid antigen testing for firefighters		1	3.5	-	-	1	3.5
Total		1	3.5	-	-	1	3.5
Labour, Immigration, Training and Skills Development (formerly the Ministry of Labour, Training and Skills Development)							
Wages for Technical Standards and Safety Authority inspectors to enforce emergency orders and respond to workplace-related calls as a result of COVID-19		1	3.0	-	-	1	3.0
Total		1	3.0	-	-	1	3.0
Children, Community and Social Services							
IT and consulting services to establish COVID-19 emergency assistance Web application	○	1	1.7	-	-	1	1.7
Total		1	1.7	-	-	1	1.7
Total		475	3,472.2	124	3,503.9	599	6,976.1

1. The contracts reviewed as part of this audit for each category is detailed in Appendix 7a and Appendix 7b.

2. Contracts in these categories were audited as part of the Office of the Auditor General's Chapter 4: Special Report on Management of Health-Related COVID-19 Expenditures published in 2020, the value-for-money audit report on COVID-19 Personal Protective Equipment Supply published in the 2021 Annual Report, and Review of Government Advertising chapters of the 2020 and 2021 Annual Reports.

3. Number of notifications received by the Secretary of Treasury Board/Management Board of Cabinet (TB/MBC) from ministries indicating that the unforeseen situation of urgency exception (emergency exception) was used to acquire goods and services related to COVID-19 pandemic.

4. The values represent TB/MBC's best estimate of emergency procurements during the COVID-19 pandemic, including updates to procurement value where applicable, but may not reflect actual spending under emergency procurement measures (because of, for example, cancelled contracts or when the estimated procurement value was not spent in its entirety).

5. Number of procurements where TB/MBC approval was obtained through the in-year TB/MBC submission process.

6. The maximum procurement value approved by TB/MBC and may include spending for future years. It may not reflect actual spending as ministries can incur less than maximum approved value.

7. Additional details on Ontario's vaccine implementation can be found in our value-for-money audit report on the COVID-19 Vaccination Program, published in our 2022 Annual Report.

8. Includes purchase of infrared thermometers, mortuary bags and delivery fees related to emergency procurements.

9. Contracts in this category are included in the current audit and additional contracts had been reviewed as part of our value-for-money audit report on COVID-19 Personal Protective Equipment Supply, published in the 2021 Annual Report.

10. Subsequent to the notification sent to the Secretary of TB/MBC, the Ministry of Education entered into a third contract for mobile testing services, bringing the total procurement value to \$60 million.

Appendix 6: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Procurement of goods and services are properly justified, approved, and sourced with appropriate consideration for options and cost-effectiveness, with appropriate measures in place for recourse and/or corrective action in the event of poor quality, delayed delivery of goods and services or outcomes of the contract not being met.
2. Use of exception(s) to the requirement for a competitive procurement process are appropriate in the circumstance, and the ministries have followed the required steps to notify Treasury Board/Management Board of Cabinet of the procurement in a timely manner.
3. Effective processes are in place to provide sufficient monitoring and contract management oversight by the ministries, including report backs to Treasury Board/Management Board of Cabinet.
4. Resources for contracts and procurements were allocated to ministries and initiatives in a timely and effective manner to manage the COVID-19 response of the Province.
5. Relevant, accurate and timely information was regularly collected and assessed against the intended outcomes of the contracts and procurement, and lessons learned were applied to subsequent procurement decisions.
6. Increases to contract ceilings, scopes, or extensions were authorized and made after consideration of relevant information on the contract progress and results.

Appendix 7a: COVID-19-Related Contracts Selected for Audit

Prepared by the Office of the Auditor General of Ontario

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Contracts Reviewed ¹	Details in Report Section ²	Approved Amount ³ (\$ million)	Amount Incurred to Date ⁴ (\$ million)
Ministry of Education (Education Ministry)						
Ventilation improvements	Ventilation and filtration improvements, including the purchase of high-efficiency particulate air (HEPA) filter units. This excludes annual school renewal funding for overall infrastructure maintenance, which can also be used for ventilation improvements.	Funding provided by the Education Ministry to school boards to conduct their own procurements ⁵	None. See related contracts for HEPA filter units below	4.1	170.2	140.5 ⁶
Technology for students	Remote learning technology (such as laptops) for students.	Funding provided by the Education Ministry to school boards to conduct their own procurements ⁵	5 of 5	4.1	109.4	101.3
HEPA filter units	Standalone HEPA filter units to supplement any purchases that school boards procured individually. Starting February 2022, HEPA filter units for school boards were funded and purchased by the Ministry of Public and Business Service Delivery (formerly the Ministry of Government and Consumer Services); additional HEPA units purchased for schools are included in the Ministry of Public and Business Service Delivery procurements below.	Competitive procurement (conducted by the Ministry of Public and Business Service Delivery)	See Ministry of Public and Business Service Delivery HEPA filter unit contracts	4.1	20.4	18.0
COVID-19 Testing for Schools	Mobile testing clinics set up at schools and child-care centres to test asymptomatic students and staff.	Non-competitive emergency procurement	3 of 3	4.1, 4.4.1, 4.4.2, 4.4.3	34.1	7.0
Ministry of Education – Total					334.1	266.8

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Contracts Reviewed ¹	Details in Report Section ²	Approved Amount ³ (\$ million)	Amount Incurred to Date ⁴ (\$ million)
Ministry of Public and Business Service Delivery (formerly Ministry of Government and Consumer Services)						
Personal protective equipment (PPE) and other cleaning supplies and equipment	Personal protective equipment and cleaning supplies such as masks, gowns, hand sanitizer and disinfectant wipes, for distribution to other ministries, provincial agencies and broader public sector (e.g., schools).	Non-competitive emergency procurement	26 of 297	4.1, 4.3.1	1,787.0	422.3
		Competitive procurement	4 of 31	4.1, 4.3.1		25.7
	HEPA filter units to improve ventilation in settings including schools and long-term-care homes.	Non-competitive emergency procurement	15 of 15	4.1		26.2
		Competitive procurement	10 of 10	4.1		32.6
Warehousing and logistics for PPE	Multi-year warehousing to store PPE and logistics services as part of pandemic supply chain, including consulting services related to procuring and managing these contracts.	Non-competitive procurement, exemption from open competitive procurement was approved by TB/MBC ⁷	13 of 13	4.1, 4.3.2, 4.7.1, 4.8.2	161.0	48.5
Waste management	Sterile waste management for disposal of rapid antigen tests for Ontario Chambers of Commerce and Boards of Trade	Competitive procurement (VOR)	2 of 2	4.1	18.0	0.1
Ministry of Public and Business Service Delivery – Total					1,966.0	555.4
Ministry of Health						
COVID-19 Testing	Testing supplies including rapid antigen tests, and funding to agencies such as Ontario Health and Public Health Ontario for same tests	Non-competitive emergency procurement of rapid antigen tests	6 of 6	4.1, 4.6	3,400.3	371.0
		Non-competitive emergency procurement of testing supplies and consulting services to support COVID-19 testing	2 of 2	4.1		1.3
		Funding to agencies not included in above categories such as Ontario Health regions and Public Health Ontario. This includes competitive procurements of mobile testing clinics (through Ontario Health)	6 of 6	4.1, 4.4.1, 4.4.2		3,027.1

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Contracts Reviewed ¹	Details in Report Section ²	Approved Amount ³ (\$ million)	Amount Incurred to Date ⁴ (\$ million)
Vaccine implementation⁸	Contracts from the Ministry of Health and the Ministry of the Solicitor General relating to delivery and distribution of COVID-19 vaccine, consulting services, mass immunization clinics and health human resources support.	Competitive procurement and non-competitive procurement	26 of 92	4.1, 4.5, 4.7, 4.8.2	423.8 ⁹	284.4
Warehousing and logistics for PPE	Multi-year warehousing to store PPE and provide logistics services as part of pandemic supply chain, including project management services relating to warehousing.	Non-competitive emergency procurement	4 of 5	4.1	36.4	33.9
Case and contact management	Recruitment, temporary staffing and IT resources to support case and contact management.	Competitive procurement and non-competitive procurement	5 of 38	4.1	146.8	132.4
Ministry of Health – Total			49 of 149		4,007.3	3,850.1
Total			127¹⁰ of 525		6,307.4¹¹	4,672.3

1. Total number of contracts related to each initiative is based on information provided to our Office by the ministries.

2. As part of our audit, selected contracts were reviewed for compliance against the Ontario Public Service Procurement Directive (Procurement Directive), including compliance with Interim Measures of the Procurement Directive, where applicable. In addition, we completed the following procedures:

- For non-competitive emergency procurements, we reviewed the procurement rationale for appropriateness in connection to the COVID-19 pandemic. We also reviewed compliance with the notification requirements established by the Treasury Board Secretariat.
- For competitive procurements, we reviewed the tendering process and evaluated the bids received to assess if selection criteria were fairly applied in accordance with the proposal documents.
- Where the contracts reviewed contained key performance indicators, we reviewed the results and ministries' oversight process as part of the contract management process.
- Where similar procurements were conducted by multiple ministries, we inquired about the rationale and compared procurement processes used to identify opportunities for more efficient or improved processes.
- We reviewed the contract status up to March 31, 2022, including the contract outcomes or results against the intended purpose.
- For all COVID-19-related contracts, we requested information from the respective ministries on any outstanding or resolved legal claims.

3. Total amount approved for the initiative, which can include planned spending in future fiscal years.

4. Total amount incurred from January 1, 2020 to March 31, 2022.

5. School boards were provided funding by the Ministry of Education toward certain initiatives. School boards could use their own vendors and contracts to purchase the required goods, or make purchases using master agreements that included pre-established contract terms and pricing that the Ministry of Public and Business Service Delivery (formerly Ministry of Government and Consumer Services) entered into on behalf of the Ministry of Education. We reviewed the procurement of the master agreements, but not the contracts held by individual school boards.

6. Amount incurred by schools based on interim reporting submitted as of November 3, 2022, for the 2021/22 school year. This may include expenses incurred after March 31, 2022.

7. The non-competitive procurement was not conducted under one of the allowable exceptions provided for in the Ontario Public Service Procurement Directive. The ministry sought Treasury Board/Management Board of Cabinet approval for an exemption from the open competitive process for these contracts. The rationale was to ensure business continuity with existing vendors that currently provide warehousing and transportation for the ministry's inventory of personal protective equipment.

8. Additional details on Ontario's vaccine implementation can be found in our value-for-money audit report on the COVID-19 Vaccination Program, published in our 2022 Annual Report.

9. Approved amount represents total contract values.

10. Total contract value of the 127 contracts we reviewed is approximately \$1.6 billion.

11. Total approved amount includes certain emergency procurements (Appendix 5) as well as some competitive procurement contracts (approved through Treasury Board/Management Board of Cabinet submissions in Appendix 1) related to these categories.

Appendix 7b: COVID-19-Related Funding by Ministries for Procurement Activities by Other Stakeholders¹ Selected for Audit

Prepared by the Office of the Auditor General of Ontario

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Procurement Documents Reviewed	Details in Report Section	Approved Amount (\$ million)	Amount Incurred to Date ² (\$ million)
Ministry of Education (Education Ministry)						
COVID-19 Resilience Stream	Infrastructure projects for schools to improve ventilation, physical distancing and other health infrastructure. Approximately \$450 million of this funding was allocated specifically to ventilation and window improvement projects.	Joint funding provided by the federal government (Investing in Canada Infrastructure Program; 80% of funds) and provincial government (20% of funds) to school boards to conduct their own procurements. Disbursed as projects progressed; all projects to be completed by December 2023, or by December 2024 if the project is in a remote community; therefore, actual amount of expenditures incurred will be less than approved amount for March 31, 2022, since the projects are not completed.	10 of 9,866	n/a ³	670.5	445.4
Ministry of Education – Total					670.5	445.4

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Procurement Documents Reviewed	Details in Report Section	Approved Amount (\$ million)	Amount Incurred to Date ² (\$ million)
Ministry of Infrastructure (Infrastructure Ministry)						
COVID-19 Resilience Stream	Improve physical distancing measures and other health infrastructure.	Joint funding provided by the federal government (Investing in Canada Infrastructure Program; 80% of funds) and provincial government (20% of funds) for municipalities to conduct their own procurements. Disbursed as projects progressed; all projects to be completed by December 2023, or by December 2024 if the project is in a remote community; therefore, actual amount of expenditures incurred will be less than approved amount for March 31, 2022, since the projects are not completed.	10 of 552	n/a ³	250.0	0.0 ⁴
Ministry of Infrastructure – Total					250.0	0.0

COVID-19 Initiative	Description	Procurement Method and/or Funding Provided	# of Procurement Documents Reviewed	Details in Report Section	Approved Amount (\$ million)	Amount Incurred to Date ² (\$ million)
Ministry of Long-Term Care (Long-Term Care Ministry)						
Ventilation and cooling capital funding	Infection prevention and control, including enhancements to ventilation and cooling systems.	Funding provided by the Long-Term Care Ministry to long-term-care homes to conduct their own procurements.	None. Reviewed funding letters and requirement for 2020/21 and 2021/22	n/a	138.4	79.7
COVID-19 Resilience Stream	For infrastructure projects for long-term-care homes to improve ventilation, physical distancing measures and other health infrastructure.	Joint funding provided by the federal government (80% of funds) and provincial government (20% of funds) to long-term-care homes to conduct their own procurements. Disbursed as projects progressed; all projects to be completed by December 2023, or by December 2024 if the project is in a remote community; therefore, actual amount of expenditures incurred will be less than approved amount for March 31, 2022, since the projects are not completed.	10 of 103	n/a ³	100.0	11.9
Ministry of Long-Term Care – Total					238.4	91.6
Total					1,158.9	537.0
Total of COVID-19 Initiatives Reviewed as Part of Appendix 7a and 7b					7,382.2	5,209.3

1. In addition to the ministry-led procurements identified in **Appendix 7a**, our audit also looked at certain funding provided by ministries to stakeholders for procurement-related activities.

a. For the COVID-19 Resilience Stream, this included a review of procurement documents for 10 approved projects under each sub-stream (education, infrastructure, long-term care) of the Investing in Canada Infrastructure Program – COVID-19 Resilience Stream. The documents were reviewed for compliance against the program guidelines, which required a competitive procurement process to be used for this funding except where applications were approved for sole sourcing by the federal government.

b. For the ventilation and cooling capital funding, this included a review of the funding criteria and eligibility requirements and how long-term-care homes used the funding.

2. Total amount incurred from January 1, 2020, to March 31, 2022.

3. Most of the approved projects were in progress as of March 31, 2022, and claims for reimbursement have not been submitted; therefore, procurement documents were not available for all projects if the tendering process had not started. We selected a sample of 10 from each sub-stream to review if the funding recipient complied with program guidelines for the procurement requirements, and assessed overall ministries' oversight and processes. Generally, the projects we selected complied with the program guidelines.

4. Projects are under way, but no funding has been disbursed because it was based on a submission of claims approach and the submission process was not yet available as of March 31, 2022.

Appendix 8: Summary of Mobile COVID-19 Testing Procurements by Ontario Health and the Ministry of Education

Source of data: Ontario Health and the Ministry of Education

Procurement method	Ontario Health				Ministry of Education	
	Invitational competitive	Open competitive	Open competitive	Open competitive	Open competitive	Non-competitive
Request for proposal period	Jun 3–15, 2020	Nov 20–Dec 21, 2020	Feb 16–Mar 23, 2021	Mar 3–Apr 8, 2021		n/a ¹
Purpose	To support the provincial COVID-19 testing and tracing strategy, specifically to key communities with gaps in testing.				To provide asymptomatic COVID-19 testing in schools and child-care settings.	
# of vendors contracted²	2	2	2	4	3	
Contract term²	Jun 23–Jul 22, 2020, Sep 8, 2020–Jun 30, 2021	Feb 5, 2021–Dec 31, 2022	Mar 8–Dec 31, 2021 Mar 10–Dec 31, 2021	Apr 22, 2021–Apr 21, 2022 ³ Jul 19, 2021–Apr 21, 2022	Jan 25–Jul 16, 2021 Feb 17–Jul 16, 2021 Mar 8–Jul 16, 2021	
Total contract ceiling value (\$)	6,019,109	3,911,032	1,770,000	68,545,800	60,000,000	
Cost per swab⁴ (\$)	38–55	33–55	55–68	13–42	22–33	
Guaranteed minimum payment per day^{4,5} (\$)	3,000–3,520; 9,625 ⁶	991–3,520	3,250–3,520	2,500–4,200	1,500–8,255	

- Competitive procurement process was not used as the Ministry of Education used the unforeseen situation of urgency exception under the Ontario Public Service Procurement Directive to enter into contracts non-competitively as part of the emergency response to the COVID-19 pandemic. Vendors were contacted by the Ministry of Education to provide the services and entered into agreements between January and March 2021.
- Some vendors were awarded multiple contracts as part of each Request for Proposal issued by Ontario Health, but a vendor did not have multiple agreements active at the same time. One vendor was also contracted separately by both Ontario Health and the Ministry of Education (Appendix 9).
- Three vendors with the same contract period.
- Within each contract, the cost per swab and guaranteed minimum daily payment may vary depending on the type of service required. For example, some vendors have a higher price if they are required to travel to Northern Ontario compared to locations within the Greater Toronto Area. For comparability, the range provided represents only the lowest tier of pricing within each contract.
- If the minimum testing volume required in each contract is not completed, a guaranteed minimum payment per day is charged by the vendor to cover overhead costs.
- A short-term contract to address the immediate need of testing agricultural workers in the Windsor-Leamington area was established with a higher minimum cost per day until the master service agreement could be established with the vendor.

Appendix 9: Comparison of Contract Details for Same Vendor Contracted Separately by Ontario Health and the Ministry of Education

Prepared by the Office of the Auditor General of Ontario

	Ontario Health	Ministry of Education
Procurement method	Open competitive	Non-competitive
Request for proposal period	Nov 20–Dec 21, 2020	n/a ¹
Contract term	Feb 5, 2021–Dec 31, 2022	Jan 25–Jul 16, 2021
Contract ceiling value (\$)	1,548,812	30,000,000
Total spent to date as of March 31, 2022 (\$)	1,219,259	1,695,598
Estimated testing capacity	From 50 swabs per day to 1,000 swabs per day	Up to 5,000 swabs per day or 25,000 swabs per week
Cost per swab (\$)²	33	33
Minimum number of tests per day³	30	250
Guaranteed minimum payment per day³ (\$)	991	8,255
Total testing sites operated⁴	127	176
Number of testing sites operated where the guaranteed minimum daily payment was charged	34 (27%)	175 (99%)

1. Competitive procurement process was not used as the Ministry of Education used the unforeseen situation of urgency exception under the Ontario Public Service Procurement Directive to enter into a contract non-competitively as part of the emergency response to the COVID-19 pandemic. Vendor was contracted by the Ministry of Education in January 2021.
2. Within each contract, the cost per swab and guaranteed minimum daily payment may vary depending on the type of service required. For example, some vendors have a higher price if they are required to travel to Northern Ontario compared to locations within the Greater Toronto Area. For comparability, the range provided represents only the lowest tier of pricing within each contract.
3. If the actual number of tests swabbed per day is below the contract minimum number of tests per day, a fixed daily fee will be charged (guaranteed minimum payment per day).
4. Some locations had multiple days of testing throughout the contract terms.

COVID-19 Vaccination Program

1.0 Summary

According to the World Health Organization and the Public Health Agency of Canada, COVID-19 vaccination is one of the most effective ways to protect people in the community against severe illness, hospitalization and death from COVID-19. Ontario began administering the COVID-19 vaccine in December 2020. By mid-August 2022, about 35 million doses had been administered to eligible Ontarians.

While the federal government was responsible for purchasing vaccines for all provinces and territories, in Ontario, the Ministry of Health and the Ministry of the Solicitor General were in charge of co-ordinating the rollout of the COVID-19 vaccines. From April 1, 2020 to May 31, 2022, the ministries spent about \$1.5 billion on the rollout of COVID-19 vaccines. Activities included distributing the vaccines to vaccination sites, compensating vaccinators and other support staff at vaccination sites, developing a provincial booking system and an immunization database to track vaccine inventory and vaccination records, and analyzing data on the vaccination program.

Rolling out a mass vaccination program as the pandemic progressed was inherently challenging. The government called on experts in December 2020 to support the development of its vaccination plan and its decisions about prioritizing segments of the population in the face of a limited vaccine supply. By mid-August 2022, more than 80% of Ontarians had been vaccinated with two doses and more than 50% of Ontarians

had a third dose or booster, consistent with the rate(s) Canada-wide, yet lower than New Brunswick, Prince Edward Island and Quebec.

Our audit found that the Ministry of Health and the Ministry of the Solicitor General did not consistently adopt advice from experts and key stakeholders, health-care organizations and workers, when formulating their vaccination strategies. The Ministry of Health decided not to implement a vaccine mandate on hospital workers, indicating that its decision was informed by the Chief Medical Officer of Health's analysis of evidence available at that time, but this analysis was not provided to us. As well, when identifying high-risk populations for the "hotspot" strategy to prioritize vaccination when vaccines were scarce, the Ministry of Health (Ministry) did not apply their chosen method of selection consistently across all postal code regions. This resulted in eight lower-risk neighbourhoods receiving vaccines ahead of high-risk neighbourhoods, and nine higher-risk neighbourhoods being excluded from the hotspot strategy.

We also learned that while the Province had a governance structure outlining responsibilities and reporting for high-level decision-making, it did not establish clear reporting relationships for organizations such as pharmacies, hospitals, and public health units in the context of mass vaccination. This resulted in confusion in some regions of the province. We surveyed all public health units and asked them if they believed the Ministry had established clear lines of responsibility for the COVID-19 vaccine rollout. Of the respondents, 67% disagreed. Further, it was unclear what entity was

responsible for investigating fraud at Ontario pharmacies. Two incidents requiring investigation identified by public health units in the summer of 2022 had to wait for a decision from the Ministry's legal team on who would be responsible for this.

From our work, we noted that the province's communication strategy was not always effective in supporting its vaccination program. Our review of the Ministry's approach to communicating factual information to the public indicated that it was disorganized, inconsistent and lacking detail about the benefits of COVID-19 vaccines and vaccination, suggesting that Ontarians may not have been as well informed as possible in their decision-making. We found that the Ministry missed out on opportunities to educate and inform the public on the benefits of the COVID-19 vaccine. For example, the Ministry did not always provide clear information on whether to get additional vaccine doses, and did not effectively combat misinformation about the vaccine. Health experts informed us that they believed the government's communication approach sometimes undermined public confidence in vaccination. The Ministry did not clearly and sufficiently explain its approach to prioritizing certain groups for vaccination when vaccines were scarce. Similarly, it did not clearly address concerns where the public was relying on non-fact-based information about the Moderna vaccine; this may have contributed to higher wastage rates of Moderna, which is both safe and effective for most age groups.

Correcting these issues is essential for responding rapidly to future disease outbreaks, and the large-scale vaccination programs that could be needed.

Other significant issues noted in our audit include:

- **Decentralized and inconsistent vaccination appointment booking systems resulted in confusion and poor end-user experience.** The Ministry of Health launched the provincial COVID-19 vaccination appointment booking system and call centre on March 15, 2021, more than three months after the first vaccine was administered in Ontario. In addition to a provincial booking system, many other booking systems were also in use across different public health units, pharmacies and hospitals. Inconsistent

controls across systems created inconsistencies in access and an inability to ensure that the highest risk Ontarians received vaccines first. Multiple booking systems also encouraged Ontarians to "vaccine shop" by registering for multiple appointments to try to get either the quickest appointment or a specific vaccine brand. This phenomenon contributed to about 227,000 no-show appointments in 2021—in the provincial system alone—appointments which could have gone to someone else in need of vaccination. The continued absence of a centralized booking system (as of August 2022) increases the likelihood of unnecessary wastage continuing into the future since such no-show appointments can result in more wasted doses of vaccine.

- **The provincial website on how to book a COVID-19 vaccination was only available in English and French.** In comparison, British Columbia's website had the capability to translate instructions to up to 14 other languages.
- **Physicians were not incentivized to vaccinate at their offices.** The Ministry of Health's compensation structure may cause physicians to prefer working at mass immunization clinics over vaccinating at their offices. Between March 2021 and May 2022, only about 3,000 physicians billed the province for providing COVID-19 vaccines in their offices compared to more than 6,000 who billed for COVID-19-related work in mass clinics even though primary-care offices have traditionally been a trusted place for people, especially children, to get routine vaccinations. Physicians were paid \$170–\$220 per hour for vaccinating at mass clinics compared to \$13 per dose in their own offices.
- **Vaccinators were paid different rates depending on their profession and whether the vaccination site was operated by a private-sector organization, a hospital or a public health unit.** Physicians (\$170–\$220 per hour) received much higher compensation than nurses (\$32–\$49 per hour) and pharmacists (\$30–\$57 per hour) for vaccinating at sites operated by public health units and hospitals.

As well, private-sector operators paid more to various professionals compared to what not-for-profit organizations paid. For example, we found a pharmacist was paid \$120 per hour by a private-sector operator (Calian) compared to \$62 per hour by a not-for-profit operator (Canadian Red Cross). Neither the Ministry of Health nor the Ministry of the Solicitor General provided the oversight necessary to achieve consistent pay for the same work.

- Data in Ontario's COVID-19 immunization database was not consistently completed or validated.** The Ministry of Health did not regularly monitor immunization database records to identify unusual or suspicious records until December 2021. As well, the inventory component of the immunization database was not integrated with all systems in the vaccine supply chain, resulting in incomplete inventory data and unnecessary manual input at distribution centres and vaccination sites. This made it difficult for the Ministry to have an accurate picture of inventory to inform ordering and minimize wastage. The Ministry also failed to capitalize on the opportunity to collect and analyze important risk data to better inform future vaccination efforts.
- Lack of a registry of Ontarians' vaccination records limits Ontario's ability to rapidly adapt to new or existing disease outbreaks and required the Ministry of Health to create a new database for COVID-19.** The Ministry of Health does not keep vaccine records of Ontarians of all ages, despite indicating that this was part of the Ministry's plan in our 2014 audit on Immunization. The Ministry spent about \$170 million between 2010 and 2021 on project and operational costs on Panorama, a pan-Canadian immunization registry used by public health units to record all vaccinations included in the *Immunization of School Pupils Act*. However, Panorama's data is incomplete, as it does not require physicians and pharmacists to report vaccinations to public health units.
- Ontario had wasted at least 3.4 million COVID-19 vaccine doses as of June 30, 2022.**

About half of this wastage could have been prevented with better forecasting of the doses required. While the province wasted about 9% of the vaccines received from the federal government from December 2020 to June 2022, the wastage was 38% between February and June 2022 when demand for boosters was much lower than the province anticipated. Two private-sector organizations contracted by the Ministry of the Solicitor General and the Ministry of Health incurred vaccine wastage of 20% and 57%. Targets for minimizing wastage were not included in the contracts with them.

- Proof of vaccination was not effectively enforced.** Enforcement officers were required to announce themselves at the beginning of a visit to establishments that were required to verify patrons' proof of vaccination, such as restaurants where indoor dining was permitted; therefore, the officers could not observe the normal operations of the business uninfluenced by their presence, including whether the business was using the Verify Ontario app as mandated in early 2022.
- The COVID-19 Vaccine Distribution Task Force did not have sufficient representation from public health units, which were responsible for implementing the vaccination program.** The Task Force created in November 2020 that guided the early stages of the COVID-19 vaccine rollout did not have sufficient representation from public health units, taking more than a month to enlist its first public health unit representative.

This report contains 11 recommendations, consisting of 33 action items, to address our audit findings. While we acknowledge that we are approaching what seems to be the end of the COVID-19 pandemic, these recommendations should be considered in the context of vaccination programs supporting the remainder of this pandemic and into the future. In addition, they should be incorporated into an updated pandemic response plan so that the government can provide timelier responses.

Overall Conclusion

Our audit concluded that the Ministry of Health and the Ministry of the Solicitor General established a plan to vaccinate Ontarians to minimize transmission of and hospitalization and death from COVID-19, but priorities in the plan were not applied consistently across all regions in Ontario.

The hotspot strategy, part of the overall provincial vaccination plan, prioritized populations at the highest risk for hospitalization and death from COVID-19 according to advice from scientist advisors. Additional factors, such as ethnicity and poverty, were applied to improve equity. While the methodology included relevant risk factors, the Ministry of Health (Ministry) did not consistently apply it. As a result, eight lower-risk communities were included ahead of other communities that had equal or higher risk of hospitalization or death, and poverty and/or ethnicity concentration.

In addition, the Ministry did not provide consistent pay for the same work by vaccinators across the various vaccination clinics. Doctors, nurses and pharmacists were paid differently to do the same work in administering a COVID-19 vaccine. Furthermore, the lack of a single integrated immunization registry increases costs and the risk of error entering data into multiple systems, and misses the opportunity to better analyze trends and improve the Ministry's ability to rapidly adapt to future disease outbreaks.

We found that the Ministry's booking process for COVID-19 vaccination appointments was unorganized. The lack of a central vaccination appointment booking system, or a system that was integrated with other booking systems used by pharmacies and other health providers, resulted in many Ontarians booking multiple appointments. This contributed to significant no-shows for appointment times that could have been filled by others sooner.

The Ministry has not yet determined the causes of sometimes significant wastage at some public health units, private-sector entities that operated vaccination clinics, and other vaccination site operators. While the provincial COVID-19 vaccine wastage average was about 9% between December 2020 and June 2022, a

private company wasted 57% of their supply between May 2021 and May 2022.

While to some degree, it was understandable that the province did not have a perfect system at the onset of the vaccination program, rectifying the weaknesses we have identified in this report is important to help Ontario become better equipped and prepared to deal with potential surges in demand for the COVID-19 vaccine and to address future disease outbreaks.

OVERALL MINISTRY OF HEALTH AND MINISTRY OF THE SOLICITOR GENERAL RESPONSE

The Ministry of Health and the Ministry of the Solicitor General thank the Auditor General for her work in developing this report and providing recommendations to inform the future of the COVID-19 vaccination program.

The implementation of Ontario's COVID-19 vaccine program in response to the pandemic was unprecedented. The Province worked with the health sector to vaccinate as many Ontarians for COVID-19 as quickly as possible, saving lives and supporting the reopening of the economy.

The COVID-19 vaccination campaign required collaboration and leadership from many government and non-government partners across the province. Public health units, hospitals, long-term care homes, physicians, nurses, pharmacists, first responders, and many more front-line partners and workers made heroic efforts to vaccinate millions of Ontarians in a matter of months. The Province led this work in a manner that saved the most lives, including by prioritizing vaccines to those most at-risk.

In an ever-changing environment, the Ministry of Health and the Ministry of the Solicitor General adapted their approaches to reflect current information, and were guided by advice from experts, particularly in the absence of scientific consensus, as evidence continued to emerge.

The Ministry of Health looks forward to continuing to work with its many partners to provide Ontarians with access to COVID-19 vaccines, and

is committed to building on its success to date. As the health system recovers and stabilizes, the Ministry of Health looks forward to applying lessons learned from the pandemic and from the Auditor General's report. Consistent with, and as described in the responses to specific recommendations, this will include: developing a scalable accountability framework for public health situations that require vaccines as part of moving to standard response; improving the bookings and associated processes; improving vaccination data and associated processes; establishing criteria, or conditions, to consider regarding any reintroduction of proof of vaccination requirements; and continuously improving vaccine communications.

2.0 Background

2.1 Overview of COVID-19 Vaccines

According to the World Health Organization (WHO) and the Public Health Agency of Canada, COVID-19 vaccination is one of the most effective ways to protect people in the community against severe illness, hospitalization and death from COVID-19, though breakthrough infections in people who are vaccinated still occur.

During the COVID-19 pandemic, multiple and often more infectious variants of concern emerged that have reinforced the importance of vaccination. The most notable of these are the more transmissible Delta and Omicron variants, and the increased severity of symptoms with Delta. The WHO declared Delta as a variant of concern on May 11, 2021 and Omicron on November 26, 2021. In February 2022, the WHO released a statement on a new strain of the Omicron variant; it had become the most dominant strain globally when we completed this audit.

2.1.1 Ontario's COVID-19 Vaccination Program

Ontario's COVID-19 vaccination program started in December 2020. By mid-July 2022, Ontario was

offering a fourth dose (also known as the second booster) to adults aged 18 and over, five days after British Columbia made a similar announcement. As of mid-August 2022, almost 35 million doses of the COVID-19 vaccine had been administered in Ontario.

As shown in **Figure 1**, as of August 14, 2022, about 82% of Ontarians aged five and over were fully dosed—the Public Health Agency of Canada defines this as two doses of approved vaccines including either Pfizer and/or Moderna, and one dose of Johnson and Johnson. About 50% of Ontarians had received their third dose (also known as the first booster) and about 13.4% had received their fourth dose. These rates were fairly consistent with or slightly above national rates in Canada, which were 82%, 50% and 12%, respectively.

As of mid-August 2022, third dose uptake in other countries was 73% for adults 18 and over in New Zealand, 69% for people aged 12 and over in the United Kingdom and 72% for people aged 16 and over in Australia, higher than the uptake rate of 61% for adults 18 and over in Ontario.

2.1.2 Roles and Responsibilities in Ontario's COVID-19 Vaccine Rollout

The federal government has responsibilities for approving vaccine use in Canada, and for procuring and allocating vaccines to provinces and territories. As of February 2022, six vaccines have been approved for use in Canada; this includes AstraZeneca, Janssen, Moderna, Pfizer-BioNTech as well as Medicigo and Novavax though few doses of the latter two have been administered to Ontarians to date. Medicigo and Novavax vaccines are mainly for those who cannot receive Pfizer or Moderna vaccines, often because of ingredients that may cause adverse reactions.

Appendix 1 summarizes the effectiveness rates and side effects of the most commonly used vaccines.

In Ontario, the responsibility for providing the COVID-19 vaccine to Ontarians is shared by the Ministry of Health and the Ministry of the Solicitor General. The Ministry of the Solicitor General is involved because of its role in emergency response and

Figure 1: Percentage of Population Aged Five Years and Over Who Are Vaccinated for COVID-19, as of August 14, 2022 (%)

Source of data: Public Health Agency of Canada

Province/Territory	Fully Dosed ¹	Three Doses (or First Booster)	Four Doses (or Second Booster)
Newfoundland and Labrador	92.4	57.6	7.6
Prince Edward Island	88.0	51.4	15.1
Nova Scotia	86.6	54.2	11.1
New Brunswick	84.0	50.7	15.3
British Columbia	83.8	53.1	9.1
Quebec	83.2	52.3	14.9
Yukon	82.2	48.3	12.3
Ontario	82.0	50.4	13.4
Manitoba	80.1	44.5	11.3
Northwest Territories	77.2	41.9	4.0
Saskatchewan	77.0	42.8	12.0
Alberta	76.8	38.8	8.5
Nunavut	74.7	38.0	n/a ²
Canada	82.0	49.6	12.4

1. Primary series completed—previously known as “fully vaccinated”—with either two doses of Pfizer, Moderna, AstraZeneca, Novavax, or Medicago, or one dose of Janssen. For people who are moderately to severely immunocompromised, an additional dose of an mRNA vaccine is required to be considered fully vaccinated.

2. Data not available per the Public Health Agency of Canada.

community safety. The Ministry of Health co-ordinated and supported the 34 public health units, which in turn partnered with hospitals, doctors’ offices and other primary care settings such as community health centres, work places and long-term care homes. Pharmacies started vaccinations slightly later in March 2021, and were still providing them when we completed this audit.

Figure 2 shows the parties involved in planning, funding and delivering COVID-19 vaccines and administering vaccinations in Ontario; **Appendix 2** describes each party’s role in further detail.

By May 31, 2022, the Ministry of Health and the Ministry of the Solicitor General had incurred \$1.5 billion in expenditures for the COVID-19 vaccination program. **Appendix 3** shows a breakdown of these costs.

2.2 Vaccine Supply and Distribution

2.2.1 Transportation, Storage and Shelf Life of Vaccines

Vaccines supplied by the federal government are handled by multiple parties, including government-contracted private-sector warehouses and distributors, before getting to vaccination sites, as shown in **Figure 3**.

Vaccines must be maintained at very cold temperatures at all times, including during transportation. These temperatures vary depending on the brand of the vaccine. Advice about temperatures at which vaccines, particularly Pfizer, need to be stored have changed since the beginning of the vaccine rollout from ultra-low temperatures in the early days, to standard freezer temperatures later on.

Figure 2: Ontario Government and Partners Involved in Delivering COVID-19 Vaccines in Ontario

Prepared by the Office of the Auditor General of Ontario

Federal	Provincial	Regional/Local
- Public Services and Procurement Canada - National Advisory Committee on Immunization - Public Health Agency of Canada - Health Canada	- Ministry of Health¹ - Ministry of the Solicitor General¹ - Ministry of Public and Business Service Delivery - Other Ministries - Public Health Ontario - Ontario Health - Ministers' COVID-19 Vaccine Distribution Task Force² - Ontario COVID-19 Science Advisory Table³ - Ontario Immunization Advisory Committee - Children's Vaccine Table	- Public health units - Pharmacies - Primary care - Hospitals - Ontario Health Teams - Employers and other third parties⁴ - Third-party logistics and warehousing providers

Note: Refer to **Appendix 2** for key roles of each of these entities.

1. Primary auditees of this audit.

2. Retired organization.

3. Effective April 4, 2022, operates as part of Public Health Ontario. Dissolved effective September 6, 2022.

4. Examples include Canadian Red Cross, Medavie, Ornge and Switch Health.

2.2.2 Ontario's Three-Phase Vaccination Plan

In December 2020, Ontario developed its initial vaccination plan called the Ontario's Three-Phase Vaccination Plan; this plan was based on Ontario's Ethical Framework for COVID-19 Vaccine Distribution.

The Ethical Framework

The Ethical Framework set out the general principles for distributing vaccines. It emphasized minimizing harms and maximizing benefits by reducing overall illness and death from COVID-19 and protecting those at the greatest risk, in particular prioritizing vaccines for those at greater risk of severe illness and death from COVID-19, as well as those who care for them. It also highlighted the importance of equity, referring to distributing vaccines in a way that mitigates systemic disparities that may disadvantage people, such as race, ethnicity, gender and socioeconomic status. Both the COVID-19 Distribution Task Force (see **Appendix 4** for full list of members) and the Ontario COVID-19 Science

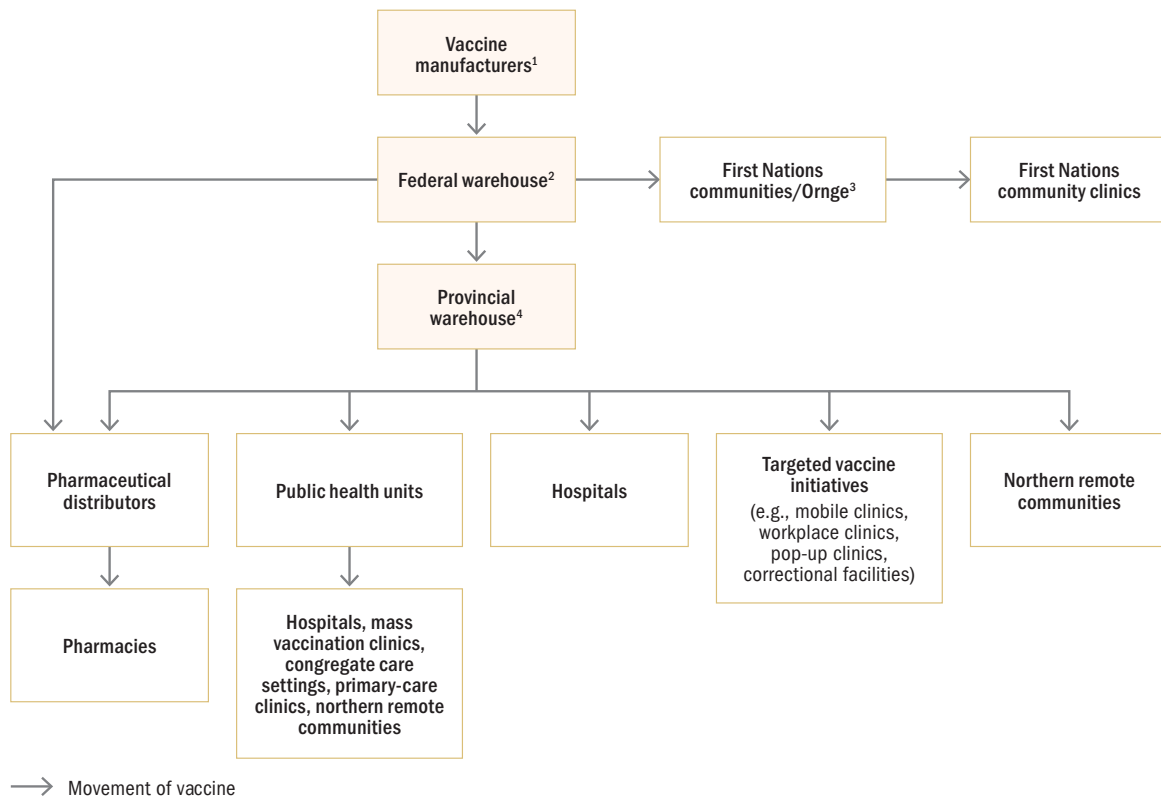
Advisory Table (Science Table) (see **Appendix 5** for full list of members) provided input to this framework, which consisted of six principles as shown in **Figure 4**. The Task Force was accountable to both the Ministry of Health and the Ministry of the Solicitor General.

The First Dose

The initial "first dose" vaccination plan was guided by the overall objectives of preventing death; preventing illness, hospitalization and ICU admission; and reducing transmission. The first priority of those vaccinated in Ontario were health-care professionals who provide direct care as well as hospital staff including those who do not provide direct care, such as hospital support services staff in custodial services or patient registration, due to their risk of contracting COVID-19. After this, priority groups were established based on risk of exposure to COVID-19 and death resulting from contracting COVID-19, starting with long-term care home and high-risk retirement home residents, and workers and seniors in congregate living settings.

Figure 3: Overview of Vaccine Distribution Process in Ontario, March 2022

Prepared by the Office of the Auditor General of Ontario



1. All vaccines arriving in Ontario have been approved by Health Canada and procured by the federal government.
2. The federal warehouse is operated by Innomar Strategies, which provides supply chain and logistics supports for vaccine shipments.
3. Ornge (Ontario's air ambulance service provider) and a federal transfer vendor are responsible for transporting vaccines to Northern Ontario mostly by truck and sometimes by air.
4. The provincial warehouse is operated by Andlauer Healthcare Group, which provides supply chain and logistics supports for vaccine shipments.

Figure 5 shows the highlights of the province's plan for administering first doses of COVID-19 vaccines across Ontario.

The Second, Third and Fourth Doses

Ontario's schedule for second-dose eligibility followed a similar priority schedule to the first-dose three-phase plan. In late May 2021, as two-thirds of adults in Ontario had received at least one dose and a steady flow of vaccine supply had become available, the Ministry of Health began to offer second-dose appointments at an interval of four weeks or more after the first dose for Pfizer or Moderna and 10 weeks for Astra-Zeneca (later increasing to 12 weeks). **Figure 6** shows the second-dose schedule.

The Ministry began to offer third doses of the vaccine to high-risk population groups such as those who are moderately to severely immunocompromised and aged 70 and over in September and November 2021, respectively, and opened it up to everyone 18 and over in December 2021 then 12 to 18 in February 2022. In comparison, both British Columbia and Nova Scotia offered the third dose to adults 18 and over in January 2022 and those aged 12 to 18 in February 2022.

In late December 2021, the Ministry began to offer fourth doses to vulnerable populations including residents of long-term care homes and assisted living facilities. It expanded the offering to people over 60 as well as First Nations, Inuit and Métis and their non-Indigenous household members aged 18 and over in April 2022, and adults aged 18 to 59 in July 2022.

Figure 4: Components of the Ethical Framework for COVID-19 Vaccine Distribution

Prepared by the Office of the Auditor General of Ontario with information from the Ministry of Health

Minimize harms and maximize benefits	• Reduce overall illness and deaths related to COVID-19 • Protect those at greatest risk of serious illness and death due to biological, social, geographical and occupational factors • Protect critical infrastructure • Promote social and economic well-being
Equity	• Respect the equal moral status and human rights of all individuals • Distribute vaccines without stigma, bias or discrimination • Do not create, and actively work to reduce, disparities in illness and death related to COVID-19, including disparities in the social determinants of health linked to risk of illness and death related to COVID-19* • Ensure benefits for groups experiencing greater burdens from the COVID-19 pandemic
Fairness	• Ensure that every individual within an equally prioritized group (and for whom vaccines have been found safe and effective) has an equal opportunity to be vaccinated • Ensure jurisdictional ambiguity does not interfere with vaccine distribution • Ensure inclusive, consistent, and culturally safe and appropriate processes for decision-making, implementation, and communication
Transparency	• Ensure the underlying principles and rationale, decision-making processes, and plans for COVID-19 vaccine prioritization and distribution are clear, understandable, and communicated publicly
Legitimacy	• Make decisions based on the best available scientific evidence, shared values, and input from affected parties, including those historically under-represented • Account for feasibility and viability to better ensure decisions have intended impact • To the extent possible given the urgency of vaccine distribution, facilitate the participation of affected parties in the creation and review of decisions and decision-making processes
Public Trust	• Ensure decisions and decision-making processes are informed by the above principles to advance relationships of social cohesion and enhance confidence and trust in Ontario's COVID-19 immunization program

* Social determinants of health are non-medical factors that influence health outcomes, which can include (but are not limited to) an individual's income, education or employment.

In September 2022, Ontario began to offer a new “bivalent” COVID-19 vaccine, first to those 70 years old and older and other vulnerable populations, and later in the month to anyone 18 years old or older. The bivalent COVID-19 vaccine contains a component of the original virus strain to provide broad protection against COVID-19, and another component to provide better protection against COVID-19 caused by the Omicron variant.

Vaccinating Indigenous Peoples of Ontario

Operation Remote Immunity was a collaborative plan developed by the federal government, Ornge (air ambulance service provider in Ontario), northern public health units, First Nation health authorities, the

Nishnawbe Aski nation, and multiple Ontario ministries, including the Ministry of Health and the Ministry of the Solicitor General, to prioritize COVID-19 vaccination in northern and remote First Nation communities where infection could have disproportionate effects. The federal government announced in February 2022 that the program had ended. By that time, over 42,000 doses had been administered in these communities. **Appendix 6** provides further details on this initiative.

Provincial Pandemic Planning

The Ministry of Health's Emergency Response Plan outlines what the Ministry will do in the event of any emergency that affects the health-care system and the

Figure 5: Ontario's Three-Phase Vaccination Plan, December 2020

Source of data: Ministry of Health

Phase	1. High-risk populations	2. Mass deliveries of vaccines	3. Steady state ¹
# of people (approx.)	1.8 million	9 million	Not specified
Period covered	December 2020–March 2021	April 2021–June 2021	July 2021 onwards
Eligible populations	• Congregate living for seniors • High-risk health-care workers (i.e., direct client contact) • Adults in First Nations, Métis and Inuit populations • Adult chronic home care recipients • Adults aged 80 and older	• Adults aged 55 and older, in decreasing increments (i.e., 50 and older followed by 40 and older, then 18 and older) • High-risk congregate settings • Individuals with certain health conditions² • Certain essential caregivers • People who live in hotspot communities • Those who cannot work from home	• All remaining eligible Ontarians
Delivery channels	• Hospital site clinics • Mobile teams • Site-specific clinics including mass immunization clinics	• Mobile teams • Site-specific clinics including mass immunization clinics • Pharmacies • Primary care • Pop-up clinics • Workplace clinics	• Mobile teams • Site-specific clinics including mass immunization clinics • Pharmacies • Primary care • Pop-up clinics

1. The Province planned to expand coverage to anyone else who wanted to be vaccinated and vaccine administration locations to include sites that normally delivered flu vaccines such as pharmacies and physician offices.
2. During this phase, individuals with certain health conditions were prioritized based on the severity of their health conditions, to allow for vaccinations of the following groups, beginning:
 - In the week of April 26, 2021, those with “highest-risk health conditions” such as organ transplant recipients and pregnant women.
 - In the week of May 3, 2021, those with “high-risk health conditions” such as those who have intellectual or developmental disability, those undergoing chemotherapy or those taking medications that weakened their immune system.
 - In the week of May 10, 2021, those with “at-risk health conditions” such as those with diabetes, heart disease or cancer.

Figure 6: Ontario's Schedule for Second-Dose Eligibility

Prepared by the Office of the Auditor General of Ontario using information from the Ministry of Health

Starting in the Week of	Eligibility Criteria
May 31, 2021*	Age 80+
June 4, 2021	Age 70+ as well as individuals who received first dose on or before April 18
June 14, 2021	Received first dose on or before May 9 and also living in Delta hotspots in Halton, Peel, Porcupine, Toronto, Waterloo, Wellington-Dufferin-Guelph and York public health units
June 21, 2021	Received first dose on or before May 9
June 23, 2021	Received first dose on or before May 30 and who live in Delta hotspots including essential workers who cannot work from home
June 28, 2021	Received first dose May 31 and onwards for all adults 18+

* At the time of the May 2021 announcement, Ontario had already begun offering second doses at a shortened interval to certain Phase 1 groups (as shown in Figure 5), including high-risk health-care workers, long-term care home residents, individuals with certain health conditions and Indigenous populations.

health of Ontarians. It serves as a guiding document in the Ministry's response to a pandemic.

2.2.3 COVID-19 Hotspot Strategy

The province's COVID-19 vaccination plan (discussed in **Section 2.2.2**), developed in December 2020, was based on a per-capita regional allocation of vaccines with the subsequent distribution reflecting the priorities detailed in its three-phase plan.

On February 26, 2021, the Ontario COVID-19 Science Advisory Table (Science Table) published a document summarizing scientific evidence which showed that based on data from January 2020 to January 2021, COVID-19 infections took a disproportionately heavy toll on older adults and “disadvantaged and racialized urban neighbourhoods”. The Science Table suggested that the province take both factors into consideration when allocating vaccines.

About six weeks later, on April 13, 2021, the Ministry of Health revised Phase 2 of its vaccination plan to take into consideration findings from the Science Table brief. The updated provincial plan prioritized areas identified by 114 specific postal code regions (“hotspots”) by providing about 875,000 doses of vaccines to these hotspots over three weeks. The remaining 900,000 were equally distributed across the province's 34 public health units, including those with hotspots. These 114 hotspot communities are located in 13 public health units, many in large urban settings including Toronto, Peel and Ottawa. **Appendix 7** shows a list of these communities.

2.3 Technology Solutions Supporting COVID-19 Vaccine Administration

The Ministry of Health introduced the provincial vaccination appointment booking system in March 2021. The online system was intended to allow clients to easily identify vaccination sites around a particular address or postal code. Clients could either book a vaccination appointment in the system directly or call the Provincial Vaccine Contact Centre via a toll-free number for assistance. When a person enters their health card information into the booking system, an

identity verification check is done automatically to the Ontario Health Insurance Plan database. However, the Ministry did not require all vaccination sites to use this booking system; for example, pharmacies, many public health units and hospitals opted to use their own locally developed booking systems.

The Ministry also established an immunization database called COVaxON to track COVID-19 vaccines administered and vaccine supply. Since all administered doses are recorded in this database, the risk of administering more doses than permitted is minimized.

The provincial vaccination appointment booking system is integrated with the immunization database to ensure that a booking can only be made with sufficient time between doses.

2.4 Administering Vaccines

2.4.1 Vaccination Sites

The number of vaccination sites has fluctuated since the COVID-19 vaccination program began. At peak activity, there were 3,270 vaccination sites (70% of which were pharmacies) in operation across the province. Vaccination sites included mass immunization clinics in convention centres and skating arenas, pop-up clinics, community events, workplace clinics, drive-in clinics, mobile clinics, hospitals, pharmacies, and physicians' offices. People could access vaccinations at these sites through walk-ins, appointments, or events arranged sometimes by local religious or cultural groups in the community.

A mix of public and private-sector entities operated vaccination sites in Ontario. **Figure 7** shows the different vaccinating entities that operated these sites, the duration for which they have administered vaccines, and the main delivery channels that they operated.

2.4.2 Vaccinators

Vaccinators bill for providing vaccines through several methods. For example, public health units bill the Ministry of Health (Ministry) for vaccination services in addition to their routine operational funding. Physicians who provide vaccination services in their

Figure 7: Operation of Vaccinating Entities

Prepared by the Office of the Auditor General of Ontario with information from the Ministry of Health

Vaccinating Entity	Duration of Vaccine Administration ¹	Main Delivery Channels
Public Sector		
Public health units (34) ²	Jan 2021–	Mobile and pop-up clinics (including those in schools, long-term care and retirement homes, assisted living facilities and other congregate care settings), and mass vaccination clinics
Hospitals (86) ³	Dec 2020–	
Private Sector		
Physicians (3,168) ⁴	Mar 2021–	Physicians' offices
Pharmacies (2,974) ⁵	Mar 2021–	Pharmacies
Switch Health (1)	Apr-Sep 2021, Dec 2021–	Mass vaccination clinics at the International Centre to deliver third doses to the public with priority access for identified vulnerable/at-risk populations (Dec 2021-Feb 2022) Vaccination clinic at Toronto Pearson International Airport for temporary agricultural foreign workers ⁶ (Jan-Sep 2022)
Canadian Red Cross (1)	May 2021–	Mobile and pop-up clinics for essential workers, communities with low vaccine uptake, and vulnerable/at-risk populations
Medavie (1)	May 2021–	Mobile and pop-up clinics for essential workers, communities with low vaccine uptake, and vulnerable/at-risk populations
FH Health (1)	Jan 8-Mar 4, 2022	Pop-up clinics prioritizing education workers but open to general public
Calian Inc. (1)	Jan 2021	Health human resources support to augment capacity of mass immunization and pop-up clinics run by public health units
Public and Private Sector		
Various professionals hired by workplaces and employers	Apr-May 2021	Employer led and workplace clinics

1. Open-ended date range signifies that as of August 2022, administration of vaccine was ongoing.

2. Total number of public health units that offered vaccines.

3. Total number of hospitals that submitted expense reimbursement claims to the Ministry of Health (Ministry) from December 2020 to May 2022. Many hospitals co-ordinate with their local public health units to administer vaccines.

4. Total number of physicians that submitted claims to the Ministry for vaccinating in locations including their offices and client's home, up to May 31, 2022.

5. Based on the total number of pharmacies that offered COVID-19 vaccination as of May 31, 2022, according to the Ministry.

6. Also provided translation and snacks to encourage attendance at the vaccine clinic.

practice or in mass immunization clinics bill the Ministry through the Ontario Health Insurance Plan (OHIP); the amounts charged for services are negotiated between the Ministry and the Ontario Medical Association. Pharmacies bill the Ministry through the Health Network System, the system used for claims for publicly funded drug programs.

Typically, each vaccination site would have health professionals such as nurses or pharmacists to prepare doses and administer the vaccines, though smaller sites might have the same staff performing multiple roles. Other non-clinical staff help organize activities at each site, including entering data into the immunization database.

Figure 8 shows the cost efficiency of each vaccinating entity during periods of high and low volume and Figure 9 shows the self-reported vaccinating expenses from public health units.

2.4.3 Adverse Events Following Immunization

Public Health Ontario takes the lead on provincial surveillance of adverse events following immunization (AEFIs), which it defines as any untoward medical

occurrence in a vaccine recipient which follows immunization that cannot be clearly attributed to other causes. This is in line with the World Health Organization's definition.

Local public health units receive reports of AEFIs from health-care providers and, less commonly, individuals who have received a vaccine. Figure 10 shows the flow of information of AEFIs. The local public health unit may investigate if further information is needed, and relevant details are entered into the Case

Figure 8: Cost Efficiency of Vaccinating Entity, by Time Period

Prepared by the Office of the Auditor General of Ontario with data from the Ministry of Health and the Ministry of the Solicitor General

Time Period ¹		Public Sector			Private Sector				
		Public Health Units ²	Hospitals	Physicians ³	Pharmacies ³	Switch Health ⁴	Canadian Red Cross ⁴	Medavie ⁴	FH Health ⁴
Average Cost per Dose (\$)	a	42	21	13	13	362	104	80	n/a
	b	60	60	13	13	1,119	1,017	124	n/a
	c	69	21	13	13	189	76	40	46
	d	77	120	13	13	840	421	97	239
Total Costs (\$000)	a	417,123	120,710	3,980	41,526	2,569	2,782	1,747	n/a
	b	99,202	35,874	598	19,582	666	1,233	1,971	n/a
	c	196,186	21,803	2,977	31,034	10,126	1,378	1,187	344
	d	84,300	21,324 ⁵	558	13,923	3,989	3,083	3,472	333
Total Doses (000)	a	9,894	5,672	306	3,195	7	27	22	n/a
	b	1,647	595	46	1,507	1	1	16	n/a
	c	2,841	1,014	229	2,389	54	18	30	8
	d	1,078	178	43	1,071	5	7	35	1

1. Different periods are defined as follows:

- Dec 2020–July 2021: busy period with the rollout of the first two doses where vaccine supplies were initially short and demand was consistently high.
- Aug–Nov 2021: slow-down period started in August as vaccination rate for the first and second dose reached 80% and 70%, respectively. During this time, the ministries launched their “Last Mile Strategy” to increase vaccine uptake, targeting communities and groups with lower vaccination rates.
- Dec 2021–Jan 2022: with the onset of the highly transmissible Omicron variant and emerging science on the waning efficacy of the primary series, the Province opened up eligibility for third doses.
- Feb–May 2022: demand slowed in February as most eligible Ontarians who wanted third doses would have received them. Also, many people during this period contracted COVID-19 and needed to wait the recommended three months before getting a third dose.

2. Costs by month are calculated as quarterly costs prorated by monthly dosages. Total costs to vaccinate by public health unit include:

- costs incurred directly by public health units and reported to the Ministry of Health for reimbursement, the majority of which is staffing (including their own staff, staff redeployed from municipalities/hospitals/health-care partners and private agency staff);
- costs for vaccinators and support staff provided by a private-sector company (Calian) to support public health unit clinics, incurred by the Ministry of the Solicitor General; and
- costs for physicians to vaccinate and/or supervise at public health unit clinics, incurred by the Ministry of Health.

3. Vaccines administered by physicians (which started in December 2020) and at pharmacies (which started in March 2021) are reimbursed by the Province at \$13 per dose. Costs do not vary between periods.

4. Costs paid to the private-sector companies include costs that are not typically paid to public health units and hospitals, such as facility rentals. These companies helped with overflow capacity and held clinics for hard-to-reach populations.

5. As of October 2022, the Ministry of Health had finalized this funding but had not yet approved or flowed it to hospitals.

Figure 9: Cost Efficiency of Public Health Units, by Region, January 2021 – June 2022

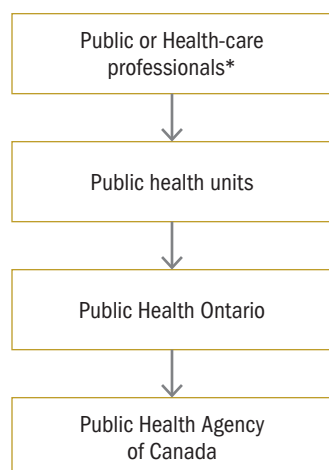
Prepared by the Office of the Auditor General of Ontario based on information provided by the Ministry of Health

Public Health Unit	Total Costs* (\$000)	Total Doses (000)	Cost per Dose (\$)
Halton Region	63,134	729	87
Peel	127,717	1,620	79
Haldimand-Norfolk	6,190	91	68
Sudbury & Districts	23,816	349	68
Toronto	119,991	1,777	68
Huron Perth	14,915	226	66
Region of Waterloo	32,458	508	64
Durham Region	47,078	810	58
Ottawa	79,680	1,429	56
York Region	61,812	1,136	54
Average	804,657	15,582	52
Eastern Ontario	14,692	293	50
City of Hamilton	31,789	642	50
Wellington-Dufferin-Guelph	22,391	458	49
Windsor-Essex County	10,489	225	47
Niagara Region	17,465	395	44
Middlesex-London	23,850	550	43
Kingston, Frontenac and Lennox & Addington	8,602	238	36
North Bay Parry Sound	7,293	209	35
Porcupine	4,893	147	33
Lambton	6,961	217	32
Peterborough	6,642	213	31
Timiskaming	1,720	57	30
Southwestern	8,847	312	28
Leeds, Grenville & Lanark	7,226	263	27
Haliburton, Kawartha, Pine Ridge	5,467	204	27
Algoma	4,723	183	26
Thunder Bay	5,132	207	25
Chatham-Kent	4,100	183	22
Renfrew	3,370	156	22
Brant County	5,987	282	21
Grey Bruce	4,434	214	21
Northwestern	3,108	166	19
Hastings Prince Edward	4,852	266	18
Simcoe Muskoka	13,834	829	17

* Total costs are costs incurred by the public health units and self-reported to the Ministry of Health for reimbursement. They do not include staff support from private companies paid for by the Ministry of the Solicitor General or physicians paid for by the Ministry of Health. Total spending by the public health units also does not represent total spending by the Ministry of Health, as some of the spending will have been covered by base/operating budget of public health units, which are currently cost-shared between the Ministry of Health and municipalities, and extraordinary costs one-time funding, which is 100% funded by the Ministry of Health.

Figure 10: Overview of Information Flow in the Reporting of Adverse Events Following Immunization

Prepared by the Office of the Auditor General of Ontario



* May include those in vaccination sites such as hospitals, mass vaccination clinics and pharmacies and those who provide health-care services to the public such as primary-care health providers.

and Contact Management System for provincial reporting. This system also manages case and case contacts of patients who have tested positive for COVID-19 via a laboratory-confirmed positive test.

From December 13, 2020 to August 1, 2022, there were a total of 21,237 AEFI reports received by Public Health Ontario, shown in **Figure 11**, representing about 0.06% of the approximately 34 million doses of the COVID-19 vaccine administered at that time. This includes “adverse events of special interest” as defined by the Public Health Agency of Canada.

2.5 Vaccine Mandates and Policies

2.5.1 Vaccine Mandates and Policies in Selected Settings

While vaccine mandates required workers to be vaccinated with two doses to be able to work, vaccine policies allowed for unvaccinated workers to be tested for COVID-19 if they are not vaccinated.

Long-term care homes were the only settings in which Ontario implemented a vaccine mandate. In May 2021, the Ministry of Long-Term Care issued a Minister’s directive, which required that all long-term

care homes implement vaccination policies by July 2021. These policies allowed workers who were not fully vaccinated to continue to work, including in direct care positions, as long as they attended an education course on COVID-19 vaccination and produced negative test (i.e., “antigen point of care testing”, also known as rapid testing) results. In October 2021, the Ministry updated the Minister’s directive and mandated all staff, contractors, students and volunteers of long-term care homes to be vaccinated with two doses by December 2021. This was updated in December 2021 to require a third dose for the same groups as well as visitors of the homes. Altogether, the vaccine mandate in Ontario’s long-term care homes was in effect from December 2021 to March 2022. In comparison, British Columbia began its long-term care home mandate in October 2021 and has not yet lifted it as of August 2022; Alberta began its mandate in November 2021 and lifted it in July 2022.

2.5.2 Vaccine Passport

Between September 22, 2021 and February 28, 2022, Ontarians were required to present proof of vaccination—commonly known as the vaccine passport—to access certain high-risk indoor venues, including indoor areas of restaurants and bars, nightclubs, meeting and event spaces, sports and fitness facilities, sporting events, casinos, concerts, theatres and cinemas. See **Appendix 8** for a chronology of events from the announcement of proof-of-vaccination to the lifting of this requirement.

2.6 Legislative Authority and Requirements

Legislation and regulations related to COVID-19 vaccination are shown in **Appendix 9**. Some legislation has been in place since well before the start of the COVID-19 pandemic, while some were developed during the pandemic to address it. These laws establish the powers of Ontario’s local Medical Officers of Health as well as the Chief Medical Officer of Health, and establish new rules to promote the safe reopening of the province by

Figure 11: Adverse Events Following Immunization (AEFIs) for COVID-19 in Ontario, December 13, 2020–August 1, 2022

Source of data: Public Health Ontario

Adverse events – 21,237 reported to Public Health Ontario (63.2 per 100,000 doses administered)

- 20,049 or about 94% were non-serious events, such as pain where the vaccination was received, fever, rashes
- 1,188 or about 6% were defined as serious events¹; 27 of these reports were deaths temporally associated with receipt of COVID-19 vaccines that met the provincial surveillance case definition
- 4 in ages < 5 years²
- 271 in ages 5–11 years
- 738 in ages 12–17 years
- 14,523 in ages 18–59 years
- 5,701 in ages 60 years and over

Significant “adverse events of special interest” noted:

- 21 reports of thrombosis with thrombocytopenia syndrome (also known as blood clots) after receiving AstraZeneca
 - 16 of these were confirmed as vaccine-induced immune thrombotic thrombocytopenia
- 782 reports of myocarditis (inflammation of the heart muscle) or pericarditis (inflammation of the lining around the heart) following receipt of COVID-19 mRNA vaccines
 - The highest reporting rates were observed in younger age groups (12–17 and 18–24 years of age), among males and following dose two of the primary series.

1. Serious AEFIs are defined using the World Health Organization standard definition: an AEFI that results in death, is life-threatening, requires in-patient hospitalization or prolongs an existing hospitalization, results in persistent or significant disability/incapacity, or in a congenital anomaly/birth defect. Due to data limitations and the relatively brief follow-up period of AEFIs reported in Ontario, AEFI reports that meet serious definition typically have an in-patient hospitalization or death reported.

2. Four cases of AEFIs occurred in four-year-olds who were eligible in 2021 because they turned five by the end of 2021.

requiring certain businesses or organizations to check patrons’ proof of COVID-19 vaccination to be permitted to open. The laws also enable more robust data collection related to COVID-19 vaccination and introduced vaccine passports for public places such as restaurants, gyms and movie theatres.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Ministry of Health and the Ministry of the Solicitor General, in conjunction with other stakeholders such as public health units, established cost-effective processes and policies in compliance with relevant legislation to:

- develop and execute a plan to vaccinate Ontarians in a fair, equitable and cost-effective manner in order to minimize transmission of and hospitalization and death from COVID-19;

- oversee the co-ordinated delivery of the COVID-19 vaccination program; and
- measure and publicly report on the effectiveness of the program.

Our audit did not assess the effectiveness, safety, approval or procurement of vaccines, as these are the federal government’s responsibilities. We focused primarily on the Ministry of Health’s and the Ministry of the Solicitor General’s activities leading to and during the COVID-19 vaccine rollout, but excluding assessments of the areas as shown in **Appendix 10**.

In planning for our work, we identified the audit criteria (see **Appendix 11**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies and best practices. Senior management at the Ministries of Health and Solicitor General reviewed and agreed with the suitability of our objective and associated criteria.

We conducted our audit between January 2022 and August 2022. We obtained written representation from Ministries of Health and Solicitor General senior management that, effective November 22, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

At these two ministries, we:

- reviewed applicable legislation and regulations as well as documents consisting mainly of directives, policy frameworks and guidelines, agreements, meeting minutes, briefing notes, and information reports;
- examined information technology controls such as those that controlled the inclusion of vaccination records in the COVID-19 immunization database (COVaxON);
- interviewed staff responsible for overall oversight and funding of the COVID-19 vaccination program to understand current processes and challenges;
- obtained data and reports on COVID-19 vaccination to identify data anomalies, such as cases where vaccines were administered to populations that were not eligible to receive them; and
- obtained data and reports on payments to physicians and organizations that provided vaccination services to reconcile their billings to the ministries against the volume of services provided as recorded in the immunization database.

We also interviewed representatives from a number of organizations. See **Appendix 12** for this list.

To understand local concerns and perspectives on the vaccination distribution and the extent of public health units' involvement, we spoke to seven Medical Officers of Health (Eastern Ontario, Grey Bruce, Northwest, Peel, Toronto, Wellington-Dufferin-Guelph, Windsor Essex) and surveyed all 34 public health units. Thirty or 88% of the public health units responded to our survey.

To solicit their perspectives on government decisions made in providing the COVID-19 vaccine to Ontarians, we solicited input from 10 individuals with expertise in epidemiology, infectious disease, public health, and behaviour science, including those with

expert perspectives in marginalized communities, paediatrics, and geriatric congregate settings, some of whom were members of the Ontario COVID-19 Science Advisory Table (Science Table). We surveyed eight of these experts—those who were familiar with Ontario's vaccination effort but not involved in direct decision-making for the COVID-19 vaccine program. Six of them responded to our survey. We also interviewed the former Scientific Director of the Science Table.

Moreover, we conducted site visits at the following:

- 17 vaccine clinics, consisting of a mix of overt observations to learn about vaccine handling, client flow and information reporting, and covert observations to assess the degree of client traffic; and
- a hospital storage facility at the University Health Network in Toronto; pharmacy distributors operated by McKesson Canada and Shoppers Drug Mart; and the main provincial distribution centre, Andlauer Healthcare Group, to observe storage, cold chain and distribution processes.

We co-ordinated with the audit team of COVID-19 Contracts and Procurement in assessing the two ministries' selection and oversight of private-sector vendors that operated vaccination sites.

We also conducted research from other provinces' COVID-19 vaccination programs to help identify areas where Ontario could improve its operations.

We received several written comments from the public regarding the COVID-19 vaccination program in 2021 and 2022 and considered them in planning this audit; we have grouped these comments into themes, as shown in **Appendix 13**.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies

and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Vaccine Distribution and Uptake

4.1.1 Vaccine Distribution Not Always Equitable

In many respects, the Ministry of Health (Ministry), in partnership with the COVID-19 Distribution Task Force (Task Force), distributed the COVID-19 vaccine to those who were at highest risk of serious illness and death, according to the principles set out in the Ethical Framework developed by the Task Force. However, for long-term care home residents and those living in communities that were at higher risk from COVID-19, distribution was not always consistent with this goal.

Health-care Workers Vaccinated Before Long-Term Care Home Residents Despite Expert Advice

Some health-care workers received the first dose of the COVID-19 vaccine before long-term care home residents, even though many expert groups, including the National Advisory Committee on Immunization, the Ontario COVID-19 Vaccine Distribution Task Force (Task Force) and the Ontario COVID-19 Science Advisory Table (Science Table) identified how important it was to prioritize vaccinating long-term care home residents.

The Science Table issued a brief on January 21, 2021 noting that the Ministry should speed up the vaccine rollout to ensure all long-term care home residents received the first dose of a COVID-19 vaccine by January 31, 2021 to prevent a projected 600 COVID-19 cases and 115 deaths by March 31, 2021.

However, due to logistical constraints, the rollout of the plan to vaccinate long-term care home residents

did not start until December 30, 2020, and was not completed until February 14, 2021, about two weeks after the target deadline set by the Science Table. As shown in **Appendix 14**, the Task Force announced that about one-third of residents and staff had been offered the first dose of COVID-19 vaccine by January 15, 2021. This rate increased to 50% by January 21, 2021 and to 100% on February 14, 2021.

Although Ontario received Pfizer vaccine doses in mid-December 2020, they required ultra-cold freezing and therefore were not approved for transportation out of hospitals or centralized vaccination sites because the required temperatures could not be maintained. As a result, all of the Pfizer vaccine doses were made available to health-care workers and long-term care home staff who could travel to a nearby hospital or vaccination sites.

Meanwhile, we noted that Ontario had received its first shipment of Moderna vaccine doses on December 30, 2020, which were approved for onward transportation to the long-term care homes.

Hotspot Community Selection Mostly Consistent, But Some Inequity Noted

In spring 2021, the Ministry of Health (Ministry), in partnership with the COVID-19 Vaccine Distribution Task Force (Task Force), prioritized the rollout of COVID-19 vaccines to 114 “hotspot” communities. As mentioned in **Section 2.2.3**, the Ministry provided about 875,000 doses, or 44% of all vaccines available to these hotspots over three weeks in April and May 2021. We found that the Ministry applied the selection methodology inconsistently, resulting in certain high-risk communities not being prioritized. This impacted the equity goal set out by the Ethical Framework. Moreover, the Ministry did not clearly communicate how scientific data was used to support their selection of hotspot postal code regions, leaving the public confused about why some communities were selected and others were excluded.

In summer 2020, the Ministry assessed all 509 Ontario postal code regions based on three risk factors—“material deprivation” (poverty) and/or ethnicity concentration, and high COVID-19 testing needs defined as high incidence of positive COVID-19 cases, combined

with low testing rates. The Ministry told us that this assessment, together with discussions with public health units, indicated that 32 postal code regions were impacted more significantly by COVID-19 than others. In response, the Ministry announced the High Priority Communities Strategy in December 2020, which identified 32 postal code regions with high COVID-19 testing needs, and high poverty and/or ethnicity concentration, located in communities of public health units in Toronto, Peel, York and Ottawa. These public health units were designated to receive more resources for tailored community outreach, increased access to testing and wrap-around support for case management.

In February 2021, another risk ranking exercise took place. The Science Table ranked all 509 Ontario postal code regions based on their risk for COVID-19 hospitalization or death. The Science Table told us that they believed these two risk factors were the most reliable indicators of a community's COVID-19 risks.

Upon receiving the Science Table's ranking, the Ministry, in partnership with the Task Force, selected 114 postal code regions as COVID-19 hotspots using a three-step approach involving three risk factors:

- **Risk 1:** 74 (65% of 114) were selected for having the highest risk of COVID-19 hospitalization or death as ranked by the Science Table.
- **Risk 2:** 32 (28% of 114) were added for having high risk of COVID-19 hospitalization or death as ranked by the Science Table, as well as high risk of poverty and/or ethnicity concentration.
- **Risk 3:** eight (7% of 114) were selected because they were already a part of the High Priority Communities Strategy.

We reviewed the hotspots selected by the Ministry, and noted while the overall methodology included relevant risk factors, it was not applied consistently across all postal code regions. Anomalies of the postal code regions included and excluded are outlined in **Figure 12** and noted below.

- When expanding the hotspot selection to include postal code regions that met criteria for both Risk 1 and Risk 2, the Ministry excluded five postal code regions that had a high risk of COVID-19 hospitalization or death, because they did not have a high enough risk of poverty and/or ethnicity concentration.

- When expanding the hotspot selection to include postal code regions that met criteria for Risk 3, the Ministry included eight postal code regions from the High Priority Communities Strategy, even though they did not have a high risk of COVID-19 hospitalization or death. Five of these postal code regions are in York Region, with the remainder in Ottawa and Windsor. The Ministry

Figure 12: Communities Excluded or Included in COVID-19 Hotspot Strategy and Ministry of Health Rationale

Prepared by the Office of the Auditor General of Ontario

Risk 1: COVID-19 Hospitalization or Death¹	
Ranked High but Excluded (5)²	Ranked Low but Included (8)³
NOP (Kent County)	K1V (Ottawa)
N8R (Windsor)	N8X (Windsor)
L2H (Niagara Falls)	N8Y (Windsor)
L7B (King City)	L3T (Eastern York Region)
L7E (Peel)	L6E (Eastern York Region)
	L4B (Western York Region)
	L4E (Western York Region)
	L6C (Eastern York Region)
Risk 2: Poverty and/or Ethnicity Concentration⁴	
Ranked High but Excluded (4)⁵	
L9T (Milton)	
L8M (Hamilton)	
L8P (Hamilton)	
L3R (Eastern York Region)	
Risk 3: Testing Needs (High Priority Communities Strategy)⁶	

1. Risk 1: Risk of hospitalization or death was the first and primary consideration in assigning priority.
2. These communities were excluded despite having higher risk of COVID-19 hospitalization or death. They did not rank high for poverty and/or ethnicity concentration.
3. The Ministry of Health included these communities because they were part of the High Priority Communities Strategy, and had needs identified through COVID-19 testing data from summer 2020 as well as poverty and/or ethnicity concentration (Risk 3). The Ministry explained that these were grandfathered into the hotspot strategy, as a third consideration after Risk 1 and Risk 2.
4. Risk 2: High concentration of poverty and/or ethnicity concentration was the next consideration in assigning priority, after Risk 1.
5. These communities were excluded despite equal or higher risk of hospitalization or death (Risk 1) and poverty and/or ethnicity concentration (Risk 2) than the eight communities that were included in Risk 3. The Ministry indicated that these communities were not part of the High Priority Communities Strategy; as such, they were not further assessed for Risk 2 or Risk 1.
6. Risk 3: High COVID-19 testing needs, defined as high incidence of positive COVID-19 cases, combined with low testing rates, was the third and last consideration in assigning priority, after Risk 2.

explained that these eight lower-risk postal code regions were included in the final hotspot strategy because they were grandfathered in from the High Priority Communities Strategy. However, part of the data and analyses that supported the High Priority Communities Strategy came from the public health units; the Ministry could not provide these analyses at the time of this audit.

- We identified four postal code regions that were excluded even though they had a higher risk of both hospitalization or death, and poverty and/or ethnicity concentration than the eight lower-risk postal code regions that were grandfathered into the hotspot strategy.

RECOMMENDATION 1

So that in future disease outbreaks, high-risk populations are allocated scarce vaccines according to priority need, we recommend that the Ministry of Health, in conjunction with the Ministry of the Solicitor General, incorporate into its future pandemic response plan the need to consistently apply prioritization methodologies supported by scientific data and make this information publicly available.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and will continue to protect high-risk populations—including long-term care residents, health-care workers, and individuals with high risk medical conditions or social factors placing them at high risk for severe outcomes—through access to and delivery of safe and effective vaccinations. This serves the province’s overall goal of preventing death, severe illness, hospitalizations, and intensive care unit admissions.

At the beginning of the COVID-19 vaccination campaign, the COVID-19 Vaccine Distribution Task Force developed the Ethical Framework for COVID-19 Vaccine Distribution that guided COVID-19 vaccine prioritization and distribution decisions. This publicly communicated framework promoted consistency, stewardship, accountability, and public trust in the province’s COVID-19 vaccine program.

In alignment with the Ethical Framework, Ontario developed the hotspot strategy to prioritize high-risk communities for vaccination. Hotspot communities were selected based on their COVID-19 burden (at the time), material deprivation indicators, and if communities were previously selected as a High Priority Community.

For future pandemic responses, the Ministry will continue to use scientific evidence to inform the prioritization of mass vaccination strategies, to be incorporated into response plans such as the Ontario Health Plan for an Influenza Pandemic and ensure this information is available publicly.

4.1.2 Responsibilities in Vaccine Rollout Not Always Well Co-ordinated

Incomplete Accountability Framework for All Parties Involved in Vaccine Distribution and Implementation

Although the Province had a governance structure outlining responsibilities and reporting relationships to support high-level decision-making, that structure did not include organizations such as hospitals, public health units and pharmacies that were integral to delivering the COVID-19 vaccine to the public until after vaccines arrived in Ontario. This left public health units and others involved in the vaccine rollout unclear on their responsibilities at a time when quick responses were critical.

A 2009 order-in-council lays out assignments for various ministries in different types of emergency. According to this document, the Ministry of Health is typically the lead for any health-related emergency. However, the Ministry of the Solicitor General informed us that the pandemic required more logistical support and security for vaccines and vaccination sites; therefore, Ministry of the Solicitor General led the vaccination program jointly with the Ministry of Health, under the *Emergency Management and Civil Protection Act*.

The Ministry of the Solicitor General also informed us that COVID-19 required a whole-of-government emergency management approach and significant intergovernmental and inter-ministerial co-operation. However, without an accountability framework that fully outlined responsibilities and reporting

relationships of all relevant parties, we found there was confusion amongst key parties, such as public health units, hospitals and pharmacies.

We surveyed all 34 public health units and asked them if they believed that the province established clear lines of responsibility for those involved in the COVID-19 vaccine rollout, such as public health units, hospitals, pharmacies, private-sector vendors and various ministries. Of the respondents, 67% disagreed, while 13% agreed, and 20% did not have an opinion. Half of the respondents also disagreed that the province clearly identified to partners in the vaccine rollout that public health units were to take the lead on the operational aspects of the COVID-19 vaccine rollout, such as the setup of clinics and allocation of inventory within a public health unit, while 33% agreed and 17% remained neutral. For example, early in the vaccine rollout, hospitals were the only entities that had freezers capable of storing the vaccines. This effectively gave hospitals control of the vaccine inventory. Because the Province did not clearly assign public health units the responsibility to direct inventory, their ability to get the vaccine where they believed it was needed most was impacted. Six public health units indicated that having the vaccines stored in hospitals resulted in complications in inventory decisions. For example, some hospitals asserted to public health units that they would determine how it should be used given vaccines were stored within their facilities.

While public health units were asked to co-ordinate the vaccine rollouts in their regions, the Ministry of Health would often independently determine how other service delivery partners would supplement the public health units' efforts. For example, the Ministry selected pharmacies to participate based on factors such as their participation in previous influenza vaccination programs and the pharmacies were not necessarily located in the best places to increase access to the COVID-19 vaccine. Five public health units indicated that a more tailored approach was needed in their regions to support more equitable distribution to rural and lower income areas.

The Ontario Medical Association (OMA) noted that the province's decision to include family physicians as vaccinators along with pharmacies came late, leaving

physicians with little time to prepare and plan. The OMA also emphasized roles in reaching different populations, stating "pharmacies were good for people who wanted vaccine, and primary care was good for people who needed vaccine."

During our audit, it was unclear what entity is responsible for investigating immunization database fraud involving Ontario pharmacies. Two situations needing investigation identified by public health units in the summer of 2022 had to await a determination from the Ministry of Health's legal team on who would be responsible for investigating, leaving the database still susceptible to further fraudulent activity at pharmacies. This meant that potentially more unvaccinated individuals may be able to gain access to places where proof of vaccination is needed. The Ministry has since identified a process for pharmacy investigations, but it had not been implemented at the conclusion of our audit. We discuss the potential for fraud in the immunization database further in **Section 4.4.1**.

As the COVID-19 vaccination program transitions from a pandemic response model to more standard response, these gaps in accountability need to be addressed to clearly outline how COVID-19 vaccinations will fit into the province's existing routine vaccination program.

Vaccine Distribution Task Force Did Not Have Sufficient Representation from Public Health Units

The COVID-19 Vaccine Distribution Task Force did not include public health unit representatives until more than one month after it was first established—a significant period considering the urgency to determine distribution priority during a time of scarcity in vaccine supply. Public health units are primarily responsible for implementing vaccination programs in Ontario. Over half of the public health units that responded to our survey noted that the Task Force should have included preventive medicine expertise from public health from inception. As well, Public Health Ontario was not represented on the Task Force. While it participated in some of the working groups, its representatives informed us that in their view, they could have contributed more scientific/technical expertise and support on vaccine distribution decisions. This is consistent with

findings from our 2020 Special Report on Outbreak Planning and Decision Making, where we noted that Public Health Ontario played a diminished role, despite the fact that the agency was created after the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 specifically to provide scientific and technical expertise during health emergencies.

The same audit report also noted that regional responses were not led by public health experts. We found that although a local Medical Officer of Health (who later became the provincial Chief Medical Officer of Health) was eventually added to the Task Force, his appointment came on January 8, 2021, more than a month after the rest of the Task Force had started their work on December 4, 2020. The urgency and need for establishing priorities for vaccine access made it more critical to have expertise among decision-makers who understood the tenets of the Ethical Framework (described in **Section 2.2.2**) and equitable access to vaccination for those in greatest need.

We asked all 34 public health units if the Task Force included the appropriate expertise and used it to inform its decision-making. Of the public health units that responded, 57% disagreed with this statement, 10% agreed, and 33% did not have an opinion. All public health units that disagreed identified public health and preventive medicine specialists as an area of need. We also surveyed medical experts on this issue and while 17% of respondents agreed, 33% disagreed and the other 50% had no opinion. For example, one expert informed us: “The problem was not access to expertise...The problem was that the leadership of the Task Force did not know and/or did not recognize the nature of the expertise needed. They knew too little to see what they needed to know.” (For a description of the experts surveyed, see **Section 3.0.**)

We also found it difficult to evaluate the effectiveness of the Task Force. When we asked the Ministry of Health and the Ministry of the Solicitor General whether they followed all the advice of the Task Force, they informed us that they considered all advice provided by the Task Force, as well as other factors, when making decisions on the vaccination program. The ministries advised us that the Task Force’s proposed actions were generally aligned with the actions

ultimately taken by the government, but the ministries did not maintain records to demonstrate this.

A number of medical experts and public health units also questioned the choice of Task Force leadership. While they acknowledged that the logistics expertise of a retired general was valuable, they would have rather had someone with a public health background as the leader. Their concerns centred around a lack of understanding of Ontario’s existing distribution system for vaccines and experience with mass immunization clinics, which may have enabled a more efficient implementation. We raised a similar issue with the Health Command Table established by the Ministry of Health in the 2020 Special Report on Outbreak Planning and Decision-Making.

We surveyed all 34 public health units and asked whether the province made an appropriate decision in appointing a retired general to lead the Vaccine Distribution Task Force. Of the respondents, 67% disagreed, compared to 10% that agreed, while 23% did not have an opinion. We also surveyed medical experts on this issue and 50% of respondents disagreed and the other 50% had no opinion.

RECOMMENDATION 2

To better respond to disease outbreaks and to transition the COVID-19 vaccination program from pandemic response to standard response, we recommend that the Ministry of Health:

- establish a clear, scalable accountability framework that includes all relevant parties for public health situations that require emergency action involving vaccines; and
- incorporate the framework and a requirement to review it annually for continued relevance in its future pandemic response plan.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and will continue to implement its scalable accountability framework as it transitions from pandemic response to standard response. The COVID-19 vaccination program required the collaboration of many ministries, agencies, levels of

government and partners. The province's COVID-19 vaccine governance framework guided the implementation of the COVID-19 vaccine program and ensured that key partners understand their roles and responsibilities in the program.

Currently, the Ministry's status is in "recovery", which means it is resuming regular operations and supporting health sector stabilization. As the transition to standard response is completed, the accountability framework will be reviewed annually and adapted as appropriate.

4.1.3 Young Adult First Booster Vaccination Rates Only 40% by Summer 2022 at Emergence of Highly Contagious Variant

Targets Not Set to Guide Efforts on Third and Fourth Doses

Since December 2021, the Ministry of Health's goal for boosters has been to maximize coverage as quickly as possible, without establishing any specific vaccination rate goal or time frame to achieve it. The Ministry informed us that it did not set more specific goals because in its view, targets were problematic, given the Omicron variant's increased transmissibility compared to previous COVID-19 variants, meaning many would be required to delay receiving a dose due to a recent infection. In addition, the Ministry believed the public was fatigued and uninterested in additional doses of the COVID-19 vaccine. However, without a vaccination coverage target, it could not effectively order the appropriate quantities of COVID-19 vaccines for Ontarians to limit wastage. The Ministry informed us that in its experience, demand forecasting is more effective than working toward a minimum wastage target.

In contrast, the Ministry established targets and achieved them for vaccinating adults 18 and over with the first and second doses, as noted in **Appendix 15**.

Public Health Ontario has analyzed the impact of the first booster (or third dose) on a reduction in hospitalization—between December 15, 2021 and March 27, 2022, when Omicron was the dominant

circulating strain, about 5,848 hospitalizations were prevented among people 18 and older.

As discussed in **Section 2.1.1**, Ontario's third dose coverage as of mid-August 2022 lagged behind rates in British Columbia, Quebec and the Atlantic provinces. At that time, 50% of Ontarians had received the third dose. We examined the vaccination rates by age group and found that while older adults had higher rates for third doses—at least 80% of people 60 and over—the coverage rates for younger Ontarians were lower, ranging from 40% for people aged 18 to 29 to 64% for people aged 50 to 59, as shown in **Figure 13**.

While experts have noted that contracting Omicron, which emerged in late 2021, conferred immunity for three months, delaying the need for a third dose for some, in most cases there would have been an opportunity to obtain a third dose by mid-August 2022.

Also, as of mid-August 2022, less than 40% of children aged five to 11 had received the second dose.

Meanwhile, the National Advisory Committee on Immunization recommended in 2022 timings for third and fourth doses for certain groups (see **Appendix 16**). However, the Ministry did not establish any coverage rate targets or time frames, and therefore, it could not measure the vaccination coverage rates against targets to identify any corrective actions needed.

Figure 13: Vaccination Rates in Ontario by Dose and Age Group, as of August 2022 (%)

Source of data: Ministry of Health

Age Group	First Dose	Second Dose	Third Dose
5–11	58	38	See Note
12–17	91	94	19
18–29	90	87	40
30–39	92	89	48
40–49	91	90	55
50–59	92	90	64
60–69	98	97	80
70–79	100	100	90
80+	100	100	91

Note: 335 children, or 0.03% of children aged 5–11 have received the third dose as of August 18, 2022 due to their immunocompromised conditions.

Vaccination Rates Unknown for Most Population Groups with Risk Factors

While the most significant risk factor for COVID-19 is age, health conditions can also make people more vulnerable to COVID-19. As activities move indoors and in-class learning continues in fall and winter 2022, having local data on and targets for vaccination rates for population groups with higher risk factors could help direct vaccination efforts toward the most vulnerable people in Ontario. The Ministry of Long-Term Care measures vaccination rates of long-term care residents, but the Ministry of Health does not keep similar records for those who are immunocompromised or who live in other congregate settings. We discuss the lack of data collection in this area in **Section 4.4.1**.

RECOMMENDATION 3

To protect Ontarians, especially those who are at higher risk of becoming severely ill from COVID-19, we recommend that the Ministry of Health:

- seek expert advice on and set appropriate, clinically sound vaccination targets by risk group;
- collect and measure vaccination uptake rates against these established targets; and
- update its vaccination strategy on a timely basis in response to new information.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and will continue to work with federal and provincial partners around the development of evidence-based targets by risk group and set targets, if appropriate, based on clinical guidance, epidemiologic data, and strategic objectives. This includes ongoing collaboration and discussion with the Pan-Canadian Public Health Network structure (e.g., Canadian Immunization Committee), Public Health Ontario and the Ontario Immunization Advisory Committee.

The Ministry will continue to work with ICES to collect, measure, and monitor vaccination uptake

rates for high-risk groups in Ontario. The Ministry will continue to share vaccination uptake rates for high-risk groups on a routine basis with key stakeholders involved in the delivery of COVID-19 vaccines, provincial program clinical leads at Ontario Health, public health units, pharmacies, primary care providers, and hospitals.

Based on these collaborations, as well as epidemiological information monitored through the Ontario Chief Medical Officer of Health's office, the Ministry continues to review and update guidance for COVID-19 vaccines and recommendations for high-risk groups on a routine basis.

4.2 Vaccination Appointment Booking

4.2.1 Provincial Booking System Was Released Three Months after Vaccines Arrived, Resulting in an Unco-ordinated System

Ontario received its first shipment of vaccines in mid-December 2020. However, the Ministry of Health did not introduce a provincial vaccination booking system until March 15, 2021. This system includes bookings made through the provincial vaccination appointment website and telephone appointments made by calling the toll-free number for the Provincial Vaccine Contact Centre. Because vaccinations commenced in Ontario in December 2020, before the implementation of the provincial booking system, many public health units and other vaccination site operators developed their own booking tools.

Medical experts and public health unit staff have told us that the provincial government should have made centralized vaccination booking ready and available sooner than when it was delivered. We asked all 34 public health units whether they believed that the provincial government had the vaccination appointment booking system ready on time. Of the public health units that responded to our survey, 73% disagreed that the system was ready in time, compared to only 17% that indicated they agreed; 10% had no opinion on this issue.

In addition, 83% of the public health unit respondents agreed that they spent time, effort and resources to produce their own vaccination booking systems.

By April 2021, of the 34 public health units, 13 (38%) were using both online and telephone booking through the provincial booking system, six (18%) were using the provincial online booking site but continued to operate their own service desks for telephone booking, and 15 (44%) opted to use their own online booking tools and service desks for telephone booking.

By April 2022, 16 (47%) public health units were using the provincial booking system, with the remaining 18 (53%) opting to use their own booking tools and service desks for telephone booking. We surveyed all public health units and asked whether they believed that the province should have required the use of its vaccination appointment booking system province-wide. Interestingly, only about 27% of the public health units that responded to our survey agreed with this, compared to 58% that disagreed. Several public health units indicated the use of their own booking system allowed for local flexibility. About 23% of the public health units had no opinion on this.

In comparison, most other vaccination site operators did not use the provincial booking system either. Most hospitals used their own vaccination appointment booking tools, with the exception of six hospitals that were using the provincial system at the time of our audit. Pharmacies and primary care facilities used their own vaccination appointment booking systems.

The Ministry informed us that it does not know how many different COVID-19 booking systems have been used across the province. The provincial vaccination booking system remains decentralized.

In comparison, Nova Scotia and Quebec had centralized vaccination appointment booking systems from the time vaccines arrived. As well, in Nova Scotia's booking system, clients enter their age and postal code and the system provides a list of the next available appointments and locations. Alberta informed us that its booking system allowed for booking appointments at pharmacies as of August 23, 2021.

4.2.2 Eligibility Inconsistencies across Multiple Booking Systems Resulted in Confusion, Poor User Experience and Access, and Missed Opportunities for Health Data Collection

While the Ministry of Health can control eligibility criteria for vaccination site operators through the provincial vaccination booking system, other vaccination site operators using their own booking systems, such as some public health units, most hospitals and all pharmacies, could relax the timing of COVID-19 vaccine availability to eligible populations. In some instances, this allowed people who booked through these systems to get an appointment before those who booked through the provincial booking system. Ministry staff confirmed that though site operators using their own booking system are expected and obligated to follow eligibility rules provided by the Ministry, decentralized booking systems undermined the Ministry's ability to control vaccination eligibility decisions for specific groups. Over 70% of the public health units that responded to our survey found that the multiple booking systems resulted in confusion for Ontarians. As well, some public health units responded that multiple booking systems prevented data collection on social determinants of health to better address equity concerns, and skewed the number of vaccination bookings to those with time and resources to vaccine shop.

The lack of a centralized booking system, especially at the start of the rollout when vaccines were scarce, resulted in inconsistent controls and checks when booking an appointment for priority groups, such as health-care workers and people who are immunocompromised, to ensure that people belonging to these priority groups were the only people allowed to book an appointment. According to the public health units that responded to our survey, 80% of public health units had established registration processes and about 87% had established vaccination site processes to verify priority when vaccines were scarce. Two-thirds of the medical experts who responded to our survey also indicated the multiple vaccine appointment booking systems resulted in confusion for Ontarians; reduced

the ability to obtain a vaccination appointment in a timely manner; reduced public trust in the Ontario government; and reduced the positive reputation of the Ontario government. Half of the medical expert respondents indicated it reduced the ability to provide vaccines equitably and that it increased no-shows due to vaccine shopping.

Because of the rapidly changing criteria, the Ministry tracked eligibility by public health unit to assist the Ministry of Public and Business Service Delivery's call centre staff in directing callers from across Ontario seeking vaccination. For example, on April 4, 2021, of the 34 public health units, two were booking individuals 60 years of age and older, four were booking those 65 years of age and older, 26 were booking those 70 years of age and older, and two were booking those 75 years of age and older.

Some hospitals requested to use the provincial booking system, even where the public health unit in which they are located did not. This meant that a person living close to the hospital would need to know to check both the provincial booking system and the hospital's website to ensure they were aware of all of the vaccination openings close to home.

4.2.3 No Centralized Booking System Resulted in Ontarians Booking Multiple Appointments Which Led to No-Show Appointments at Critical Times

Many unco-ordinated booking systems, compounded by different vaccination site operators applying eligibility criteria differently in their booking systems, resulted in Ontarians "vaccine shopping" or signing up for more than one appointment at a time. This resulted in many "no-show" appointments.

Vaccine shopping had detrimental impacts on the efficiency of vaccination appointment booking. A "no-show" appointment represents a missed opportunity for another person to be vaccinated sooner. We surveyed all 34 public health units and found that 80% of those that responded believed that multiple booking

systems resulted in a high number of no-show appointments due to vaccine shopping.

In mid-June 2021, the Ministry of Health partially addressed multiple bookings by programming the provincial booking system to run a daily check on the immunization database to cancel any appointments for a person who had already received the dose. However, this would only identify multiple appointments made in the provincial booking system, and would not help where multiple appointments are made through other booking systems.

According to data provided by the Ministry, in 2021, there were over 227,000 no-show appointments booked in the provincial booking system. This number does not include no-shows in pharmacy, hospital, primary-care and public health unit systems.

We surveyed all 34 public health units to ask whether they would like to see future system enhancements restrict duplicate appointments. Of those that responded to our survey, 90% agreed and 10% had no opinion on this issue. Two-thirds of responding medical experts also agreed.

4.2.4 Third-Party Organization Intervened to Assist the Public with Vaccination Appointment Booking

The Ministry of Health has not assessed the value of organizations such as Vaccine Hunters Canada in helping Ontarians find vaccination appointments quickly, how they may have helped to improve equity and what lessons could be learned.

To help members of the public more easily access vaccination appointments, Vaccine Hunters Canada—a group of volunteers from across Canada, with many in Ontario—developed tools and used social media to help Canadians navigate eligibility and appointment booking. Vaccine Hunters Canada was established in March 2021. It is an independent, non-partisan, volunteer-run community service founded by a concerned Ontarian who had difficulties booking vaccination for his parents, and recognized a gap in co-ordination.

In March 2022, the organization scaled back operations due to a reduced need for their services as the demand for vaccines declined.

The founder of Vaccine Hunters Canada set up an online forum using Discord and a Twitter account and started using popular social media platforms such as Instagram, Facebook, Snapchat and TikTok to raise awareness of available vaccination appointments. Through these platforms, volunteers who joined him in his efforts and the public posted appointment availability by region. This includes posting cancelled appointments to help avoid empty appointment times. One of the most popular tools the organization used was its online forum, where Ontarians could select their province and region to be directed to local open vaccination appointment times.

Vaccine Hunters Canada also attempted to aid in the consolidation of information about open appointment times through the “Find your Immunization” tool, a web-based application. This tool allowed individuals looking for vaccination appointments to obtain more streamlined access to some pharmacy bookings through partnerships with providers such as Sobeys and Walmart.

Vaccine Hunters Canada also partnered with the City of Toronto, which provided the city’s vaccination clinic appointment availability for the next day, at the end of each day.

The Ontario Ministry of Health informed us that it had made a deliberate decision not to reach out to Vaccine Hunters Canada, or refer to Vaccine Hunters Canada by name in media conferences, because it did not want to show preference for any third party that was attempting to help Ontarians co-ordinate their bookings.

4.2.5 Provincial and Local Booking Information Websites Not Accessible to All Ontarians

Online Information on How to Book a Vaccine Available in English and French but Not in Other Languages

Ontario’s government website provides information on how to book a COVID-19 vaccination appointment, but only in English and French. Census data from 2016 found that 3.7 million Ontarians, or about 28% of the

population, have a mother tongue other than English or French. In comparison, British Columbia’s website on how to access a COVID-19 vaccine had the capacity to translate instructions on its vaccine booking website in up to 14 other languages, including Tagalog, Russian, Mandarin, Cantonese, and Farsi. Alberta’s COVID-19 websites included direct access to resources that provided translations in over a dozen languages.

The Ministry utilized the Provincial Vaccine Contact Centre, which had access to translation in over 300 languages by phone call. However, we found that there was no reference to the Contact Centre on the Ministry’s general COVID-19 webpage or its webpage on how to book a vaccine. The Ministry’s COVID-19 vaccine webpage mentions the Contact Centre’s capacity to translate to over 300 languages only at the bottom of the webpage, distant from the link to “book an appointment”.

Booking System Not Built to Ensure that Priority Groups Get Appointments First

On December 15, 2020, the Ontario Medical Association (OMA) proactively released a white paper titled “Shining a Light at the End of the Tunnel—Guiding Considerations for a Safe, Accessible and Equitable COVID-19 Vaccination Framework in Ontario.” The paper included recommendations based on its extensive knowledge of the health-care system, including the need to integrate information systems, surveillance and monitoring, vaccine distribution and administration, defining priority populations, as well as public education and addressing vaccine hesitancy. **Appendix 17** outlines the Association’s recommendations.

This white paper recommended that the government use an integrated online information system for vaccination appointments that should also account for differences in patients’ access to technology and digital literacy to ensure that “this system does not exclude some patients, particularly those who may be most vulnerable.” We surveyed medical experts regarding whether in their view the provincial vaccination appointment booking system was user-friendly and accessible for Ontarians of all ages and all socioeconomic

statuses; 67% disagreed. One noted that “it was clear that community dwelling seniors especially in poorer neighbourhoods did not get their vaccines as fast as internet savvy people in wealthy neighbourhoods” and another that “it was a ‘hunger games’ approach that favoured those with the time and resources to pounce upon limited openings ... those who needed it least were getting it first, and the cause is privilege of education, time, and tools.”

One public health unit (Wellington-Dufferin-Guelph) partially addressed this concern by using a pre-registration system, where Ontarians in this region looking to obtain vaccines could pre-register their profile online, and be contacted when it is their turn for a vaccine based on their risk profile. This system was intended to support that the highest priority individuals would have access to vaccination appointments, regardless of how tech savvy they were. It also enabled the health unit to identify local communities that had lower rates of pre-registration, signalling a need for outreach.

We surveyed all 34 public health units to ask if they would like to see a pre-registration function in the provincial vaccination appointment booking system. Of those that responded to our survey, 47% agreed and 23% disagreed. The remaining 30% had no opinion on this issue. Over 80% of the responding medical experts agreed.

RECOMMENDATION 4

To promote effectiveness and equity in vaccination appointment booking for both on-going COVID-19 and any future provincial mass vaccination programs, we recommend that the Ministry of Health:

- co-ordinate with vaccination site operators, including public health units, hospitals and pharmacies, to consistently apply vaccine eligibility criteria across booking sites;
- develop and implement technology options such as that used by Vaccine Hunters Canada to assist the public with finding openings for vaccination appointments centrally;
- assess the feasibility of identifying and pre-registering high-risk individuals so that they are given priority for vaccine

appointments and incorporate this in its future pandemic response plan; and

- develop an online communication strategy for future mass vaccination program appointment booking to accommodate languages other than English and French, and incorporate this in its future pandemic response plan.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and continues to co-ordinate with vaccination site operators to consistently apply eligibility criteria through multiple channels and will continue to evaluate and explore other methods to align the application of eligibility criteria across booking sites.

The Ministry will assess the value of creating a technology solution to assist the public with finding openings for vaccination appointments centrally, if in a situation where there is insufficient vaccine supply to meet demand.

The Ministry continues to adopt the recommendations of the National Advisory Council on Immunization, which determines which populations are considered to be high-risk. The Ministry will continue to evaluate and explore opportunities for assisting high-risk individuals to get vaccinated, including an assessment of the feasibility of using a pre-registration system in Ontario.

The Ministry will continue to evaluate and explore opportunities to expand the language selections available to those booking vaccination appointments, including undertaking an assessment of other provinces and regions in Ontario accommodating languages other than English and French for appointment booking. Throughout the vaccine program, the Provincial Vaccine Contact Centre made booking available in 300 languages for clients whose public health unit used the provincial booking system. The province created resources in multiple languages at points throughout the vaccine program (e.g., Indigenous languages, Spanish, Arabic, etc.) which included information on how to book a vaccine and will continue to do so.

4.3 Vaccination Sites and Vaccine Administration

4.3.1 Compensation Rates and Methods Varied Between Vaccinators

Wide Range of Vaccination Rates Paid to Vaccination Site Operators

As expected, our analysis of cost per dose across public-sector and private-sector entities, as discussed in **Section 2.4.2**, indicated that cost per dose is significantly higher during periods of low demand compared to periods of high demand due to economies of scale, and fixed costs such as rent, advertising, IT and staffing.

Overall, our analysis also indicated that public health units, hospitals, pharmacies, doctors' offices and other primary care settings, responsible for the majority of vaccines administered by the province, are more cost-efficient than the private clinics contracted by the ministries. Public health units and hospitals operate mass immunization clinics, which are the most cost-efficient delivery channels, and are capable of vaccinating many people at the same time. Physicians' offices and pharmacies are reimbursed by the province at \$13 per dose, regardless of the costs they incur to vaccinate.

Private-sector companies were primarily engaged by the ministries to provide support for public health units in vaccinating hard-to-reach and/or priority populations such as temporary foreign workers, essential workers who cannot work from home, and communities with low vaccine uptake. We would expect them to be costlier per dose than the public sector due to the challenges of reaching these populations; however, our analysis indicates significant variations in cost per dose, as shown in **Figure 8**.

Variations in cost per dose also occurred across public health units. Our analysis of self-reported vaccinating expenses from public health units, as shown in **Figure 9**, indicated the cost per dose varied widely from a low of \$17 to a high of \$87, averaging \$52 per dose. According to the Ministry of Health, the majority of these costs are for staff, such as vaccinators and clinic support staff. The Ministry explained that costs associated with delivering the COVID-19 vaccination program vary based on local conditions at public health

units such as: existing capacity, available infrastructure, unique population needs, geography, municipal government support, and assistance from local hospitals, primary care settings and pharmacies.

While we recognize that the Ministry was facing unprecedented time constraints due to the pandemic, looking forward, it would be prudent for the Ministry to identify more cost-efficient channels, as well as the potential use of volunteers, particularly during a crisis point in a pandemic, for future mass vaccination campaigns.

The Ministry of Health and the Ministry of the Solicitor General Paid Very Different Compensation Rates to Vaccinators Depending on Profession or Vaccination Site

We found that the Ministry of Health and the Ministry of the Solicitor General paid different rates to vaccinators depending on their profession and whether they worked in a site operated by a private-sector organization, a hospital or a public health unit. Physicians received much higher compensation than nurses and pharmacists for vaccinating the public at vaccination sites operated by public health units and hospitals. Where private-sector organizations provided staff for vaccination sites operated by public health units or hospitals, those private-sector staff were paid more than staff who work at and are compensated directly by public or not-for-profit organizations such as public health units or hospitals. Vaccination compensation rates are shown in **Figure 14**.

The Ministry of Health and the Ministry of the Solicitor General did not oversee equitable and reasonable payment processes for vaccinators. For example, while the Ministry of Health informed us that it paid physicians more than nurses because doctors generally are paid more, it did not have an analysis to show this was fair given that health-care professionals all performed this task at vaccination sites. Further, the Ministry of Health had already provided \$642 million in interest-free advances to eligible OHIP billers, which includes physicians, by July 31, 2020 to address any cash flow issues that may have arisen during the initial stages of the COVID-19 outbreak. This payment was described in our 2020 Special Report on Management of Health-Related COVID-19 Expenditures.

Figure 14: Comparison of Hourly Compensation Rates for Selected Vaccinators in Selected Settings (\$)

Source of data: Ministry of Health, Ministry of the Solicitor General and five selected public health units

	Physicians	Pharmacists	Registered Nurses	Registered Practical Nurses	Paramedics
Vaccination clinic with vaccinators ¹ provided by a private-sector company ²	n/a ³	120	120	82	95
Mobile vaccination clinic operated by a not-for-profit organization ¹	62	62	62	62	62
Mass vaccination or mobile/pop-up clinic operated by a public health unit ^{4,5}	170	30	33–49	25–37	30–49
Mass vaccination clinic or mobile/pop-up clinic operated by a hospital ^{4,6}	170	43–57	32–49	30–31	n/a ⁷

1. Hourly rate listed is for working days of up to 12 hours per day, where the vaccinator lives within 100 km of the clinic to which they have been assigned. The rate increases if vaccinators do not live within 100 km of the clinic, work on statutory holidays, or work over 12 hours per day.
2. The Ministry of the Solicitor General entered into a contractual agreement with this company in April 2021 to provide vaccinators and support staff to various clinics in the province operated by public health units, hospitals and the Province.
3. As per the terms of the contractual agreement, physicians provided medical oversight at an hourly rate of \$250 but not vaccinator services. Medical oversight includes medical guidance and enhanced care to patients at the clinic if required.
4. Hourly rate listed is for Monday through Friday from 7am to 5pm. The rate increases if the vaccinators work on holidays or for hours worked from 5pm to 7am.
5. Data provided by five public health units that we surveyed to obtain vaccinator compensation information. These public health units are located in different parts of Ontario. The range represents the lowest and highest of all responses we received. In addition to the five professions listed, public health units also used retired nurses, retired physicians, veterinarian students, pharmacy and nursing students, dentists and firefighters. The public health units paid them a standard hourly rate of \$21–\$30 regardless of their occupation.
6. Data taken from publicly available documents such as collective agreements and job postings for a sample of five hospitals.
7. Paramedics are employed by the municipality or local public health units.

Equitable compensation across all vaccine clinic models that are used to provide the COVID-19 vaccine to the public is of increasing importance going forward.

In an effort to address pay inequality amongst different health professionals who performed the same task administering vaccines, one public health unit we spoke with paid all vaccinators a standard hourly rate as set out in existing compensation arrangements regardless of the vaccinator's profession.

Physicians Are Not Financially Incentivized to Vaccinate at Their Offices

Primary-care offices were considered to be a good location to address vaccine hesitancy by leveraging existing trust in doctors. Physicians could work at their own offices, and also at mass immunization clinics operated by public health units or hospitals. However, we found that the billing structure established by the Ministry of Health did not incentivize physicians to provide vaccination services at their offices. In fact, the Ministry had

not compared the benefits of vaccinating in mass clinics versus vaccinating in physician offices.

Physicians were paid \$170–\$220 an hour by the Ministry under the ministry-negotiated agreement for working at vaccination sites operated by a public health unit or a hospital. In comparison, physicians who vaccinate patients in their own offices receive \$13 per dose, a rate also meant to cover overhead and administrative costs of vaccinating, such as personnel for data entry. The significant discrepancy in these rates paid to physicians may have effectively disincentivized physicians to vaccinate patients in their offices. The Ministry informed us that it did not have any policy goals regarding whether physicians vaccinate in their offices or at mass clinics, and had no analyses, including expenses and time incurred in each model, to justify the differences in pay.

The Ministry created two hourly billing codes related to all COVID-19 work performed by physicians: H409A (\$170 per hour for regular work hours on weekdays)

and H410A (\$220 per hour for work performed outside of usual Monday to Friday business hours). These two codes can be used by physicians to bill the province not only for vaccine administration, supervision and adverse events monitoring at vaccination sites, but also COVID-19 assessment services run by hospitals. Due to the lack of distinct billing codes for other COVID-19-related physician services, the Ministry could not determine how much of the funding was paid for vaccinating patients versus assessing patients.

From March 2021 onwards, physicians began to administer COVID-19 vaccines at their offices. **Figure 15** compares statistics for physicians who billed by the hour for working with public health units and hospitals and those who billed by the dose for vaccinating at their offices from March 2021 to May 2022. More than 6,000 physicians billed the province at the hourly rate for COVID-19-related work, while just over 3,000 billed the province for office vaccinations during this period.

We surveyed all 34 public health units about their views on the way physicians were compensated. Of the public health units that responded, 40% thought physicians were overpaid for their work at mass immunization clinics, and their workloads were not in line with their compensation. Nine public health units' staff had heard from physicians that they were influenced to work at mass immunization clinics instead of at their own offices due to the difference in compensation.

When asked to comment on challenges faced during the vaccine rollout and what additional support they would like to see from the province, nine public health units flagged the lack of involvement from doctors and primary-care offices as a major issue, as they were the most trusted places for many people, especially children, to get vaccinated. Public health units also said that physicians were not properly incentivized to vaccinate in their own offices. Furthermore, public health units reported that the physician compensation rates for working in clinics resulted in low morale in other vaccinators working at the same sites who were paid far less, and were already feeling burned out and under-appreciated.

4.3.2 Weak Reconciliation Processes for Vaccinating Entities Compensated Based on Vaccination Volume

We found that the Ministry of Health and the Ministry of the Solicitor General did not consistently reconcile payments made to pharmacies and other vaccinating entities that bill the ministries based on the number of doses administered. Such an exercise would confirm that the ministries only pay for services Ontarians receive.

- The Ministry of Health paid more than \$8 million to physicians for administering vaccines at locations chosen by the physicians, usually their

Figure 15: Physician Billing for Vaccination, Supervision and Monitoring, March 2021–May 2022

Prepared by the Office of the Auditor General of Ontario with information from the Ministry of Health

Work Location	Physicians Billing (#)	Pay Rate (\$)	Average Billed per Physician	Total Physician Billings	Total Amount Billed (\$ million)	Average Billed per Physician (\$)
Vaccination Site or Assessment Centre Operated by a Hospital	4,339 ¹	170 per hour (daytime), 220 per hour (after hours)	160 hours	695,998 hours	132	30,488
Vaccination Site or Assessment Centre Operated by a Public Health Unit ²	3,472 ¹	170 per hour (daytime), 220 per hour (after hours)	114 hours	394,158 hours	77	22,124
Physician Office	3,168	13 per dose	197 doses	623,711 doses	8	2,565

1. 1,690 physicians billed for work done for public health units and hospitals and are thus included in both totals.

2. We included data for physicians belonging to the family practice or general practice specialty only, as those physicians are most likely to also have a primary care practice. This billing includes not only COVID-19 vaccination at clinics but also supervision and monitoring at those clinics (public health units and hospitals), as well as work performed at COVID-19 assessment centres (hospitals only).

offices, between March 2021 and May 2022, but it has not reconciled these payments with doses administered, as recorded in the immunization database. The Ministry reviewed payments to these physicians and identified the top biller. The top billing doctor was asked to provide proof of vaccination for the doses administered at their office between May 2021 and February 2022. The Ministry found that the vaccination location identified in the database was a mass vaccination site, not the doctor's office. This finding necessitated further follow-up; the case remained unresolved as of August 2022.

- The Ministry of the Solicitor General reviewed a report of daily doses administered by each FH Health location to ensure that the expenses were reasonable based on vaccination volume. However, this report was prepared by FH Health and was not verified with records in the immunization database to ensure accuracy. We reviewed FH Health's billing against the immunization database and noted that the billing was reasonable.

4.3.3 Adverse Events Not Regularly Monitored across Vaccination Sites

The Ministry of Health and Public Health Ontario do not monitor trends in adverse events following immunization or breakthrough infections at all vaccination sites to detect potential concerns with sites or vaccinators. Breakthrough infections occur when a vaccinated person is found to be infected with the disease against which the person was vaccinated.

Public Health Ontario performs surveillance, and publishes public reports on breakthrough infections and adverse events following immunization (weekly, later reduced to bi-weekly). However, it does not analyze the data to identify trends at vaccination sites or with specific vaccinators.

Public Health Ontario informed us that identifying these trends in cases following vaccination at a specific clinic may lead to biased results due to factors unrelated to vaccination sites or vaccinators. For example, a vaccination site may have been targeting a higher risk group, or an age group more likely to

have waning immunity, potentially resulting in higher breakthrough cases in a certain population. Analyses of breakthrough cases by lot number would be expected to have similar limitations and challenges, in addition to others related to variability in lot sizes and the distribution of vaccine lots across multiple provinces and territories in Canada. However, these types of analyses may still provide the Ministry with areas of concern to investigate, given the delicate nature of the vaccines, and the expansion of eligible vaccinators.

4.3.4 No Scalable Mass Delivery System Ready for Future Emergency Use

Over the course of the vaccine rollout, the Ministry of Health has not fully studied ways to improve the efficiency of vaccination sites in Ontario. This work could identify, for example, how quickly a patient can be moved through the screening, check-in, and vaccination, and any time spent waiting between steps.

Media reported on significant line-ups outside vaccination sites in winter, often including vulnerable seniors with mobility issues. For example, in early March 2021, a vaccination site in Newmarket for people 80 years or older with appointments reportedly had lines outside; the report also noted minimal physical distancing in the line. Also, when demand for vaccines surged in late December 2021 during the rollout of third doses, one mass immunization clinic in Ottawa had people with appointments wait outside for up to two hours.

The Ministry studied the processes, procedures, layouts and practices at nine different mass immunization clinics between summer 2021 and December 2021. This study, which was finalized in July 2022, looked at:

- pros and cons of each mass immunization clinic model as shown in **Figure 16**;
- efficiency as measured by the number of doses of vaccine administered per staff member per hour in each model;
- the average time spent in a clinic from entering the clinic, to check-in, to vaccine administration, including wait times between steps, but excluding the post-vaccination observation period and the time to line-up before check-in; and

Figure 16: Models of Mass Immunization Clinics Reviewed by the Ministry of Health

Source of data: Ministry of Health

Clinic Model	Description
Traditional	Each step in the process (i.e., check-in, vaccine administration, post-vaccine observation) occurs at a different station and clients move through the stations.
Circular and/or Hockey hub	Clients remain in the same seat throughout the vaccination process and vaccinators and support staff come to them to check-in, administer a vaccination and observe them after vaccination. Clients' seats are arranged in circles.
Drive through	Clients remain in their vehicles throughout the process.

- qualitative measures including COVID-19 safety protocols, security (for example, from anti-vaccination protesters), ease of access and staff workload.

The Ministry acknowledged the limitations of the study since it examined only nine high-volume clinics that were considered better-performing clinics according to self-reported data. The study did not assess low-efficiency clinics that likely could have most benefited from identifying areas for improvement. Also, the report indicates that periods reviewed were different for each clinic, and only included the booster rollout in December 2021 for some of the clinics studied.

One third of the medical experts that responded to our survey disagreed that the provincial government had established a flexible vaccination clinic model that allows for adaptation should mass vaccinations be needed in the future. One expert noted, “I don’t see a clear model, I see an unco-ordinated scramble.” Another stated, “I think family doctors and pharmacists should be...vaccine givers...line-ups for mass vaccination were ineffective and older people or disabled or people who worked long hours couldn’t access them.”

As of August 31, 2022, the Ministry had not shared the study and its recommendations with public health units to help them plan for the fall vaccination surge expected for the new bivalent COVID-19 booster. As well, at that time, the Ministry still had no plans to ask public health units to report performance indicators developed in the study, such as measuring vaccine doses administered per staff member per hour, and average time spent by a client inside the clinic from entrance to vaccination, due to concerns about the administrative burden on public health units.

RECOMMENDATION 5

So that payments made to vaccinating entities are commensurate with expected performance and output, we recommend that the Ministry of Health, in conjunction with the Ministry of the Solicitor General:

- review the differences in compensation to health-care professionals and update compensation rates to address differences for future vaccination campaigns;
- create distinct physician billing codes for different services performed in future vaccination campaigns to enable meaningful analysis of the specific services rendered, and incorporate this process in its future pandemic response plan;
- reconcile payments made to vaccinating entities that bill by doses administered against vaccination data at least on a quarterly basis; and
- develop performance indicators that measure the efficiency of mass vaccination sites, collect this data and compare across vaccination sites at least on a semi-annual basis to learn from this information and make improvements.

MINISTRY OF HEALTH RESPONSE

Compensation of health-care professionals, whether it be for pandemic-related activities or for routine duties, is subject to numerous influences, including, but not limited to, collective agreements, negotiations with professional associations, labour market factors, private-sector companies establishing agency rates (which may differ from

compensation paid to agency staff), sector norms and job specifications. The Ministry of Health will review compensation rates for future vaccination campaigns with these factors in mind.

The Ministry will assess the feasibility and necessity of more granular billing codes for future vaccination pandemic responses based on its experience during the COVID-19 pandemic. Physician billing codes and compensation are subject to negotiation between the Ministry and the Ontario Medical Association.

While direct reconciliation between vaccination data and billing systems will be limited, the Ministry will better monitor vaccine volumes and payments through available systems to identify risks as part of its stewardship of vaccine funding.

The Ministry will work with public health units who continue to offer large vaccine clinics to develop a measure of efficiency to be piloted.

4.4 Immunization Database

4.4.1 Data in Immunization Database Was Not Consistently Updated and Validated

Immunization Database Built Without Sufficient Controls and Processes to Catch Erroneous Entries

The Ministry of Health did not have processes to regularly validate or check for possible erroneous entries until December 2021, despite the significant risk of inappropriate entries from the beginning of the vaccine rollout in late 2020.

While the Ministry monitors the immunization database for potential security breaches from external sources, it has done little to proactively validate records being entered into the database. Between November 2021 and June 2022, public health units and the public flagged 11 instances of fraudulent activity in the database with the Ministry. These activities included falsifying vaccine records, altering existing records, and using personal information for malicious activities like “phishing.” The Ministry relies on certain vaccination site operators, such as public health units, hospitals, and pharmacies, to ensure that they initiate their own investigations. Investigations are often prompted by

complaints or reports from the public. The Ministry does no actual investigations on its own, and offers only administrative support by providing requested reports for public health units and other partners to assist them in completing their own investigations. However, this presents a problem if the vaccinating site operator is the source of the suspicious activity, for example in pharmacies, as discussed in **Section 4.1.2**.

Since December 2021, the Ministry has monitored the vaccination database records to identify unusual or suspicious activity (for example, a user account being accessed from multiple locations, or high counts of records accessed by end users). However, this was introduced three months after proof of vaccination became mandatory in September 2021. The Ministry confirmed with us that once a fraudulent record has been created, such as a proof of vaccination, there is no ability to revoke the system-generated QR code. This means that a person with a QR code generated from falsified information will have continued use of the code, potentially increasing risk to the public. (For more information on proof of vaccination, see **Section 4.6.1**.)

Patient Profile Information Not Consistently Captured in Immunization Database, Reducing Ability to Identify High-risk Areas and Population Groups

The immunization database has several limitations in its capacity to collect important data, which has hindered efficient targeting of high-risk populations.

Ontario’s immunization database was built rapidly to address the information needs of mass vaccination during a pandemic. The Ministry of Health indicated that it updated the database as needs were identified by program staff. Experts in public health have indicated that sociodemographic information, such as race, household size, and total income helps identify marginalized populations and facilitates equitable vaccine distribution. Even though the database was designed to house this information, the Ministry did not require its collection and many vaccinating entities did not collect it. We analyzed all database records from December 2020 to May 2022 and found that about 95% of the records did not include any sociodemographic information. Of the records that did include this information,

we noted that some were missing data. For example, 18% of records that had information were missing the client's ethnicity, and about 10% were missing total household income. In August 2022 during the course of our audit, the Ministry added a component to the immunization database that required vaccinators to ask for consent to collect sociodemographic information, but still did not require that vaccinators try to collect it.

In addition, the immunization database has a field for "reason for immunization," for vaccination site staff to enter eligibility information. Ministry documents indicate that this field is currently used to provide insights for planning the vaccination program delivery and monitoring coverage for key populations. Clients may have several relevant risk traits that collectively describe their risk profile—for example, a person may be a 60-year-old health-care worker who is Indigenous. However, only one reason is allowed in the immunization database. For example, according to Ministry guidelines on selecting reason for immunization, this person would only be identified as a health-care worker, as that is higher on the data-entry guidance. Consequently, many important risk factors are not collected, even though they could be used to help identify vaccination coverage and design outreach efforts in high-risk areas and population groups.

At the time of our audit, the only way that data on high-risk groups could be collected was through an Ontario-based, not-for-profit research group, ICES (formerly known as the Institute for Clinical Evaluative Sciences). The Ministry provides funding to and relies on monthly reports from ICES for information from other large databases, the cancer and kidney registries for example, to fill in the data gaps.

Seven public health units that responded to our survey also agreed that the less-than-complete client profiles being collected for the "reason for immunization" field in the immunization database is an area of concern. Some Ministry staff see the value of collecting more than one "reason for immunization" on client profiles in the immunization database to obtain a more complete risk profile, but the Ministry has not made this change nor had it planned the change at the time we completed this audit. The Ministry informed us that it

needed to balance clinical workflow with desired information, and that this decision to include only one reason was endorsed by an internal table on vaccine reporting.

In June 2021, the Ontario COVID-19 Science Advisory Table also noted that Ontario does not track and report vaccination rates among people with disabilities. The Ministry still relied on ICES (formerly known as the Institute for Clinical Evaluative Sciences) for this at the time we completed this audit. Evidence from other jurisdictions shows that this population experiences an increased risk of COVID-19-related hospitalization and death.

Inventory Component of Immunization Database Not Integrated with All Systems in Vaccine Supply Chain, Resulting in Incomplete Data and Unnecessary Manual Data Entry

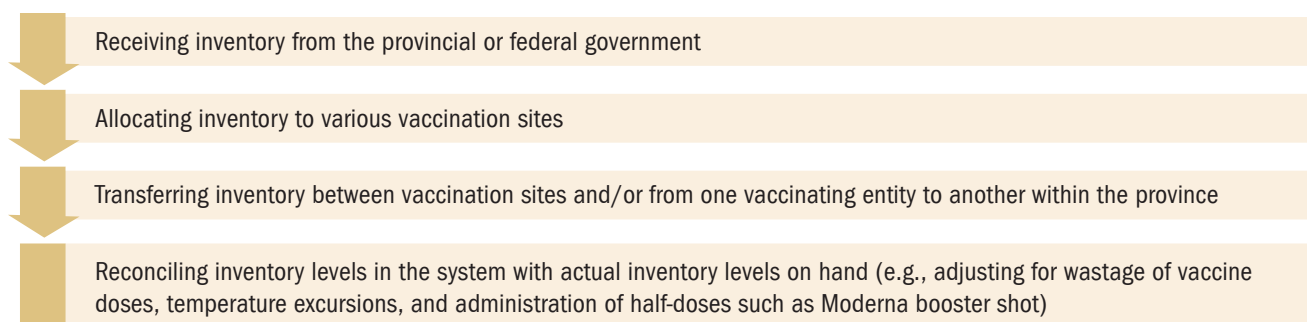
The immunization database is both a vaccination records database and a support for inventory management of COVID-19 vaccines in the province. This inventory component of the database currently requires information inputs at various stages, as shown in **Figure 17**.

The Ministry of Health (Ministry) relies on the provincial warehouse and two major pharmacy distributors for the storage of vaccine inventory upon arrival from the federal warehouse, as shown in **Figure 3**. All three of these distributors have their own individual in-house inventory systems, but these systems are not integrated with the immunization database. This means that distributors need to enter shipments received from the federal warehouse, as well as outgoing shipments to vaccinating entities (such as public health units and pharmacies) twice—once in their own systems, and again in the immunization database. This administrative burden has resulted in distributors not entering detailed data into the immunization database in a timely manner, which creates issues as the vaccines flow through the supply chain.

This lack of integration has also resulted in unnecessary, repeated manual data entry for vaccinating entities, who have to manually enter details about vaccines received into the immunization database, such as quantity and lot number, when they receive vaccines

Figure 17: Steps in COVID-19 Vaccine Inventory Management

Prepared by the Office of the Auditor General of Ontario



from distributors. One major drawback of requiring manual inputs for most inventory-related transactions is human error, which results in inventory errors and increased workload to correct these errors. An accurate picture of available inventory at all vaccination sites and storage spaces in the province is important, as it allows the Ministry to more accurately assess how many more vaccine doses it will need to fulfill predicted demand. Inaccurate inventory reporting can result in vaccine shortages or unnecessary stockpiles.

Starting in March 2021, the Ministry required public health units to perform physical inventory counts of vaccines and reconcile them to the number of doses available in the immunization database on a daily basis, due to discrepancies in inventory tracking. This process gradually decreased to weekly and eventually was phased out in June 2022. If the immunization database was integrated with inventory systems used by distributors, fewer manual inputs would have been required, and public health units may not have needed to reconcile as frequently during the busiest periods of the vaccine rollout. We surveyed all 34 public health units and asked if they believed that the immunization database was effective in supporting vaccine inventory processes. Of the public health units that responded to our survey, 43% disagreed, compared to 30% that agreed; 27% of the respondents did not have an opinion on this. Those that did not feel the database was effective in supporting vaccine inventory processes had concerns with the manual process, especially when public health units are responsible for managing inventory for

themselves and for external partners such as primary-care practitioners and retirement homes in their areas.

In January 2022, the Ministry conducted a data validation exercise with 28 public health units that voluntarily participated. The four main themes that public health units highlighted as the reasons for discrepancies, and the percentage of units that identified these reasons are shown in **Figure 18**.

4.4.2 Immunization Database Designed for Mass Immunization Clinics Not Integrated with Systems Used by Physicians and Pharmacists

Despite warnings from stakeholders as early as December 2020 highlighting the importance of integrating the immunization database with health records, no integration has been achieved. The Ministry of Health informed us that the immunization database was originally designed for use in mass immunization clinics, and acknowledged that in its current form it is not as efficient in other settings, such as primary care and pharmacies. Primary-care service providers vaccinating in their own clinics bill through the Ontario Health Insurance Plan, record vaccination information into the database and also update their own electronic or other medical records because the immunization database is not integrated with other electronic medical record systems. This is an administrative burden for service providers and increases the risk of incomplete patient medical records.

The white paper published by the Ontario Medical Association (OMA) in December 2020 (described in

Figure 18: Reasons for Inventory Discrepancies Reported by 28 Public Health Units

Prepared by the Office of the Auditor General

Reason	# of Public Health Units reporting
Incomplete inventory reporting at vaccination sites, and when external partners are involved in vaccination efforts	16
Backlog in data entry, mainly resulting from wastage, transfers, and reconciliation of lot numbers	12
Half-dose data entry for Moderna booster, where six half-doses of booster are counted as six full doses, requiring manual adjustments to add three doses back into the system	10
General data entry errors caused by, for instance, inexperienced staff or staff shortages	8

Section 4.2.5) noted the importance of information systems meeting providers' needs, and that any vaccine systems must be co-developed with end users to align better with their workflows. Representatives of the OMA also informed us they had concerns about the lack of integration of the two systems.

The Office of the Chief Medical Officer of Health informed us that integration of these systems could occur only through negotiations with electronic medical record vendors. Work to determine the strategy and approach to integration began with Ontario Health in May 2022, but as of August 2022, no progress had been made.

Pharmacies are also required to perform duplicate administrative activities to submit billing information—billing through the Health Network System (the pharmacy billing system) and separately enter data into the immunization database.

4.4.3 Lack of a Proper Immunization Registry Limits Ontario's Ability to Rapidly Respond to Future Disease Outbreaks

Significant Deficiencies with Previous Immunization Databases Resulted in the Lack of a Reliable Immunization Registry in the Pandemic

Ontario does not have an effective and operational immunization registry to support vaccination efforts and data analysis, despite previous, costly attempts to create one. Immunization registries support public health work such as planning for and evaluating

targeted programs for populations with lower rates of vaccination, managing vaccine inventory, and identifying individuals who are overdue for vaccinations.

In 2007, Ontario made the decision to replace the Immunization Records Information System (IRIS) with the pan-Canadian system known as Panorama—a system that cost the province over \$115 million from 2010 to 2016, with annual average maintenance costs of over \$10 million since then, for a total of about \$170 million since 2010. However, despite the significant costs incurred, both IRIS and Panorama had similar weaknesses. They only included vaccinations required under the *Immunization of School Pupils Act*, even though the Ministry of Health informed us in 2014 during our audit on Immunization that it had a “vision” to expand Panorama to include all vaccinations for all Ontarians.

Our 2014 Immunization audit also noted that the systems did not consistently include vaccinations administered by vaccine providers other than public health unit staff, such as pharmacies, primary care and hospitals, since there was no legislative requirement for these providers to report vaccinations. Furthermore, these vaccine providers could not directly access either system. Our 2014 audit also noted that until all health-care providers enter information at the time of a vaccination, Panorama cannot provide the data needed to identify areas with low coverage rates. Such data is needed to help prevent future outbreaks and identify vulnerable people during an outbreak. The Ministry acknowledged in 2014 that this was an important component of ensuring a robust provincial immunization database.

In 2017, the government attempted to rectify this issue with an amendment to the *Immunization of School Pupils Act*. This amendment would have resulted in a requirement for all vaccine providers to report information on any vaccination to the public health unit in the area the vaccine was administered. However, this section of the legislation was never proclaimed. In June 2021, during the COVID-19 pandemic, the government recognized the importance of obtaining a record of vaccinations for COVID-19, and enacted the *Covid-19 Vaccination Reporting Act, 2021*. This new Act requires persons or entities who administer COVID-19 vaccines to report vaccine-related data to the Ministry of Health's new COVID-19 immunization database, which has cost over \$144 million from the beginning of its development in April 2020 to May 2022.

Currently, three distinct systems, as shown in **Figure 19**, support the province's vaccination records. The Ministry informed us that Panorama was not being used as a COVID-19 immunization database because of its limitations, which meant an immunization registry was not available for use in Ontario when the COVID-19 pandemic occurred in 2020. The Ministry was required to start from the beginning with a new database. British Columbia uses Panorama to record COVID-19 vaccination data.

The Ministry also informed us that the new COVID-19 immunization database it developed has

the technological capability to be an immunization registry for all immunizations. During our audit, a review was being done by a consulting firm appointed by the Ministry to determine an approach to long-term technology for Ontario's evolving provincial vaccination program, but no decisions had been made on the expansion of the database. All medical experts that responded to our survey agreed that they would like to see a provincial immunization registry (for all vaccines including COVID-19 vaccines and those covered by the *Immunization of School Pupils Act*) since this would allow health-care professionals to better deliver tailored vaccine strategies to the people who need them most. This registry would also allow public health professionals to adapt more quickly to the emergence of future outbreaks.

Significant Costs and Time Required to Train Vaccinators on New Immunization Database Without an Existing Functional Immunization Registry

Ministry analyses indicate that vaccination site staff training to use the COVID-19 immunization database was time-consuming because the database was completely new. This increased the administrative burden and lowered efficiency at a time when public health units and other health-care professionals were trying to respond to the pandemic early in the health care crisis. A survey of all 34 public health units conducted by the

Figure 19: Vaccination Record Systems in Ontario

Prepared by the Office of the Auditor General of Ontario

System	Description
Panorama	Includes data on vaccines in the <i>Immunization of School Pupils Act</i> , as well as inventory for routine vaccines and vaccine-related supplies, including those used in the administration of the COVID-19 vaccines.
Immunization Connect Ontario (ICON)	Supports vaccine providers and members of the public in reporting their vaccination records to public health units.
COVID-19 vaccination database (COVaxON)	Contains all data related to COVID-19 vaccinations.

Ministry of Health in July 2021 found that most public health units required six to 14 days to train primary-care providers to use the immunization database, and that 88% of public health units had a dedicated lead to manage both staff training and support for using the system. The Ministry informed us that even if Panorama was used as Ontario's immunization database, at least three to five days of training for all non-public health unit staff would have been needed.

We conducted a survey of all 34 public health units in August 2022. Of those that responded to our survey, 47% agreed that they spent extensive time training staff to use the immunization database. For example, 60% of the public health units that responded indicated they developed their own guidance documents on how to use the immunization database.

RECOMMENDATION 6

To better protect Ontarians from COVID-19 and other vaccine-preventable diseases in the future, and to improve data quality on vaccination activities, we recommend that the Ministry of Health, in conjunction with Ontario Health and the Information and Privacy Commissioner of Ontario:

- use findings from investigations on misrepresentation and fraud to implement processing controls to improve the security and integrity of vaccination data;
- improve and update the immunization database to allow vaccination site staff to collect multiple data elements on client risk factors to support efforts to equitably distribute vaccines;
- consult with distribution partners and other parts of the vaccine supply chain to evaluate user experience of the inventory component of the immunization database, to identify ways to provide better oversight of inventory across Ontario, and to reduce waste;
- consult with health-care providers in different settings to evaluate the user experience of the

immunization database and streamline it as much as possible;

- if separate systems remain, undertake needed work such as engaging with vendors or developing interim solutions, to integrate external information systems, such as electronic medical records and third-party inventory systems, with the immunization database,
- create a comprehensive immunization registry that will allow for more efficient service delivery for all vaccines; and
- explore legislative options to require collection of data about the vaccine recipient, vaccinator and vaccine for all vaccinations including the COVID-19 and other routine vaccines for adults and children.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and will review and make improvements to vaccine-related information technology (IT) solutions to ensure they meet the needs of the program and users. The Ministry will work with Ontario Health and the Privacy Commissioner on exploring appropriate updates to the system that also respect individuals' privacy and are operationally feasible.

The Ministry recognizes the importance of identifying vaccine fraud attempts and will continue to work with key partners to enhance controls in IT solutions, where possible.

The Ministry looks forward to continuing to consult with health-care providers to improve user experiences for existing and new IT solutions. The Ministry will continue to make progress on its planned IT solutions, including the integration of electronic medical records with other health system solutions. A discovery project is under way to assess provincial immunization systems and develop an approach to an integrated immunization solution, which includes a comprehensive immunization registry.

4.5 Vaccine Wastage

4.5.1 Ontario Wasted at Least 3.4 Million or 9% of the Vaccine Doses Received from the Federal Government as of June 30, 2022

The decline in demand for vaccines in 2022 resulted in vaccine inventory challenges. The Ministry of Health has not taken sufficient action to date to guard against excessive vaccine waste. Some wastage is due to weaknesses in the immunization database used for vaccine inventory management. As noted in **Section 4.4.1**, inventory tracking is manual and the Ministry acknowledges this can result in the inefficient use of provincial vaccine inventories. While the Ministry does not pay directly for these vaccines, unnecessary vaccine wastage impacts Ontarians through federal government expenditures. In addition, wasted vaccines could have been used to address inequity of vaccine distribution across the world in less affluent countries, resulting in increased global immunity, reduced COVID-19 spread, and possibly the prevention of new variants.

Ministry records show that between December 23, 2020 and July 5, 2022, 3.4 million doses of COVID-19 vaccine, or 9% of the 37.5 million doses received from the federal government during this period had been wasted.

This wastage is understated as it excludes data from the province's distribution centres run by private companies. These companies use their own warehouse inventory systems to track vaccine inventory, and there is no interface between these systems and the Ministry's immunization database. Companies are required to report wastage to the Ministry, and the Ministry informed us that such wastage is minimal. However, in August 2022, the Ministry did not have complete information from all of the private companies, and had not confirmed the accuracy of the reporting, such as by reconciling the wastage with the amount of vaccine that flows into and out of the distribution centres. The Ministry told us that accurate reporting of distribution centre inventory data, including wastage, is an ongoing project it is undertaking with distribution centre operators. As of August 2022, distribution centres were required to adjust inventory levels in the Province's database manually every week.

Our examination of wastage data indicates that wastage is low in periods of high demand, but increases as demand slows. This is evident in the four periods between the months of December 2020 and June 2022, as shown in **Figure 20**.

Figure 21 compares the two main types of wastage in Ontario from December 23, 2020 to June 30, 2022. While open-vial wastage fluctuates based on shifts in demand, as discussed above, about one million doses amounts of closed-vial wastage occurred in the first half of 2022 as vaccines reached their manufacturers' expiry dates.

Much of the wastage was the result of a Ministry overestimate; the Ministry informed us that it orders vaccines from the federal government which purchases them based on its evaluation of demand. The demand for boosters fell far short of demand for first and second doses. The Ministry also did not establish vaccination targets as discussed in **Section 4.1.3**, or support demand with public advertising and other communications as effectively. The Ministry's analysis from July 2022 indicated that if demand for third and fourth booster doses by the eligible population had been comparable to the first and second doses, the province would have administered 4.4 million more third doses and 2.4 million more fourth doses. Moreover, while the Ministry informed us that the federal government advised that these expiring vaccines could not be donated to another jurisdiction because they were too close to expiry, the Ministry had not obtained information about the amount of time that is required prior to vaccine expiry for a vaccine to still be donated. This information could have helped minimize vaccine wastage.

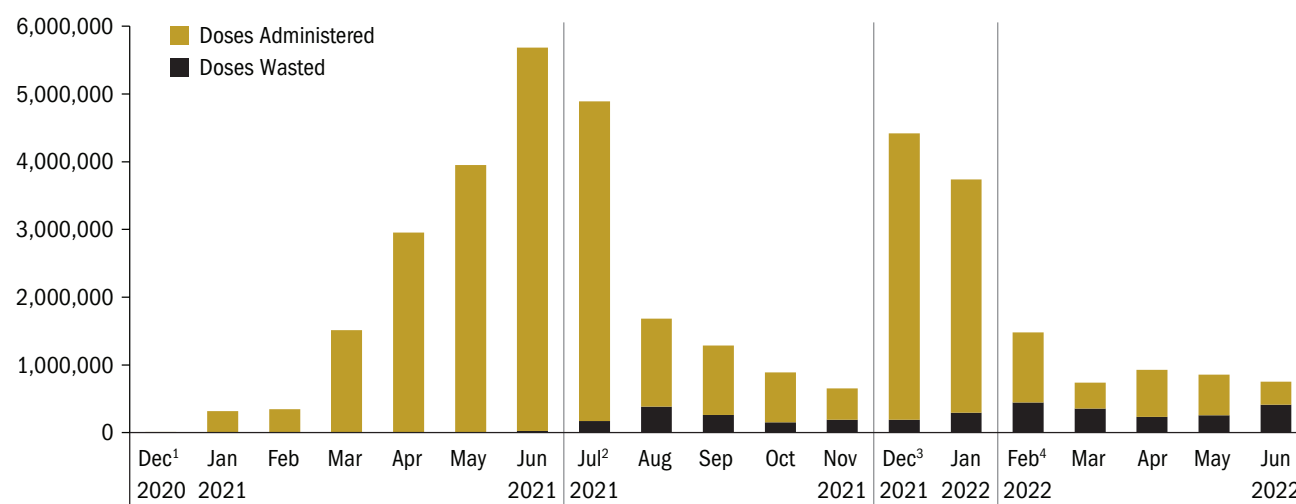
4.5.2 Wastage Varies Greatly by Vaccinating Entity and Public Health Unit

Pharmacies Wasted 22% of the Vaccines Delivered to Them, Compared to Provincial Average of 9%

Figure 22 shows that from December 22, 2020 to June 30, 2022, over 70% of all wasted vaccines came from pharmacies. Pharmacies wasted 22% of the vaccines that were delivered to them, while hospitals wasted 1%

Figure 20: Vaccine Doses Administered and Wasted, December 23, 2020–June 30, 2022

Source of data: Ministry of Health



1. Dec 2020-Jun 2021: Wastage rate was 0.3% when vaccines were initially rolled out and the first two doses were being administered. Generally, vaccines were scarce and supply often could not keep up with demand. Most of this waste resulted from insufficient doses from a vial of vaccines or damaged/defective vaccines.
2. Jul 2021-Nov 2021: Wastage rose to 12% after the initial rollout period when the majority of the eligible population had already received two doses and vaccine demand was in decline. This wastage was mostly due to expiry of thawed vaccines after 30 days and not enough people showing up to get vaccinated to use up a full vial of vaccines.
3. Dec 2021-Jan 2022: Wastage dropped to 6% amid the surge of Omicron when Ontarians were seeking vaccination to reduce the risk posed by this variant.
4. Feb 2022-Jun 2022: Wastage surged to 38% as demand for boosters was much lower than the province anticipated, and certain lots of vaccines ordered in December 2021 and January 2022 during the vaccine rollout reached expiry dates between May and June 2022.

and public health units wasted 4%. Appointment double booking as well as the resulting no-shows described in **Section 4.2.3** also contributed to this wastage.

Vaccine wastage in pharmacies occurred at more than 2,900 locations. Though there were small amounts of wastage at each pharmacy, there was disproportionate waste in this setting overall. Ministry of Health data on pharmacy wastage from this period shows that:

- 30% was due to unopened vials of vaccines stored at refrigerated temperatures for more than 30 days; these vials could have been stored at a lower temperature in a freezer to prolong their efficacy. Since pharmacies do not have vaccine freezers—public health units and hospitals do—it is more important for them to order only a month's worth of supply. The Ministry indicated that it sought to limit vaccine waste by sending no more than an estimate of four weeks of supply for each pharmacy based on its recent use.

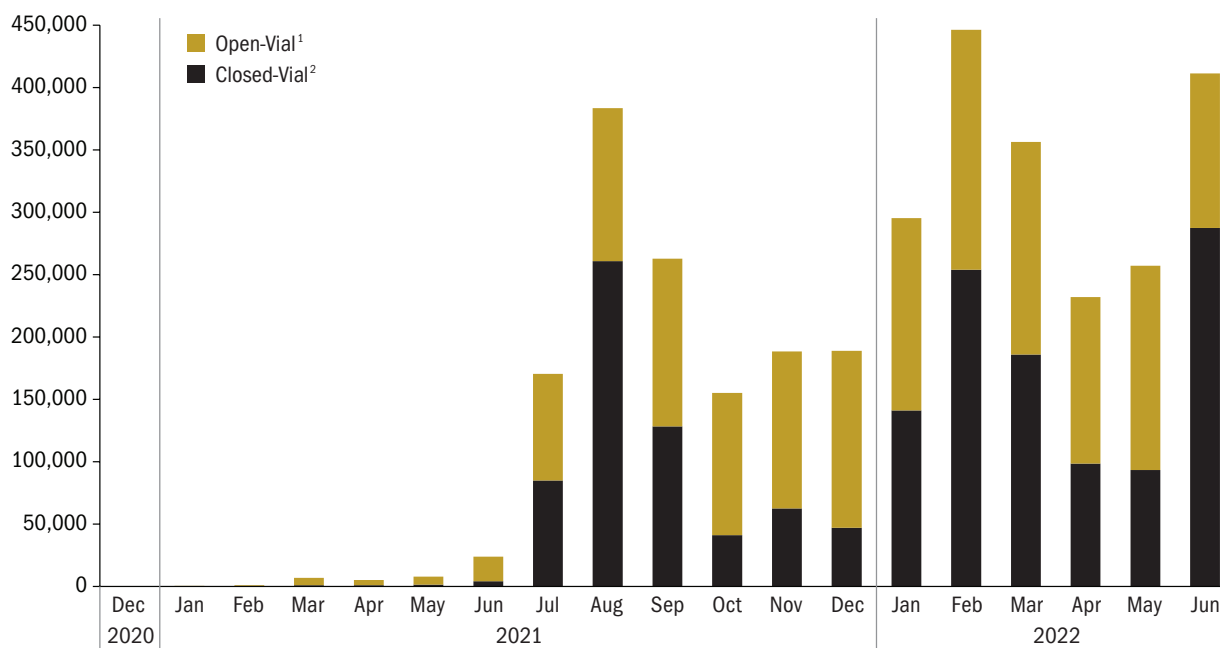
- 34% was from opened vials unused after 24 hours, suggesting that pharmacies are more likely than public health units and hospitals to open a vial without a sufficient number of clients to use all its doses within 24 hours.

Wastage Varied between Public Health Units

All public health units accounted for 23% of the wasted vaccines generated in Ontario as shown in **Figure 22**. We analyzed vaccine wastage by public health unit and noted that rates varied from 2% at Brant County, York Region, Simcoe Muskoka and Sudbury and Districts public health units to almost 17% at the Grey Bruce public health unit from December 2020 to June 2022, as shown in **Appendix 18**. We noted that two public health units—Grey Bruce and Windsor-Essex—had significantly higher rates of waste than other public health units, exceeding the 9% provincial rate. The Ministry of Health has not assessed the cause of variations between public health units or reasons for the wastage at the

Figure 21: Monthly Open-Vial and Closed-Vial Wastage, December 23, 2020–June 30, 2022

Source of data: Ministry of Health



1. Open-vial wastage results from vials that were opened and not fully used, primarily due to insufficient immediate demand at vaccination sites. As vaccines come in vials containing six to 10 doses, there may not always be enough people to use up all doses in the vial before they go bad. In times of low demand, some open-vial wastage is unavoidable when trying to maximize vaccine uptake due to the multi-use vials chosen by vaccine manufacturers to package vaccines. An August 2021 memo from the Chief Medical Officer of Health indicated that all vaccinating entities should not hesitate to open a new vial even if only one person was available to be vaccinated and this would mean the rest of the vial might be wasted. The Ministry of Health (Ministry) says in its vaccine storage and handling guidelines that “unused doses in open vials are expected to increase as overall vaccination rates decrease.”
2. Closed-vial wastage results from expired vaccines that were not used. It is an indication that the Ministry and vaccinating entities overestimated the number of people who were interested in or eligible for vaccination. The Ministry told us that when vaccine supplies stabilized, it ordered from the federal government based on forecasted demand informed by eligible population and estimated uptake.

two public health units with the highest rates. Public health units likely overestimated demand and the vaccines they ordered expired before they could transfer or return them. The Ministry informed us that it shared some wastage data with public health units in summer of 2022, and that it will begin to share this data with public health units regularly starting in fall 2022.

Private-sector Vaccination Sites Wasted 24% of the Vaccines Delivered to Them

Four private-sector companies engaged by the Ministry of the Solicitor General and the Ministry of Health to operate vaccination sites together wasted over 74,000 doses, or 24% of the vaccines that the Ministry of Health delivered to them as shown in **Appendix 18**. While two of these companies incurred 6% to 7% of waste from May 1, 2021 to June 30, 2022, the other

two—FH Health and Switch Health—incurred waste at 20% and 57% of the vaccines that the Ministry delivered to them, respectively.

FH Health was responsible for administering vaccines at nine locations across Toronto and the surrounding area, as well as a mass immunization clinic at the Toronto Zoo in two months between January 8 and March 4, 2022. During this period, this company wasted 3,223 doses and administered 8,919 doses. In the four days in March 2022 before the clinics closed, it wasted more vaccines (488 doses) than it administered (95 doses).

None of the contracts with these private-sector companies contained a clause requiring the company to minimize wastage or charging the company penalties for excessive wastage. The lack of external signage indicating that vaccinations were available likely

Figure 22: Number of Vaccine Doses Received and Wasted by Vaccinating Entities, December 2020–June 2022 (millions)

Source of data: Ministry of Health

Vaccinating Entity	Doses Received		Doses Wasted				Wastage (%)
	Total	%	Closed-Vial	Open-Vial	Total	%	
Pharmacies	10.90	29	1.17	1.27	2.44	72	22
Public health units	18.40	49	0.39	0.38	0.77	23	4
Hospitals	7.34	20	0.07	0.04	0.11	3	1
Other*	0.86	2	0.06	0.02	0.08	2	9
Total	37.50	100	1.69	1.71	3.40	100	9

* Consists mainly of private-sector vaccinating entities and workplaces that operated clinics at their own cost.

contributed to the high wastage rates at these sites. In the week ending January 4, 2022, we visited nine locations of FH Health and found no external signage on the vaccine clinics except for one sign some distance from the building at the Toronto Zoo.

Limited Guidance from Province on Wastage Targets and Prevention

Once vaccine supplies began arriving steadily in May 2021, the Ministry of Health instructed pharmacies and public health units to order vaccines from the province based on anticipated demand—specifically, booked appointments over the next two weeks—and inventory on hand at the time of ordering. However, the instructions did not specify a waste-minimization target to encourage more precision in ordering, nor had the federal government set any official wastage target.

The Ministry informed us that because it was so important to vaccinate as many people as possible who wanted a vaccine, it did not inform vaccination site operators to limit waste by reserving multiple-dose vials if just one person required vaccination.

However, a waste-minimization target that focuses on closed vials would still be appropriate, as without a clear target to minimize wastage, vaccinating entities had little incentive to limit orders.

According to a report on vaccine wastage that the World Health Organization (WHO) issued in 2019 before the COVID-19 pandemic, an acceptable amount of vaccine wastage from multi-dose vials is:

- a 10% wastage target for vaccines that come in two-to-five-dose vials; and
- a 15% wastage target for vaccines that come in 10 or 20-dose vials.

All COVID-19 vaccines used in Ontario come in vials of six to 10 doses. Based on the WHO estimates, a reasonable wastage rate would be 10–15%. Ontario's wastage rate of 9% appears to be below this threshold. However, this rate does not include wastage at the province's distribution centres, as mentioned in **Section 4.5.1**, so the actual wastage rate could be higher than the amount calculated by the Ministry.

RECOMMENDATION 7

To better inform future demand forecasting and minimize vaccine wastage, we recommend that the Ministry of Health:

- establish a provincial waste-minimization target with a focus on closed vials;
- require all vaccination entities and distribution centres to report on wastage, include a clause in future contracts with these entities to keep wastage below this waste-minimization target, and incorporate these in its future pandemic response plan; and
- analyze all reports of vaccine wastage, including from distribution centres, follow up on unusual trends or excessive wastage and take corrective action as needed.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health has proactively monitored and managed COVID-19 vaccine wastage with partners throughout the pandemic and is within the World Health Organization waste target for multi-dose vials. In addition, the Ministry has returned over 4.4 million doses to the federal government for international donation. The Ministry will continue to conduct analysis of wastage data, as well as consult with its federal partners and other jurisdictions in Canada and internationally (e.g., World Health Organization), to help inform what appropriate targets for closed-vial wastage would be and if/when they should be implemented. Targets will take into consideration factors including availability of single and multi-dose vials, supply and expected product demand, delivery channel mix, and vaccine strategy (e.g., campaign type). Upon establishment of appropriate wastage targets, the Ministry will work with distribution centres to meet the targets set out.

4.6 Vaccine Mandates and Policies, and Evaluation of Evidence-Based Alternatives

4.6.1 Vaccine Passport Requirement Was Not Effectively Enforced

We found that the provincial government did not effectively enforce the proof of vaccination (vaccine passport) requirements leading to inconsistent adoption across the province and reducing its intended effect of reducing transmission and increasing vaccine uptake. Half of the medical experts that responded to our survey did not agree that the Ontario government used vaccine mandates effectively to encourage vaccination and protect Ontarians from exposure to COVID-19.

As discussed in **Section 2.5.2**, on September 1, 2021, the provincial government announced it would be implementing a vaccine certificate program, commonly referred to as the vaccine passport. Under the *Reopening Ontario (A Flexible Response to COVID-19)*

Act, 2020 (Act), Ontarians were required to show proof of two-dose vaccination to access certain venues from September 21, 2021 to March 1, 2022. The announced purpose of the vaccine passport was to reduce transmission in high-risk establishments and encourage eligible Ontarians to get vaccinated.

Recognizing that effective enforcement supported the success of the vaccine passport system, the Solicitor General gave provincial offences officers (officers), including public health inspectors, bylaw officers and police officers, the authority to enforce the Act, which includes vaccine passport requirements. Enforcing these requirements was a collective effort that involved officers from nine ministries and three public agencies, with the Ministry of Labour, Immigration, Training and Skills Development (Ministry) as the lead, as shown in **Figure 23**. The ministries, agencies and administrative authorities involved often worked in collaboration with public health units.

Limited Power Conferred to Officers to Enforce Vaccine Passport Legislation

We found that the province's legislation did not provide officers with sufficient powers to enforce vaccine passport requirements at businesses.

The Act only allowed officers to “require an individual to provide the officer with the individual’s correct name, date of birth and address if the officer has reasonable and probable grounds to believe that the individual has committed an offence.” The Ministry of the Solicitor General informed us that it was able to promote and enforce the legislation by using a voluntary consent approach to entry, and noted that when enforcing the vaccine passport, officers had to make observations from the entrance of the business, announce themselves, and explain their purpose to the business owner. In short, they could not assess “normal” operations of the business uninfluenced by the announced presence of inspectors. This is unlike the *Occupational Health and Safety Act*, which is used by inspectors to inspect workplaces for hazards and safety contraventions.

Figure 23: Ministries, Agencies and Administrative Authorities Involved in Enforcement of COVID-19 Proof of Vaccination

Source of data: Ministry of Labour, Immigration, Training and Skills Development

Ministries	Ministry of Agriculture, Food and Rural Affairs Ministry of Education Ministry of the Environment, Conservation and Parks Ministry of Finance Ministry of Labour, Immigration, Training and Skills Development* Ministry of Northern Development, Mines, Natural Resources and Forestry Ministry of Public and Business Service Delivery Ministry of the Solicitor General Ministry of Transportation
Agencies/Administrative Authorities	Alcohol and Gaming Commission of Ontario Electrical Safety Authority Technical Standards and Safety Authority

* Lead ministry for all enforcement efforts.

As well, when officers announced themselves upon arrival, the business owner could deny entry. While the Ministry informed us that officers were rarely denied entry, they had not tracked how often this occurred.

In British Columbia, enforcement teams of police, liquor inspectors and municipal bylaw officers were tasked with ensuring compliance with the vaccine passport. Depending on the violation, fines ranged from \$230 to \$575 for individuals and \$2,300 for event organizers or owners/operators of event locations.

Limited Tracking of Inspections Conducted to Verify Compliance

Officers from the 12 provincial ministries, agencies, administrative authorities and some public health units identified only about 220 cases of non-compliance with vaccine passport requirements over five months between September 21, 2021 and March 1, 2022. Violations included not checking government-issued identification and not checking proof of vaccination at all. However, the Ministry did not track how many visits it made to venues where the vaccine passport was required, as officers were also enforcing other public health requirements such as mask-wearing. Its data therefore did not show how many times it had assessed non-compliance with passport requirements, and we

were unable to determine how prevalent this type of non-compliance was.

QR Code Scanner Technology Developed but Only Mandatory for About a Third of the Time that Vaccine Passport Requirements Were in Place

We found that although the Ministry of Health announced on October 15, 2021 that it had developed the Verify Ontario application (app) to help businesses verify enhanced vaccine certificates starting in October, it did not require businesses subject to the Act to use it until January 4, 2022. The Ministry explained that the delay gave Ontarians time to download the enhanced vaccine certificate or receive it from the government by mail, and gave businesses time to adopt the app, which might have included purchasing equipment to verify the QR code, such as a smartphone for staff. Of the 160 days that vaccine passport requirements were in place, use of the app was only required for 54 days in the later part of the enforcement period, when most Ontarians already had their first two doses, limiting the full impact of the vaccine passport in reducing transmission in high-risk establishments and encouraging eligible Ontarians to get vaccinated. The Ministry could not provide any information on the extent of individuals presenting fraudulent proof of vaccination at venues.

The Ministry noted that compared to visually inspecting electronic or paper copies of the vaccine passport, the Verify Ontario app was a more secure and reliable method of verifying Ontarians' proof of vaccination—since it also allowed verification of vaccination without requiring clients to present personal health information. Staff at designated venues could use the Verify Ontario app to scan a QR code on a person's enhanced vaccine certificate and verify the validity of the vaccine passport without requiring or retaining personal health information.

The Ministry of Labour, Immigration, Training and Skills Development informed us that based on its analyses, the Verify Ontario app's overall adoption rate was low between October 2021 and January 2022. The rate increased after the Ministry of Health made the app mandatory on January 4, 2022. For example, officers observed—after announcing themselves—that Verify Ontario app compliance was 100%.

Future Vaccine Passport Not Being Considered Despite Benefits and COVID-19 Uncertainties

The Ministry of Health did not evaluate the effectiveness of a vaccine passport in achieving its goals. We noted that all other provinces implemented similar requirements, some before and some after Ontario. In the weeks following the announcement of the vaccine passport requirement to enter high-risk establishments,

four of Canada's biggest provinces—Ontario, Quebec, British Columbia and Alberta—saw increases in daily first doses administered. **Figure 24** shows that Ontario saw a 23% increase in first doses administered; British Columbia and Alberta saw even larger increases.

The Ministry lifted vaccine passport requirements on March 1, 2022, and the Ministry of Health informed us that it did not have any plans to resurrect the vaccine passport. The apparent lack of willingness to consider its reintroduction under any circumstances indicates a lack of evidence-based decision making.

Experts have informed us that COVID-19 conditions in the community may one day result in a need to reconsider the use of the vaccine passport. In March 2022, the Science Table similarly suggested that such policy action should be considered, in conjunction with a recent booster dose. The Ministry informed us that it will assess the effectiveness of the vaccine passport and lessons learned from its use once the pandemic subsides.

RECOMMENDATION 8

To support enforcement efforts to limit transmission and encourage vaccination of vaccine-preventable diseases such as COVID-19 and those that may emerge in the future when science-based evidence indicates this is a societal benefit, we recommend that the Ministry of Health, in conjunction with

Figure 24: Comparison of Average Daily First Doses Administered in Four Provinces Before and After Announcement of Vaccine Passport Requirements

Source of data: Public Health Agency of Canada, Governments of Alberta, British Columbia and Quebec

	Announcement Date	Effective Date	Average # of Daily First Doses ¹ Administered		
			10 Days Before Announcement	20 Days ² After Announcement	Increase (%)
QC	Aug 10, 2021	Sep 1, 2021	6,898	7,745	12
BC	Aug 23, 2021	Sep 13, 2021	3,683	5,861	59
ON	Sep 1, 2021	Sep 22, 2021	11,361	13,946	23
AB	Sep 15, 2021	Sep 20, 2021 ³	4,037	9,401	133

1. First-dose administration data shows that those who had not received any COVID-19 vaccine were vaccinated at a higher rate (starting with first doses) following the announcement of the vaccine passport requirements.
2. Three of the four provinces gave three weeks' notice before the vaccine passport requirement came into effect; therefore, we measured vaccination data 20 days (approximately three weeks) following the announcement.
3. Albertans were required to have one dose by September 20, 2021 and two doses by October 25, 2021.

the Ministry of Labour, Immigration, Training and Skills Development:

- assess what authority is needed to enable enforcement officers to effectively enforce compliance with public health measures such as proof of vaccination requirements, and incorporate this in its future pandemic response plan;
- develop an inspection process to identify the venues that are subject to proof of vaccination requirements and track the compliance activities; and
- investigate what barriers businesses faced when using the Verify Ontario application, such as lack of understanding of how to use the technology or Internet connection, take corrective action as needed and incorporate this in its future pandemic response plan.

MINISTRY OF LABOUR, IMMIGRATION, TRAINING AND SKILLS DEVELOPMENT RESPONSE

The Ministry of Labour, Immigration, Training and Skills Development agrees with the recommendations to assess what authority is needed to effectively enforce public health measures, and to establish inspection processes to track its compliance activities. In order to guide the work of the officers involved in the *Reopening Ontario (A Flexible Response to COVID-19) Act, 2020* (Reopening Ontario) enforcement, in the future, the Ministry will develop and implement an inspection process that identifies the venues specifically subject to proof of vaccination requirements versus those that are not, and will track compliance accordingly. The Ministry has evaluated Reopening Ontario compliance and enforcement, including proof of vaccination, and the number of businesses visited during the various multi-ministry team initiatives and campaigns. The Ministry collected sector data for each business visit and evaluated the level of compliance for proof of vaccination requirements in the sectors where it was required, i.e., restaurants, cinemas and gyms. However, the data collected for restaurants did not distinguish between restaurants that offered only take-out, and restaurants

that offered dine-in service where patrons' proof of vaccination was required. However, when proof of vaccination was required, officers were asked to focus inspections on dine-in restaurants, and we believe that the majority of restaurants inspected offered dine-in service. Our analysis demonstrates the overall level of proof of vaccination compliance that multi-ministry team officers observed during their visits to all workplaces.

Moving forward, for any future public health measures enforcement, the Ministry will leverage its knowledge and expertise in enforcement, as well as lessons learned during the COVID-19 pandemic, to inform the development of effective authorities and to be able to differentiate between workplaces required to check for vaccination and those not required to meet these requirements.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health accepts the recommendation involving the Verify Ontario application. Should this requirement be implemented in the future, the Ministry will reflect on the feedback it has received and explore more opportunities to increase communication, guidance and collaboration with the business community.

RECOMMENDATION 9

To better protect Ontarians from COVID-19, and other highly transmissible vaccine-preventable diseases as may be required in the future, we recommend that the Ministry of Health, in conjunction with the Chief Medical Officer of Health, establish criteria to use when deciding whether to reintroduce proof of vaccination requirements and incorporate these in its future pandemic response plan.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation and will look to establish criteria, or conditions, to consider regarding any reintroduction of proof of vaccination requirements and their inclusion in

future pandemic response plans and/or appropriate emergency response plans.

Throughout the COVID-19 pandemic, the Chief Medical Officer of Health and Ministry used data and evidence to inform its advice to government, which included an overall assessment of key public health and health system indicators. These were publicly communicated and used to guide advice on the application of public health and workplace safety measures and reopening plans.

4.6.2 Decisions to Enact Vaccine Mandates Not Evidence-Based

No Evidence to Support Delayed Economic Reopening Once Vaccination Target Was Achieved

In 2021, soon after vaccines arrived in Ontario, the Ministry of Health established first and second dose public vaccination rate targets for adults 18 years of age and older that corresponded with a three-step economic reopening process, described in **Appendix 15**. At that time, the resumption of a more normal way of life—a provincial “reopening”—hinged on achieving these targets. However, the first step to reopen was delayed by about three weeks after the required first-dose vaccination rate was reached on May 22. The first step to reopen was not approved until June 11. The Ministry did not conduct any analysis of how any other factors, such as hospitalizations, ICU occupancy and weekly cases, had impacted the delay.

Province Did Not Mandate Vaccinations for Hospital Staff Despite Support from Hospitals to Do So

Despite significant evidence to support enacting vaccine mandates in hospitals as well as support from hospitals, the Ministry of Health did not enact such a mandate. Instead, it required hospitals to have vaccination policies in place, which effectively required each hospital to make its own rules.

Hospital CEOs, the Ontario Hospital Association, the Registered Nurses’ Association of Ontario and the Ontario COVID-19 Science Advisory Table publicly indicated that they believed that implementing a provincial requirement for employees in hospitals to

be vaccinated would have minimal negative impact to staffing levels and would instead protect the workforce from absences due to sickness. We summarized their letters in **Appendix 19**.

After receiving the input, the Ministry announced on November 3, 2021 that it would not implement a vaccine mandate on hospital staff due to concerns about staff shortages. It did not attribute its decision to the feedback received from health leaders, nor did it publish the responses received from hospital CEOs. Ministry staff informed us that they did not enact a vaccine mandate on hospital workers because they wanted to allow for flexibility at individual hospitals. As well, they informed us that the Chief Medical Officer of Health had assessed the situation, and this assessment did not support enacting a mandate. However, the details of this assessment were not available for us to review to better understand the factors considered. The Ministry did not provide any further evidence to explain why it did not act in alignment with the majority of the feedback and advice it received. The Ontario Hospital Association ultimately expressed its disappointment with the province’s decision.

As discussed in **Section 2.5**, long-term care homes were the only settings in which the Ministry implemented a vaccine mandate. The Ministry also required Ontarians to present proof of vaccination at businesses during the height of the pandemic. However, the Ministry did not implement a provincial vaccine mandate on hospital staff who worked with people at risk. When the Ministry makes decisions that are incongruent with input from people and organizations that are knowledgeable about the sector’s needs, it creates the perception that their input is discounted.

RECOMMENDATION 10

To uniformly protect populations that are vulnerable to severe outcomes from disease outbreaks, and minimize transmission, death and hospitalization, we recommend that the Ministry of Health publicly explain its rationale in the future when it makes decisions on vaccine mandates and policies that are incongruent with science-based information and expert advice.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with the recommendation of publicly explaining the rationale regarding decisions on mandates and policies in the future.

Ontario's approach to implementing COVID-19 vaccine mandates and policies in hospitals and other high-risk health settings was driven by real-world evidence and was guided by the advice of scientific and medical experts and several health stakeholders.

4.7 Leadership Communication and Public Education

A key element of any vaccination program involves informing and educating people about the benefits of vaccines, and then convincing them to take steps to get vaccinated—all of which involves communication, both direct and through intermediaries.

The COVID-19 pandemic introduced both urgency and complexity to planning for communication about vaccination programs. The development of new vaccines for the novel coronavirus was watched closely, and people wanted information about progress. Vaccines were developed with new and different technologies, and though built on past successes, some formed negative opinions about safety and efficacy, many of which proved resilient despite evidence to the contrary. Vaccine scarcity, especially in early 2021 as doses arrived, required governments to prioritize different groups for vaccination. Those who were unsure about the health benefits of vaccination required additional information. And finally, people needed information about when and where to go to get vaccinated.

The development of coherent communication on a province's vaccination program requires co-ordination and communication between federal, provincial and municipal governments, and other health organizations, both public and private, with expertise and involvement in vaccination programs. Accountability and decision-making are important for clarity in communication. When decisions are not clear, or not made at all, effective communication is at best unlikely—at worst, impossible.

Ontarians looked to their leaders to ensure they had the information they needed to make informed, educated and potentially life-and-death decisions in an uncertain environment. We examined the communications plans developed by the Ministry of Health (Ministry) to support provincial leaders over the course of the vaccination program's rollout. The Ministry drafted strategic communications plans on booster doses, vaccine certification and vaccines for children aged five to 11, for example. However, these plans were never finalized. Communication plans should detail the key goals or objectives of the program the plan is meant to support. In this case, one of the Ministry's key objectives was to ensure a high percentage of Ontarians got vaccinated, but the Ministry's draft plans did not include mention of this goal, nor did they detail specific, measurable, timebound targets to enable evaluation of their efforts.

The Ministry undertook an extensive marketing program leveraging paid advertising in both traditional and social media to promote, for example, first and second dose vaccination in June-July 2021, and booster vaccination in December 2021. However, more effective strategic communications were needed to provide clarity and details, and to answer questions about issues such as:

- the rationale for prioritizing 114 hotspot communities for vaccination over other areas in the province, discussed in **Section 4.1.1**;
- the timing and importance of getting a fourth dose; and
- the ages and additional risk factors of people sick in the hospital with COVID-19.

Many studies note the importance of strategic communications in improving vaccine uptake, and issues that can hinder high vaccination rates. A 2021 study from the Royal Society of Medicine in the United Kingdom, for example, noted that one of the biggest hurdles to vaccination is vaccine hesitancy. Not clearly and sufficiently communicating to the public to promote the benefits of vaccination, as well as address valid questions, issues and misinformation, could lead to lower vaccination rates, and missed opportunities to obtain the benefits of fully vaccinated populations.

The Ethical Framework for COVID-19 Vaccine Distribution stresses the importance of public trust as one of its core principles. However, a lack of transparency about important decisions at a critical time in the vaccination program rollout likely impacted public trust in the government to make ethical, science-based decisions to protect Ontario's most vulnerable populations from COVID-19.

We surveyed all 34 public health units about their perspectives on the provincial government's communications. Of the public health units that responded to our survey, 27% agreed that the strategy was effective, 13% had no views, and 60% disagreed that it was effective. Half of the medical experts responding to our survey also disagreed; 17% agreed and the rest had no view.

4.7.1 The Ministry of Health Did Not Clearly Explain the Rationale for Its Decision-Making on Vaccine Distribution

When vaccines first arrived in Ontario in late 2020, the public, but especially groups including health-care workers, educators, paramedics and police, had concerns about which groups would be first to access the scarce vaccine supply. However, neither the Ministry of Health nor the COVID-19 Vaccine Distribution Task Force (Task Force), the government's established public-facing advisory body, effectively communicated their rationale for decisions on vaccine priority groups. In times of crisis, it is important to have a dedicated spokesperson available regularly to answer questions from the media about critical issues to ensure the public receives important information, which in the case of a pandemic was the availability and distribution of vaccines. According to Ministry records, the Task Force Chair was available to take questions from the media only about 20 times between December 1, 2020 and March 31, 2021, averaging five times per month. This is discussed in greater detail in **Appendix 20** along with other areas of poor communication on vaccine distribution and science.

4.7.2 Government Did Not Clearly Explain the Waning Effectiveness of Vaccines

The term "fully vaccinated" has formed the basis of vaccine mandates and policies developed by the Ministry of Health (Ministry) and other organizations. However, the Ministry did not revisit its 2021 definition—two doses of any combination of an approved vaccine in the majority of cases—until May 2022. The information added at that time, however, only introduced more confusion.

In May 2022, the Ministry issued a bulletin titled "Staying Up to Date with COVID-19 Vaccines: Recommended Doses." It notes that "up to date means a person has received all recommended COVID-19 vaccine doses, including any booster dose(s) when eligible." This implies that a person needs to have taken all vaccines when they were eligible to do so, but does not specifically redefine "fully vaccinated." Instead, it provided the following ambiguous messaging: that "‘fully vaccinated’ ... may continue to be used in some settings, and relevant policies, legislation directives or orders must continue to be followed where applicable."

Continued use of the term "fully vaccinated" contradicts the Ministry's message to the public, since the term suggests that only two doses are needed; this is at odds with the Ministry's other message asking Ontarians to "stay up to date with COVID-19 vaccines". The Ministry confirmed to us that the latter concept is more critical than the number of doses administered. However, having the public messaging include both concepts creates confusion and may lead to the misconception that good protection is achieved with two doses. The Ministry informed us that it continues to use the term "fully vaccinated" since this is the term used by the federal government.

One public health unit that responded to our survey noted that guidance to the public on the number of vaccine doses required is confusing, but believed this was not entirely an Ontario problem. In June 2022, the government of Canada stated plans to update the definition

of “fully vaccinated” as based on the timing of a person’s latest dose rather than a set number of doses, but had not updated the definition as of August 2022. Ontario’s practice is consistent with the federal government’s practice.

We found that other jurisdictions had clearly communicated that three doses provided better protection. Israel, Australia, France, Austria and Singapore changed their public messaging between October 2021 and June 2022 to define fully vaccinated as three doses. However, only Israel’s change was made before the surge of Omicron cases in January 2022.

4.7.3 The Ministry of Health Did Not Provide Clear and Sufficient Information to Help Ontarians Make Informed Choices about Booster Doses

The rate of third dose vaccination has been much lower than the second dose—50% compared to 82% as of mid-August 2022—despite evidence that shows the benefits of the third dose in reducing hospitalization and death. While the Ministry of Health (Ministry) indicated that it anticipated high uptake in the booster doses, as evidenced by the quantities of vaccine that it ordered (discussed in **Section 4.5.1**), clear communication, as well as other strategies such as vaccine mandates and the vaccine passport, was not in place to support achieving this goal. Public information supporting and expanding on the benefits of booster doses should have been easily available to Ontarians. Instead, website information was unclear, and leaders sometimes contradicted the key messages in vaccination advertising campaigns. This potentially diminished the effectiveness of the advertising and the value of dollars spent on them—the Ministry spent about a quarter of its total vaccination campaign advertising expenditures on booster doses. Medical experts we surveyed believed poor government communication contributed to the low rate for the third dose.

In July 2022, a fourth dose was made widely available to Ontarians, but the Ministry’s related news release did not clearly describe its value. It stated “While most individuals aged 18 to 59 years old will continue to have strong protection more than six months after their first booster dose, expanding second booster

dose eligibility will ensure that Ontarians can make an informed decision based on their personal circumstances.” However, as of August 2022, the Ministry had not provided supplemental information to help Ontarians make an informed choice about a fourth dose.

One public health expert we spoke to noted that clear messages on matters of public health in Ontario have often been challenging due to conflicting information provided by different health organizations and their leaders. For example, we noted that while Ontario’s Chief Medical Officer of Health recommended the general population hold off on a booster dose until new vaccines were available in the fall, one local medical officer of health advised widespread uptake.

We surveyed public health units on the provincial government’s fourth-dose communications. Only about 20% of the public health units that responded to our survey agreed the government was clear in its communication, compared to 47% that indicated they disagreed. Their concerns include:

- public information recommending booster doses was not provided, though booster doses are available and being offered;
- communication providing individuals a choice of vaccines for the first time was confusing; and
- provincial risk information for healthy 18-to-59-year-olds was confusing and difficult for many to understand.

We also found that the Ministry of Health did not clearly communicate supporting medical information that would inform and encourage Ontarians to obtain an additional dose. In February 2022, the Ministry began collecting data on COVID-19 hospitalizations by immunization status, including third and fourth doses, and released this publicly. However, this data does not include other health conditions such as obesity or immunocompromised conditions. Such data could inform both the public as to the level of risk they would face if not vaccinated, as well as physicians so that they could make informed care decisions and recommend vaccination to their patients.

Furthermore, experts we spoke to described the data provided as misleading in some ways. One expert stated “the need to provide adjusted figures, not raw data for things like proportion of deaths among

(vaccinated vs unvaccinated). Raw numbers are easily misunderstood.” For example, the hospitalization and death data posted does not adjust for factors such as the high number of people vaccinated, as opposed to unvaccinated. It also does not adjust for age and other factors such as obesity or immunocompromised conditions. (See also **Section 4.7.4.**)

4.7.4 The Ministry of Health Did Not Effectively Address Misinformation

Public health units and other medical experts have told us that public confidence in the safety and efficacy of vaccines has been negatively impacted by misinformation. World Health Organization representatives note misinformation as described in **Figure 25**.

Public health units and experts we surveyed told us the provincial government did not do enough to combat vaccine misinformation in Ontario. The Ministry of Health (Ministry) engaged three market research companies to survey the public between January 2021 and March 2022 about their views on COVID-19 vaccines, including any misconceptions. Several public health units we surveyed indicated that this information could have been leveraged to develop

a strong communications campaign to combat misinformation, but no campaign was produced, and this information was not shared with public health or any other Ontario health organizations. The Ministry spent a total of \$1.7 million on these surveys.

Some Ministry communication has allowed false beliefs to persist because misinformation has not been effectively challenged. For example, some Ontarians believe erroneously that vaccines are less effective because there are more vaccinated people in hospital than unvaccinated. One public health unit we surveyed informed us that the data on the Ministry’s website made it appear that more vaccinated people were getting sick and dying than unvaccinated people. However, hospitals admit more COVID-19 patients with two doses than patients who are unvaccinated or with a single dose, because there are many times more people in Ontario with two doses. However, the information provided on the Ministry site does not directly address the potential misunderstanding, instead stating, “Trends in post-vaccination cases are a reflection of both trends in vaccine administration (increasing number of doses administered over time) and trends in COVID-19 incidence.” Instead of improving the quality of public information provided, in July 2022,

Figure 25: Misinformation about COVID-19 as Explained by the World Health Organization

Prepared by the Office of the Auditor General of Ontario

Date Statement Made	Statement
April 2021	“In the early days of the pandemic, much of the misinformation focused on whether COVID-19 was in fact a serious disease.” “Public trust in science and evidence is essential for overcoming COVID-19. Therefore, finding solutions to the infodemic is as vital for saving lives from COVID-19 as public health measures, like mask-wearing and hand hygiene, to equitable access to vaccines, treatments and diagnostics.” • Infodemic is too much information including false or misleading information in digital and physical environments during a disease outbreak.
August 2021	“One of the biggest challenges that we still face is getting the public vaccinated. We’ve heard false claims that the COVID-19 vaccine causes infertility, contains microchips and causes COVID-19. And worse, we’ve heard false claims that thousands of people have died from the vaccine...these claims are simply not true.” “Misinformation about COVID-19 and vaccine appear to have gotten worse and is keeping people from getting the shots, driving an increase in cases.”

Figure 26: Suggestions on Ways to Combat Misinformation Offered by Selected Public Health Units

Prepared by the Office of the Auditor General of Ontario

- > directly combat myths and amplify the data showing that vaccines protect against hospitalization and death
- > provide information about how vaccines work, with consideration to audiences who believe that natural infection or immunity is superior to vaccine-derived immunity
- > make strong statements supporting evidence-informed guidance and calling out sources of misinformation
- > provide more consistent messages to combat vaccine hesitancy
- > communicate more effectively with primary care practitioners
- > provide more advance notice and information on vaccination campaign plans in consultation with public health units and health-care system stakeholders

the Ministry discontinued providing the information altogether because “continuous daily reporting of these numbers created a false impression that vaccination does not protect from severe COVID outcomes.”

In December 2021, the National Advisory Committee on Immunization (NACI) stated that Moderna was a more effective vaccine and provided longer protection against infection and severe COVID-19 outcomes when compared to Pfizer. However, media reports in early 2022 indicated that Ontarians were averse to receiving a Moderna booster; some media reports at the time had linked it to serious side effects. The Ministry, however, did not take sufficient action to counteract related concerns about Moderna. While the Ministry provided an information package on Moderna hesitancy to public health units, it did not provide a strong public message to address the concerns. The Ministry informed us that it believed it could not express a preference for a particular vaccine brand.

Half of the public health units we surveyed disagreed that provincial communication on the benefits of Moderna was clear; only 24% agreed that it was well communicated. As well, 47% agreed that not

adequately conveying information about Moderna’s benefits contributed to a trend of individuals cancelling their Moderna appointments. We also surveyed medical experts and 50% disagreed that provincial communication was clear, with 33% agreeing and 17% having no opinion. One expert noted “the Moderna vaccine ... was preferred for (immunocompromised and older people) but I am not sure that message got out to the public clearly enough.”

This misconception about the Moderna vaccine likely contributed to vaccine wastage. A report commissioned by the Ministry on vaccine data quality, which considered vaccination data up to February 23, 2022, indicated that media reports linking Moderna to increased risk of serious side effects coincided with a precipitous drop in demand, which led to wastage. Over 67% of the public health units that responded to our survey agreed that they needed more provincial assistance in combatting misinformation, and only 3% disagreed; 30% did not have an opinion. Some of the concerns and suggestions offered by the public health units are described in **Figure 26**.

RECOMMENDATION 11

To support increases in immunization rates and minimize hospitalization and death from COVID-19, and to support informed public decision-making on COVID-19 vaccination, we recommend that the Ministry of Health:

- more clearly convey to the public the underlying scientific data and how that data support its decisions on vaccine distribution priority groups, co-ordinate communications with public health units, and incorporate this process in its future pandemic response plan;
- in conjunction with Public Health Ontario, improve the clarity of its communications on who should get vaccinated and when to actively promote COVID-19 vaccination to the hesitant, such as by conferring with an external stakeholder group to assess whether its messaging is clear to the average person in the public;
- provide the public with easy access to current information on available resources and COVID-19 trends, including the underlying health conditions of people with COVID-19 in hospital; and
- review and report on the effectiveness of its communication and awareness strategy on the safety and efficacy of the COVID-19 vaccine, including its effectiveness at combatting misinformation and incorporate lessons learned from this review in its future pandemic response plan.

MINISTRY OF HEALTH RESPONSE

The Ministry of Health agrees with this recommendation. The Ministry's communications approach, in collaboration with our partners including public health units and Public Health Ontario, has consistently provided the public with up-to-date information through a challenging and constantly evolving global pandemic. The province's communications strategy has included news releases, news conferences, extensive marketing campaigns, tailored communications for high-risk

audiences, including First Nations, Inuit and Métis, and community ambassadors to provide information in a culturally sensitive way to the hardest-hit communities.

The Ministry is committed to continuously improving its communications approach to support the COVID-19 vaccine program and continue to convey critical COVID-19-related information clearly and concisely to the public. The Ministry continues to base its communications in scientific evidence and combat misinformation through media communications by the Chief Medical Officer of Health and comprehensive resources available on its website.

Appendix 1: Approved Vaccines in Canada

Sources of data: Government of Canada, Ministry of Health

Vaccine ¹	Description	Effectiveness ²	Side Effects	Doses Administered ³
Comirnaty (Pfizer)	- mRNA - Approved for ages 16 and older on December 9, 2020 - Approved for ages 12–15 on May 5, 2021 - Approved for ages 5–11 on November 19, 2021	Beginning one week after second dose: 95% effective for those 16 years and older; and 100% effective for those 12 to 15 years old	Common: redness, soreness and swelling of the injection site, chills, fatigue, joint pain, headache, mild fever, muscle aches Rare: myocarditis, pericarditis, Bell's Palsy, anaphylaxis	23.2 million (69%)
Spikevax (Moderna)	- mRNA - Approved for ages 18 and older on December 23, 2020 - Approved for ages 12–17 on August 27, 2021 - Approved for ages 6–11 on March 17, 2021 - Approved for ages 6 months–5 years on July 14, 2022	Beginning two weeks after second dose: 94.1% effective for those 18 years and older; and 100% effective for those 12–17 years old	Common: redness, soreness and swelling of the injection site, chills, fatigue, joint pain, headache, mild fever, muscle aches Rare: myocarditis, pericarditis, Bell's Palsy, anaphylaxis	9.5 million (28%)
Vaxzevria (AstraZeneca)	- Viral vector-based - Approved for ages 18 and older on February 26, 2021	Beginning two weeks after second dose: 62% effective for those 18 years and older	Common: redness, soreness and swelling of the injection site, chills, fatigue, joint pain, headache, mild fever, muscle aches Rare: anaphylaxis, blood clots with low levels of blood platelets, capillary leak syndrome, Guillain-Barré syndrome	1.1 million (3%)
Janssen (Johnson & Johnson)	- Viral vector-based - Approved for ages 18 and older on March 5, 2021 - Single dose	Beginning two weeks after single dose: 66% effective for those 18 years and older	Common: redness, soreness and swelling of the injection site, chills, fatigue, joint pain, headache, mild fever, muscle aches Rare: anaphylaxis, blood clots with low levels of blood platelets, capillary leak syndrome, Guillain-Barré syndrome	3,844 (0.01%)

1. In February 2022, Health Canada approved two other vaccines: Novavax's Nuvaxovid for adults aged 18 and older and Medicago's Covifenz for adults aged 18 to 64. As of August 14, 2022, Ontario had administered 9,980 doses of Novavax and no doses of Medicago as its manufacturer had not yet released the product to Ontario.

2. Effectiveness of vaccines was measured against the original strain of COVID-19. Since then, other more infectious variants have emerged, such as the Delta and Omicron strains. Current vaccines are still expected to protect against severe illness, hospitalization and death due to these variants, despite higher rates of breakthrough cases.

3. Data as of August 14, 2022.

Appendix 2: Roles of Key Parties Involved in COVID-19 Vaccine Rollout in Ontario

Prepared by the Office of the Auditor General of Ontario

Entity	Key Roles	Report(s)/ Accountable to
Federal		
Public Services and Procurement Canada	• Procures and obtains vaccine supply for all of Canada • Negotiates and finalizes agreements with private-sector vaccine manufacturers • Allocates and distributes vaccines to provinces and territories	n/a
Health Canada	• Approves and licenses vaccines developed and produced by private-sector vaccine manufacturers	n/a
Public Health Agency of Canada	• Principal federal government agency responsible for immunization • Provides leadership, advice and support for timely vaccine recommendations and sustainable immunization programs • Sets technical standards to support the vaccine certificate, promoting inter-operability of these certificates for federally regulated travel • Oversees the National Advisory Committee on Immunization	Health Canada
National Advisory Committee on Immunization (NACI)	• Makes recommendations on use and administration of vaccines authorized by Health Canada, including for whom vaccination should be prioritized	Public Health Agency of Canada
Provincial		
Ministry of Health	• Establishes provincial COVID-19 vaccination plan • Allocates and distributes vaccines, vaccine ancillary supplies and cold storage requirements • Develops storage and handling guidance • Monitors vaccine rollout amongst delivery partners, ensuring they have the capacity to administer vaccine and providing standard technology and technical support to vaccination sites • Develops and maintains vaccine data repository and provincial booking tool • Produces and monitors vaccine coverage data • Provides funding and clinical guidance to health system partners • Establishes rules around eligibility based on NACI guidance (the Office of the Chief Medical Officer of Health within the Ministry reviews vaccine recommendations and develops and shares provincial guidance) • Ensures ongoing clinical surveillance, quality monitoring and vaccine safety • Acts as program lead on the development of the vaccine certificate • Sets regulations defining who can administer COVID-19 vaccine and other health human resource considerations	Minister of Health

Entity	Key Roles	Report(s)/ Accountable to
Ministry of the Solicitor General	- Responsible for vaccination logistics-related activities, including the procurement of some vaccine clinic and vaccinators contracts - Supports employer-led clinics, third-party-led clinics and additional provincial supports such as the GOVAXX bus - In partnership with the Ministry of Health, delivers mobile community vaccine clinics - In June 2022, responsibility for emergency management transferred from the Ministry of the Solicitor General to Treasury Board Secretariat under the leadership of the President of the Treasury Board, and the Deputy Minister/Commissioner of Emergency Management. The vaccine program continues to be led by the Ministry of Health with support from the Ministry of the Solicitor General and other partner ministries. Treasury Board's Deputy Minister/Commissioner of Emergency Management has an advisory role with the vaccine program.	Minister of the Solicitor General
Ministry of Public and Business Service Delivery	- Operates phone-based Provincial Vaccine Contact Centre, which is responsible for answering public inquiries related to vaccinations, including vaccination appointment bookings and vaccination records - In partnership with the Ministry of Health, provides delivery, technical support and installation at vaccination sites	Minister of Public and Business Service Delivery
Other ministries	Several Ontario ministries provide oversight and monitoring, develop policies and support vaccine rollout for population groups that they are responsible for: - Ministry of Children, Community and Social Services: those in congregate care settings and those receiving social assistance - Ministry of Colleges and Universities: post-secondary institutions and private career colleges - Ministry of Education: children and youth in school/child care settings, and education and child care workforce - Ministry of Long-Term Care: long-term care residents - Ministry of Municipal Affairs and Housing: people experiencing homelessness - Ministry for Seniors and Accessibility: retirement home residents and seniors - Ministry of Agriculture, Food and Rural Affairs - Anti-Racism Directorate - Ministry of Indigenous Affairs - Ministry of Labour, Immigration, Training and Skills Development	Respective Ministers
Public Health Ontario	- Responsible for vaccine safety and coverage surveillance—supports public health units, receives reports on adverse events following immunization, compiles surveillance data and submits to Health Canada - Provides scientific input on Ministry of Health guidance documents for vaccine implementation and administration that are then disseminated to vaccinators and the public - Operates what was formerly an independently operated Ontario COVID-19 Science Advisory Table (created in July 2020 and operated independently until April 4, 2022), which consisted of a group of voluntary scientific experts and health system leaders who evaluated and reported on emerging evidence relevant to the COVID-19 pandemic, to inform Ontario's response	Ministry of Health

Entity	Key Roles	Report(s)/Accountable to
Ontario Health	- Provides funding to Ontario Health Teams and Community Health Centres for COVID-19 vaccine administration - Supported regional capacity in collaboration with public health units, and co-chaired COVID-19 vaccine implementation planning tables in some Ontario Health regions	Ministry of Health
Ministers' COVID-19 Vaccine Distribution Task Force	- Created in November 2020 via an Order-in-Council; ended on August 31, 2021 - Reported to the Minister of Health and the Solicitor General - Provided advice on logistics and operational planning for COVID-19 vaccines, including ethical, timely and effective distribution in the early stages of the COVID-19 vaccine rollout - Consisted of a chair, a vice-chair and nine members - Chaired by General (retired) Rick Hillier until March 2021 and then by Dr. Homer Tien, President and CEO of Ornge, until the end of August 2021	Ministry of Health Ministry of the Solicitor General
Children's Vaccine Table	- Created in April 2021 - Provides strategic advice and recommendations to the government to inform planning, process and readiness of the vaccine rollout with a focus on children	Initially to Dr. Dirk Huyer, Co-ordinator of the Provincial Outbreak Response and Ontario's Chief Coroner and subsequently to Dr. Daniel Warshafsky, Associate Medical Officer of Health
Ontario Immunization Advisory Committee	- Created in September 2021 - Provides evidence-based advice to Public Health Ontario on vaccines and immunization program implementation in Ontario, priority populations and clinical guidance	Public Health Ontario
Regional/Local		
Public health units	- Oversee and co-ordinate vaccine administration efforts within their jurisdiction (excluding pharmacies), particularly mass vaccination clinics and primary care - Administer vaccines - Distribute vaccine and vaccine ancillary supplies to local clinics and partners - Maintain cold chain requirements and report and remediate cold storage excursions - Facilitate local and regional planning to maximize vaccine access and coverage within region - Inspect cold-chain processes to maintain the integrity of the vaccine, as well as storage and handling of vaccines - Report adverse events following immunization to Public Health Ontario - Assess medical exemptions for COVID-19 vaccination - Approve out-of-country and out-of-province COVID-19 vaccine records	Ministry of Health and municipalities
Ontario Health Teams	Support public health units, primary-care providers and hospitals in COVID-19 vaccine administration	Ontario Health

Entity	Key Roles	Report(s)/ Accountable to
Pharmacies*	- Receive vaccines independently from distribution centres (not through the public health units) - Administer COVID-19 vaccines - Report adverse events following immunization to public health units	Ministry of Health
Pharmacy distributors*	Store, handle and distribute vaccines, diluent and vaccine ancillary supplies (such as needles and syringes) to pharmacies	Ministry of Health
Primary care providers (includes family health teams, community health centres and primary-care practices)	- Administer COVID-19 vaccines - Report adverse events following immunization to public health units	Ministry of Health
Employers* and other third-parties*	- Administer COVID-19 vaccines at employer-led clinics and third-party led clinics - Report adverse events following immunization to public health units	Ministry of Health on the use of vaccination information systems
Third-party logistics and warehousing providers*	Store, handle and distribute vaccines, diluent and vaccine ancillary supplies (such as needles and syringes) to public health units, mobile clinics, mass vaccination clinics, hospitals and primary care	Ministry of Health
Calian*	Provides additional vaccinators and support staff to clinics across the province, including the Greater Toronto Area, remote indigenous communities, northern public health units, and public health units experiencing outbreaks.	Ministry of the Solicitor General
Canadian Red Cross*, Medavie*	Operates mobile and pop-up vaccination clinics	Ministry of the Solicitor General
FH Health*	Operated vaccine clinics in nine clinic locations and in the Toronto Zoo	Ministry of the Solicitor General
Switch Health*	- Operated a mass vaccination clinic at the International Centre for the general public - Operates a clinic at the Toronto Pearson International Airport (Airport) to administer vaccines to international agricultural workers arriving at the Airport	Ministry of Health

* Private-sector/non-government sector

Appendix 3: Expenditures Incurred by Ontario Government to Deliver COVID-19 Vaccines to Ontarians, 2020/21–2022/23¹ (\$ million)

Sources of data: Ministry of Health and Ministry of the Solicitor General

Funding recipient(s)	Description of goods/services	2020/21	2021/22	2022/23 ¹	Total
Public health units (34)	Mass vaccination clinics; vaccination clinics in or near schools; extraordinary costs such as reporting tools and financial reports to support the COVID-19 vaccination program	0	519.6	236.2	755.8
Hospitals (~80)	Operation of hospital vaccination sites and recruitment and/or training of health human resources and other clinical staff who establish and support these sites	33.0	178.1	0	211.1
Provincial Vaccine Contact Centre²	Call centre staffing to answer calls to book, reschedule and cancel vaccination appointments and answer questions about the vaccine rollout; preparation of vaccine certificates; and translation/interpretation services	0	103.4	5.3	108.7
Various IT vendors²	COVID-19 vaccination database (COVaxON), vaccine passports, provincial vaccination booking system and related information and information technology (I&IT) staffing	6.4	102.5	45.3	154.2
Pharmacies (>2,900)	Reimbursement of vaccines administered at \$13 per dose	2.1	95.6	8.3	106.1
Municipal paramedic services (>30) and Ornge	Land and air ambulance paramedic support for vaccine clinics, including all three phases of Operation Remote Immunity	13.3	13.4	0	26.7
Internal costs³	Vaccine credentials: proof of COVID-19 vaccination such as the vaccine passport, QR code, and Verify Ontario app	0	17.4	0	17.4
Canadian Red Cross, Medavie	Operated >3,000 vaccination events at mobile and pop-up vaccination clinics	0	17.5	0	17.5
Switch Health	Operated a mass vaccination clinic at the International Centre for the general public and is still operating another clinic at the Toronto Pearson International Airport (Airport) to administer vaccines to international agricultural workers arriving at the Airport	0	16.4	0.9	17.3
Shoppers Drug Mart, McKesson and Andlauer Healthcare Group	Storing, handling and distributing COVID-19 vaccines	0.7	11.9	0.4	12.9
Calian Group Ltd.	Provides vaccinators and support staff to clinics in the Greater Toronto Area and remote Indigenous communities	0.7	11.7	0.05	12.5
Primary care providers and OntarioMD	Reimbursement of vaccines administered at \$13 per dose (primary-care providers); training and support fee (OntarioMD)	0.3	9.2	0.3	9.8

Funding recipient(s)	Description of goods/services	2020/21	2021/22	2022/23¹	Total
Deloitte Inc.	Consulting services in business process assessment and design, data analysis, implementation planning and project management	2.4	6.7	0.7	9.8
The Hospital for Sick Children	A virtual clinic/phone line and parent education campaign designed to build confidence in providing vaccines to children	0	1.4	0.7	2.1
The Strategic Counsel, Ipsos, Leger	Health behaviours surveillance study using online surveys to gather public opinions, campaign recall and vaccine intent related to the COVID-19 vaccine	0.7	1.0	0	1.7
Xpera Risk Mitigation and Investigation	Provided logistical support for mobile vaccine clinics	0	1.7	0	1.7
FH Health	Operated vaccine clinics in 10 locations	0	0.7	0	0.7
Total		59.7	1,108.1	298.2	1,465.9

1. Data up to May 31, 2022.

2. Includes costs related to proof of COVID-19 vaccination such as the vaccine passport, QR code, and Verify Ontario app that are not broken out separately.

3. Borne by the Ministry of Health, the Ministry of Public and Business Service Delivery and Ontario Digital Service.

Appendix 4: Members of the Ministers' COVID-19 Vaccine Distribution Task Force

Prepared by the Office of the Auditor General of Ontario

Appointee	Position	Start Date	End Date	Additional Information
Rick Hillier* (Chair until Mar 31, 2021)	Canadian Forces General (Retd)	Dec 4, 2020	Mar 31, 2021	Also appointed Special Advisor to the Premier
Dr. Homer Tien (Chair from Apr 1, 2021)	President and CEO, Ornge	Dec 4, 2020	Aug 31, 2021	Replaced General Hillier as Chair on April 1, 2021
Mario Di Tommaso* (Vice-Chair)	Deputy Minister of Community Safety	Nov 23, 2020	Aug 31, 2021	
Helen Angus*	Deputy Minister of Health	Nov 23, 2020	Aug 31, 2021	
Dr. Dirk Huyer	Chief Coroner	Dec 4, 2020	Aug 31, 2021	Also appointed Co-ordinator of Provincial Outbreak Response
Dr. Isaac Bogoch	Infectious Diseases Consultant, Toronto General Hospital	Dec 4, 2020	Aug 31, 2021	
Mark Saunders	Former Toronto Police Chief	Dec 4, 2020	Aug 31, 2021	
Dr. Maxwell Smith	Bioethicist and Assistant Professor, Western University	Dec 4, 2020	Aug 31, 2021	
Dr. Regis Vaillancourt	Director of Pharmacy, Children's Hospital of Eastern Ontario	Dec 4, 2020	Aug 31, 2021	
Linda Hasenfratz	CEO, Linamar Corporation	Dec 4, 2020	Jan 18, 2021	Resigned
Angela Mondou	President and CEO, TECHNATION	Dec 4, 2020	May 3, 2021	Resigned
RoseAnne Archibald	Ontario Regional Chief, Taykwa Tagamou Nation	Dec 4, 2020	Jun 17, 2021	Resigned
Dr. Kieran Moore	Medical Officer of Health, Kingston, Frontenac and Lennox & Addington	Jan 8, 2021	Jun 26, 2021	Membership revoked due to new role as Ontario's Chief Medical Officer of Health
Dr. Syed Wajid Ahmed	Medical Officer of Health, Windsor-Essex Public Health Unit	Jun 26, 2021	Aug 31, 2021	

Note: The Task Force ended on August 31, 2021.

* Members that were appointed by the establishing Order in Council for the Vaccine Distribution Task Force (OIC 1546/2020). Remaining members were appointed by Ministers' Letter.

Appendix 5: Members of the COVID-19 Science Advisory Table, as of August 2022

Prepared by the Office of the Auditor General of Ontario

Member	Position as Noted on the Science Table Website
Dr. Upton Allen¹ (Co-Chair)	• Professor of Paediatrics, University of Toronto
Dr. Brian Schwartz (Co-Chair)	• Vice-President, Public Health Ontario • Professor, Department of Family and Community Medicine and Dalla Lana School of Public Health, University of Toronto
Dr. Fahad Razak² (Scientific Director)	• Internist and Assistant Professor, St. Michael's Hospital, University of Toronto • Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto • Research Scientist, Li Ka Shing Knowledge Institute • Provincial Lead, Quality Improvement in General Medicine, Ontario Health
Dr. David Earn	• Professor of Mathematics, Department of Mathematics and Statistics, McMaster University
Dr. Gerald Evans	• Professor of Medicine, Biomedical and Molecular Sciences and Pathology and Molecular Medicine, Queen's University • Medical Director, Infection Prevention and Control
Dr. Jennifer Gibson	• Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto; • Director, Joint Centre for Bioethics, University of Toronto • Sun Life Financial Chair in Bioethics
Dr. Michael Hillmer	• Assistant Deputy Minister, Capacity Planning and Analytics Division, Ministries of Health and Long-Term Care • Assistant Professor, Institute for Health Policy, Management and Evaluation, University of Toronto
Dr. Jessica Hopkins	• Deputy Chief, Health Protection, Public Health Ontario • Assistant Professor, Department of Health Research Methods, Evidence, and Impact, McMaster University • Adjunct Lecturer, Dalla Lana School of Public Health, University of Toronto
Dr. Peter Jüni³	• Professor of Medicine and Epidemiology, Department of Medicine and Institute of Health Policy, Management and Evaluation, University of Toronto • Director, Applied Health Research Centre, Li Ka Shing Knowledge Institute, St. Michael's Hospital
Dr. Fiona Kouyoumdjian	• Associate Chief Medical Officer of Health, Ontario Ministry of Health • Adjunct Scientist, ICES Central Populations and Public Health Research Program
Dr. Audrey Laporte	• Professor and Director, Institute of Health Policy, Management and Evaluation, University of Toronto • Director, Canadian Centre for Health Economics
Dr. Linda Mah	• Associate Professor of Psychiatry, Division of Geriatric Psychiatry, Faculty of Medicine, University of Toronto • Associate Member, Institute of Medical Science, Faculty of Medicine, University of Toronto • Senior Scientist, Rotman Research Institute, Baycrest Health Sciences • Staff Psychiatrist, Baycrest Health Sciences
Dr. Doug Manuel	• Professor, Department of Family Medicine, School of Epidemiology and Public Health, Faculty of Medicine, University of Ottawa • Senior Scientist, Ottawa Hospital Research Institute

Member	Position as Noted on the Science Table Website
Dr. Allison McGeer	• Microbiologist and Infectious Disease Consultant, Mount Sinai Hospital • Professor, Department of Laboratory Medicine and Pathobiology, Dalla Lana School of Public Health, University of Toronto
Dr. Andrew Morris	• Professor, Infectious Diseases, University of Toronto • Director, Antimicrobial Stewardship Program, Sinai Health and University Health Network
Dr. Samira Mubareka	• Clinician-Scientist, Sunnybrook Research Institute and Department of Laboratory Medicine and Pathobiology
Dr. Michelle Murti	• Associate Chief Medical Officer of Health, Ministry of Health • Assistant Professor, Dalla Lana School of Public Health, University of Toronto
Dr. Christopher Mushquash	• Professor, Department of Psychology, Lakehead University, and the Northern Ontario School of Medicine • Psychologist, Dilico Anishinabek Family Care • Director, Centre for Rural and Northern Health Research, Lakehead University • Interim Executive Vice President Research, Thunder Bay Regional Health Sciences Centre • Chief Scientist, Thunder Bay Regional Health Research Institute
Dr. Menaka Pai	• Associate Professor of Medicine, McMaster University • Head of Service, Benign Hematology, Hamilton Health Sciences • Transfusion Medicine Quality Lead, Hamilton Regional Laboratory Medicine Program
Dr. Samir Patel	• Deputy Chief, Microbiology, Public Health Ontario • Clinical Microbiologist, Public Health Ontario • Associate Professor, Department of Laboratory Medicine and Pathobiology, University of Toronto
Dr. Justin Presseau	• Associate Professor, School of Epidemiology and Public Health, University of Ottawa • Scientist, Ottawa Hospital Research Institute
Dr. Paula Rochon	• Senior Scientist and Geriatrician, Women's College Hospital • Professor, Division of Geriatric Medicine, Faculty of Medicine and Dalla Lana School of Public Health, University of Toronto • RTOERO Chair in Geriatric Medicine, University of Toronto
Dr. Beate Sander	• Canada Research Chair in Economics of Infectious Diseases • Scientist and Director, Population Health Economics Research, University Health Network • Director, Health Modeling and Health Economics, Toronto Health Economics and Technology Assessment Collaborative • Associate Professor and Faculty Co-Lead Health Technology Assessment program, Institute of Health Policy, Management and Evaluation, University of Toronto • Adjunct Scientist, Public Health Ontario • Adjunct Scientist, ICES
Dr. Michael Schull	• CEO and Senior Core Scientist, ICES • Professor and Clinician-Scientist, Department of Medicine, University of Toronto • Senior Scientist, Evaluative Clinical Sciences, Sunnybrook Research Institute • Professor, Institute of Health Policy, Management and Evaluation, University of Toronto • Staff emergency physician, Sunnybrook Health Sciences Centre
Dr. Arjumand Siddiqi	• Associate Professor and Division Head of Epidemiology, University of Toronto • Canada Research Chair in Population Health Equity

Member	Position as Noted on the Science Table Website
Dr. Chris Simpson	• Professor of Medicine, Division of Cardiology, Queen's University
Dr. Arthur Slutsky	• Scientist, St. Michael's Hospital, Unity Health Toronto • Professor of Medicine, Surgery and Biomedical Engineering, University of Toronto
Dr. Janet Smylie	• Professor, Dalla Lana School of Public Health and Department of Family and Community Medicine, Faculty of Medicine, University of Toronto • Research Scientist and Staff Physician, St. Michael's Hospital
Dr. Tania Watts	• Professor and Associate Chair, Post-doctoral program, Department of Immunology, Temerty Faculty of Medicine, University of Toronto
Dr. Scott Weese	• Professor, Ontario Veterinary College and Director, Centre for Public Health and Zoonoses, University of Guelph

Note: The Science Table was dissolved effective September 6, 2022.

1. Dr. Upton Allen took over from Dr. Adalsteinn Brown as co-chair in August 2022.
2. Dr. Fahad Razak took over as Scientific Director in May 2022.
3. Dr. Peter Jüni stepped down as Scientific Director in May 2022.

Appendix 6: Operation Remote Immunity

Prepared by the Office of the Auditor General of Ontario with information from the Ministry of the Solicitor General

	ORI	ORI 2.0	ORI 3.0
Time Period	Feb 1–Apr 28, 2021	May 31–Jul 23, 2021	Nov 15, 2021–Feb 28, 2022
Targeted Communities	• First and second doses for adults in 31 remote fly-in Indigenous communities and Moosonee	• First and second doses for youths aged 12 to 17 in 31 remote fly-in Indigenous communities and Moosonee • Second and third doses for adults in those same communities	• First and second doses for children aged 5 to 11 in 29 remote fly-in Indigenous communities and Moosonee • First and second doses for those aged 12 and over • Third doses for all eligible individuals
Doses Administered	25,614	5,743	11,052

Appendix 7: Hotspot Communities and Their Public Health Units

Source of data: Ministry of the Solicitor General

Public Health Unit	Postal Code Region
Durham	L1S, L1T, L1V, L1X, L1Z
Halton	L9E
Hamilton	L8W, L9C
Niagara	L2G
Ottawa	K1T, K1V, K2V
Peel	L4T, L4W, L4X, L4Z, L5A, L5B, L5C, L5K, L5L, L5M, L5N, L5R, L5V, L5W, L6P, L6R, L6S, L6T, L6V, L6W, L6X, L6Y, L6Z, L7A, L7C
Simcoe-Muskoka	L3Z
Southwestern	N5H
Toronto	M1B, M1C, M1E, M1G, M1H, M1J, M1K, M1L, M1M, M1P, M1R, M1S, M1T, M1V, M1W, M1X, M2J, M2M, M2R, M3A, M3C, M3H, M3J, M3K, M3L, M3M, M3N, M4A, M4H, M4X, M5A, M5B, M5N, M5V, M6A, M6B, M6E, M6H, M6K, M6L, M6M, M6N, M8V, M9A, M9B, M9C, M9L, M9M, M9N, M9P, M9R, M9V, M9W
Waterloo	N2C
Wellington-Dufferin-Guelph	N1K
Windsor-Essex	N8H, N8X, N8Y, N9A, N9B, N9C, N9Y
York Region	L0J, L3S, L3T, L4B, L4E, L4H, L4J, L4K, L4L, L6A, L6B, L6C, L6E

Appendix 8: Timeline of Government Announcements and Other Key Events Related to Proof-of-Vaccination Requirements, September 1, 2021 to March 17, 2022

Prepared by the Office of the Auditor General of Ontario

Date	Announcement
Sep 1, 2021	• Ontarians will need to provide proof of vaccination (vaccine passport) (two doses plus 14 days) along with photo ID at selected settings starting September 22, 2021.
Sep 14, 2021	• Regulations released under the <i>Reopening Ontario (A Flexible Response to COVID-19) Act, 2020</i> and guidance for businesses and organizations on proof-of-vaccination requirements.
Oct 15, 2021	• Ontarians told they can download the “enhanced vaccine certificate”, which includes an electronic QR code for scanners. The Verify Ontario app is released to allow businesses and organizations to electronically verify the authenticity of enhanced vaccine certificates and confirm a patron’s vaccination status. The app was intended for use by business and organizations. The enhanced vaccine certificate was to be used by people, and was encouraged but not required.
Oct 22, 2021	• Plan released to gradually lift the vaccine passport requirements starting January 17, 2022, capacity limits starting November 15, 2021, in the absence of any concerning trends.
Nov 10, 2021	• Pause of at least 28 days announced for the lifting of capacity limits where the vaccine passport is required.
Dec 7, 2021	• Pause announced on November 10 extended.
Dec 10, 2021	• Announces pause on lifting proof of vaccination requirements beyond January 17, 2022. Starting January 4, 2022, enhanced vaccine certificate with QR code and the Verify Ontario app will be mandatory in settings where proof of vaccination is required.
Jan 3, 2022	• Lockdowns starting January 5, 2022 which include reducing the size of indoor and outdoor gatherings and closing indoor dining, which in effect eliminates the need of the vaccine passport in these settings.
Jan 20, 2022	• Lifting of lockdowns will begin January 31, 2022.
Feb 14, 2022	• Lifting of proof-of-vaccination requirements will occur on March 1, 2022 for all indoor settings.
Mar 17, 2022	• Science Table notes: “Be prepared to renew vaccine certificates (broad term that generally means the vaccine passport) requiring a recent booster dose for high-risk settings if needed.”

Appendix 9: Summary of Ontario Legislation and Regulations Related to COVID-19 Vaccinations

Prepared by the Office of the Auditor General of Ontario

Legislation	Summary
<i>Health Protection and Promotion Act, 1990</i>	- Establishes the Chief Medical Officer of Health as responsible for dealing with situations that constitute or may constitute a risk to the health of any persons in Ontario including vaccination issues. - Establishes the 34 Boards of Health (public health units); they are responsible for control of infectious diseases and provision of vaccination services to children and adults. - Allows any Medical Officer of Health (i.e., both the provincial Chief and local/municipal) to place restrictions on the public (persons or businesses) due to the potential risk of a communicable disease. - Allows the Chief Medical Officer of Health to issue directives to any health-care provider or entity, detailing procedures to be followed to protect the health of Ontarians (e.g., Directive #3 for Long-Term Care Homes). - A regulation under this Act that came into effect in June 2020 allows for the collection of data specific to diseases caused by a novel coronavirus including Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) and coronavirus disease (COVID-19) vaccine history and sociodemographic data, including race, income level, household size and language.
<i>Covid-19 Vaccination Reporting Act, 2021</i>	- Requires persons or entities who administer COVID-19 vaccines to report information to the Ministry of Health which includes: - the individual's name, telephone number, date of birth; - the vaccinator's name, contact information, professional designation; and - the vaccine product name, date of administration, lot number.
Regulations under the <i>Reopening Ontario (A Flexible Response to COVID-19) Act, 2020</i>	Required certain businesses or organizations that are permitted to open to comply with public health and workplace safety measures. Additionally, certain businesses or organizations that were permitted to open were required to ensure patrons were fully vaccinated against COVID-19 before permitting entry into the establishment.
A regulation under the <i>Regulated Health Professions Act, 1991</i>	- Amendments made to the regulation to support the rapid delivery of COVID-19 vaccine doses to all eligible individuals. - In January 2021, several regulated health professionals were authorized to administer the COVID-19 vaccine. These professionals include pharmacists and pharmacy interns, registered pharmacy students and pharmacy technicians; and registered nurses in the general class, registered practical nurses in the general class, and nurse practitioners. - In December 2021, exemptions were made for any person, including a member of the public or other professional not listed above, from the prohibition on administering the COVID-19 vaccine by injection providing that at least one member of a specified health profession is present at the premises where the vaccine is administered and that professional is accessible to the person administering the vaccine to discuss questions relating to, or give directions with respect to, the administration of the vaccine.

Appendix 10: Areas Not Examined in This Audit

Prepared by the Office of the Auditor General of Ontario

- vaccination coverage for children under six—the approval and subsequent administration of this vaccine occurred toward the end of our audit;
- vaccine inventory control;
- completeness of the province’s tracking of adverse events following immunization;
- efficiency of workplace vaccine clinics and vaccinating inmates in provincial correctional facilities;
- efficiency of Operation Remote Immunity (described in **Section 2.2.2**);
- effectiveness of vaccine mandates and policies in relation to other public health measures, such as masking requirements;
- security management of vaccine storage, for example, by law enforcement; and
- management of medical and non-medical waste related to vaccination.

Appendix 11: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. The government has established a strategy to efficiently and cost-effectively deliver the COVID-19 vaccines that clearly outlines roles and responsibilities of all relevant parties and is executed in a timely manner.
2. Vaccines are distributed based on eligibility criteria that are informed by scientific evidence and appropriate ethical principles, especially in periods where demand for vaccines exceeds supply.
3. Provincial vaccine coverage data is assessed periodically to identify obstacles for clients and areas where vaccine clinic offerings or vaccination rates are lower, and strategies are developed and implemented to increase access. This includes identifying higher-risk groups who are less likely to get vaccinated, due to systematic issues.
4. Vaccination clinics are established to improve access to vaccines and their operations are guided by agreements that clearly define standards and policies on vaccine clinic staff training, storage and handling of vaccines; processes are established to monitor clinic operation and reimburse clinic operators based on valid billings.
5. Effective and flexible data systems are developed in a timely manner to book vaccine appointments and store vaccination and vaccine inventory data with appropriate safeguards for validity and accuracy.
6. The government's decisions on the timing and content of vaccine policies and mandates are informed by the best available scientific evidence and advice.
7. Clear, consistent and transparent messages are communicated to the public about vaccine policies, mandates, availability and effectiveness to establish public trust and opportunities for improvements and effectively address vaccine hesitancy.
8. Performance measures are established and measured to guide actions and establish priorities, including improving immunization rates and minimizing vaccine wastage, and these are modified as appropriate.

Appendix 12: Stakeholders Interviewed for the COVID-19 Vaccination Program Audit

Prepared by the Office of the Auditor General of Ontario

-
- The Ministry of Public and Business Service Delivery regarding the operation of the Provincial Vaccine Contact Centre
-
- The Ministry of Labour, Immigration, Training and Skills Development regarding its actions to monitor businesses' compliance with and enforce the *Reopening Ontario (A Flexible Response to COVID-19) Act, 2020* in relation to the requirements for vaccine passports in certain higher risk settings
-
- The Ministry of Long-Term Care regarding vaccination mandates at long-term care homes
-
- Public Health Ontario to identify the most current science regarding COVID-19 vaccines and to better understand its role in the vaccination distribution decision-making process
-
- Ontario Health regarding its role in co-ordinating certain regional vaccine-related operations
-
- The National Advisory Committee on Immunization regarding the advice it had provided on vaccine use
-
- The COVID-19 Vaccine Distribution Task Force to understand its activities in the early stages of the vaccination rollout; and
-
- The Children's Vaccine Table, the Ontario Medical Association, the Ontario Pharmacists Association, the Ontario Public Health Association, the Registered Nurses' Association of Ontario, the Association of Local Public Health Agencies and Vaccine Hunters Canada to obtain their perspective on the vaccine strategy and rollout.
-

Appendix 13: Summary of Inquiries Received by the Office of the Auditor General Regarding COVID-19 Vaccines, April 2021–January 2022, and Related Sections in This Report Where Topic Is Discussed

Prepared by the Office of the Auditor General of Ontario

Note: Summaries are based on comments from multiple individuals and organizations and may include non-factual information. Refer to **Section 4** of this report for the Office of the Auditor General of Ontario's assessment.

Topic	Concerns Identified	Section
Selection of Hotspot Postal Codes	- Many individuals expressed interest in how hotspots were chosen and wanted to make sure that hotspots were determined based on science and free of political influence. - Individuals were concerned that the government has favoured its own electoral ridings when it came to distribution of vaccines. - Specific examples include: - Vaccines were distributed to lower-risk areas instead of to essential workers and higher priority neighbourhoods in Peel and Toronto. - Kanata was included as a hotspot despite having a relatively low positivity rate, whereas London, where positivity rates were soaring, was not considered a hotspot. - York Region has consistently experienced unfair shortages of vaccines.	4.1
Stockpiling and Wastage	- Citizens wondered why some vaccine supplies were being held in freezers instead of being administered. - Our Office was requested to audit the government's use of private clinics and businesses to distribute and administer vaccines. The individual questioned whether the "haphazard" vaccine distribution in Ontario resulted in private clinics and businesses being "improperly incentivized to acquire doses of vaccine that they were not able to fully distribute". - Some primary care physicians were concerned that the two hospitals responsible for initial vaccine rollout in December 2020 were hoarding vaccines to give to their own staff who did not meet eligibility criteria because they did not have direct patient contact.	4.5
Use of External Consultants and Private Contractors	- Ontario's official opposition asked the Auditor General to review the sole-source contract between the government and FH Health, a private company, to operate vaccination clinics in the Greater Toronto and Hamilton Area, following reports that some FH Health corporate directors and their family members made donations to the Ontario PC Party totaling about \$42,000. The opposition expressed concern that there may be some quid pro quo between the government and FH Health and that the political donations may contravene the <i>Election Finances Act, 1990</i>. - There was concern about the government's sole-source contracting of Deloitte consultants for the COVID-19 vaccine distribution program and the use of exceptional provisions to sole-source this contract. It is unclear how much money the Province has spent on this contract. - A component of the provincial vaccination database responsible for tracking adverse events after immunization was built by Smile CDR (Clinical Data Repository). A citizen would like to know how this company was chosen and what it was paid.	4.3 See also COVID-19 Contracts and Procurement audit, 2022 Annual Report

Topic	Concerns Identified	Section
Vaccination Appointment Booking Portal	• There were reports that appointments for vaccinations were going unfilled due to citizens booking multiple appointments. • Many citizens reported feeling confused and frustrated with the lack of a central booking platform for all locations administering vaccines in their regions. • The provincial vaccine portal provided overly generic error messages when denying people from booking vaccination appointments, prompting citizens to call their public health units in confusion. • A group of primary care physicians expressed concerns about the booking system, in particular with high-risk individuals experiencing booking issues due to barriers to access (e.g., language barriers or no access to a computer/Internet). The booking of appointments in Ontario favoured those who were tech-savvy and fluent in English.	4.2
Vaccine Priority	• Many individuals questioned the four-month delay between the first and second dose recommended by the National Advisory Committee on Immunization, wondering whether this prolonged interval had any health consequences, especially for the elderly. • Some citizens worried that homebound seniors and other vulnerable populations were not able to access vaccines. • An individual was concerned that the government is putting the lives of people receiving home care and personal support services at risk. Personal support workers (PSWs) are more vulnerable as they visit multiple clients a day, but they have not received priority for second and third doses, nor are they protected by a vaccine mandate. Also, the individual notes that PSWs do not have access to N95 masks and test kits, despite the heightened risk. • A transit operator expressed concern with the Province's prioritization of certain workers for vaccines. He asked why education workers were prioritized over workers like himself, who cannot work from home. • Some primary care physicians expressed concerns regarding inconsistency when it came to the vaccination of health-care workers. When supplies were scarce, some physicians knew of non-patient-facing health-care workers who received their dose before those who were patient-facing or working in emergency.	4.1 4.6
Compensation and Organization of the Vaccinator Workforce	• The Registered Nurses' Association of Ontario and many nurses expressed frustration and concern about the vaccination workforce regarding: • The pay gap between physicians and nurses who administer the vaccine: physicians receive \$170 per hour (\$220 for overtime) from the Province while nurses receive \$40-50 per hour from the public health unit that employs them. • Feeling underutilized, as many nurses had not been called upon to vaccinate in the early stages of the rollout; the Province and public health units appeared to favour physicians, whose rates were much higher, to administer the vaccine. • The preference of physicians over nurses to administer COVID-19 vaccines, which seemed illogical given that nurses routinely administer other injections in primary care settings. • Primary care physicians also expressed concerns regarding the apparent disorganization of the vaccinator workforce. The list of vaccinators was unclear and should have been established through a centralized portal that tracked their identities and qualifications to help public health units plan clinics. Many vaccinators received little to no notice when being called onto shifts or when having their shifts canceled.	4.3

Topic	Concerns Identified	Section
Vaccine Planning Process and Information Systems	- Some primary care physicians expressed the following concerns regarding the planning of Ontario's vaccine rollout: - Initial planning did not include primary care and public health units, the two sectors with most experience in mass vaccination campaigns (i.e., annual flu shots). - From December 2020–April 2021, during the crucial phase of initial planning, retired General Hillier was head of the Vaccine Distribution Task Force. Although he provided logistics expertise, the General did not appear to have prior knowledge of public health systems in Ontario. This lack of public health knowledge may have been to the detriment of the vaccine rollout as the General prioritized getting vaccines into arms as quickly as possible over public health concerns such as equity. - The COVaxON system created to track vaccination data did not integrate with existing systems such as the electronic medical records maintained by primary care physicians, which created duplication of effort and risks of data loss or inaccuracy. - The Province's system of governance and accountability was complex “with multiple layers and holes in accountability” and “failures of leadership at multiple levels”.	4.4
		4.1

Appendix 14: Major Events Related to the Rollout of the COVID-19 Vaccine in Long-Term Care Homes and Among Health-Care Workers, December 2020 to February 2021

Prepared by the Office of the Auditor General of Ontario

Date	Major Events
Dec 4, 2020	The COVID-19 Vaccine Distribution Task Force (Task Force) analyzes National Advisory Committee on Immunization (NACI)'s guidance on prioritization. NACI guidance puts "residents and staff of congregated living settings that provide care for seniors" at the top of the prioritization list. 431,013 or 0.8% of Ontario's population fell under this group.
Dec 13, 2020	Ontario receives first shipment of Pfizer vaccine doses.
Dec 14, 2020	First vaccine dose of Pfizer administered in Ontario.
Dec 23, 2020	Over 9,300 doses administered thus far; recipients include long-term care home staff and residents, and hospital staff.
Dec 30, 2020	Ontario receives first shipment of 52,800 Moderna vaccine doses.
Jan 5, 2021	The Ontario government announces an accelerated plan to vaccinate at 163 long-term care homes in four priority regions (Toronto, York, Peel and Windsor-Essex) by January 21, 2021 leveraging the first shipment of Moderna vaccine doses; the Pfizer vaccine doses required ultra-cold freezing and were not approved for transportation out of hospitals or centralized vaccination sites and therefore were made available to health-care workers and long-term care home staff who could travel to these sites; the Task Force developed its plan to respond.
Jan 6, 2021	The Ministry of Health issues guidance allowing transportation of Pfizer vaccines beyond the initial point of delivery, following related guidance issued by the manufacturer on December 31, 2020.
Jan 17, 2021	Thus far, a total of 333,550 doses of vaccines have been received, with 207,788 doses administered: • 97,865 to health-care workers; • 48,436 to health-care workers at long-term care homes; • 12,989 to health-care workers at retirement homes; • 27,311 to long-term care home residents; • 9,061 to retirement home residents; • 346 to advanced age group residents in community dwellings; • 9,837 to other employees in acute care, long-term care and retirement homes; • 83 to members of Indigenous communities; • 1,637 to adults receiving chronic home care; • 1,221 to essential caregivers at long-term care homes; • 103 to other non-employees at long-term care homes; • 511 to essential caregivers at retirement homes; • 60 to other non-employees at retirement homes; • 242 to other priority populations Estimated total coverage of long-term care homes is around 33.5%.
Jan 19, 2021	The government announces that it has completed the accelerated plan to vaccinate 163 long-term care homes in four regions (Toronto, York, Peel and Windsor-Essex) ahead of schedule, and will continue to roll out to other long-term care homes and high-risk retirement homes across Ontario with a targeted completion date of February 15th.
Jan 21, 2021	50%* of residents and staff of long-term care homes and high-risk retirement homes have been offered the first dose of the COVID-19 vaccine. Due to supply constraints, the government pivots to vaccinating long-term care homes and high-risk retirement home residents only.

Date	Major Events
Feb 14, 2021	The Task Force, the Ministry of Health and the Ministry of the Solicitor General announce that the government has completed offering first doses to all residents in long-term care homes and high-risk retirement homes and begun to vaccinate those in retirement homes (approximately 60% of those in retirement homes have already received the first dose).
Feb 25, 2021	The Task Force continues to roll out the second dose to long-term care homes, high-risk retirement homes and other elder care homes, and resumes vaccinating patient-facing health-care workers, which was put on hold when the government prioritized vaccinating long-term care residents.

* The COVID-19 Science Advisory Table publishes a Science Brief that notes: “accelerating the rollout of Ontario’s COVID-19 vaccine such that all long-term care residents receive the first dose of a COVID-19 vaccine by January 31, 2021, would prevent a projected 600 COVID-19 cases and 115 deaths by March 31, 2021 when compared with the province’s current plan to vaccinate all long-term care residents by February 15, 2021. Projections indicate that further acceleration of the rollout would prevent even more COVID-19 cases and deaths.”

Appendix 15: Ontario's Roadmap to Reopen and Vaccination Rate for Each Step, Target versus Actual

Prepared by the Office of the Auditor General of Ontario

Steps	Examples of Permitted Activities	Target		Actual	
		Vaccination Rate	Date ¹	Vaccination Rate	Date ²
One	- Social gathering and organized public events limits - Outdoor—10 - Indoor—nil - Retail capacity - Essential—25% - Non-essential—15% - Certain outdoor activities with capacity limits	60% of 18+ with at least one dose	Week of June 14, 2021	74.1% of 18+ with at least one dose	June 11, 2021 ³
Two	- Social gathering and organized public events limits - Outdoor—25 - Indoor—5 - Retail capacity - Essential—50% - Non-essential—25% - Personal care services, public libraries with restrictions	70% of 18+ with at least one dose 20% of 18+ with two doses	21+ days after step one	77.7% of 18+ with at least one dose 39.3% of 18+ with two doses	June 30, 2021 (19 days after step one)
Three	- Social gathering and organized public events limits - Outdoor—100 - Indoor—25 - All retail capacity limited to permit physical distancing - Indoor dining permitted with no limits on the number of patrons per table with physical distancing and other restrictions - Sports and recreational fitness with capacity limits - Concert venues, cinemas and theatres permitted to operate with capacity limits	70-80% of 18+ at least one dose 25% of 18+ with two doses	21+ days after step two	78.5% of 12+ at least one dose 58.1% of 12+ with two doses	July 16, 2021 (16 days after step two)

1. Anticipated date when the Province would enter the next step in its reopening plan.

2. This is the date when the province elected to move to the step.

3. The province actually met the criteria in step 1 on May 22, 2021.

Appendix 16: Third and Fourth Dose Time Frames and Groups Recommended by National Advisory Committee on Immunization (NACI)

Source of data: National Advisory Committee on Immunization

Month Recommendation Made	Groups
Jan 2022	The following groups are to obtain the third dose six months after they have had their first and second doses: • children five to 11 who are moderately to severely immunocompromised • adults 18 years of age and older The following groups are to obtain the third dose six months after the completion of a primary vaccine series (which in Ontario is usually two doses of either Pfizer or Moderna or one dose of Janssen): • adolescents 12 to 17 years of age with underlying medical conditions at high risk of severe illness due to COVID-19 (including those who are moderately to severely immunocompromised and who received a three-dose primary series) • residents of congregate living settings • those who belong to racialized and/or marginalized communities disproportionately affected by COVID-19
Apr 2022	The following groups are to obtain their fourth doses: • adults 80 years of age • adults living in long-term care or other congregate living settings for seniors • adults 70 to 79 years of age and over living in the community • adults younger than 70 years in or from First Nation, Métis, or Inuit communities

Appendix 17: Recommendations from “Shining a Light at the End of the Tunnel—Guiding Considerations for a Safe, Accessible and Equitable COVID-19 Vaccination Framework in Ontario”, Ontario Medical Association, December 15, 2020

Source of data: Ontario Medical Association

Area of Interest	Recommendation
Defining Populations	• The government must identify clear criteria for, as well as within, priority populations who will receive a COVID-19 vaccination first. Physicians and others with expertise should inform the clinical and risk criteria to help prioritize within groups. • Health-care workers including doctors, nurses etc., should be in the first group of identified priority populations to receive the COVID-19 vaccine. • Real-time data should be used to help identify geographic areas of high spread and target those areas as a priority for vaccine distribution and allocation efforts, particularly where the demand for the vaccine exceeds the supply. • The government should begin planning now in anticipation of an approved vaccine for children (under the age of 16). • As part of the Ministers' COVID-19 Vaccine Distribution Task Force, the government must develop and deploy educational material to provide physicians with the information they will need to talk with their patients and provide them with the confidence that the COVID-19 vaccination is safe and effective. • The government must develop and implement a public awareness campaign to educate providers and the public regarding which populations will be prioritized during the vaccine distribution and administration process.
Vaccine Distribution and Administration	Roles of Key Actors • A key consideration is avoiding overlap in responsibilities and gaps in any plan. Clarify roles of all parties involved, including the federal government, provincial government, Public Health Ontario, public health units, health-care workers including physicians, hospitals, community clinics, long-term care and other congregate settings, and community leaders in developing and implementing the strategy for co-ordinated and safe vaccine delivery in consideration of local needs and contexts. The government should work with public health units to support capacity for these recommendations on distribution and administration. These roles will change throughout the campaign as vaccines with different distribution characteristics are approved for use in Canada. • Physicians, public health units (including medical officers of health), and other primary-care providers impart public health knowledge and have experience in patient care. They must be represented at provincial tables when immunization strategy decisions are being made. Administration for Priority Populations • Bring vaccination to priority populations in settings relevant and accessible to them (e.g., in hospitals for health-care workers, in schools for school staff and students, mobile vans for individuals unable to leave home). Government and local public health units should work with providers to investigate the desirability of various options for the vaccination of key priority groups such as community-based physicians, nurses and other workers in community health-care settings. • Plans must be made for how and where community-based health-care workers will be vaccinated. Hospitals and other public health-led clinics in local communities should maintain capacity and co-develop plans to ensure access to the vaccine for all health-care providers, which will allow them to stay healthy to continue to care for Ontarians including those with COVID-19. Hospitals and public health units seem an appropriate location for these individuals to get vaccinated. • Clear and consistent guidance for vaccine administrators on administering the COVID-19 vaccines and the specifics of each product, including follow-up dose requirements, should be developed with leadership by Public Health Ontario and the Ministers' COVID-19 Vaccine Distribution Task Force in consultation and collaboration with end users. The Ontario Medical Association can support with knowledge translation support of guidance and dissemination to physicians.

Area of Interest	Recommendation
Vaccine Distribution and Administration (continued)	Administration for the General Population • Once fridge-stable vaccines become available and widespread, and wider population vaccination is required, public health units should work with local physician leaders and primary-care providers to design innovative collaborations to enhance access to the vaccine at places that are easily accessible to patients. • Traditional settings for vaccine administration (physician clinics, public health unit vaccination clinics, etc.) should be considered for COVID-19 vaccine administration for the general population as vaccine availability and characteristics allow. • Distribution channels for delivering vaccine doses to physicians need to be determined (i.e., if utilizing influenza vaccine distribution channels through public health units). These distribution channels must entail clear and timely communication to physicians with transparency around supply and a commitment to delivery timing and quantity of doses. Physicians should identify the number of doses required for their practices. • Clear and consistent guidance for vaccine administrators on administering the COVID-19 vaccine in traditional settings and the specifics of each product that will be available, including follow up dose requirements, should be developed with leadership by Public Health Ontario and the Ministers' COVID-19 Vaccine Distribution Task Force in consultation and collaboration with end users. The OMA can support with knowledge translation support of guidance and dissemination to physicians. • When utilizing innovative strategies, spaces (e.g., arenas, convention centres) should be secured for large-scale and/or innovative vaccination clinics, and needed health human resources, supplies, and equipment should be determined and sourced. • Public health units should develop a roster of vaccine providers who are willing and able to administer the COVID-19 vaccine in clinics outside of primary care. Public health units should recruit vaccine providers within their regions, with the government helping where recruitment from other areas of the province may be necessary. • Local physician leaders and other primary-care providers can set an example for peers by supporting their local vaccination delivery process through contribution of time to the efforts of vaccinating clients at various venues. • The government should engage with industry leaders on scheduling appointments for large-scale vaccination clinics to leverage existing available technologies and expertise for planning attendance for large-scale events.
Integrated Information Systems, Surveillance and Monitoring	Integrated Information Systems for Patients & Providers • The government should make available an electronic appointment, registration and record management and patient notification system for multi-dose vaccination. This should be mobile phone-enabled and aligned with each type of COVID-19 vaccine along with non-smart phone notification mechanisms to attempt to reach all patients. This system should be patient-facing and provider-facing. • The government should use this system to allow patients to book their vaccination appointment(s) online and provide them with needed information. Additionally, it should account for patient differences in access to technology and digital literacy, ensuring that use of this system does not exclude some patients, particularly those who may be most vulnerable. • This system must meet providers' needs, facilitating appointment booking on their end, the provision of information and needed forms, facilitating appointment reminders, notifying providers if their patients have received each dose of the vaccine outside of a patient's family physician's office, and tracking which vaccine a patient received and the specific follow up timeline. The system must be co-developed with end users to ensure that it can be seamlessly integrated into workflow. Where possible, notifications should be sent directly to the primary care provider's electronic medical record system. • In light of the need for multi-dose vaccination, this system must record and track which vaccine a patient has been administered for their first dose, record and ensure that a patient's follow up appointment is booked for the same vaccine, ensure that it prompts patients for follow-up in the right timeline for each specific vaccine, and that it allows patients to book appointments where the vaccine they need is available. This is especially necessary for patients who receive the first and second doses from different providers.

Area of Interest	Recommendation
Integrated Information Systems, Surveillance and Monitoring (continued)	Information Systems for Surveillance Monitoring • Establish and proactively utilize vaccination surveillance and program monitoring to identify potential gaps in administration strategies. A comprehensive, centralized and accessible digital vaccine registry for data collection that aims to document each COVID-19 vaccine administered should be established at the national level. Such a system would allow vaccination rates and coverage to be easily tracked, enable the distribution of potentially scarce vaccines to be optimized, facilitate a comparison of vaccine coverage with disease rates across the provinces, and enable monitoring for effectiveness particularly in the longer term with a single database to easily know if individuals experiencing COVID-19 might already have been vaccinated. • Collect demographic data on vaccine distribution to identify gaps in population reach and access, and monitor effectiveness and safety amongst different populations, particularly marginalized populations that have experienced a disproportionate rate of COVID-19 infection. • Ensure that the existing adverse effects following immunization (AEFI) reporting structure has sufficient capacity to monitor reports related to COVID-19 vaccines, and that there is a federal-provincial-territorial strategy to monitor and act quickly on potential trends. Ensure vaccine providers including physicians have clear and efficient means to report AEFIs to their local public health units and are resources to counsel patients around AEFIs.
Public Education and Vaccine Hesitancy	• Clear and consistent communication/education campaigns must be developed and implemented by government with the support of stakeholders to assist in building public trust in the vaccine. • Leaders and health-care workers should be early and visible recipients of vaccines to reassure the public of vaccine safety. • Continuous updates/guidance on vaccine-related developments must be provided to health-care workers. • Health professional associations and respected community-based and non-governmental groups/organizations should be used to disseminate COVID-19-related information because this will help to build public trust in the vaccine. Targeted interventions must be developed for populations more at risk for contracting COVID-19 and groups who are more prone to vaccine hesitancy. • Regular monitoring of vaccine confidence levels (and dissemination of data to vaccine administrators) is necessary. • The vaccination experience should be as comfortable and convenient as possible. • Public education for protective measures including masking, physical distancing and hand and respiratory hygiene must continue. It must encourage people who have been vaccinated to continue these other measures so they can continue protecting those not yet vaccinated.

Appendix 18: Number of Vaccine Doses Received and Wasted by Public Health Units and Private-Sector Companies

Prepared by the Office of the Auditor General of Ontario

	Doses	Doses Wasted		Total	Wastage (%)
	Received	Closed-Vial	Open-Vial		
Public Health Unit¹					
Grey Bruce	320,769	49,534	4,588	54,122	17
Windsor-Essex	356,896	34,338	13,653	47,991	13
Huron Perth	251,787	15,595	4,970	20,565	8
Region of Waterloo	690,217	37,685	10,559	48,244	7
Eastern Ontario	338,016	19,627	3,988	23,615	7
Haliburton, Kawartha, Pine Ridge	247,204	8,008	7,184	15,192	6
Algoma	202,720	7,142	5,150	12,292	6
Porcupine	161,999	2,149	7,465	9,614	6
Kingston, Frontenac and Lennox & Addington	309,931	6,479	9,189	15,668	5
Durham Region	903,290	32,843	12,810	45,653	5
Timiskaming	67,731	1,485	1,854	3,339	5
Toronto	2,279,318	38,013	71,347	109,360	5
Niagara Region	462,622	12,808	9,253	22,061	5
City of Hamilton	811,593	14,855	22,941	37,796	5
Chatham-Kent	193,647	7,466	1,437	8,903	5
Renfrew County	177,684	3,206	4,190	7,396	4
Middlesex-London	587,204	5,022	18,647	23,669	4
Halton Region	776,349	17,276	13,904	31,180	4
Thunder Bay	233,121	4,062	4,885	8,947	4
Lambton	225,530	3,266	4,655	7,921	4
Leeds, Grenville & Lanark	300,777	3,816	5,990	9,806	3
Haldimand-Norfolk	117,016	1,606	2,196	3,802	3
Northwestern	171,384	808	4,491	5,299	3
Peterborough	233,635	5,271	1,421	6,692	3
Wellington-Dufferin-Guelph	524,272	4,779	9,422	14,201	3
Ottawa	1,742,329	5,970	40,641	46,611	3
Hastings Prince Edward	293,557	4,336	3,509	7,845	3
Southwestern	339,793	4,546	4,494	9,040	3
North Bay Parry Sound	227,509	1,089	4,924	6,013	3
Peel	1,877,241	21,134	27,710	48,844	3
Brant County	292,463	2,447	4,721	7,168	2
York Region	1,304,552	5,111	19,799	24,910	2
Simcoe Muskoka	1,034,233	8,739	10,351	19,090	2
Sudbury & Districts	404,802	954	5,439	6,393	2
Total	18,461,191	391,465	377,777	769,242	4

	Doses	Doses Wasted		Total	Wastage (%)
	Received	Closed-Vial	Open-Vial		
Private-Sector Organizations					
Switch Health ²	103,523	56,150	2,709	58,859	57
FH Health ³	15,949	0	3,223	3,223	20
Canadian Red Cross ²	55,077	119	3,622	3,741	7
Medavie ²	136,823	464	8,018	8,482	6
Total	311,372	56,733	17,572	74,305	24

1. Data from December 2020-June 2022.

2. Data from May 2021-June 2022.

3. Data from January-March 2022.

Appendix 19: Summary of Letters Submitted by the Ontario COVID-19 Science Advisory Table, the Ontario Hospital Association and the Registered Nurses' Association of Ontario on Vaccination Mandate in Hospitals, October 2021

Prepared by the Office of the Auditor General of Ontario

Ontario COVID-19 Science Advisory Table

In October 2021, the Science Table responded publicly in support of mandating COVID-19 vaccinations for hospital workers, including front-line health-care workers and all other hospital staff to protect both workers and patients. The Science Table cited the following reasons:

- conclusive evidence that COVID-19 vaccines are safe and effective based on data collected worldwide;
- hospitals are a substantial source of COVID-19 outbreaks;
- a vaccinated workforce would reduce transmission to both unvaccinated and vulnerable fully vaccinated patients;
- unvaccinated hospital workers are at far greater risk of infection, which could lead to potentially significant time away from work, and further strain from increased workload on their vaccinated colleagues; and
- in comparison, the number of unvaccinated hospital workers who leave the workforce due to mandates has been low based on evidence from other jurisdictions and early reports from within Ontario:
 - Italy implemented a vaccination mandate for health-care workers in April 2021. At that time, only one in 10,000 health-care workers in Italy was resistant to the mandate, according to the Order of Doctors, Surgeons and Orthodontists. According to senior leadership at the National Bioethics Committee, “vaccines are an ethical obligation for health professionals: their professional duty to treat the sick obliges them to avoid transmitting the infection.”
 - In the United States, hospitals that implemented vaccination mandates for employees effective September 2021 saw compliance rates of more than 90% as of October 2021. In one Texas hospital that employs more than 26,000 people, the vaccination rate was as high as 98%, with very few employees requesting exemptions (2%) or leaving their jobs (0.6%).
 - In Ontario, as of October 2021, several hospitals had chosen to implement vaccination mandates for employees because the Province was contemplating making this a province-wide requirement. They reported that relatively small numbers of employees were terminated or placed on unpaid leave due to refusal to vaccinate or disclose vaccination status, and that patient care would not be negatively impacted.

Ontario Hospital Association

The Ontario Hospital Association issued a letter in October 2021 to the government supporting the mandate, citing many of the same reasons as the Science Table. The Association also pointed out that:

- One in three Ontario hospitals own, operate or license a long-term care home, where vaccines are mandatory for workers. Many of these hospitals' employees work in both settings, and the “lack of a clear and consistent provincial approach can breed confusion and further vaccine hesitancy”.
- In contrast to the unpredictable absences that could occur during a COVID-19 outbreak, any staff departures due to a vaccination mandate would be planned, so that hospitals could better adapt and respond.

- The *Public Hospitals Act* already requires hospitals to ask health-care workers for proof of vaccination or proof of immunity for 17 communicable diseases including measles, rubella, varicella and tuberculosis, and COVID-19 should not be treated differently.

Registered Nurses' Association of Ontario

The Registered Nurses' Association of Ontario supported the mandate in hospitals as stated in the Association's public letter in October 2021. Based on a survey of its members, the Association found that "mandatory vaccination is considered by virtually all nurses as a matter of respect and necessary for the

protection of their health and safety and those they go home to every day." The Association also echoed the sentiments of the Science Table and the Ontario Hospital Association in saying that vaccination mandates would not result in hospitals being short-staffed. Further recommendations on implementation include:

- a clear, comprehensive, consistent, firm mandate with a six-week time frame for implementation;
- nursing-led education in the workplace for health-care workers;
- workplace access to vaccination; and
- engagement of relevant stakeholders like regulatory and professional bodies providing education, portals for education, and other profession-specific supports.

Appendix 20: Examples of Poor Communication on Vaccine Distribution and Science

Prepared by the Office of the Auditor General of Ontario

Three-phase Vaccination Plan	The province provides COVID-19 information on its website, Ontario.ca. One of the COVID-19 web pages on Ontario.ca describes the three-phase vaccine distribution plan (explained in Section 2.2.2), the province's plan for vaccinating Ontarians generally based on the quantity of vaccines available, increasing over time. The information provides an outline of the plan, but does not provide details, for example, the relative priority of the groups in the first phase. Additional information (or links to additional information) is necessary for a comprehensive understanding of, for example, what would trigger a move from one phase to the next, order of eligibility within the priority groups listed in each phase, and how Ontarians would be able to access vaccination once they become eligible. The information available does not clearly describe how the vaccination plan follows the principles of the Ethical Framework for COVID-19 Vaccination (Figure 4); for example, how the plan would minimize harm and maximize benefits, or how the plan considered equity in prioritizing groups, and fairness for individuals within groups. The communication, therefore, does not align with another framework principle—transparency. Concerns about lack of clarity on the vaccination plan appeared regularly in the media, especially in the early phases of the plan when vaccine supply was severely limited, suggesting that another framework principle—public trust—was negatively affected.
Vaccination Priority Groups Planned Compared to Actual	The Ministry of Health did not adequately convey how its actual order of vaccination compared to its plan, or reasons for any deviations. For example, by summer 2022, the government website did not contain updated information on what had occurred. It is unclear whether lack of clarity is the result of poor communication, or a lack of clarity about the goals of the vaccination program. Poor communication often results from a lack of clarity in policy goals and objectives. We surveyed medical experts about whether the Ontario government should have established the order in which different priority groups would receive the COVID-19 vaccine prior to receiving them; 67% agreed or strongly agreed. Also, 50% disagreed that the Vaccine Distribution Task Force was effective in clearly communicating the rationale for prioritizing certain groups for the limited vaccines available at that time. One expert noted that the “distribution strategy depends upon underlying primary goals. Primary goal could be limiting deaths. Or limiting transmission. Or limiting hospitalizations. Each of these would entail a different strategy. The underlying goal was never clear, and so the utility of the strategy was also not clear.”
“Hotspot” Strategy	As noted in Section 4.1.1, despite the concerns of public health units and media attention, neither the Vaccine Distribution Task Force nor the Ministry of the Solicitor General clearly communicated to the public the underlying scientific data or how this data supported their decisions to select certain communities and not others.
Racialized and Indigenous Communities	The Children's Vaccine Table recommended in May 2021 that communications and resources be directed to develop anti-stigmatizing messages to explain “the reasoning for prioritizing youth living in hotspots, acknowledging that youth living in these areas including Black and other racialized youth have been disproportionately impacted by COVID-19.” This Table also raised similar concerns regarding whether prioritizing Indigenous people was adequately explained. However, the Ministry of Health did not develop communication to address these concerns. The Ministry informed us that in its view, drawing attention to racialized and Indigenous groups could have caused stigmatization.
Vaccine Science	The Ministry did not date information provided about vaccine science, or about key vaccination milestones as information was added to its website. Given the number of scientific studies underway and as a result, the evolving science on the COVID-19 virus and new variants, clearly dated information is key to helping the public interpret how current the information is.

Ministry of Colleges and Universities

Algoma University

Nipissing University

Ontario Tech University

University of Windsor

Financial Management in Ontario Universities

1.0 Summary

Ontario's 23 universities offer post-secondary undergraduate and graduate degrees to about 540,000 students in a wide variety of fields, and employ approximately 17,000 full-time faculty members. University education is a critical part of preparing Ontario students for their future. It provides individuals the opportunity to obtain a high-quality education and the necessary skills and knowledge to succeed and contribute to societal advancement. Universities are also able to supply Ontario's businesses with the talent and workforce they require to grow and prosper. They seek to advance society through research conducted and to deliver to students the state-of-the-art content in their field of study. According to Statistics Canada data on employment rates by educational attainment, 71% of Ontarians with a university degree were employed in 2020.

When a university is negatively impacted by administrative and financial issues, however, its ability to fulfill those roles is diminished, putting the education of its students, employment of its staff, and contributions to the economy of the Province at risk. This audit was conducted in the wake of the filing for creditor protection under the *Companies' Creditors Arrangement*

Act by Sudbury-based Laurentian University. Mismanagement, weak board oversight and questionable decision-making at Laurentian led to the elimination of academic programs, affecting students, professors and staff.

We assessed key operations and governance structures at four Ontario universities: Algoma University, Nipissing University, Ontario Tech University, and the University of Windsor. These publicly funded institutions were chosen based on their past financial performance vis-à-vis the Ministry of Colleges and Universities (Ministry) financial-health indicators and for comparative purposes; they are small or medium-sized universities. In 2020/21, all four universities performed below the provincial average in four of seven key financial indicators (primary reserve, viability ratio, in-year surplus and expendable net assets).

Ontario universities have faced several uncontrollable challenges over the past five years, including a 10% province-wide tuition reduction and freeze, and disruptions as a result of the COVID-19 pandemic. Only one, Algoma, had an annual surplus consistently throughout the five-year period 2016/17 to 2020/21. Nonetheless, all four universities we audited had positive net assets as of the end of fiscal year 2020/21. Although the universities we audited were in a positive financial position at the time of our audit, some issues,

if left unaddressed, could put the future financial sustainability of the universities at risk. For example:

- The impact of the domestic student tuition reduction and freeze in Ontario has resulted in universities increasing their focus on international student tuition fees. A high reliance on international student enrolment by universities poses risks outside of the Ministry's and the universities' control, such as the potential loss of a large number of students if individuals from one country were to suddenly not be able to obtain study permits (visas) or otherwise be restricted from entering Canada. In 2021/22, three of the four (Algoma, Nipissing, and Windsor) selected universities relied significantly on one country (India) for their international students.
- Weaknesses in universities' financial management practices, such as not establishing or adhering to policies limiting external borrowing and debt servicing costs, despite carrying significant long-term debt; not preparing budgets and cash flows that are complete and accurate to control spending and make better financial decisions; not analyzing the profitability of academic programming and adjusting offerings where appropriate to improve financial sustainability; and failing to assess the financial feasibility of major capital projects before proceeding with them.

An evolving challenge for the Ministry is that it has operated without a clear strategy or long-term vision for the post-secondary education sector that clearly distinguishes programming between colleges and universities. Some colleges offer degree programs and some universities offer certificate programs to generate more revenue, and over time the originally intended purposes of Ontario's post-secondary institutions have blurred and now overlap. This has created confusion in differentiating between these two types of institutions, and could impact their ability to sustain themselves in the long term.

A further challenge for the Ministry is that it does not have the legislative authority to intervene in the

operation of publicly funded universities, even if it is aware of an institution's worsening financial condition. Our audit confirmed that it does not have clear and strong processes in place to proactively work with and assist universities to improve their financial situation if required.

The following is a summary of some of our specific findings for each of the four universities we audited:

Algoma University

Established as a university in 2008, and located on the former site of the Shingwauk Indian Residential School in Sault Ste. Marie, Algoma has a special mission to provide cross-cultural learning between Indigenous communities and other communities in Northern Ontario. It offers programs in liberal arts, sciences, and business, primarily at the undergraduate level.

In 2021/22, 3,500 students attended Algoma University. The university employed 236 full-time employees consisting of 81 (34.3%) faculty and academic support staff and 155 (65.7%) full-time administrative staff.

In 2020/21, the most recently available information, the university received \$23.5 million in tuition revenue (54% of total revenue) and \$20 million in government funding (46% of total revenue) including a \$5.3 million COVID-19 relief grant. It had an in-year surplus of \$7.5 million.

Specific findings for Algoma University include:

- **Revenue is largely driven by international students from India enrolled at the Brampton campus.** In 2018, Algoma expanded its campus in Brampton, Ontario. As of 2021/22, the Brampton campus generated 65% of the university's revenue and 51% of the university's total enrolment; 90% of Brampton's enrolment are international students. Algoma had in-year surpluses throughout the 2016/17–2020/21 period and increased revenue by 34% during the period, with the largest contributor being international student tuition. The majority of Algoma's enrolment growth was at the School of Business and Economics on the Brampton

campus. As a result, international students accounted for 76% of Algoma's tuition revenue for all campuses combined in 2020/21.

- **The university does not prepare and present to its Board its projected cash flows.** Algoma does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform senior management and the Board of the extent to which each contributes to or draws on the university's resources.
- **The university commingled externally restricted funds with cash from operations.** However, Algoma managed and maintained endowments and externally restricted funds using separate ledgers and held separate investment accounts for endowment funds. It also had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments.
- **Retroactive application of its 2021 capital debt policy shows the university was becoming overburdened by debt in 2016/17.** As of the university's year-end on April 30, 2021, Algoma University had \$11.3 million in debt. Since inception of its capital debt policy in March 2021, Algoma has been compliant with the policy. Applying the capital debt policy retroactively to 2016/17 shows that prior to 2020/21 it would not have met target levels for the viability ratio. That meant the university was becoming overburdened by debt in comparison to the amount of expendable assets available to cover the debt.
- **Overall profitability of ancillary services is not reviewed and monitored.** Even though the amount of revenue earned through ancillary sources is not large (5%) relative to total revenues, there are opportunities to maximize the profitability of these services. Algoma prepared a consolidated budget for ancillary operations that it presented to its Board. However, it did not prepare a profitability analysis for each ancillary service in 2019/20, 2020/21 and 2021/22.
- **Based on its analysis, Algoma demonstrated a profit from academic programming for the 2020/21 year.** The university did not regularly assess the financial contribution of its academic programming up to 2020/21. However, Algoma completed an analysis of the profitability of academic departments as a one-time exercise in 2020/21. The analysis considered only tuition revenue and the cost of instruction, but no overhead costs. Furthermore, the analysis did not look at the profitability of each of the Sault Ste. Marie, Timmins and Brampton campuses separately.
- **The university did not always assess the financial feasibility of major capital projects before proceeding with them.** One of four projects reviewed did not include a financial assessment—the proposed construction of an Indigenous cultural centre (Mukwa Waakaa'igan), originally expected to cost \$16 million. A business case was presented to the Board in November 2019 that included the rationale for this project. However, it did not include a financial analysis to justify the cost of the capital expenditure.
- **The university does not track graduating international students to see if they stayed in its region and contributed to the economy.** Algoma does not actively maintain an up-to-date record of international student post-graduate progress or location. Doing so could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.
- **Current compensation practices for international recruiting agents incentivize them to recruit more students, but not necessarily more qualified students.** Agents are compensated based on a percentage of the base tuition. The university also paid in-country recruiting services a fixed monthly fee plus expenses incurred. This compensation structure may incentivize recruiting agents to recruit a large number of students who may not ultimately

become successful graduates because the students are meeting only minimum admission requirements, but may be missing an opportunity to apply contractual incentives to motivate recruiting agents to not only meet but exceed admission requirements in their pursuit of prospects. Algoma's international undergraduate student graduation rate for 2022 was 55%.

- **The large size and composition of the Board are not aligned with best practices.** Having an 18-member Board has resulted in establishment of an executive committee that has authority to make decisions on behalf of the Board, meaning the committee could act as a "board within a board." The term limit for Board members at Algoma is six years compared to the best practice of nine years. The benefit of longer-term limits is that they provide members with enough time to gain experience with and knowledge of the university, to better enable them to become proficient on committees and move into senior oversight positions, such as Board vice-chair and Board chair.
- **The Board has an emergency succession plan in place for an interim president, if required.** Algoma had an emergency succession plan in place for the president that identifies an individual who can serve as an interim president if necessary. A succession plan for a permanent replacement was not in place.
- **Members of the Board did not possess critical competencies required to provide effective governance.** Five core competencies for a university board include finance, accounting, executive management, risk management and cybersecurity. Algoma did not track the competency level of two of the five critical skills—risk management and cybersecurity. Further, about half of the Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area to be able to question management accordingly.

- **Key internal oversight functions for effective governance were absent.** Algoma did not have any of the expected oversight functions in place, including risk management, compliance and internal audit. These processes help an organization identify risk, implement internal controls to mitigate the risk, evaluate adherence to policy, law and regulations, and provide independent assurance that internal control processes are operating effectively.

Nipissing University

Nipissing University College was formed in 1967 as an affiliate of Laurentian University. Nipissing University received its charter as an independent university in 1992, and was established in North Bay to address the specific needs of Northern Ontario. Nipissing is primarily an undergraduate university with a particular focus on teacher education and nursing.

In 2021/22, 6,200 students attended Nipissing University. The university employed 478 full-time employees consisting of 188 (39.3%) faculty and academic support staff and 290 (60.6%) full-time administrative staff.

In 2021/22, the university received \$31.3 million in tuition revenue and was provided with \$35.5 million in government funding (44% of total revenue). It had an in-year operating deficit of \$4.5 million.

Specific findings for Nipissing University include:

- **Financial sustainability is weakening with declining revenues and consistent annual losses.** Nipissing accumulated \$9.4 million in net losses from 2016/17 to 2020/21, which contributed to drawing down its net assets from \$25.2 million in 2016/17 to \$16.1 million for the year ending 2020/21, along with other adjustments for external contributions and employee benefits. Nipissing has not actively engaged in international recruitment, with only 1% of enrolment being international students. Therefore, it is primarily reliant on domestic tuition and government grants.

- **The university does not prepare and present to its Board its projected cash flows.** Nipissing does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform senior management and the Board of the extent to which each contributes to or draws on the university's resources.
- **Deficits were continuously budgeted for, with no plan on how the university will become profitable.** Nipissing's annual operating budgets for each year from 2016/17 to 2021/22 were presented to its Board in a deficit position, but did not contain formal strategies for returning to a surplus position. Nipissing does not prepare a capital budget, and its annual budget does not take capital spending impacts into consideration.
- **The university commingled externally restricted funds with cash from operations.** However, Nipissing managed and maintained endowments and externally restricted funds using separate ledgers and held separate investment accounts for endowment funds. It also had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments.
- **Retroactive application of its 2021 capital debt policy showed the university was overburdened by debt.** As of its year-end on April 30, 2021, Nipissing University had \$34.7 million in debt from various undertakings, including the construction of residence buildings and a research innovation centre. Nipissing developed a capital debt policy for the first time in November 2021. The university has not breached its capital debt policy since its inception. However, if the measures were retroactively applied for five years beginning in 2016/17, it would have breached its interest burden ratio in two of the five years, and its debt per full-time-equivalent (FTE) student ratio also in two of the five years.
- **Over the five-year period from 2016/17 to 2020/21, Nipissing has realized a net profit of \$2.1 million in its ancillary services.** However, it does not review or monitor the profitability of individual ancillary services. This is a missed opportunity for the university to determine which services are generating a profit and which are not, in order to take any necessary corrective actions to maximize profits.
- **The university had not adjusted program offerings to improve financial sustainability, despite financial losses in its academic programming.** Over the five-year period from 2017/18 to 2021/22, Nipissing's academic programming was not profitable in three of the years, 2018/19, 2020/21 and 2021/22. For the 2021/22 year, only six of its 22 departments had a positive profit margin. The overall loss for all programs was about \$4.3 million. However, the university had not adjusted or restructured its program offerings to improve financial sustainability.
- **The university did not assess the financial feasibility of major capital projects before proceeding with them.** None of the four capital projects we reviewed were supported by a business case or a financial feasibility assessment. For example, the largest project was an expansion of the university's Athletic Centre in 2015 at a cost of \$23.1 million, of which \$8.5 million was funded through external debt. Despite the significant cost of the project and the use of external financing (37% of total project costs), the university had not completed a business case that contained the feasibility of the project to present to the Board for review and approval.
- **The university does not track graduating international students to see if they stayed in its region and contributed to the economy.** Nipissing does not actively maintain an up-to-date record of international student post-graduate progress or location. Doing so could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

- **Current compensation practices for international recruiting agents incentivize them to recruit more students, but not necessarily more qualified students.** Agents are compensated based on a percentage of the base tuition. This compensation structure may incentivize recruiting agents to recruit a large number of students who may not ultimately become successful graduates because the students are meeting only minimum admission requirements, but may be missing an opportunity to apply contractual incentives to motivate recruiting agents to not only meet but exceed admission requirements in their pursuit of prospects. Having said this, Nipissing's international undergraduate student graduation rate was 92% for 2022.
- **Large size and composition of the Board are not aligned with best practices.** Having a 26-member Board has resulted in the establishment of an executive committee that has the authority to make decisions on behalf of the Board, meaning the committee could act as a "board within a board." The term limit for Board members at Nipissing is six years compared to the best practice of nine years. The benefit of longer term limits is that they provide members with enough time to gain experience with and knowledge of the university, to better enable them to become proficient on committees and move into senior oversight positions, such as Board vice-chair and Board chair.
- **The university's Board has not conducted presidential succession planning.** Nipissing does not have an emergency succession plan for the president, including identification of an interim president if an unplanned replacement of the president is required, nor does it have a permanent plan for presidential succession.
- **Members of the university Board did not possess critical competencies required to provide effective governance.** Nipissing did not track the competency level of two of five critical skills for a university board—executive management and cybersecurity. Further, about half of

the Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area to be able to question management accordingly.

- **Key internal oversight functions for effective governance were absent.** Nipissing did not have any of the expected oversight functions in place, including risk management, compliance, and internal audit. These processes help an organization identify risk, implement internal controls to mitigate the risk, evaluate adherence to policy, law, and regulations, and to provide independent assurance that internal control processes are operating effectively.

Ontario Tech University

Ontario Tech University, founded in 2002 as the University of Ontario Institute of Technology, has two campus locations in Oshawa, one in the north end and one in the downtown core. Ontario Tech offers undergraduate, college-to-university transfer, and graduate programs across seven different faculties, with primary focus in the areas of science, technology, engineering and math.

In 2021/22, 11,000 students attended Ontario Tech University. The university employed 858 full-time employees consisting of 341 (39.7%) faculty and academic support staff and 517 (60.3%) full-time administrative staff.

In 2021/22, the university received \$87.1 million in tuition revenue and was provided with \$75.2 million in government funding (33% of total revenue), and had an in-year surplus of \$12.4 million.

Specific findings for Ontario Tech University include:

- **Ontario Tech achieved in-year surpluses in four of the last five years partly due to increased international student enrolment.** Throughout the five-year period from 2016/17 to 2020/21, Ontario Tech had four in-year surpluses, experiencing only one in-year deficit, in 2019/20. Ontario Tech's total revenue was 6% higher in 2020/21 than in 2016/17. Similarly, Ontario Tech's full-time-equivalent international

student enrolment was 23% higher in 2020/21 than in 2016/17.

- **Ontario Tech has established debt guidelines, but does not have a formal capital debt policy.**

As of the university's year-end on March 31, 2021, Ontario Tech's debt totalled \$188 million. Instead of a formal capital debt policy, Ontario Tech developed debt guidelines in January 2020.

- **The university does not present a budget to its Board that includes individual ancillary services or large capital expenditures.** Ontario Tech prepares a budget where ancillary streams are separated; however, it presents only an aggregate version to the Board. It also provides its Board with a combined budget for operations and capital projects costing less than \$5 million. Capital projects costing more than \$5 million, are approved by the Board individually, but no separate capital budget is prepared, nor is this information included in the combined budget.
- **The university does not present to its Board its projected cash flows.** Ontario Tech does not present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform senior management and the Board of the extent to which each contributes to or draws on the university's resources.
- **Ontario Tech maintained separate bank accounts for externally restricted funds and endowments.** The university also had sufficient cash and short-term investments at the end of fiscal year 2020/21 to cover externally restricted funds and endowments, according to its audited financial statements.
- **The university has avoided overreliance on international student enrolment from a single country, or few countries.** International students were most represented by individuals from India at Ontario Tech, but at 20% in 2021/22, a much lower proportion than at other universities audited. The university has also established an internal benchmark where no single country is

to comprise more than 30% of total undergraduate international student enrolment, and has adhered to this for at least the past five years ending 2021/22.

- **The university does not track graduating international students to see if they stayed in their region and contributed to the economy.**

Ontario Tech does not actively maintain an up-to-date record of international student post-graduate progress or location. Doing so could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

- **Current compensation practices for international recruiting agents incentivize them to recruit more students, but not necessarily more qualified students.**

Agents are compensated based on a percentage of the base tuition. The university also paid in-country recruiting services a fixed monthly fee plus expenses incurred. This compensation structure may incentivize recruiting agents to recruit a large number of students who may not ultimately become successful graduates because the students are meeting only minimum admission requirements, but may be missing an opportunity to apply contractual incentives to motivate recruiting agents to not only meet but exceed admission requirements in their pursuit of prospects. Ontario Tech's international undergraduate student graduation rate for 2022 was 42%.

- **Some faculties are not profitable; however, Ontario Tech has restructured programs to improve overall financial sustainability.**

Ontario Tech's analysis of the financial contribution of academic programming showed it had an overall positive contribution margin in each of the five years from 2017/18 to 2021/22 for all academic programming combined. However, only two of its seven faculties had a positive contribution margin in each year. Ontario Tech is the only university of the four audited that used

the analysis as a part of the basis to restructure a faculty in which consistent deficits were being experienced.

- **The university did not assess the financial feasibility of a major capital project before proceeding with it.** One of three major capital projects we reviewed did not include a financial feasibility assessment. For the largest project reviewed (\$46.6 million, completed in 2021), a business case was presented to and approved by the Board, but it did not include a rigorous cost/benefit analysis that would be expected for a project of this magnitude. Over half of the project was funded by external debt (54%), making a feasibility assessment even more important to ensure the project was positioned to benefit the university through, for example, revenue growth by attracting more students, or creating a competitive advantage. Also, the project proceeded without a sound funding plan and ended up being financed significantly by external debt.
- **Large size and composition of the Board are not aligned with best practices.** The large 24-member Board has resulted in the establishment of an executive committee that has the authority to make decisions on behalf of the Board, meaning the committee could act as a “board within a board.” The term limit for Board members is six years, compared to the best practice of nine years. The benefit of longer term limits is that they provide Board members with the opportunity to become proficient on committees and move into senior oversight roles, such as Board chair and vice-chair.
- **The university’s Board has not conducted presidential succession planning.** Ontario Tech does not have an emergency succession plan for the president, including identification of

an interim president if an unplanned replacement of the president is required, nor does it have a permanent plan for presidential succession.

- **Members of the university Board did not possess critical competencies required to provide effective oversight.** Ontario Tech did not track the competency level of two of five critical skills for a university Board—risk management and cybersecurity. Further, over a third of Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area.
- **A key internal oversight function for effective governance was absent.** Although Ontario Tech had the expected oversight functions of risk management and compliance in place, it did not have an internal audit function. Having an internal audit function would provide independent assurance that internal controls are operating effectively.

University of Windsor

Established in 1963 as an independent university, the University of Windsor is a medium-sized university, offering a comprehensive suite of more than 200 undergraduate and graduate degree programs, including programs in law, business, engineering, education, nursing, human kinetics and social work.

In 2021/22, 20,400 students attended the University of Windsor. The university employed 1,547 full-time employees consisting of 631 (40.7%) faculty and academic support staff and 916 (59.3%) full-time administrative staff.

In 2021/22, the university received \$222.3 million in tuition revenue and was provided with \$96.9 million in government funding (24% of total revenue), and had an in-year surplus of \$14.6 million.

The university is located next to one of Canada’s busiest border crossings with the United States, across

from Detroit, Michigan, and maintains close ties with major auto companies and suppliers through its Centre for Automotive Research and Education.

Specific findings for the University of Windsor include:

- Windsor achieved in-year surpluses in three of the last five years, partly due to increased international student enrolment.** Throughout the five-year period from 2016/17 to 2020/21, Windsor had three in-year surpluses, experiencing in-year deficits in 2018/19 and 2019/20. During this period, Windsor maintained a positive net asset balance of over \$100 million in each year. During the five-year time frame, Windsor increased its total revenue by 13%, partly by increasing its full-time-equivalent international student enrolment by 33%. From 2016/17 to 2020/21, the proportion of total revenues from international tuition doubled from 9.6% to 20.9%.
- Despite having the third-highest debt per student ratio among 19 Ontario universities, Windsor does not have a policy in place limiting the level of external financing.** At the end of 2020/21, the university had \$234.3 million in debt, primarily comprising debentures maturing in 2043 or later. Despite this high debt, Windsor does not have a capital debt policy in place to provide a framework for all borrowings to manage overall risks and minimize borrowing costs.
- The university does not prepare and present to its Board its projected cash flows.** Windsor does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform senior management and the Board of the extent to which each contributes to or draws on the university's resources.
- The university commingled externally restricted funds with cash from operations.** However, Windsor managed and maintained endowments and externally restricted funds using separate ledgers and held separate investment accounts for endowment funds. It also had sufficient cash and short-term investments
 - at the end of fiscal 2020/21 to cover externally restricted funds and endowments.
- The university is significantly reliant on enrolment of international students from India.** In 2020/21, 60% of international students at Windsor were from India and 12% from China. Overreliance on a few geographic regions increases the risk that external factors, such as a global economic downturn or foreign policy shift, could significantly impact a university's financial health.
- The university did not track graduating international students to see if they stayed in their region and contributed to the economy.** Windsor did not actively maintain an up-to-date record of international student post-graduate progress or location. Doing so could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.
- Current compensation practices for international recruiting agents incentivize them to recruit more students, but not necessarily more qualified students.** Agents are compensated based on a fixed rate for each recruited student, with some variation based on a student's program of choice. The university also paid in-country recruiting services a fixed monthly fee plus expenses incurred. This compensation structure may incentivize agents to push for quantity, with students satisfying only minimum admission requirements, but may be missing an opportunity to apply contractual incentives to motivate recruiting agents to not only meet but exceed admission requirements in their pursuit of prospects. Windsor's international undergraduate student graduation rate for 2022 was 69%.
- In the two most recent years, 2020/21 and 2021/22, the university's academic programs had negative contribution margins.** Some faculties were not profitable. According to the university's assessment of profitability of its faculties, four of its eight faculties

have continuously had negative contribution margins in each of the five years from 2017/18 to 2021/22. Windsor's academic programming overall was profitable in three of the last five years. However, the university had not adjusted or restructured its program offerings to improve financial sustainability.

- **The university did not assess the financial feasibility of a major capital project before proceeding with it.** Although a business plan was presented to the Board for each of four major capital projects we reviewed, for one of the projects expected to be completed in February 2023, the business case was not supported by a financial cost/benefit analysis to justify the cost of the investment and did not include estimates of future operating and financing costs and the university's ability to pay for those costs. This would be expected of a project mainly funded by debt (73%).
- **Large size and composition of the Board are not aligned with best practices.** The large 32-member Board has resulted in the establishment of an executive committee that has the authority to make decisions on behalf of the Board, meaning the committee could act as a "board within a board." The number of internal members of the Board also exceeded best practice recommendations to be fully effective, as did the number of committees of the Board.
- **The Board has an emergency succession plan in place for an interim president, if required.** Windsor had an emergency succession plan for the president, including identification of an interim president in the event of an unplanned replacement of the president is required, but did not have a permanent plan for succession in place.
- **Members of the university Board did not possess critical competencies required to provide effective governance.** Windsor did not track the competency level of one of five critical skills of a university board, cybersecurity.

Further, a third of Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area.

Overall Conclusion

Our audit concluded that although all but one of the universities (Algoma) have had in-year financial deficits during the 2016/17–2020/21 period, they are currently financially sustainable, with all four having a positive net asset balance as of the end of 2020/21. Nipissing has experienced an in-year deficit in four of the five years, drawing down its net assets by \$9.4 million, but still maintains a positive net asset balance.

The impact of the reduction and freeze on domestic tuition in Ontario appears to have contributed to universities becoming financially dependent on international student enrolment and tuition revenue. In most cases, that enrolment is dependent on students from India.

All four universities can improve their financial management practices. For instance, Ontario Tech and Windsor did not have a formal debt management policy, despite being among the most indebted universities in the province, on a per student basis. To promote sustainable financial operations, all Ontario universities need to ensure they have capital debt policies, and monitor and adhere to debt limits outlined in those policies to minimize external borrowing and debt servicing costs. As well, comprehensive business cases need to be consistently prepared for all major capital projects to inform boards on whether a project warrants its financial investment.

The effectiveness of governance practices at the selected universities can be improved as the Boards are too large, requiring authority for decision-making to be granted to executive committees, rather than the Board as a whole. As well, there are too many committees and internal members to be fully effective, compared to best practices. The competencies of members in core areas,

particularly financial literacy, need to be increased, and key oversight functions, such as risk management and internal audit, should be established in many cases.

While universities are competing for both domestic and international students for sustainability, the Ministry has not evaluated the sector as a whole to rationalize how many universities are needed, what is a reasonable amount of provincial funding, and what are reasonable tuition rates for both domestic and international students. This has resulted in an “every university for itself” mentality, rather than working toward what is best for the post-secondary system in Ontario as a whole.

The Ministry has not established a formal process that fully utilizes information it collects on the financial-health indicators to monitor the financial condition of universities each year. The Ministry also does not have the legislative authority to intervene in the operation of publicly assisted universities even if it is aware of a university’s poor or worsening financial condition.

Algoma University

By expanding its Brampton campus without significant capital investments, Algoma University is managing to financially sustain its overall operations. It has managed to avoid increasing its level of debt by leasing space. However, Algoma has become economically dependent on international student tuition revenue from students from India. It properly segregates its endowment and research funds from normal operations and it has sufficient cash and short-term investments to cover externally restricted funds. Between 2016 and 2021, Algoma did not always prepare a financial feasibility study before undertaking large capital projects. It also did not always conduct an analysis of the profitability of its academic programming. A one-time analysis that it did conduct in 2020/21 did not look at each of the Sault Ste. Marie, Brampton and Timmins campuses separately and did not consider relevant costs, such as for physical space, administration or maintenance. Algoma does not prepare and present to the Board projected cash flows to inform senior management and the Board of

the extent to which each of operations, financing and capital purchasing activities contributes to or draws on the university’s resources. It also does not track graduating international students to see if they stayed in their region after graduation and contributed to the economy. A smaller Board of Governors would better align with governance best practices. About half of the members of the Board did not possess critical competencies required to provide effective oversight. Also, key internal oversight functions for effective governance, including risk management, compliance and internal audit, were absent.

Nipissing University

Between 2016 and 2021, Nipissing University has consistently recorded annual losses, drawing down on its net assets. Nipissing’s operating budgets for these years that it presented to its Board reported deficits without a strategy for how it would return to a surplus position. Nipissing is financially dependent on domestic tuition revenue and provincial grants. Nipissing does not prepare projected cash flows to inform senior management and the Board of the extent to which each of operations, financing and capital purchasing activities contributes to or draws on the university’s resources. It properly segregates its endowment and research funds from normal operations and it has sufficient cash and short-term investments to cover externally restricted funds. Over the five-year period from 2017/18 to 2021/22, the university’s academic programming has not been profitable in three of the years, but it has not adjusted program offerings to improve its overall financial sustainability. The university also did not assess the financial feasibility of major capital projects completed in the past before proceeding with them. Nipissing has international students, but to a lesser extent. For those that it has, it does not track graduating international students to see if they stayed in its region and contributed to the economy. A smaller size and composition of the Board and longer term limits of Board members would better align with best practices. Also, about half of the members of the Board did not possess critical competencies required to provide effective oversight. Key internal oversight functions for

effective governance, including risk management, compliance and internal audit, were absent.

Ontario Tech University

Between 2016 and 2021, Ontario Tech achieved in-year surpluses in four of the five years, partly due to increased international student enrolment. During this period, full-time-equivalent (FTE) international student enrolment increased 23%. However, the university has avoided overreliance on international student enrolment from a single country by establishing and adhering to an internal benchmark where no single country is to comprise more than 30% of total undergraduate international student enrolment. Ontario Tech has established debt guidelines, but does not have a formal capital debt policy. It properly segregates its endowment and research funds from normal operations and it has sufficient cash and short-term investments to cover externally restricted funds. The university did not assess the financial feasibility of a major capital project completed in 2021 before proceeding with it. While some of its faculties are not profitable, Ontario Tech is the only university of the four audited that has restructured programs to improve its financial sustainability. The university does not present projected cash flows to inform the Board of the extent to which each of operations, financing and capital purchasing activities contributes to or draws on the university's resources. The university also did not track graduating international students to see if they stayed in its region and contributed to the economy. Its large 24-member Board could better align in size with governance best practices with a reduced size. Over a third of Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area. While Ontario Tech had oversight functions of risk management and compliance, it did not have an internal audit function that could provide independent assurance that systems and internal controls are operating effectively.

University of Windsor

The University of Windsor achieved in-year surpluses in three of the last five years partly due to increased international student tuition revenue. Between 2016 and 2021, Windsor increased its full-time-equivalent (FTE) international student enrolment by 33%, with 60% of its international students being from India. Reliance on one country increases the risk that external factors, such as a global economic downturn or foreign policy shift, could significantly impact the university's financial health if enrolment from India dropped. Windsor has the third-highest debt per student ratio among Ontario universities, but does not have a capital debt policy in place to manage overall borrowing risks and minimize debt service costs. The university also does not prepare projected cash flows from operations, financing and capital purchasing activities to inform senior management and the Board of the extent to which each contributes to or draws on the university's resources. It properly segregates its endowment and research funds from normal operations and it has sufficient cash and short-term investments to cover externally restricted funds. While some of its faculties are not profitable, Windsor has not assessed programs to see if it can improve its financial sustainability. It also did not assess the financial feasibility of a major capital project, expected to be completed in February 2023, before proceeding with it. Its large 32-member Board can better align with governance best practices with a reduced size. Over a third of Board members had little or no financial literacy expertise or experience, where near-to-all members of a board should be competent in this area.

To address our audit findings, this report contains 21 recommendations, with 16 action items directed to the Ministry of Colleges and Universities and between 21 and 32 action items directed to each of the universities we audited. While some recommendations within our report are directed specifically to the four universities we audited, we encourage all universities to implement the recommendations that may be applicable to them.

Appendix 1 provides an overview of the applicability of this report's recommendations to each of the selected universities. **Appendix 2** looks at the applicability of audit observations to each selected university. Audit observations pertaining to the Ministry of Colleges and Universities are presented in **Section 9.0**.

OVERALL MINISTRY RESPONSE

The Ministry of Colleges and Universities (Ministry) appreciates the work of the Auditor General and her staff and thanks them for their collaborative approach to undertaking this audit.

Ontario's 23 publicly-assisted universities play a key role in delivering high-quality education and engaging in research across Ontario, supporting the communities they are located in and supporting the province as a whole. Publicly-assisted universities in Ontario have significant autonomy in their operations, and are established under their own legislation. The province looks to universities to support the education of students – both domestic and international students – in key areas, including medicine, law, engineering, among others – and to support research and innovation. As the province recovers from the impacts of COVID-19, all postsecondary education institutions – including universities – have a key role in the province's economic recovery and success.

The Ministry acknowledges the issues and concerns raised in this audit and is committed to working with publicly-assisted universities to address the issues raised in this report. The Ministry's role is to support the postsecondary education sector as a whole, including funding publicly-assisted institutions and providing policy direction, among other things.

The Ministry will assess the recommendations and proposed actions, and take action where able. In particular, the Ministry intends to work to address concerns about the monitoring of the financial health of Ontario's publicly-assisted universities and to commit to putting in place actions to address financial health challenges.

OVERALL ALGOMA UNIVERSITY RESPONSE

Algoma University (Algoma) appreciates the work of the Auditor General and her staff and thanks them for their collaborative approach to undertaking this audit. As one of Ontario's youngest Universities, Algoma had its beginning in the small, Northern city of Sault Ste Marie. From 1965 to June 18, 2008, Algoma was an affiliate of another university. In 2008, Algoma gained independence as Ontario's 21st public university, signaling its intent to forge a new path forward. Rooted in a Special Mission, and located on the site of a former residential school, Algoma understands it has a special and unique responsibility for supporting Indigenous survivors, their families and communities in the work of truth telling and healing. Ministry policy decisions, however, particularly the 10% reduction followed by a freeze on tuition fees, has challenged our university in carrying out this important work. Today, Algoma University is proud to be developing leadership in cross-cultural and global education (delivering programming to students from over 60 countries across the globe).

Algoma is preparing for significant growth through the expansion of its third campus in Brampton. We are having an increasingly significant economic, social and cultural impact on the communities we serve and we have worked hard in the past five years to prepare the University for the next chapter of its evolution. With that, we thank the Auditor General for her timely recommendations, and will work toward their implementation. We continue our focus on policy, procedure and process that will best support student success, quality program delivery, good governance practice, risk management, international and domestic enrolment growth, graduate programming, continuing education, new infrastructure, capital commitments, and so much more. It is an exciting time for Algoma as we move into a new phase of strategic planning and we share our gratitude to all who are helping us along this exciting journey.

OVERALL NIPISSING UNIVERSITY RESPONSE

Nipissing University recognizes the importance of a partnership with the Province of Ontario in the service of providing the highest quality, sustainable model of public education. We are grateful for the review and value-for-money audit conducted by the Office of the Auditor General of Ontario. We are pleased to receive the recommendations which identify areas of improvement, and we pledge our commitment to act upon these recommendations as soon as possible. We have initiated many changes in our operations and many of the improvements that have been recommended in the audit. We have paid particular attention, for example, to Board financial and operational reporting, to program review, and to the planning, development, and operationalization of alternative revenue streams and to international recruitment to place us on track for a sustainable future.

As a proud Northern, primarily undergraduate institution, with a tremendous regional responsibility and economic impact, the cost of educating students is significantly higher than for our larger, colleague institutions in Southern Ontario. As the data clearly demonstrates, our revenues in total are 90% dependent upon government grants and student tuition. Consequently, shifts in policy can, and have had, a unique impact upon our university over time, in comparison to other universities in Ontario. The 10% cut in tuition and the freeze on tuition has had a devastating impact on our financial position, in addition to unintended consequences of the province's funding model, both affecting our capacity to return balanced budgets annually for these audited years. And, finally, our financial circumstances were negatively impacted by the pandemic.

Nipissing University is fully invested in creating a sustainable future. We have been working hard to address sustainability on all fronts, we will soon implement the recommendations provided by the Auditor General through this audit, and we look forward to finding solutions and working

as partners with the government of the Province of Ontario.

OVERALL ONTARIO TECH UNIVERSITY RESPONSE

Ontario Tech applauds the focus on continuous improvement provided by the Auditor General's comprehensive review of *Financial Management in Ontario Universities*. The observations and recommendations presented within this report support our ongoing efforts to become the destination of choice for students seeking innovative programs, employees seeking professional fulfillment and world class faculty looking to further the frontiers of research and teaching.

As a publicly funded institution, we fully welcomed the value-for-money audit to help identify areas of success and areas requiring improvement. The university is committed to creating a long-term sustainable future and will undertake work in the areas identified in this report. These actions will enhance the University's existing governance practices and provide for performance improvements as it relates to financial reporting.

Ontario Tech recognizes the integral role of the Province of Ontario in supporting a world-class post-secondary landscape that is financially sustainable. Ministry policy decisions, including a "freeze" on the sectors' two main revenue levers (tuition and grant), directly impact universities' ability to manage costs of day-to-day operations. Best practices in governance and financial management, which we are committed to, do not, alone, address the fundamental sustainability issue facing a publicly-funded sector. The university will continue to make difficult and prudent choices on what operations to fund, and how to continue to expand alternative sources of revenues guided by our vision.

Through these recommendations, Ontario Tech will strengthen its vision of embracing technology with a conscience to advance knowledge through our differentiated research and program offerings that play to the strengths of the Durham Region.

OVERALL UNIVERSITY OF WINDSOR RESPONSE

The University of Windsor would like to thank the Auditor General of Ontario for their thorough review and resulting recommendations as part of their value-for-money audit. As a publicly funded institution, we fully welcomed the opportunity to help identify areas where we are most successful and areas requiring improvement through their comprehensive examination.

The University is fully committed to acting upon these recommendations in a timely manner, and we have already embarked on a number of policy and process changes and initiatives that allow for greater transparency, accountability and performance as it relates to our governance structure, financial reporting and diversification of our international student recruitment complement.

However, the University of Windsor, like other post-secondary institutions, have faced a 10% reduction in tuition fees, imposed by the Ontario government in 2019, and a freeze of these fees in subsequent years that remains today.

This has forced universities to pivot towards increased international student enrolment and alternative sources of revenue to offset growing operating costs to ensure the continued delivery of exceptional post-secondary education. For the University of Windsor, this reduction and tuition freeze has represented a \$32 million base budget impact that required an innovative strategy to ensure the sustainability of academic and research excellence. The University welcomes further discussions across the sector and with our partners at the Ministry of Colleges and Universities to develop appropriate solutions to mitigate this impact without sacrificing quality research, teaching and student experiences.

The Auditor General's findings allow us to better strengthen our position as a regionally focused, globally relevant, post-secondary institution, with a continued focus on academic and research excellence and exceptional student experiences. We look forward to continuing to build upon the recommendations to be a post-secondary institution of choice for the learners of tomorrow.

2.0 Background

2.1 Overview

The goal of the Ministry of Colleges and Universities (Ministry) is for Ontario's post-secondary system to help people get a high-quality education and the skills needed to get good jobs, and to provide Ontario's businesses with a skilled workforce and the talent they need to thrive and prosper.

The successful completion of studies beyond post-secondary education both increases employment opportunities and generally results in higher earnings. According to Statistics Canada, Ontarians at least 25 years of age and with a university degree had a 71% employment rate in 2020, compared with 51% of those who had only a high school education. In addition, a 2019 Statistics Canada study shows that for every additional year of post-secondary education completed, annual earnings increase by 7% to 15%. Better health outcomes and lower divorce rates are also associated with higher levels of education.

The Ministry establishes provincial objectives for post-secondary education and accordingly subsidizes universities with operating and capital grants. The Ministry is also responsible for ensuring that high-quality post-secondary education is accessible to all qualified candidates. It manages this by setting tuition policies, providing low-income students with financial assistance, and funding specific initiatives.

Universities are institutions that are part of the broader public sector and that offer undergraduate and graduate degrees in a wide variety of fields, and generally have unrestricted authority to grant degrees and establish programs. Most of the 23 public universities in Ontario were created under an individual Act of the Ontario Legislature. The provisions in most university statutes are generally similar, with the Acts of most universities detailing policies and guidelines on governance structure, frameworks for establishing courses, student enrolment, funding and borrowing policy, and management of property.

Each university sets its own admission standards; these vary depending on the type of degree, program and personal situation of the applicant (for example,

Figure 1: Background Information on the Four Ontario Universities Selected for Audit

Prepared by the Office of the Auditor General of Ontario

	Algoma	Nipissing	Ontario Tech	Windsor
Date Created/Established	May 29, 2008	Dec 10, 1992	Jun 27, 2002	Dec 19, 1962
Region	North	North	GTA	South West
Location – Main Campus	Sault Ste. Marie	North Bay	Oshawa	Windsor
Number of Campuses	3 ¹	1	2 ²	2 ³
Full-Time Equivalent Enrolment, 5-year avg ⁴	1,496	4,305	9,043	15,588
Ministry Funding Grants, 5-year avg (\$ million) ⁴	16.0	36.7	74.6	99.1
Number of Faculties	5	2	6	8
Number of Undergraduate Programs	23	35	66	86
Number of Graduate Programs	0	7	35	45
Average Domestic Tuition (2020/21)	Undergrad (\$)	5,865	6,290	7,426
	Graduate (\$)	n/a ⁵	9,012	7,770
Average International Tuition (2020/21)	Undergrad (\$)	20,923	19,325	24,872
	Graduate (\$)	n/a ⁵	18,375	21,057
Fiscal year	May 1–Apr 30	May 1–Apr 30	Apr 1–Mar 31	May 1–Apr 30

1. Two campuses are located in Northern Ontario (Sault Ste. Marie and Timmins) and the third is in Brampton.

2. Both campuses are in Oshawa (one in North Oshawa and the other in the downtown area).

3. Both campuses are located in Windsor (main campus and downtown campus).

4. 2016/17–2020/21.

5. Graduate programs not offered at Algoma.

grades and enrolling in a program for the first time versus applying as a mature student).

As of March 31, 2022, Ontario's 23 universities offered undergraduate and graduate degrees to about 540,000 students in a wide variety of fields, while they employed approximately 17,000 full-time faculty members. Faculty include tenured staff who have both teaching and research responsibilities, teaching staff who generally have no research responsibilities, and part-time sessional instructors who are under contract to teach one or more courses.

Figure 1 contains foundational information about the four universities that we audited. For 2023 *Maclean's* university rankings and the latest available enrolment information at the time of our audit for all publicly funded Ontario universities, see **Appendix 3**.

2.1.1 Organizational Structure and Operations of Universities

Almost all universities (including the four selected for this audit) are governed by bicameral bodies,

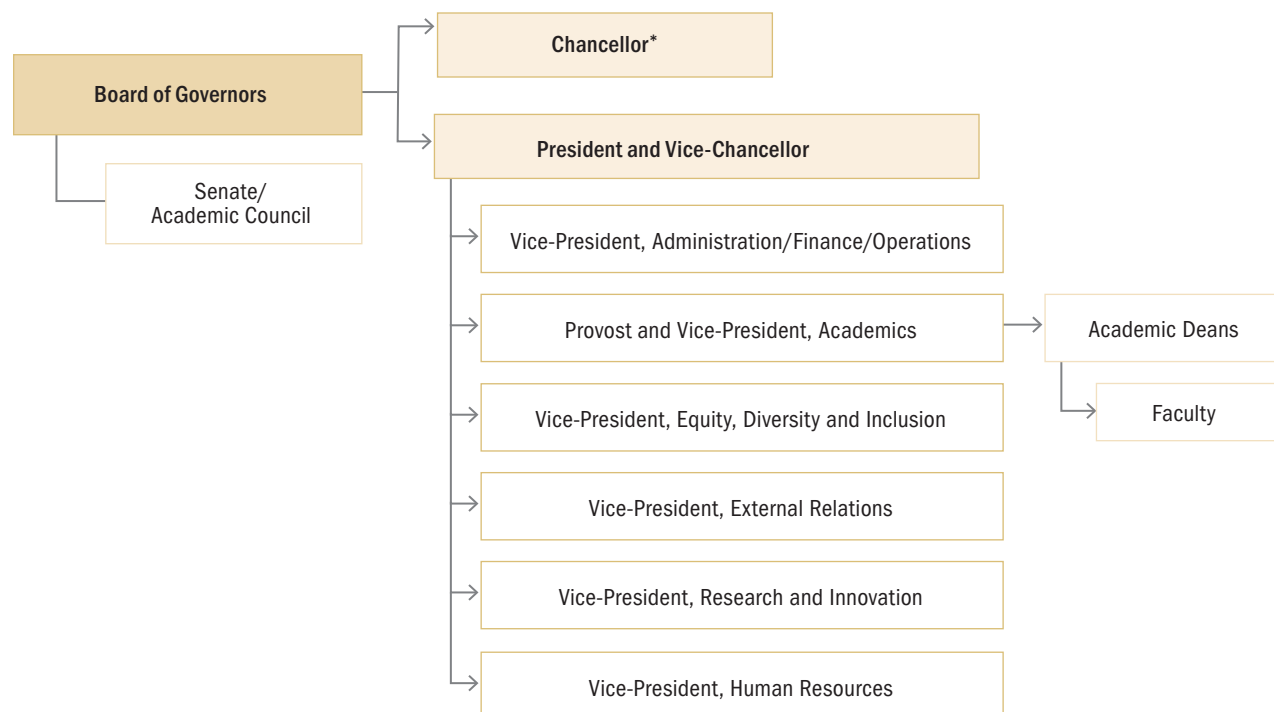
consisting of a Board of Governors or Trustees, and a Senate or Academic Council. The board and the university president generally have powers over the operational and financial management of the university, whereas the senate is responsible for decisions with respect to educational policy, such as adding or removing programs. The Board of Governors is considered the corporate and/or legal entity with authority to make bylaws, resolutions or regulations with respect to the management and control of property, revenues, expenses, business and other operations. The senate is responsible for the academic programming. **Figure 2** displays the typical organizational structure of an Ontario university, and **Figure 3** shows the number of full-time employees by employment group for the four universities we audited.

Board of Governor Composition and Appointment Process

The composition of each university's board is determined by the institution's legislation. University boards in Ontario generally are made up of internal

Figure 2: Typical Governance Structure of an Ontario University

Prepared by the Office of the Auditor General of Ontario



* The Chancellor serves as the nominal head of the university, presides over all major ceremonies, confers all degrees of the university, and is an ex officio member of the Board of Governors and/or the Senate.

Figure 3: Number of Full-Time Employees by Employment Group,¹ 2021/2022

Source of data: Universities selected for audit

Employment Group	Algoma	Nipissing	Ontario Tech	Windsor
Administrative support	145	275	500	890
Faculty and academic support	81	188	341	631
Senior administration ²	9	10	9	17
Deans	1	5	7 ³	9
Total	236	478	857	1,547

1. Information based on payroll and human resources data provided by each university.

2. Senior administration includes the president, vice-presidents, associate or assistant vice-presidents, chief of staff, registrar, university librarian, provost, university secretary and general counsel.

3. Six faculty deans and one dean for the School of Graduate and Postdoctoral Studies.

stakeholders (such as administrators, faculty and students), and external stakeholders (such as alumni, employees of affiliated universities, municipalities and/or Indigenous council). The board can also include ex officio members (for example, the president of the university) or honorary members, such as individuals who have made significant contributions to the university.

The board includes elected members chosen by the board or by another stakeholder group, such as the student body electing their own representative for the board. Board members can also be appointed by the Senate and through the provincial appointment process by the Lieutenant Governor in Council (LGIC).

- A board will also have sub-committees to address specific issues (e.g., audit, finance, capital). Committees can include members that are not on the board. We calculated that, on average, each university board in Ontario consists of 29 board members, of which one-third are internal stakeholders and two-thirds external stakeholders. For the four universities selected for this audit, the size of their boards ranged from 18 to 32 members.
- compliance with relevant transfer payment agreements, or equivalent, for individual grant programs to determine funding use and achievement of any associated measurable outcomes; and
- executive compensation for compliance with the *Broader Public Sector Executive Compensation Act, 2014*.

Senate Composition and Operations

The senate's powers include the ability to create and set policy and requirements for faculties, departments, and courses of instruction, although the financial implications of those decisions require board approval. The senate can also create regulations for the admission of students, courses of study and requirements for graduation.

Senates vary in size and composition, and include appointed and elected members, including ex officio members. The ex officio positions commonly include the university's president, deans and heads of affiliated colleges, senior administrators, students, public members, and other staff. There are no LGIC appointments on a senate. The size of the senate for the four universities selected for audit ranged from 43 to 85 members.

See **Figure 4** for a summary of the governance structure of the four universities selected for audit.

2.2 Ministry Oversight and University Reporting of Key Performance Metrics

The Ministry's general oversight activities include monitoring of:

- enrolment data reported each semester and compliance with the government's tuition fee for domestic students, which in 2019/20 was reduced by 10% and has since remained frozen;
- financial-health performance indicators compared to internal Ministry benchmarks;

2.2.1 Strategic Mandate Agreements

Each university has a Strategic Mandate Agreement (SMA) with the Ministry, which includes the government's accountability and transparency objectives, as well as each university's priorities for the applicable period. In September 2020, the third iteration of Strategic Mandate Agreements (SMA3s) were signed with all publicly assisted universities. The Province has similar agreements with all 24 publicly assisted colleges. Unlike the previous two rounds of agreements that had three-year terms, the most recent agreements have five-year terms (2020–2025) and introduce a new performance-based funding model.

The new model includes a grant that is based on a university's performance of 10 metrics against targets established for each university. These metrics are aligned with government priorities, such as skills and job outcomes, and economic and community impact. The Ministry originally planned to allocate 60% of the operating funding it provides to each university by 2024/25 based on the university meeting those 10 performance metric targets. In 2020, the Ministry delayed the implementation of performance-based funding for the first two years of the agreement in response to the COVID-19 pandemic. In February 2022, it again announced performance-based funding was delayed for one additional year until 2023/24. In 2023/24, only 10% of operating funding will be based on meeting performance targets, increasing to 25% in 2024/25.

See **Appendix 4** for the description of each measure included in the SMA3, the most recent results for the selected universities, and the average results for the 2021/22 school year.

Figure 4: Governance Structure Comparison for the Universities Selected for Audit, 2021/22

Prepared by the Office of the Auditor General of Ontario

Member Type	Algoma	Nipissing	Ontario Tech	Windsor
Board of Governors				
Alumni	1	1	0	2
Ex officio	2	4	2	1
Faculty	1	2	2	0
Indigenous education representative	0	1	0	0
Lieutenant Governor in Council	3	6	3	4
Non-teaching employees	1	2	1	0
Other	0	0	0	6 ¹
Public	19	6	16	15
Senate	1	2	0	4
Student	2	2	1	0
Maximum allowable size per Act²	30	26	25	32
Current Board membership	17	25	24	30
Vacancies	1	1	0	2
Total current Board of Governors size	18	26	24	32
Senate³				
Alumni	0	1	0	1
Board of Governors	1	2	1	2
Ex officio	6	9	16	23
Faculty	30	39	25	45
Indigenous education representative	1	1	0	1
Non-teaching employees	1	0	1	1
Faculty union	0	0	0	1
Council of Ontario Universities	0	0	1	1
Student	4	6	6	11
Maximum allowable size per Act²	43	58	50	86
Current Senate membership	41	54	45	82
Vacancies	2	4	5	4
Total current Senate size	43	58	50	86

1. The University of Windsor is required to have six members of its Board of Governors appointed by affiliated Assumption University's Board of Governors.

2. Differences in maximum allowable Board or Senate size and current membership size may be due to vacancies or the allowance for a range in the number of members representing a particular group.

3. Ontario Tech University's academic decision-making body is referred to as the Academic Council.

2.2.2 Ministry Key Performance Indicators

The Ministry has been publishing key performance indicators for Ontario universities since 1998. According to the Ministry, the performance indicators are collected for informational purposes to support institutional planning, program development and marketing; to support prospective students in making decisions about their post-secondary pathway; and to support institutions to market themselves to international students. The current group of key performance indicators are shown in **Appendix 5**. Three of the performance indicator groups feed into the current Strategic Mandate Agreement (SMA3) metrics mentioned in **Section 2.2.1**, namely, graduation rate, graduate employment rate and job relatedness.

Data for most of the indicators are collected by a third party under contract with the Ministry that surveys graduates six months and two years after graduation. The results for the other indicators are based on data collected directly by the Ministry or universities.

2.2.3 Financial-Health Indicators

Since 2014/15, the Ministry has collected information on seven measures of financial sustainability, referred to as the financial-health indicators. These indicators are not part of the SMA3. Refer to **Appendix 6** for more data on financial-health indicators.

Based on an assessment of the financial-health indicators, the Ministry assigns a risk category of high, medium or low to each university. A summary of achievement of the financial-health indicators and the risk assessment for the period 2016/17–2020/21 is provided in **Appendix 7** for all Ontario universities (excluding l’Ontario français for which indicators were not calculated).

2.2.4 Council of Ontario Universities (COU)

The COU is a group representing 20 publicly supported Ontario universities (not including Hearst, Northern Ontario School of Medicine, and l’Ontario français) and one associate member, the Royal Military College. The main objective of the COU is to advocate for

common goals shared by its members, and to facilitate co-operation and collaboration between members and with the Ontario government. The COU has three executive personnel, including the president and CEO who is registered with the Integrity Commission of Ontario as a lobbyist.

2.3 Funding and Financial Information

2.3.1 University Revenues and Expenses

Universities receive revenue from many sources, such as provincial ministries, federal and municipal governments, tuition and other student fees, donations, research funds, contractual and other fees for service, and ancillary and other revenue. This information is available from the Council of Ontario Finance Officers (COFO), an affiliate of the Council of Ontario Universities (COU), which collects and compiles financial information from submissions prepared by each university. According to the latest available information, total revenues in 2020/21 for all universities was \$17.6 billion. Ministry grants and domestic tuition fees, whose rates are set by the Ministry, represented 23% and 20%, respectively, of the total operating revenues of universities in 2020/21. Total expenditures for all universities for the same fiscal year totalled \$15.3 billion, and salaries and benefits accounted for 64% of all expenditures. **Appendix 8** provides the breakdown of total revenues and expenditures for the four selected universities. **Appendices 8a, 8b, 8c and 8d** provide a breakdown of the financial position of each university selected for audit for the five-year period 2016/17 to 2020/21.

2.3.2 Ministry Operating and Capital Funding

The Ministry provides two types of funding to post-secondary institutions in Ontario: operating funding and capital funding. **Figure 5** shows the operating and capital funding from the Ministry to all universities, and the four selected for audit, from 2016/17 to 2020/21.

Operating funding is reduced based on the number of international students enrolled. Because Ontario

Figure 5: Ministry Grants for University Operating and Capital Costs, 2016/17–2020/21 (\$ million)

Source data: Ministry of Colleges and Universities

University	2016/17	2017/18	2018/19	2019/20	2020/21	5-year avg	5-year % +/-
Operating^{1,2}							
Algoma	14.8	14.7	14.6	14.5	18.5	15.4	25
Nipissing	36.5	35.2	34.0	37.9	35.1	35.7	(4)
Ontario Tech	69.9	72.2	72.5	74.0	77.2	73.2	10
Windsor	93.2	94.8	93.9	94.7	101.4	95.6	9
All universities	3,540.1	3,592.0	3,587.0	3,612.2	3,636.8	3,593.6	3
Capital Grants							
Algoma	0.2	0.7	0.3	0.3	1.5	0.6	650
Nipissing	0.6	1.5	0.5	0.4	1.6	0.9	167
Ontario Tech	1.1	2.2	1.3	0.8	2.0	1.5	82
Windsor	2.7	7.2	3.1	1.6	3.1	3.5	15
All universities	132.1	263.4	130.5	53.4	90.0	133.9	(32)

1. The amount of operating funding from the Ministry is primarily based on domestic enrolment and programs. Changes in enrolment of less than 3% do not result in changes in funding in subsequent years.

2. Amounts presented are net of the \$750 International Student Recovery fee per international student.

universities can charge substantially more to international students, the International Student Recovery was implemented in 2013/14 to target institutions with access to significant international enrolment. The Ministry withholds \$750 in operating grant funding for each non-PhD international full-time equivalent (FTE) student in publicly funded universities.

Capital funding is used largely for equipment and facilities construction or renewal, and to support deferred maintenance. The Ministry provides this through individual funding agreements with each university.

2.3.3 Ministry Funding to Universities to Assist with Impact of COVID-19

In March 2020, the Ministry provided \$10.3 million in additional funding to 22 universities (an average of \$460,000 to each). An additional \$44 million was provided in March 2021 to 10 universities. The additional funding was to compensate universities for costs associated with pivoting to technology and virtual classrooms, providing career and mental health counselling for students, deep-cleaning fees, and adopting health and safety measures such as supplying personal protective equipment. In addition to the funding

received to assist with the impact of COVID-19, in 2021 the Ministry provided an additional \$2.8 million to universities to aid institutions with the conversion of their career services to a virtual environment.

In total, Algoma received \$5.3 million; Nipissing \$3.6 million; Ontario Tech \$5.2 million; and Windsor \$8 million.

3.0 Audit Objective and Scope

Our audit objective was to assess whether selected publicly assisted universities in Ontario have effective systems, processes and governance practices in place to ensure that:

- academic programs are delivered and resources, including capital, are acquired economically and efficiently to enable long-term financial sustainability;
- relevant legislation, regulations, agreements and policies are in place and adhered to; and
- operational effectiveness is measured, assessed and publicly reported on in compliance with legislation and best practices.

In addition, our audit assessed whether the Ministry of Colleges and Universities (Ministry) had effective oversight procedures in place to identify and provide proactive support to universities having financial difficulty.

We conducted this audit in response to Laurentian University entering the *Companies' Creditors Arrangement Act* (CCAA) process. Our objective was to assess whether operational and financial processes and decisions that led to the financial decline of Laurentian in the 2010–20 period were common in other Ontario universities. This audit complements the findings and recommendations tabled in the *2022 Special Report on Laurentian University*.

In planning for our work, we identified the criteria we would use to address our audit objectives. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at the Ministry and at the universities selected for audit reviewed and agreed to our audit objectives and related criteria, as listed in **Appendix 9**.

We conducted our audit from January to September 2022, and obtained written representation from the Ministry and the four universities audited that, effective November 24, 2022, they have provided us with all the information it was aware of that could significantly affect the findings or the conclusion of this report.

We selected the following universities for audit: Algoma University, Nipissing University, Ontario Tech University, and the University of Windsor. We assessed key operations and governance structures at these four universities to determine whether they facilitated the delivery of academic programming in a financially sustainable manner. We also assessed whether the Ministry had meaningful performance measures and targets to identify universities with performance or financial sustainability concerns, and whether the Ministry acted to address concerns identified at the four selected universities. Our audit did not examine the quality of academic programming provided by the universities selected for our audit.

The four universities were selected for audit based on their performance vis-à-vis the Ministry's

performance indicators for financial health, and for comparative purposes because they were small or medium-size Ontario post-secondary institutions. All four universities performed below the provincial average, in 2020/21, in four of the seven indicators.

We visited the main campus of each of the four universities, and met with members of the senior management team, board of governors and faculty unions.

We met with staff of the Council of Ontario Universities to discuss reasons for operating academic programs with low enrolment and negative profit contributions, and about standard university processes for assessing and monitoring facility condition and deferred maintenance. We spoke with the Ontario Confederation of University Faculty Associations regarding the existence and use of redundancy and redeployment clauses in collective bargaining agreements. We also met with other stakeholders to gain an understanding and different perspectives regarding university operations, including Ontario's largest university, the University of Toronto.

We engaged the use of two experts to provide input and insights into our audit plan and/or to assess the areas of university governance structures and practices, academic and corporate partnerships and collaborations, and international student recruitment. We also researched the funding-accountability mechanisms and levels of oversight of universities in other Canadian provinces, and the performance indicators they use to measure results.

4.0 Detailed Audit Observations

4.1 Financial Sustainability

Ontario universities have faced several challenges over the past five years. In 2019 the provincial government implemented a 10% province-wide tuition reduction and a tuition freeze for domestic students, in the years that followed (see **Section 4.2.1**), which the Council of Ontario Universities estimated reduced universities' revenue by \$1.2 billion for the three-year period from 2019 to 2021. In March 2020, the COVID-19

pandemic forced universities to shut down in-person classes and implement online learning. These challenges led universities to cut costs and take other approaches to revenue generation.

Unlike tuition rates for domestic students, tuition rates for international students are not set by the Province and can be increased by each institution. In 2020/21, the average tuition for a domestic undergrad student in Ontario was \$7,938 compared to \$40,525 for international students in an undergrad program. That meant that even after including the average amount of provincial funding per domestic student, an Ontario university would still earn more than double (109%) from an international student. See **Section 4.2** for further discussion of international students.

4.1.1 Most of the Selected Universities Began to Generate Financial Surpluses Primarily Attributed to International Student Revenue

All four universities we audited had an accumulated surplus as of the end of fiscal 2020/21, as shown in **Appendix 8**. However, when we reviewed their financial statements for the period 2016/17 to 2020/21, we noted that only one, Algoma, has been able to generate an in-year surplus consistently through the

five-year period. The other three universities experienced an in-year deficit in at least one year during this period. Nipissing experienced an in-year deficit in four of the five years, as shown in **Figure 6**. See **Appendices 8a, 8b, 8c, and 8d** for the financial position of each of the four universities for the five-year period 2016/17–2020/21.

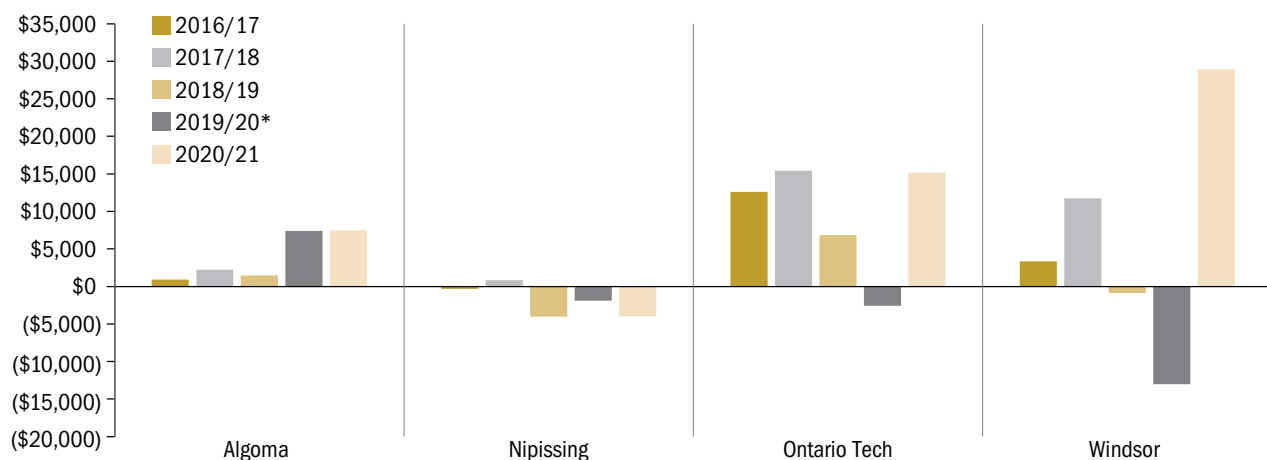
4.1.2 Despite Significant Long-Term Debt, Policies Limiting External Financing Are Not Always Established or Followed

The amount of debt universities carry and the way they manage their debt are increasingly important as institutions become more leveraged and interest rates rise. Our analysis of debt per full-time-equivalent (FTE) student at 19 universities in Ontario showed that two of the universities we selected for this audit were among the most indebted in the province. Ontario Tech had the highest debt per student ratio and Windsor ranked third (while Nipissing ranked ninth and Algoma 16th). Refer to **Appendix 10** for the debt per FTE student for each Ontario university.

In 2020/21, Ontario Tech paid \$12.9 million in interest and Windsor paid over \$10.8 million, which represents 7% and 3% of total expenses, respectively.

Figure 6: Annual Deficit/Surplus for Selected Universities, 2016/17–2020/21 (\$ 000)

Source of data: Universities' financial statements



* Steep declines in 2019/20 can be attributed to lost revenue during the COVID-19 pandemic.

In contrast, in 2020/21 interest costs paid by Nipissing and Algoma were \$991,000 and \$307,500, respectively, representing only 1% of total expenses for each university, as shown in **Appendix 8**.

Based on their liquidity, there is no indication the selected universities have been unable to service their debts or are at risk of default on any payments. A review of the financial statements of each of the four universities has shown that none of the four selected universities have breached external debt covenants. Nonetheless, having a formal debt management policy is important. It allows an institution to provide a

framework for all borrowing in order to manage overall risks and minimize borrowing costs.

Our audit found both Ontario Tech and Windsor did not have formal debt policies, whereas Nipissing and Algoma did. However, in the latter two cases, debt limits were exceeded, or would have been exceeded if the new debt policies were applied retroactively.

Figure 7 shows the metrics, targets, and results under the capital debt policy of each of the four universities. We calculated each metric, even where the university did not itself have the metric in place. Although the capital debt policies have not been in

Figure 7: Achievement of Debt Policy Metrics, 2016/17–2020/21

Prepared by the Office of the Auditor General of Ontario

Debt Policy Metric		Algoma		Nipissing		Ontario Tech		Windsor	
		Target	Metric ¹	Target	Metric ¹	Target	Metric	Target	Metric
Interest Burden Ratio (%)									
The percentage of total expenses used to cover the university's cost of servicing its debt	2016/17	< 4.0	3.73	< 2.0	2.14	< 5.0	3.27	n/a ²	2.55
	2017/18	< 4.0	3.70	< 2.0	2.09	< 5.0	2.96	n/a	2.84
	2018/19	< 4.0	3.55	< 2.0	1.31	< 5.0	2.76	n/a	2.63
	2019/20	< 4.0	2.83	< 2.0	1.23	< 5.0	2.59	n/a	2.58
	2020/21	< 4.0	3.33	< 2.0	1.29	< 5.0	2.68	n/a	3.10
Debt per Student FTE (\$)									
The proportion of total debt attributed to each full-time equivalent student	2016/17	n/a	12,158	< 8,500	7,332	Show continuous improvement ³	24,702	n/a	10,267
	2017/18	n/a	12,518	< 8,500	9,066		23,360	n/a	12,408
	2018/19	n/a	10,939	< 8,500	8,797		22,680	n/a	11,863
	2019/20	n/a	6,087	< 8,500	8,122		21,796	n/a	11,415
	2020/21	n/a	5,842	< 8,500	7,815		19,898	n/a	14,321
Ratio of Debt to Total Revenues (%)									
Compares how much is owed each month to how much is earned, which provides an indication of ability to service debt	2016/17	n/a	45.54	< 48.0	38.54	n/a	108.97	n/a	44.03
	2017/18	n/a	43.64	< 48.0	46.12	n/a	98.39	n/a	52.25
	2018/19	n/a	37.78	< 48.0	44.86	n/a	95.99	n/a	48.28
	2019/20	n/a	25.41	< 48.0	43.34	n/a	93.82	n/a	48.06
	2020/21	n/a	26.24	< 48.0	45.55	n/a	87.90	n/a	60.57
Viability Ratio (%)									
Measures the assets available to pay a university's long-term debt obligations	2016/17	> 125.0	17.86	n/a	26.97	n/a	9.97	n/a	31.77
	2017/18	> 125.0	17.09	n/a	34.48	n/a	14.09	n/a	32.69
	2018/19	> 125.0	47.66	n/a	27.49	n/a	17.93	n/a	18.57
	2019/20	> 125.0	105.94	n/a	29.74	n/a	11.75	n/a	12.96
	2020/21	> 125.0	209.17	n/a	26.80	n/a	11.90	n/a	22.30

1.  Shaded boxes indicate university-specific targets not met.

2. n/a denotes that the university does not track this metric, therefore does not have a target.

3. Ontario Tech's target for this metric was to "show continuous improvement" in all years.

existence for five years in all cases, we calculated whether the metrics would have been retroactively met for the 2016/17–2020/21 period for each of the four universities.

4.1.3 Greater Efforts Are Needed to Increase Revenue from Ancillary Services

Universities generate revenue from ancillary services that include food services, campus book stores, print shops, parking, catering and conference services, and residences. These funds typically make up a small percentage of the universities' total revenue. For the selected universities, the percentage of revenue earned through ancillary services in 2020/21 was: Algoma 5%; Nipissing 3%; Ontario Tech 2%; and Windsor 2%. The Council of Ontario Universities reported the average ancillary revenue at all universities as a percentage of total revenue was 7% from 2016/17 to 2019/20, and decreased to 2% in 2020/21, because of COVID-19. Even though the amount of revenue earned through ancillary sources is not large relative to total revenues, there could be opportunities to maximize the profitability of these services.

4.1.4 The Selected Universities Applied Appropriate Controls for Segregation of Restricted Funds

Certain contributions received by a university will have restrictions imposed by the contributor on how the funds are to be used. The funds represent a liability on the balance sheet until they are spent for the designated

purpose, at which point they are recognized as revenue in the year with the related expenses. Some examples of externally restricted funds include restricted grants, donations, contributions and investment income.

Endowment funds are a type of restricted fund received by the university from donors; the initial donation is required to remain intact (unspent) but the investment income earned can be spent in accordance with the endowment agreement.

It is best practice for externally restricted funds and endowments to have separate bank/investment accounts to ensure the funds are not commingled with funds available for operations.

We reviewed the selected universities' financial statements, ledgers and bank/investment accounts to determine whether endowments and externally restricted funds are managed and maintained separately from regular operating funds. In addition, we assessed whether each of the selected universities held sufficient cash and investments to cover externally restricted and endowment funds as of the end of 2020/21. Our review (see also **Figure 8**) found:

- All four selected universities managed and maintained endowments and externally restricted funds using separate ledgers.
- All four universities held separate investment accounts for endowment funds.
- Ontario Tech maintained separate bank accounts for externally restricted funds, whereas Windsor, Nipissing and Algoma commingled externally restricted funds with cash from operations.
- Based on audited financial statements, all four selected universities had sufficient cash and

Figure 8: Endowments and Restricted Funds at Universities Audited

Prepared by the Office of the Auditor General of Ontario

	Endowments (\$ million)	Externally Restricted Funds and Deferred Contributions (\$ million)	Separate Ledgers for Externally Restricted Funds	Separate Bank Accounts for Externally Restricted Funds	Sufficient Cash and Investments to Cover Total External Restrictions	External Investment Accounts for Endowment Funds
Algoma	3.8	20.6	✓	×	✓	✓
Nipissing	12.1	13.2	✓	✓	✓	✓
Ontario Tech	24.3	161.0	✓	✓	✓	✓
Windsor	142.4	44.7	✓	×	✓	✓

short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments.

In addition to externally imposed restrictions, universities also internally restrict some funds. Internally restricted funds are those generated by surpluses and assigned by the board for specific purposes such as infrastructure upgrades, scholarships funds, and capital projects. Re-purposing or increasing internally restricted funds requires board approval.

We asked the selected universities whether they perform an analysis to determine whether they held sufficient cash to cover externally restricted funds and endowments, in addition to internally restricted funds. Of the four selected universities, Ontario Tech was the only one that had consistently prepared this analysis for the five-year period we reviewed (2016/17–2020/21). Windsor began to perform an analysis in 2019/20. Our own calculations showed that all four universities had enough cash and short-term investments at year-end 2020/21 to cover all restricted funds, both external and internal, as well as endowments.

4.1.5 Universities' Budgeting Practices Need Improvement

Typically, universities will have an operating, ancillary and capital budget. Operating budgets reflect the anticipated annual revenues and expenses from the universities' primary operations of providing academic programming to students. Ancillary budgets reflect the anticipated annual revenues and expenses from the universities' non-primary operations such as student residences, campus bookstores, print shops, food services, and parking services (see **Section 4.1.3**). Capital budgets reflect the planned capital expenditures for the year and corresponding funds allocated to support capital expenditures. Each of these budgets impact each other and together provide a complete picture of the university's financial path and aid in decision-making.

Preparing budgets that are as complete and accurate as possible provides a mechanism to control spending, track expenses, make better financial

decisions, and stay focused on long-term financial goals. We reviewed the budgets of the four selected universities to assess their budgeting practices and found inconsistencies across the universities' operating, ancillary and capital budgets.

Budgeting Models and Processes

We noted that all four universities had a model in place for development of the budget. However, Nipissing did not have a documented process for how to apply its model or the assumptions to be used. We found that a documented budget process provided guidance, consistency and transparency to the other selected universities.

Budgeting a Deficit

We noted that three of the four universities, excluding Windsor, had at least one budget in a deficit position approved during the period 2016/17–2021/22. Also, only two of the three universities with an approved budgeted deficit in any of the last five fiscal years included in their budgets strategic initiatives or plans on how they would return to a surplus position. The exception was Nipissing whose budget was presented in a deficit position for all five fiscal years, but did not include a formal strategy on how the university would return to a surplus position.

Budgeting for Ancillary and Capital Revenues and Expenses

Of the four universities, only Nipissing did not prepare a budget for ancillary services by revenue stream (service offered). Further, Nipissing and Ontario Tech were the only universities that did not prepare a capital budget. Nipissing also did not consider capital expenditures in its budgets presented to and approved by the Board.

Analysis of Budgeted to Actual Revenue and Expenditures

We also reviewed the comparison of budget-to-actual expenditures from 2016/17 to 2020/21 for each of the four universities. We noted that Nipissing does not perform an analysis comparing its annual budget

to annual actual revenue and expenditures. Algoma, Ontario Tech and Windsor prepared this analysis, although Windsor does not present it to the Board for review.

4.2 Reliance on International Student Tuition for Sustainability

International students play an important role in Ontario universities. They increase the social and cultural diversity of campus life and programs, and contribute to the local economy, and may potentially end up working in Ontario or obtaining permanent residency after graduation. However, overreliance on international tuition opens universities to the risk of a steep drop in revenues and program enrolment in the event of political or socio-economic changes.

As noted in our 2021 value-for-money audit report Public Colleges Oversight, changes to the federal government's policies governing study and work permits play a role in the upward trend of international enrolment. Since June 2014, international students holding a study permit can work up to 20 hours a week off-campus without applying for a separate work permit, while there are no limits to how many hours they can work on campus. For those needing a work permit after graduation, the length of a student's work permit depends on the length of the program. If the program is between eight months and two years, the student is eligible for a work permit of equal length. If the program is two years or more, the student is eligible for a three-year-maximum work permit. On October 7, 2022, in response to challenges employers were facing in finding and retaining workers, the federal government announced that from November 15, 2022 until December 31, 2023, international students who are in Canada and who have off-campus work authorization on their study permit will not be restricted by the 20-hour-per-week rule. The federal government also allowed an opportunity for those with expired or expiring post-graduation work permits to obtain an additional 18-month open work permit.

In 2018, the federal government introduced the Student Direct Stream program, which provides a

faster permitting process for students from 14 countries. In addition, the federal Post-Graduation Work Permit program allows international students to stay in Canada after graduation to seek employment. This program is intended to help international graduates accumulate work experience that would strengthen their permanent residency application.

However, as cited in a September 2022 report by RBC Economics, given tight labour markets in many sectors, Canada could consider setting targets for the number of international students and provide guidance on work-study programs that more closely align with the skills needed by provincial governments and employers. The country's recent health-care staff shortage is an example of where immigration policies could be used to leverage and expand the international student pool, particularly in needed job areas.

4.2.1 International Student Enrolment Has Increased in the Last Five Years, Decreasing the Proportion of Domestic Students

Across all Ontario universities over the five-year period from 2016/17 to 2020/21, total FTE enrolment increased by 11%. But the number of international student FTEs increased at a faster rate than domestic student FTEs: 49% and 6%, respectively. In 2020/21, international students represented 17% of total enrolment and 45% of tuition revenue, compared with 13% of total enrolment and 29% of tuition revenue in 2016/17.

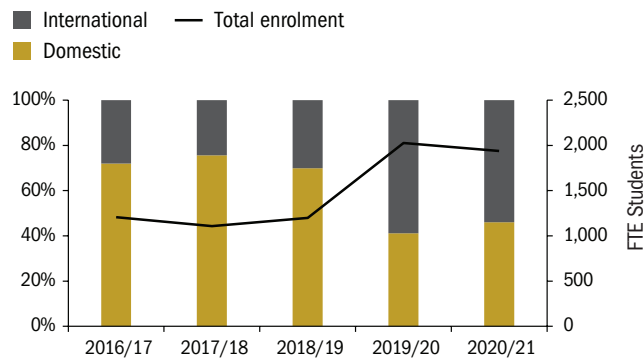
At two of the four universities we audited, the proportion of international enrolment has increased over the same 2016/17–2020/21 period, with the exception of Nipissing and Ontario Tech, which have remained constant at about 1% and 8% respectively (see **Figure 9**). Most notably, the proportion of international enrolment has increased significantly at Algoma, in particular at its Brampton campus, where in 2020/21 83% of the students were international.

According to data obtained through the Council of Ontario Finance Officers (COFO), all four universities have increased their proportion of total revenues from international tuition. At both Algoma (16.8% to

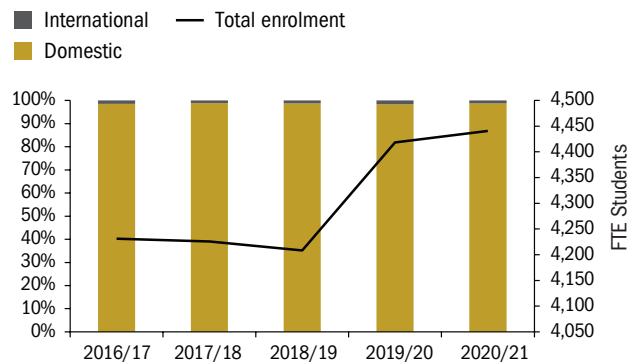
Figure 9: Total Enrolment and Breakdown of Domestic and International Students for Selected Universities (FTE), 2016/17–2020/21

Source of data: Ministry of Colleges and Universities

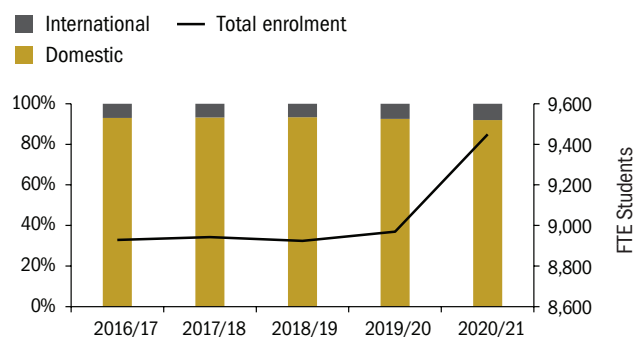
Algoma



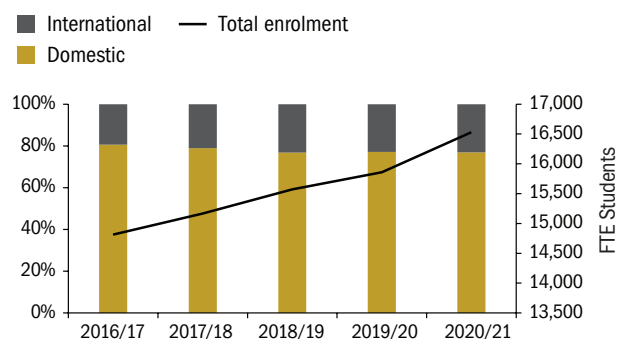
Nipissing



Ontario Tech



Windsor



32.2%) and Windsor (9.6% to 20.9%), the proportion approximately doubled from 2016/17 to 2020/21.

We reviewed whether the universities accepted only international students who met admission criteria. Our review included applicants to undergraduate-degree programs from India, China and Nigeria, the three most dominant countries for international student enrolment (see **Section 4.2.2**) who had not attended an Ontario high school. We found that:

- The four universities each do their own transcript assessments, which are based on grade-conversion charts developed in-house, based on their own experience over the years of admitting students from the different countries and the patterns they have seen, as opposed to requiring students to submit assessments from third-party foreign transcript evaluation services, which would provide for more consistency and objectivity to the process.

At Algoma University, we found instances where an international student applicant was accepted to the university even though their transcript did not meet admission requirements. In 8% of our sample for Algoma, the university granted admission to students who did not have the required prerequisites for their program of study. The university admitted the students without the condition that they complete the required courses in their first year. However, the university remediated the situation eventually by requiring the students to complete the required prerequisites in a subsequent year. We also compared the grades that would be equivalent to 70% in the Ontario secondary school system from India, China and Nigeria, based on the conversion charts of each of these universities. We found that the grade conversion of a student educated in those countries differed across

these universities. For example, to be considered to have a 70% average by Ontario standards, Algoma and Ontario Tech would require a 60% average from India, Nipissing requires a minimum of 50%, and Windsor requires a minimum of 70%.

- Similarly, we found inconsistencies regarding exemptions for English proficiency between the four universities. For example, Nipissing and Windsor waive the English proficiency requirement for students from Nigeria, as students are educated in English there. However, Algoma requires either a minimum high-school English score or proficiency test, and Ontario Tech requires a proficiency test or proof of education in English for students from Nigeria. We also noted significant differences in the length of full-time studies in English required to be exempt from English proficiency requirements, ranging from three semesters at Algoma to three years at Nipissing and Ontario Tech. These differences are based solely on the discretion of the universities.

4.2.2 Ontario Universities Risk Overreliance on International Students from Few Geographic Regions

As more countries recognize that international students represent an important source of revenue and human capital, and more people can afford to study abroad, the sector has become increasingly important and competitive for universities.

At all four universities selected in our audit, the proportion of international student enrolment has been driven largely by students from India, and to a lesser extent China. As noted in our 2021 audit Public Colleges Oversight, the large increase in the percentage of international students from India is due to several factors, including:

- English is widely used in India, and many students have sufficient English fluency to be accepted into and complete an Ontario college program.

- India has the world's second-largest population, with about 60% under the age of 30.
- India's middle class is among the fastest growing in the world.
- Entry into India's labour market is increasingly difficult for a growing number of young school graduates.

All four selected universities noted a decline in students from China between 2017/18 and 2021/22. This is largely because China is growing the capacity and quality of its own education system and its universities now rank among the world's best. Although India and China play an important part in enrolment for Ontario universities, attracting students from a wider range of countries and regions could be important to foster sustainable growth of the international education sector and to mitigate the risk of changing global circumstances. Overreliance on a few geographic regions increases the risk that external factors, such as a global economic downturn or foreign policy shift, could significantly impact a university's financial health. This was seen at Ontario Tech after Canada–Saudi Arabia relations deteriorated in 2018, leading to the Saudi government recalling its scholarship-funded students from Canada. That led to an estimated \$3 million loss in expected tuition fee revenue for Ontario Tech. To mitigate the risk of dependence on a few regions for international tuition revenue, it is beneficial for Ontario universities to diversify their international recruitment strategies.

The government of Canada's International Education Strategy 2019–2024 aims to draw students from around the world to universities across Canada. The strategy, which aims to diversify the education sector, boost Canada's innovation capacity, and promote global ties, prioritizes targeting students from countries including Brazil, Colombia, France, Indonesia, Mexico, Morocco, the Philippines, Thailand, Turkey, Ukraine and Vietnam. These countries were chosen as they are seen by the government of Canada to offer opportunity to foster specialized knowledge and develop new economic ties with these regions for the Canadian workforce. Many of these countries also had strong projections for future growth and important

cultural and business ties with Canada. With the exception of Ontario Tech, we noted the enrolment and/or internationalization plans for the four universities generally were not focused on the priority countries noted.

In 2018, the Ministry released Ontario's International Postsecondary Education Strategy with the vision of making Ontario's post-secondary system a world-class destination for international students. One of the main goals of the strategy is to achieve balanced international growth across the province, which would reduce the risk presented by overreliance on a single or few geographic regions. However, there are no measurable targets or goals in the strategy for levels of international student enrolment, nor does the strategy provide guidance on global markets to target or how to mitigate risks of becoming overreliant on one country or reliant on international students in general.

4.2.3 Selected Universities Do Not Track Graduating International Students to Understand How They Contribute to the Regional Economy

Data regarding student entry into the job market following graduation are valuable indicators that determine a university's impact upon its region. Information regarding international students who have graduated from an Ontario university in particular can offer insight into the important contributions they make to the demographic diversity and economic growth of a region. While the retention of international graduates can provide a local pool of skilled labour and retention of knowledge and research gained within Ontario's post-secondary institutions, international students can also be valuable ambassadors for the school and the Province if they decide to migrate to other parts of the world.

The university leaders we spoke to recognized the benefits of knowing where international students settle following graduation. Yet we found that none of the four selected universities actively maintained data or information regarding students' mobility following graduation. In addition to the benefits noted, tracking this information could also help universities adjust

their program offerings and improve their recruitment efforts. In addition, tracking post-graduate activity would aid government when it comes to aligning investment in skills development and enhancing the labour pool.

All four universities expressed the importance of engaging with alumni and maintaining current and reliable information regarding alumni around the world. Each university has established opportunities for alumni to engage with their alma mater, such as online networking platforms. Both Nipissing and Windsor maintain a subscription to Live Alumni, a platform that connects the universities to alumni through their LinkedIn profiles. These methods of digital engagement offer the universities the means to let graduates know what's going on at the institution, stay up to date on their professional endeavours, as well as provide the university with information on graduates' movements around the world.

Although the platforms for alumni connections are in place, none of the universities utilized these resources to maintain an up-to-date record of international student post-graduate progress or location. Senior administration at Windsor noted that international students have been very transient and much more difficult to track than domestic students.

In June 2021, Statistics Canada, in collaboration with Immigration, Refugees and Citizenship Canada, released a report that studied the retention of international students in their province of study. The study found that less than half of all international students who graduated from a Canadian post-secondary institution between 2010 and 2016 remained in their province of study in the year following graduation, compared with 80% of domestic students. Five years after graduation, this rate decreased to 36% for international students, compared with about 75% for domestic students.

The study also found that while 45% of all international students who graduated in Canada between 2010 and 2016 graduated from an Ontario institution, they were less likely to remain in the province, compared to other provinces. Ontario's retention of international student graduates ranked fourth among

all provinces at 50%, behind Alberta (60%), Manitoba (59%), and Saskatchewan (55%).

4.2.4 Compensation Structures Incentivize International Recruiting Agents to Recruit More, but Not Necessarily More Qualified Students

All four universities use agencies to recruit international students. Although terms may vary, the typical recruiting services contracted include functions such as marketing and promoting the university's brand; generating inquiries and applications from bona fide applicants; pre-screening applicants; and monitoring applications from submission to confirmation. The agencies also may be responsible for recruiting and managing agents within specific geographic regions, or establishing international offices for agents to operate from.

The compensation structures for third-party recruiting services are multi-faceted and distinct to each of the selected universities. The terms within contracts generated by the same service provider may even differ across the universities reviewed. However, we found a common characteristic in the agreements across all selected universities is that terms of payment invariably promote increasing the quantity of students, without any inducement toward the recruitment of the highest-performing prospects.

At three of four selected universities, agencies were compensated based on a percentage of the base tuition, following successful admission of an international student into one of the university's programs. The common commission structure among those service

providers contracted at the fourth university, Windsor, is a fixed-rate of compensation for each recruited student, with some variation based on a student's program of choice. In addition, three of the universities (Algoma, Windsor and Ontario Tech) also paid in-country recruiting services a fixed monthly fee plus expenses incurred.

We analyzed the amount of compensation paid to recruiting agents by the selected universities in comparison to the number of international students recruited for the period 2017/18 to 2021/22. As can be seen in **Figure 10**, Windsor spent the most in the last five years on compensation to agents for recruiting international students (\$17.1 million), but also recruited the most international students (10,998) compared with the other three universities.

Based on the number of students recruited through agents, the average compensation per student was the highest at Algoma (\$4,459 per student). Nipissing spent the least overall (\$360,000) and on a per student basis (\$778 per student).

All four universities seemed to have missed an opportunity to apply contractual incentives that could motivate a recruiting agent to pursue prospects who not only meet but exceed admission requirements. For example, the motivation structure for agents in fixed-rate contracts entered into by Windsor are built upon recruiting more students (higher fixed rates based on successfully attaining specified threshold numbers of registered students). This could have unintended consequences as agents push for numbers in quantity, satisfying minimal requirements, rather than looking

Figure 10: Compensation Paid and International Students Recruited at Selected Universities, 2017/18–2021/22

Prepared by the Office of the Auditor General of Ontario

	Algoma	Nipissing	Ontario Tech	Windsor
Number of Agents Paid Commission	27	3	61	126
Commissions Paid (\$ million)	9.8	0.4	0.6	15.8
Annual Fees for Territorial Representation (\$ million)	0.4	n/a	0.6	1.3
Total Annual Compensation Paid (\$ million)	10.2	0.4	1.2	17.1
Number of Recruited International Students	2,198	463	338	10,998
Average Compensation per Student (\$)	4,641	864	3,550	1,555

toward exceeding the minimum requirements with incentives to attract the best-prepared applicants.

One example of an incentive based on student qualifications is offering a fixed rate or percentage top-up for registrants who possess higher than the minimum required English-language proficiency scores. Another example is offering a compensation structure that includes a bonus to agents who successfully recruit students who registered and later attained a scholastic achievement, as determined by the university. Either example could increase the overall preparedness of entering international students. This could in turn enhance the classroom experience for the international students, as well as faculty, and may also reduce the need for English language tutorials for students who may otherwise be struggling.

In considering the preparedness and likelihood of success of admitted international students, we compared the graduation rates of international students to their domestic counterparts for the years 2019/20 to 2021/22. Universities measure graduation rate as those who graduate within seven years of starting their program of study. We found the graduation rates of international students at two of the four universities were consistently lower than the rates for domestic students—by over 20 percentage points at Ontario Tech, and 10 percentage points at Windsor, as seen in **Figure 11**. Fluctuating results for Nipissing may be explained in part by the low number of international

students enrolled at the university. For example, the international student graduating classes for 2020/21 and 2021/22 had a class size of nine and 13 respectively, and graduating students were five and 12 respectively.

One university (Windsor) told us that undergraduate international students, when compared to domestic students, may graduate at a lower rate and may not see their studies through to graduation while studying abroad for many reasons, such as being distanced from their personal support network, financial hardship, or language and culture barriers. The other three universities did not provide an explanation for why this is occurring. The lower graduation rates among international students underscore the importance of universities' recruiting efforts.

4.3 Financial Contribution of Academic Programming

Because universities offer a diverse learning environment, it is understood that not all academic programs will necessarily be profitable. There are reasons beyond profitability to offer academic courses. For example, they may be mandated by a university's Act, or seen by a university to be essential to the overall academic experience. However, for a university to maintain operations and continue providing academic services, its academic programs, after accounting for Ministry

Figure 11: Domestic and International Undergraduate Student Graduation Rates at Selected Universities, 2019/20–2021/22 (%)¹

Prepared by the Office of the Auditor General with data provided by selected universities

	Algoma		Nipissing ²		Ontario Tech		Windsor	
	International	Domestic	International	Domestic	International	Domestic	International	Domestic
1st year was 2013/14; graduated by 2019/20	64	41	50	70	44	67	58	75
1st year was 2014/15; graduated by 2020/21	52	52	56	68	37	69	68	75
1st year was 2015/16; graduated by 2021/22	55	56	92	67	42	66	69	76
Average	57	50	66	68	41	67	65	75

1. Graduation rates do not capture students who transfer to other universities.

2. Fluctuating results for Nipissing may be explained in part by the low number of international students enrolled at the university. For example, the international student graduating classes for 2020/21 and 2021/22 had a class size of nine and 13 respectively, and graduating students were five and 12 respectively.

operating grant funding, must be financially sustainable overall. In the absence of additional external support, such as from government or private benefactors, the profits from courses that generate higher revenue must compensate for those that run losses.

4.3.1 Universities Had Not Adjusted or Restructured Academic Programs to Improve Financial Sustainability, Despite Losses Experienced

A university's academic structure typically includes faculties, which contain departments, which in turn offer programs. For example, the Faculty of Arts, Humanities and Social Sciences at the University of Windsor has 12 departments, one of which (Political Science) offers five degree programs.

Each of the four universities performed an analysis of the financial contribution of each of its faculties, and in some cases performed the analysis at the department level, but none completed that analysis at the program level. Despite certain faculties or departments that had experienced losses, only Ontario Tech had adjusted or restructured its program offerings to improve financial sustainability.

The universities told us they performed the analysis for the purpose of guiding resource-allocation decisions, such as whether a department needs to hire additional faculty, purchase new equipment or expand facilities, but not to determine the financial sustainability of the faculties or departments. Refer to **Appendix 11** for the academic profitability of the selected universities by faculty for the five years from 2017/18 to 2021/22, as calculated by the individual universities. Although the analyses completed by each university are not prepared using the same methodology, within a university, the results are comparable from one year to the next and provide insight into the contributions of each of their faculties.

The universities told us one reason they continue to offer certain unprofitable courses or programs is because they have important societal, local or regional benefits. One example is the Indigenous program offered at Algoma. Algoma continues to offer a suite

of Indigenous programs to meet the local needs of its community and to align with its special mission of being a teaching-oriented university with a particular focus on the needs of Northern Ontario.

4.4 Capital Planning

4.4.1 Universities Did Not Always Assess the Financial Feasibility of Major Capital Projects Before Proceeding with Them

When making decisions to invest significant funds in capital, universities should carry out a financial cost/benefit analysis to determine whether a project would warrant the financial investment. While a formal business case may not be practical or needed for every capital project, we would expect such an analysis for major projects. See **Appendix 12** for major capital projects undertaken between 2016/17 and 2020/21, including sources of financing.

At the universities we visited, we reviewed a sample of major capital projects, as seen in **Figure 12**, to determine whether universities completed a business case that included a financial feasibility assessment to help them make decisions on capital investments before moving forward with the project. We found that although business cases were typically prepared, financial feasibility assessments were not consistently performed.

4.5 Board Governance

4.5.1 University Boards' Size, Composition and Term Limits Pose Risks to Effective Governance

Board Size and Composition

At each of the universities, we found that the size of the board is considered large without a compelling reason for a board to be this large in size. We spoke with board members from each of the universities and were told in a number of instances that their board was large, and the reason was simply "legacy," meaning that this has always been the case as there are internal and external members.

Figure 12: Sample of Major Capital Projects Reviewed at Selected Universities

Prepared by the Office of the Auditor General of Ontario

Project Name	Year Completed	Total Costs (\$ million)	Business Case	Financial Feasibility Assessment
Nipissing University				
Athletic Centre	2015	23.1	×	×
Turf Field	2019	2.4	×	×
Teaching Hub	2021	0.4	×	n/a ¹
Immersive Classroom	2021	0.2	×	n/a ¹
Total		26.1		
Ontario Tech				
Software and Informatics Research Centre	2017	31.2	✓	✓
Shawenjigewining Hall	2021	46.6	✓	×
Automotive Centre of Excellence – Moving Ground Plane	2022	19.3	✓	✓
Total		97.1		
University of Windsor				
Human Kinetics Greenhouse Gas Reductions	2019	7.7	✓	n/a ¹
Lancer Sport and Recreation Centre	2022	73.0	✓	✓
Innovation Hub, 300 Ouellette	2022 ²	8.1	✓	✓
Transforming Windsor Law	2023 ²	35.0	✓	×
Total		123.8		
Algoma University				
Shingwauk Hall Renewal	2018	5.4	✓	n/a ¹
Brampton Campus Leasehold Renewals	2022	5.3	✓	✓
Online Learning Platform	2024 ²	9.8	✓	n/a ¹
Mukwa Waakaa'igan	2024 ²	26.0	✓	×
Total		46.5		

1. Projects not expected to have a financial feasibility analysis due to nature (for example, deferred maintenance) and/or small size of the project.

2. Expected year of completion.

Outside of the university context, a board typically has 14 to 16 members at most. The university context would support also having a small number (no more than three or four) of members internal to the university, including the president. Also, typically, an ideal number of committees should not normally exceed four or five. However, each of the universities selected for audit had board sizes and board members internal to the university larger than this. The number of committees at three of the universities also exceeded four or five (see **Figure 13**).

A risk to having a large board is the likelihood that an executive (or other) committee becomes a “board

within a board,” where decisions are made in the committee and are brought to a board for ratification only, rather than inclusive review, discussion and decision.

The board of each university we audited had an executive committee because of the large size of the boards, and each executive committee had some form of authority to act as a board, meaning the committee could act as a “board within a board.” The executive committees had been granted powers, which should typically be performed by a board as a whole. Executive committees had the authority to oversee the president (i.e., establish and assess remuneration, review performance, approve the president’s contract), approve

Figure 13: Comparison of University Boards' Size, Composition and Term Limits to Best Practices

Prepared by the Office of the Auditor General of Ontario

	Best Practice	Algoma	Nipissing	Ontario Tech	Windsor
# of board members	14–16	18	26	24	32
# of internal board members	3–4	7	11	6	12
# of board committees	4–5	7*	6	4	7
term limits (years)	9	6	6	6	9

Shaded items do not meet best practices.

* Algoma had five committees and two sub-committees.

operating budgets, recommend the strategic plan to the board, and develop agenda or recommend agenda matters for board meetings.

According to an October 2020 report by the Auditor General of Manitoba on Oversight of Post-Secondary Institutions, one of the key criticisms of an executive committee if not managed appropriately is that it can create two tiers of board members, and even become the de-facto decision-making body (sometimes called the shadow board), which thereby relegates the full board to simply ratifying pre-made decisions. Such a situation can significantly hamper governance effectiveness and can lead to deterioration in the overall board fully performing its decision-making role.

Some other key risks of having a large board are that it could become difficult for all board members to have an equitable voice and input given the competition for airtime during meetings, and without an upper limit, management may populate a board (and committees) with internal board members to provide undue counterbalance to external board members.

Board Member Term Limits

At three universities we audited, we also found term limits for board members to be lower than the best practice as seen in **Figure 13**. Each of the three university boards had a term limit of six years. However, term limits of nine (or slightly more) years are more common for board members.

One impact of low term limits is that the choice of vice-chair (and ultimately chair) may by necessity be made two or three years into a term, before board members have had enough time to become proficient on a number of committees, including chairing such

committees. Other risks of having low term limits for board members have also been noted:

- An effective board member may be compelled to plan to resign and plan for succession four to five years into their board term, when that board member is stepping into or becoming proficient in a key leadership role, such as a vice-chair or chair, or is ready for a leadership role as they are entering the upper limit of their term.
- Management may not necessarily advocate for longer term limits because a board (or board leader) in continuous stages of rotation results in less accountability and institutional knowledge. Also, a board may be less incentivized to act on any underperformance by a board member because that person's term ends in the near future.

4.5.2 University Boards Not Adequately Conducting Presidential Succession Planning

An important role of a university board is the succession of the president to ensure the board is prepared when it is time for a change in leadership, and that strong leadership for the university is continuously in place. Key to accomplishing this is having permanent and emergency succession plans in place for the president.

An effective succession plan for the president should include relevant senior management members' profiles, their strengths, challenges they have experienced, developmental needs and plans, as well as a time frame to become president-ready. Further, university boards should have emergency succession

plans for the president, including the identification of an interim president in the event of an unplanned replacement of the incumbent president due to health reasons, or because of an accident, death, retirement or termination.

We found that none of the boards of the universities selected for audit had a permanent plan for presidential succession it reviewed and approved, and only two had emergency succession plans in place.

A notable benefit of a permanent presidential succession plan is that it compels the board along with the incumbent president to take all reasonable steps to develop, groom and mentor, as the case may be, an internal candidate or candidates to ensure that they are “president-ready.”

4.5.3 University Boards Require Stronger Competencies Critical to Performing Effective Oversight

University boards are responsible for ensuring that they have the required skills, knowledge and competencies needed to effectively perform their duties and achieve their universities’ strategic and organizational objectives.

At each university we audited, we reviewed the processes the board had in place to identify and track the skills and competencies of its members, and to ensure they align with the suite of abilities required for the board to make fully informed decisions. At all

universities audited, we found board members did not possess sufficient competencies in critical areas required to provide effective governance, and there was an opportunity for improvement so that essential competencies are identified, prioritized, and tracked for succession planning purposes.

University Boards Did Not Identify Core Competencies Required by Board Members

A competency matrix is a tool used to map the required skills and abilities of a board. It helps a board understand the required skills, what skills its members possess, and where it could use more skills training, education and/or expertise.

Although all four universities we audited had a competency matrix in place, we found the matrix of each university board had over a dozen competencies listed, as seen in **Figure 14**. According to best practice, to be effective, priority or core competencies should be identified and be limited to five at most. However, none of the four university boards had identified or prioritized competencies that it considered the most important for its board members to possess.

University Boards’ Members Did Not Possess Critical Competencies Required to Provide Effective Governance

Not all competencies are equally important. Five core competencies for a board include finance, accounting, executive management, risk management and

Figure 14: Proportion of Board Members with Limited or No Skill and Experience in Core Competencies¹

Source of data: Universities selected for audit

Core Competency/Skill	Algoma	Nipissing	Ontario Tech ²	Windsor
Accounting (%)	44	52	36 ³	30
Finance (%)	50	39		23
Executive Management (%)	31	n/a ⁴	50	17
Risk Management (%)	n/a ⁴	43	n/a ⁴	33
Cybersecurity (%)	n/a ⁴	n/a ⁴	n/a ⁴	n/a ⁴
Information Technology (%)	44	52	71	60
Total Competencies (#)	21	19	37	16

1. Results are from competency assessments that are based on self-reporting by board members.

2. Ontario Tech’s board has 24 board members; however, 10 of them were missing competency ratings.

3. Ontario Tech combines accounting and finance as one competency, whereas the other universities separate them into two distinct areas.

4. Not identified as a competency on the university board’s competency matrix.

cybersecurity. However, as seen in **Figure 14**, we found that all four universities we audited were missing at least one of the identified core competencies on their matrix. Competency in cybersecurity was missing at all four. Although each university board had information technology as a competency, information technology is too broad and general a category to constitute an effective competency.

We also examined the competency matrix of each university board to determine the level of knowledge and experience university boards possessed for each of the five core competencies noted and to ascertain if any gaps in these skills existed. Across all universities, we found a lack of emphasis on financial literacy. At each university we found several board members that had little or no expertise or experience in financial literacy and in finance, as seen in **Figure 14**.

Because boards are ultimately responsible for overseeing universities' financial operations and results, including reviewing and approving operating budgets, capital expenditures, debt/financing and financial statements, the majority or near-to-all board members should be financially literate to a certain extent (meaning they have the skills, knowledge and abilities to oversee and assess their universities' financial decision-making) either at the time of appointment or through training to acquire financial literacy within a year of appointment.

Although a high level of skill and experience may not be needed by all or even most board members in other core areas, we found that there was a lack of

competency particularly in information technology, including cybersecurity.

4.5.4 Key Oversight Functions for Effective Governance Were Absent

Oversight functions include risk management, compliance, and internal audit. Risk management helps organizations determine their risks and define the level of risk they are willing to assume to accomplish their long- and short-term goals. More specifically, risk management is the process of identifying and documenting an organization's risks (financial and non-financial) in its critical business processes, and the internal controls within each process to mitigate those risks. A compliance function monitors and evaluates adherence with relevant organizational policies, laws, and regulations. The role of internal audit is to provide independent assurance that an organization's risk management, compliance and internal control processes are operating effectively.

However, we found that one or more internal oversight functions—risk management, compliance and internal audit—were absent from each of the universities we audited as seen in **Figure 15**.

Furthermore, only one of the universities we audited had developed a written risk appetite framework for the board to review and approve. Such a framework should include the material financial and non-financial risks to the university, the internal controls mitigating each risk, and independent assurance that the controls are working as intended.

Figure 15: Existence of Key Internal Oversight Functions

Prepared by the Office of the Auditor General of Ontario

Key Oversight Functions	Algoma	Nipissing	Ontario Tech	Windsor
Risk Management	x	x	✓	✓
Compliance	x	x	✓	x
Internal Audit	x	x	x	✓

4.6 University Partnerships and Collaborations

4.6.1 Some Partnerships Have Been Beneficial for Universities, While Others Have Exposed Them to Risk

Universities partner with government entities, corporate organizations and other universities or colleges to leverage research capabilities, attract funding and access a larger pool of talented staff and students. Partnerships may also increase access to equipment and expertise, as well as increase revenue and economic advancement. The partnerships can also enhance a university's brand, which may improve its ability to attract the best students and faculty.

We reviewed some significant partnerships and collaborations at the four universities selected for this audit to determine their effectiveness and the extent to which the terms of the partnership agreement provided a benefit to the university. We found examples of best practices by other universities that could be leveraged in future partnerships, and examples where the partnership agreement needed improvement. These are explained in the particular university sections.

5.0 Algoma University

5.1 Financial Sustainability

5.1.1 Financial Activity

Algoma University generated in-year surpluses throughout the 2016/17–2020/21 period, and in the two most recent years generated surpluses of \$7.5 million and \$7.4 million. Algoma increased revenue by 34% during that period, with the largest contributor to this increase, and ultimately its surplus, being international student tuition. Algoma more than tripled its international enrolment from 337 to 1,046 full-time-equivalent (FTE) students during this time. See **Appendix 8a** for the financial position of Algoma for the five-year period 2016/17–2020/21.

The majority of Algoma's enrolment growth was at the School of Business and Economics on the Brampton campus. As a result, international students accounted for 76% of Algoma's tuition revenue for its Brampton and Sault St. Marie campuses combined in 2020/21. By 2021/22, the Brampton campus generated 65% of the university's revenue, and 51% of the university's total enrolment of which 90% were international students. According to data from the Council of Ontario Finance Officers (an affiliate of the Council of Ontario Universities), between 2016/17 and 2020/21, the proportion of revenue from international students increased from 16.8% to 32.2%.

5.1.2 Long-Term Debt Policies

As of the university's year-end on April 30, 2021, Algoma University had \$11.3 million in debt. The university established a debt management policy in March 2021, which is reviewed annually by its Board of Governors (Board) and can be amended every three years as needed.

Since inception of its debt policy, Algoma has been compliant with its metrics. However, applying the policy retroactively to 2016/17 shows that prior to 2020/21, it would not have met target levels for the viability ratio. That meant the university was becoming overburdened by debt in comparison to the amount of expendable assets available to cover the debt.

There is no recommendation in this area.

5.1.3 Ancillary Services

Prior to 2019/20, Algoma presented an unaudited schedule of ancillary operations in its audited financial statements with the surplus or deficit of each service. However, senior management noted that the schedule did not incorporate overhead costs. Only directly attributed costs were included in expenses, which does not provide a complete representation of the profitability of each revenue stream. Algoma did not prepare a profitability analysis for 2019/20, 2020/21 or 2021/22.

RECOMMENDATION 2

To manage and maximize the profitability of its ancillary services, we recommend that Algoma University:

- review and monitor the profitability of its ancillary services on a consolidated basis and for each ancillary service separately; and
- develop strategies to maximize the profitability of its ancillary services where necessary.

5.1.4 Restricted Funds

We reviewed Algoma University's financial statements, ledgers and bank/investment accounts to determine whether endowments and externally restricted funds are managed and maintained separately from regular operating funds. In addition, we assessed whether the university held sufficient cash and investments to cover externally restricted and endowment funds as of the end of 2020/21. We found that Algoma commingled externally restricted funds with cash from operations, contrary to best practices (see also **Figure 8**). However, in accordance with best practices, the university:

- managed and maintained endowments and externally restricted funds using separate ledgers;
- held separate investment accounts for endowment funds; and
- had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments, according to its audited financial statements.

With regard to internally restricted funds, we found that the university did not perform an analysis to determine whether it had sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments. Our own calculation showed that the university had enough cash and short-term investments at year-end 2020/21 to cover all restricted funds, both internal and external, as well as endowments.

RECOMMENDATION 3

To help ensure that the university continues to have sufficient funds on hand to cover restricted funds and endowments, we recommend that Algoma University:

- maintain separate bank accounts for externally restricted funds; and
- on a quarterly basis, perform an analysis to confirm that it has sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments.

5.1.5 Budgeting Practices

We reviewed the budgets Algoma University prepared for the fiscal years 2016/17–2021/22 and noted that the university budgeted for a deficit only once during that period, in 2018/19. The budgeted deficit was \$1.9 million, and included sufficient analysis and support to explain the reasoning. It also included a plan to get out of the deficit position, which was presented to the Board. For example, the budget proposed strategies such as a 3% reduction in non-salary expense items, and increasing international tuition fees by 2%.

Algoma prepares a separate budget for ancillary operations, separated by type of service. Additionally, the university prepares a separate capital budget for its Board along with its operating budget.

Prior to 2018/19, Algoma did not prepare budget-to-actual comparisons. Based on our review of variance analyses performed for 2019/20 and 2020/21, variances were adequately explained and presented to its Board. However, Algoma does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board of the extent to which each contributes to or draws on the university's resources.

RECOMMENDATION 4

We recommend that Algoma University, as part of its budget, present to its Board the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board on the impact of each activity on the university's resources.

5.2 International Students

5.2.1 Admission Criteria for International Students

The proportion of international enrolment at Algoma University has increased from 28% to 54% from 2016/17 to 2020/21, as seen in **Figure 9**.

We reviewed whether Algoma University accepted only international students who met admission criteria. Our review included applicants to undergraduate-degree programs from India, China and Nigeria, the three most dominant countries for international student enrolment (see **Section 4.2.2**) who had not attended an Ontario high school. We noted that Algoma does its own transcript assessments, which are based on grade-conversion charts developed in-house, as no provincial conversion standards have been established by the Ministry. The university also does not require students to submit assessments from third-party foreign transcript evaluation services. Our testing found that 8% of our sample of international student applicants that were accepted for admission did not have the required prerequisites for their program of study.

We also compared the grades given in India, China and Nigeria that the universities we audited considered equivalent to 70% in the Ontario secondary school system, based on the conversion chart developed by the university. Algoma developed the equivalency based on its experience over the years of admitting students from different countries and the patterns it has seen. The Ministry does not provide guidance in this area. We found that Algoma considered a 60% average from India equivalent to a 70% from Ontario.

The grade-conversion equivalent to a 70% in Ontario at the other universities audited ranged from 50% at Nipissing to 70% at Windsor. See **Section 9.1.4** for a recommendation to the Ministry to develop a standard grade-conversion chart.

5.2.2 Reliance on International Students

Algoma University is significantly reliant on international student enrolment, particularly students from India. We found that 85% of international students at Algoma in 2021/22 were from India. This was significantly driven by enrolment at the Brampton campus at which 90% of all enrolment was international students with 92% of the international students from India. Algoma has recognized this as a risk, and in its 2022 Strategic Enrolment Plan set a goal to ensure international students from one country do not comprise more than 50% of its international student body by 2025/26. The university's international student plan states that its aim is to diversify international enrolment by targeting Southeast Asia (Nepal, Sri Lanka, Bangladesh, Pakistan, Nigeria, Kenya, Philippines, and Vietnam), and Africa (Nigeria, Ghana, Kenya). However, these targeted countries are only partially aligned with the federal government's International Education Strategy 2019–2024, which prioritizes targeting students from countries including Brazil, Colombia, France, Mexico, Morocco, Turkey and Ukraine, as well as students from Indonesia, the Philippines, Thailand and Vietnam.

RECOMMENDATION 5

To mitigate the risk associated with overreliance on a single or few geographic regions for international student tuition revenue, we recommend that Algoma University:

- regularly complete a financial sensitivity analysis of the impact of the loss of students from various regions; and
- focus on recruiting students from priority countries identified in the government of Canada's International Education Strategy, 2019–2024.

5.2.3 Tracking International Students

We found that Algoma University did not actively maintain an up-to-date record of international student post-graduate progress or location. Tracking this information could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

RECOMMENDATION 6

To better understand the contribution of international students to the Canadian workforce/economy after graduation and help inform future recruitment decisions, we recommend that Algoma University:

- collect relevant data on the location and careers of international alumni; and
- use this data to better inform programming and recruitment decisions.

5.2.4 Compensation Structure for International Recruiters

Algoma University uses 27 agencies to recruit international students. Recruiting services contracted with the agency that provided 82% of all recruited international students during the period 2017/18 to 2021/22 include functions such as marketing and promoting the university's brand; generating inquiries and applications from bona fide applicants; pre-screening applicants; and monitoring applications from submission to confirmation. The agency is also responsible for recruiting and managing agents within specific geographic regions, or establishing international offices for agents to operate from.

At Algoma, recruitment agencies were compensated based on a percentage of the base tuition, following successful admission of an international student into one of the university's programs. In addition, Algoma paid in-country recruiting services a fixed monthly fee plus expenses incurred. Such compensation methods

do not incentivize recruiting agents to pursue prospects that exceed admission requirements. One example of incentive-based compensation is offering a fixed rate or percentage top-up for registrants who possess higher than the minimum required English-language proficiency scores. Another example is offering a compensation structure that includes a bonus to agents who successfully recruit students who registered and later attained a certain scholastic achievement, as determined by the university. Both approaches should increase the overall preparedness of entering international students and their likelihood of graduating from their programs.

We noted that over the five-year period 2017/18 to 2021/22, Algoma paid recruiting agencies \$10.2 million for almost 2,200 international students. Average compensation on a per student basis was \$4,641, the highest among the four universities audited.

In considering the preparedness and likelihood of success of admitted international students, we compared the graduation rates of international students to their domestic counterparts at Algoma for the years 2019/20 to 2021/22. We found the graduation rate of international students to domestic students at Algoma to be comparable or better, as seen in **Figure 11**. In comparison to the other universities audited that had consistently lower graduation rates for international than domestic students, Algoma's graduation rate for international students was higher than Ontario Tech's but lower than Windsor's and Nipissing's.

RECOMMENDATION 7

To promote and incentivize student recruiting agents to find the most highly prepared international students, we recommend that Algoma University apply a fee structure in future contracts that encourages recruiters to target students with higher scholastic achievement, such as applying bonuses for higher student performance as they progress through their university studies.

5.3 Profitability of Academic Programming

Algoma completed an analysis of the profitability of academic departments as a one-time exercise in 2020/21 (see **Appendix 11**). The analysis was done at the department level (not at the program level) and took into consideration tuition revenue and cost of instruction for each student enrolled in each specific department. However, the analysis did not take into consideration any other related costs such as for physical space, administration or maintenance. Therefore, a more comprehensive assessment of profitability was not available. The analysis that was performed did not look at each of the Sault Ste. Marie, Timmins and Brampton campuses' performance separately. Based on its analysis, Algoma demonstrated a profit from academic programming for the 2020/21 year.

RECOMMENDATION 8

To have a comprehensive picture of the financial contribution of programs in order to offer a sustainable suite of programs, we recommend that as part of its programming considerations Algoma University:

- complete an analysis of profitability at the academic program level;
- determine whether there are programs that can be reduced or restructured to provide a better financial contribution to the university while still retaining overall academic credibility with department course offerings; and
- reduce or restructure program offerings based on the results of its program profitability analysis and academic need, in consultation with its academic departments and with the approval of its Board and Senate.

5.4 Capital Planning

We reviewed four major capital projects undertaken at Algoma between 2016/17 and 2020/21, as seen in **Appendix 12**. We found that a financial assessment for large-scale projects was not always conducted to

determine the financial feasibility of undertaking such projects. For example, for the proposed construction of an Indigenous cultural centre (Mukwa Waakaa'igan) originally expected to cost \$16 million, a business case was presented to the Board in November 2019. The business case included the rationale for the project; however, it did not include a financial assessment of the impact of the project on Algoma's overall revenue to justify the cost of the investment.

In November 2019, the Board gave management approval to proceed with an application for a portion of the funding from the federal government's Investing in Canada Infrastructure Program. In April 2021, management proceeded with a request for proposal for an architect to provide design, specifications, and construction tender documents for the facility, and in September 2021 the Board approved the university to enter into an agreement with the successful bidder. At that time, the estimated cost to complete the project had increased to \$18 million.

However, by April 2022 the anticipated budget required for the new facility was increased to \$26 million, according to the five-year capital plan presented to the Board at that time. University management attributed the increase in the project cost to rising construction costs and adjustments in the scope of the project to include a third floor, which will be a medical school focused on research and training in mental health and addiction. Management also told us that the project would not proceed without Board approval of the revised budget, scope and financial plan, which was expected in the fall of 2022. At the time of our audit, the federal and provincial governments had committed \$13 million to this project (with the federal contribution at \$7 million, and the Province's at \$6 million).

In contrast, when the university was deciding whether to expand its programming/operations in Brampton, it conducted a 10-year financial forecast in 2019 that contained reasonable assumptions and demonstrated the expansion would be profitable.

RECOMMENDATION 9

To determine whether major capital projects are financially feasible, we recommend that Algoma

University prepare a business case for each capital project that includes a financial feasibility assessment to help both management and then the Board make decisions on major capital expenditures, prior to approval.

5.5 Board Governance

5.5.1 Size, Composition and Term Limits of Board of Governors

We found that the size of Algoma's Board of Governors is considered large without a compelling reason. The Board includes 18 members—11 external to the university and seven internal to the university. A typical non-university board should have 14 to 16 board members at most. The specific context of a university would also support having only a small minority (no more than three or four board members) internal to the university, including the president. Also, typically, the ideal number of board committees should not exceed four or five. Algoma had five committees and two additional sub-committees (see **Figure 13**).

A risk to having a large board is the likelihood that an executive (or other) committee becomes a “board within a board,” where decisions are made in the committee and are brought to a board for ratification only, rather than inclusive review, discussion and decision. Algoma had an Executive Committee of seven members that had the authority to oversee the president (i.e., develop annual performance objectives for the president and review progress), recommend the long-term campus development strategy to the Board, and develop agenda or recommend agenda matters for Board meetings.

We also noted that term limits for Board members at Algoma were of shorter duration than best practice, as seen in **Figure 13**. The term limit for Board members at Algoma is six years compared to the private-sector board best practice of nine years. The benefit of longer term limits is that they provide members with enough time to gain experience with and knowledge of the university, to better enable them to become proficient on committees and move into senior oversight roles, such as vice-chair and chair of the Board of Governors.

RECOMMENDATION 10

To improve Board effectiveness and minimize the risks posed by large Board sizes and low term limits for Board members, we recommend that Algoma University:

- reduce and limit the size of the Board, including the number of internal members;
- reduce the number of committees to accommodate a smaller Board size; and
- increase the term limits of Board members, including current members.

5.5.2 Presidential Succession Planning

We found that the Board of Algoma University did not have a permanent plan for presidential succession that is regularly reviewed and approved in order to ensure strong leadership is continuously in place when the president's term expires. It did, however, have an emergency succession plan that identified an interim president in the event of an unplanned replacement of the incumbent president, due, for example, to health reasons, an accident, termination or sudden death.

Although a Board may choose an external candidate, notwithstanding this, a benefit of a permanent presidential succession plan is that it compels a board along with the incumbent president to take all reasonable steps to develop, groom and mentor, as the case may be, an internal candidate or candidates to ensure that they will be “president-ready” when needed.

RECOMMENDATION 11

To provide for an effective future transition of the university president position, we recommend that the Board of Algoma University develop, and annually review and approve, both permanent and emergency presidential succession plans.

5.5.3 Board Competencies

We reviewed the processes Algoma's Board had in place to identify and track the skills and competencies of its Board members, and to ensure they align with

the suite of abilities required for the Board to make fully informed decisions. We found that Algoma had a competency matrix in place, with 21 competencies listed. However, it had not prioritized the list to identify core competencies. To be effective, priority or core competencies should be identified and be limited to five at most.

Five core competencies for a university board include finance, accounting, executive management, risk management and cybersecurity. However, as seen in **Figure 14**, Algoma's competency matrix did not consider its Board members' competency in the areas of risk management and cybersecurity. Although information technology was identified as a competency by Algoma, it is a broad area of knowledge and does not necessarily include knowledge of cybersecurity in the depth required to be proficient and able to question management accordingly.

We also examined the competency matrix of Algoma's Board to determine the level of knowledge and experience the Board already possessed in each of the five core competencies, and to ascertain if any gaps in these skills existed. At Algoma, we found that many Board members had limited or no financial literacy expertise or experience, as seen in **Figure 14**. Specifically, 50% of Board members had limited or no competency in the area of finance, and 44% had little or no experience in accounting.

Because boards are responsible for overseeing universities' financial operations including reviewing and approving operating budgets, capital expenditures, debt/financing, and financial statements, the majority or near-to-all board members should be financially literate at least to the extent they understand university finances and have the ability to read and understand university financial statements, either at the time of appointment or through training within a year of appointment.

RECOMMENDATION 12

To have a Board with essential skills and competencies for effective oversight, and to promote effective

Board member succession planning, we recommend that the Board of Algoma University:

- prioritize and track competencies using competency matrices and other competency tracking tools;
- confirm the Board and its committees possess demonstrably requisite competencies, in order to fulfill its terms of reference; and
- strengthen university financial and accounting literacy among Board members by providing them with either an internal or external training opportunity to increase the effectiveness of their oversight of the operations of the university.

5.5.4 Key Oversight Functions

Key internal oversight functions for effective governance include risk management, compliance and internal audit.

Risk management helps organizations determine their risks and define the level of risk they are willing to assume to accomplish their long- and short-term goals. More specifically, risk management is the process of identifying and documenting an organization's risks (financial and non-financial) in its critical business processes, and the internal controls within each process to mitigate those risks. A compliance function monitors and evaluates adherence with relevant organizational policies, laws, and regulations. The role of internal audit is to provide independent assurance that an organization's risk management, compliance and internal control processes are operating effectively.

We found that Algoma University did not have all three key internal oversight functions—risk management, compliance and internal audit, as seen in **Figure 15**. It also had not developed a written risk appetite framework for the Board to review and approve. Such a framework outlines the material financial and non-financial risks to an organization, the internal controls mitigating each risk, and independent assurance that the financial and operational controls of an organization are working as intended.

RECOMMENDATION 13

To have and promote effective oversight of the university's finances and operations, we recommend that the Board of Algoma University:

- implement internal oversight functions (i.e., risk management, compliance and internal audit) and have them report regularly to the Board; and
- annually review and approve a written risk appetite framework, which includes identification and defining of material financial and non-financial risks, and independent assurance of internal controls to mitigate each of these risks.

5.5.5 Senate

As noted in **Section 2.1.1**, Algoma University uses a bicameral governing model. The Board of Governors is accountable for the overall operation of the university, while the Senate oversees the university's academic programming and teaching quality. The Senate is responsible for academic matters such as the composition of degrees and programs offered by the university and for decisions such as adding or removing programs.

The financial sustainability of a university is strongly dependent on the effective relationship between these two governing bodies. In order for the Senate to make well-informed decisions that consider both the academic program offerings and the financial sustainability of the university, it needs to be provided with the appropriate information on the profitability and eventual sustainability of the university's program offerings. However, we found that the Senate was not provided with regular or routine costing information to assess the financial sustainability of the individual program offerings. As noted in **Section 5.3**, Algoma University had only recently completed an analysis of the profitability of its academic departments in 2020/21, but not at the program level. This analysis was not shared with the Senate. Information such

as this would help the senate in making decisions on program changes, adjustments and restructuring.

RECOMMENDATION 14

To enable the Senate at Algoma University to make well-informed decisions with regard to academic programming, and that consider the financial sustainability of the university, we recommend that the Senate be provided with regular costing information on the financial contribution of individual program offerings, by campus and the university as a whole.

5.6 Partnerships and Collaborations

We noted that Algoma University has established mutually beneficial partnerships with its host city of Brampton and community organizations:

- **Municipal partnership for campus expansion:** In 2018, Algoma introduced its School of Business and Economics at its existing Brampton campus. In March 2019, Algoma made a presentation to Brampton City Council requesting funding to support the expansion. Algoma formed a beneficial partnership with the City of Brampton effective September 1, 2019 through December 31, 2022, for the expansion of enrolment and programming at its campus in that city. Instead of making an unfunded large investment in permanent capital, the university rents space in downtown Brampton with the support of the city. The university has received \$7.8 million in grants from the city to make improvements to leased space, and has rapidly expanded its offerings in the city. The university conducted a 10-year financial forecast in 2018, which predicted an overall net profit of \$10 million for the university as a whole, based on a student enrolment ratio of 70% domestic and 30% international students. At the time of our audit, Algoma had exceeded its annual enrolment and profit forecasts each year.

- **Non-profit organization partnership for community programs:** Algoma also has entered into agreements and arrangements with local organizations in the City of Brampton to provide students with ancillary services. For example, an agreement was entered into with the local YMCA in 2013, so students could access their recreational programs (gym, pool and conditioning floor). Similarly, Algoma has an informal arrangement in support of student services with the Brampton Public Library for students to use the library with a floor dedicated as study space.

We also noted an example of an academic collaboration that provides students with some benefits, such as access to Algoma's student support services, but did not entirely keep the best interests of students in mind. In April 2022, Algoma began an academic collaboration with Yorkville University, a private for-profit university founded in 2004 through New Brunswick's *Degree Authorization Act*. Yorkville University is located in Fredericton, New Brunswick, with campuses in Fredericton, Toronto and Vancouver, and is owned by Yorkville Education Company Inc., which is equally owned by two family trusts. Degree programs offered by Yorkville in Ontario are approved by the Minister of Colleges and Universities through the Postsecondary Education Quality Assessment Board (PEQAB). It currently offers three degree programs in Ontario—Bachelor of Business Administration (Project Management), Bachelor of Creative Arts, and Bachelor of Interior Design.

Algoma offers a four-term (two-year) post-graduate certificate in project management at its Brampton campus through Yorkville University. Algoma admits students and provides the learning space and student and administrative supports for a maximum of 2,000 students, and grants the certificate. Yorkville University provides the course curricula (approved by Algoma) and faculty on a net revenue-sharing basis, 45% to Algoma and 55% to Yorkville.

However, a clause in the agreement constrains students from transferring out of the program into other programs at Algoma, and does not allow them to transfer credits until they have fully completed the program

and obtained the certificate. This limits students from taking other programs offered at Algoma that may be better aligned with their interests and skills.

The *Post-Secondary Education Choice and Excellence Act, 2000* regulates authority over degrees in Ontario. Under the Act, all organizations—Ontario or out-of-province, public or private for-profit, or not-for-profit—require either an Act of the Legislative Assembly of Ontario or the consent of the Minister of Colleges and Universities to, among other things, grant a degree, provide a post-secondary program leading to a degree, or operate or maintain a university. However, the offering of certificate programs does not require ministerial consent. At the time of our audit, six private for-profit universities, including Yorkville, had been approved by the Minister of Colleges and Universities to offer degree programs.

RECOMMENDATION 15

To only form academic partnerships that are both beneficial to the university's reputation and in the best interests of students and/or researchers, we recommend that Algoma University:

- set goals for the type of relationships it plans and then enters into, such as revenue-generating academic relationships;
- have such arrangements approved by its Board and/or Senate; and
- ensure that arrangements will be and continue to be aligned with the academic and financial interests of students.

6.0 Nipissing University

6.1. Financial Sustainability

6.1.1 Financial Activity

Nipissing University accumulated \$9.4 million in net losses from 2016/17 to 2020/21, which reduced its net assets from \$25.2 million in 2016/17 to \$16.1 million for the year ending 2020/21. Total net assets also included adjustments for external contributions

and employee benefits. The change in the university's annual revenue during that time decreased by 5% (or \$4.3 million) and its expenses decreased by \$1.5 million. The reduction in revenue can mostly be attributed to a decrease in ancillary services revenue of \$3.2 million, much of it because of shutdowns during the COVID-19 pandemic. The university received \$3.6 million in COVID-19 relief funding from the Province. See **Appendix 8b** for the financial position of Nipissing for the five-year period 2016/17–2020/21.

Unlike the other three universities in this audit, Nipissing did not actively engage in international recruitment during that time frame. In any one year, Nipissing had at most 75 full-time-equivalent international students. In contrast, Algoma, Ontario Tech and Windsor have focused on international recruitment and utilized international tuition fees to increase revenues and subsidize their bottom lines, as discussed in **Section 4.2**. As a result, Nipissing is not economically dependent on international students for its tuition revenue and operations.

6.1.2 Long-Term Debt Policies

As of the university's year-end on April 30, 2021, Nipissing University had \$34.7 million in debt from various undertakings, including the construction of residence buildings and a research innovation centre. The debt comprises four unsecured Toronto-Dominion Bank loans that all mature in 2027. In addition to its own debt, the university is also the guarantor of a \$6.5 million loan made to the Nipissing University Student Union for a new student centre.

Nipissing developed a capital debt policy in November 2021 for the first time; however, approval of the policy was not obtained from the Board. We calculated that the university has not breached its capital debt policy since its inception in November 2021. However, if the measures were retroactively applied for five years beginning in 2016/17, it would have breached its interest burden ratio in two of the five years, 2016/17 and 2017/18, and its debt per student FTE also in two of the five years, 2017/18 and 2018/19.

RECOMMENDATION 1

So that Nipissing University assumes debt only at levels that continue to promote sustainable financial operations, we recommend that senior management of the university:

- obtain Board approval of the university's debt policy;
- monitor and adhere to the debt limits outlined in its policy; and
- report semi-annually to the Board on the status of debt maintained and its continuing compliance with its capital debt policy.

6.1.3 Ancillary Services

Over the five-year period 2016/17–2020/21, Nipissing University realized profits from its ancillary services in the three years 2017/18–2019/20, of between \$1 million and \$1.5 million, and losses in both 2016/17 (\$0.2 million) and 2020/21 (\$1.3 million), resulting in a net profit of \$2.1 million over the five-year period. However, we found that the university does not review or monitor the profitability of individual ancillary services. This is a missed opportunity for Nipissing to determine which services are generating a profit and which are not, in order to take any necessary corrective actions.

RECOMMENDATION 2

To manage and maximize the profitability of its ancillary services, we recommend that Nipissing University:

- review and monitor the profitability of its ancillary services on a consolidated basis and for each ancillary service separately; and
- develop strategies to maximize the profitability of its ancillary services where necessary.

6.1.4 Restricted Funds

We reviewed Nipissing University's financial statements, ledgers and bank/investment accounts to determine whether endowments and externally

restricted funds are managed and maintained separately from regular operating funds. In addition, we assessed whether the university held sufficient cash and investments to cover externally restricted and endowment funds as of the end of 2020/21. We found that Nipissing commingled externally restricted funds with cash from operations, contrary to best practices (see also **Figure 8**). However, in accordance with best practices, the university:

- managed and maintained endowments and externally restricted funds using separate ledgers;
- held separate investment accounts for endowment funds; and
- had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments, according to its audited financial statements.

With regard to internally restricted funds, we found that the university did not perform an analysis to determine whether it had sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments. However, our own calculation showed that the university had enough cash and short-term investments at year-end 2020/21 to cover all restricted funds, both internal and external, as well as endowments.

RECOMMENDATION 3

To help ensure the university continues to have sufficient funds on hand to cover restricted funds and endowments, we recommend that Nipissing University:

- maintain separate bank accounts for externally restricted funds; and
- on a quarterly basis, perform an analysis to confirm that it has sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments.

6.1.5 Budgeting Practices

Nipissing University had a model in place for development of its budget; however, it did not have a

documented process for how to apply its model or the assumptions to be used. Nipissing University's operating budget for each year from 2016/17 to 2021/22 was presented in a deficit position, with no plan on how it would return to a surplus position. The university's 2021/22 budget indicated a 5% reduction in total expenses, including a 15% decrease in operating expenses, but did not have a formal or detailed cost-cutting strategy for how it would achieve this. This is unlike other universities, where we saw detailed plans and strategies developed and presented to the Board along with deficit budgets.

We also noted that Nipissing does not prepare an ancillary budget broken down by revenue stream, nor does it have a capital budget or take capital into consideration when preparing budgets and presenting them to its Board.

Nipissing was also unable to provide analysis comparing its annual budget to annual actual revenue and expenditures. Some in-year comparisons were completed; however, these compared nine-month revenues and expenses to amounts budgeted for a full 12 months. No variances of year-over-year amounts were conducted, therefore the analysis completed was of limited usefulness. For example, the analysis at December 31, 2021, compared revenues and expenses for nine months compared to the budgeted amount for the year. However, for this analysis to be useful, the university should have prorated the budgeted amount for nine months and compared it to the actual nine-month spending.

Nipissing also does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board of the extent to which each contributes to or draws on the university's resources.

RECOMMENDATION 4

To improve budgeting processes and practices and conduct a complete analysis of the impact from all operations and capital investments and how each will contribute to or draw on the university's resources, we recommend that Nipissing University:

- have documented processes on how its budget is developed, reviewed and approved;

- develop a separate budget for all capital investments, and present it to the Board for approval;
- develop a separate budget for ancillary services by revenue stream, and present it to the Board for approval;
- consolidate the capital budget, the operating budget and the ancillary budget, and present the consolidated budget to the Board for approval;
- as part of its budget, present to the Board the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board on the impact of each activity on the university's resources; and
- complete a comparison of the annual consolidated budget to annual actual revenue and expenditures, and cash flows, and present it to the Board for review.

6.2 International Students

6.2.1 Admission Criteria for International Students

The proportion of international enrolment at Nipissing University remained constant from 2016/17 to 2020/21 at 1%, as seen in **Figure 9**.

We reviewed whether Nipissing University accepted only international students who met admission criteria. Our review included applicants to undergraduate-degree programs from India, China and Nigeria, the three most dominant countries for international student enrolment (see **Section 4.2.2**) who had not attended an Ontario high school. We noted that Nipissing does its own transcript assessments, which are based on grade-conversion charts developed in-house, as no provincial conversion standards have been established by the Ministry. The university does not require students to submit high school transcripts for assessment from third-party foreign transcript evaluation services.

We also compared the grades among the universities we audited that would be equivalent to 70% in the Ontario secondary school system from India, China and Nigeria, based on the conversion chart developed

by the university. Nipissing developed the equivalency based on its experience over the years of admitting students from the different countries and the patterns it has seen. The Ministry does not provide guidance in this area. We found that Nipissing considered a 50% average from India equivalent to a 70% from Ontario. The grade-conversion equivalent to a 70% in Ontario at the other universities audited ranged from 60% at Algoma to 70% at Windsor. See **Section 9.1.4** for a recommendation to the Ministry to develop a standard grade-conversion chart.

6.2.2 Reliance on International Students

Nipissing University had relatively few international students with 94 in total for 2021/22. About half (55%) of the international students were from India, with 9% from Nigeria and 5% from China. Nipissing was aware of the risk of a lack of diversification in its international student base, as evidenced in its Strategic Enrolment Plan 2022–2027, which includes a short-term goal to increase the number of recruiting agents so that it can attract students from different markets. Its long-term goal is to increase recruitment of highly qualified international students to 10% of the total student population, from its current level of 1%. Nipissing's Internationalization Plan 2021–2026 describes that its aim is to create a presence in different markets including Latin America, Europe, Africa and Southeast Asia. However, there is no mention of the specific priority countries established by the federal government, nor did it have a formal action plan to achieve its goal.

RECOMMENDATION 5

To mitigate the risk associated with overreliance on a single or few geographic regions for international student tuition revenue, we recommend that Nipissing University:

- regularly complete a financial sensitivity analysis of the impact of the loss of students from various regions; and
- focus on recruiting students from priority countries identified in the government of Canada's International Education Strategy, 2019–2024.

6.2.3 Tracking International Students

We found that Nipissing University did not actively maintain an up-to-date record of international student post-graduate progress or location. Tracking this information could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

RECOMMENDATION 6

To better understand the contribution of international students to the Canadian workforce/economy after graduation and help inform future recruitment decisions, we recommend that Nipissing University:

- collect relevant data on the location and careers of international alumni; and
- use this data to better inform programming and recruitment decisions.

6.2.4 Compensation Structure for International Recruiters

Nipissing University uses three agencies to recruit international students. Recruiting services contracted include functions such as marketing and promoting the university's brand; generating inquiries and applications from bona fide applicants; pre-screening applicants; and monitoring applications from submission to confirmation. The agencies are also responsible for recruiting and managing agents within specific geographic regions, or establishing international offices for agents to operate from.

At Nipissing, recruitment agencies were compensated based on a percentage of the base tuition, following successful admission of an international student into one of the university's programs. Such a compensation method does not incentivize recruiting agents to pursue prospects that exceed admission requirements. One example of incentive-based compensation is offering a fixed rate or percentage top-up for registrants who possess higher than the minimum required English-language proficiency scores. Another example is offering a compensation structure that

includes a bonus to agents who successfully recruit students who registered and later attained a certain scholastic achievement, as determined by the university. Both approaches should increase the overall preparedness of entering international students and their likelihood of graduating from their programs.

We noted that over the five-year period 2017/18–2021/22, Nipissing paid recruiting agencies \$360,000 for 463 international students. Average compensation on a per student basis was \$778, the lowest among the four universities audited.

Given the small number of international students that attend and graduate from the university on an annual basis, a useful comparison of graduation rates between international students and domestic students was not possible, as noted in **Figure 11**.

RECOMMENDATION 7

To promote and incentivize student recruiting agents to find the most highly prepared international students, we recommend that Nipissing University apply a fee structure in future contracts that encourages recruiters to target students with higher scholastic achievement, such as applying bonuses for higher student performance as they progress through their university studies.

6.3 Profitability of Academic Programming

Nipissing completed a retroactive profit margin analysis of its academic departments for the first time in 2021/22, covering the period 2017/18–2021/22 (see **Appendix 11**). The university did not complete an analysis of profitability at the academic program level. Over the five-year period, Nipissing's analysis showed that on an overall basis its academic programming was unprofitable in three of the years, 2018/19, 2020/21 and 2021/22. It is fair to attribute some of the reason for losses in 2020/21 to revenue reductions due to COVID-19-related lockdowns and school closures. However, the analysis showed the suite of academic programming was losing money prior to COVID-19 as well, in 2018/19. For the 2021/22 year, only six of its

21 departments had a positive profit margin, resulting in an overall loss for all programs of about \$4.3 million.

Although Nipissing did not complete an analysis at the program level, it is the only university of the four we audited that had developed a model to be able to determine the profitability of programs within a faculty or department. Not having this model limits the other three universities' knowledge when allocating resources or adjusting the structure of programming to support sustainability.

RECOMMENDATION 8

To have a comprehensive picture of the financial contribution of programs in order to offer a sustainable suite of programs, we recommend that as part of its programming considerations Nipissing University:

- complete an analysis of profitability at the academic program level;
- determine whether there are programs that can be reduced or restructured to provide a better financial contribution to the university, while still retaining overall academic credibility with department course offerings; and
- reduce or restructure program offerings based on the results of its program profitability analysis and academic needs, in consultation with its academic departments and with the approval of its Board and Senate.

6.4 Capital Planning

None of the four projects at Nipissing we reviewed were supported by a business case or a financial feasibility assessment. The largest of the projects completed by the university in the past five years, a \$2.4 million reconstruction of a playing/turf field, was almost entirely financed through external debt. We noted that this project had not been approved by the Board. The university's approval policy for capital construction projects requires that all capital construction projects be approved in advance by the Board, irrespective of the amount. However, the policy does not provide a definition of what constitutes a capital construction

project. Senior management at the university told us they consider capital construction projects to include only a new building or an addition or expansion to a building. They interpreted a renovation, modification or transformation to an existing space as work that would not constitute a capital construction project, regardless of the expected costs, and as a consequence senior management did not seek or receive Board approval for this project.

We examined another project that fit the university's definition of a "major project" that was completed prior to 2016/17. Nipissing expanded its Athletic Centre at a cost of \$23.1 million, of which \$8.5 million was funded through external debt. This project was completed in three phases between 2012 and 2015. Despite the significant value of the project and the use of external financing (37% of total project costs), the university had not completed a business case or feasibility assessment to evaluate the project.

Instead, it provided us with a project proposal it had submitted to the Northern Ontario Heritage Fund Corporation to secure funding for Phase 1 of the project. The proposal identified some benefits such as jobs that would be created to operate the facility and appropriate space to support research and teaching in the physical and health education program. It also noted that the project was not meant to generate revenue. However, there was no analysis or assessment of future operating and maintenance costs, or how the investment would impact the finances of the university. The Board approved the construction of Phase I of the expansion in the amount of \$10.2 million. The Board also approved a motion to proceed to tender Phase 2 and Phase 3 of the athletic facility, but the university had already moved forward with procuring the remaining two phases before Phases 2 and 3 were approved by the Board. See **Appendix 12** for major capital projects undertaken by Nipissing between 2016/17 and 2020/21.

RECOMMENDATION 9

To determine whether major capital projects are financially feasible and beneficial, we recommend that Nipissing University:

- update its capital approval policy to clearly define the nature and cost of projects that will require Board approval before financial expenditure commitments are in place;
- prepare a business case for each capital project that includes a financial feasibility assessment to help both management and then the Board make decisions on major capital expenditures, prior to approval; and
- obtain Board approval on major capital investments before moving forward with planned projects.

6.5 Board Governance

6.5.1 Size, Composition and Term Limits of Board of Governors

We found that the size of Nipissing’s Board of Governors is considered large without a compelling reason. The Board includes 26 members—15 external to the university and 11 internal to the university. A typical non-university board should have 14 to 16 members at most. The specific context of a university would also support having only a small minority (no more than three or four board members) internal to the university, including the president. Also, typically, the ideal number of board committees should not exceed four or five. Nipissing slightly exceeded the ideal number of committees, by having six committees (see **Figure 13**).

A risk to having a large board is the likelihood that an executive (or other) committee becomes a “board within a board,” where decisions are made in the committee and are brought to a board for ratification only, rather than inclusive review, discussion and decision. Nipissing had an executive committee of eight members that had the authority to oversee the president (i.e., establish and assess remuneration, review performance, approve the president’s contract), and develop the agenda for Board meetings.

We also noted that term limits for Board members at Nipissing were of shorter duration than best practice, as seen in **Figure 13**. The term limit for Board members at Nipissing is six years compared to the best practice of nine years. The benefit of longer term limits is that they

provide members with enough time to gain experience with and knowledge of the university, to better enable them to become proficient on committees and move into senior oversight roles, such as vice-chair and chair of the Board of Governors.

RECOMMENDATION 10

To improve Board effectiveness and minimize the risks posed by large Board sizes and low term limits for Board members, we recommend that Nipissing University:

- reduce and limit the size of the Board, including the number of internal members;
- reduce the number of committees to accommodate a smaller Board size; and
- increase the term limits of Board members, including current members.

6.5.2 Presidential Succession Planning

We found that the Board of Nipissing University did not have a permanent plan for presidential succession that is regularly reviewed and approved in order to ensure strong leadership is continuously in place, when the president’s term expires. Although a board may choose an external candidate, notwithstanding this, a benefit of a permanent presidential succession plan is that it compels a board along with the incumbent president to take all reasonable steps to develop, groom and mentor, as the case may be, an internal candidate or candidates to ensure that they will be “president-ready” when needed. The university also did not have an emergency succession plan that identified an interim president in the event of an unplanned replacement of the incumbent president due, for example, to health reasons, an accident, termination or sudden death.

RECOMMENDATION 11

To provide for an effective future transition of the university president position, we recommend that the Board of Nipissing University develop, and annually review and approve, both permanent and emergency presidential succession plans.

6.5.3 Board Competencies

We reviewed the processes Nipissing's Board had in place to identify and track the skills and competencies of its Board members, and to ensure they align with the suite of abilities required for the Board to make fully informed decisions. We found that Nipissing had a competency matrix in place, with 19 competencies listed. However, it had not prioritized the list to identify core competencies. To be effective, priority or core competencies should be identified and be limited to five at most.

Five core competencies for a university board include finance, accounting, executive management, risk management and cybersecurity. However, as seen in **Figure 14**, Nipissing's competency matrix did not consider board members' competency in the areas of executive management and cybersecurity. Although information technology was identified as a competency by Nipissing, it is a broad area of knowledge and does not necessarily include knowledge of cybersecurity in the depth required to be proficient and able to question management accordingly.

We also examined the competency matrix of Nipissing's Board to determine the level of knowledge and experience the Board already possessed in each of the five core competencies, and to ascertain if any gaps in these skills existed. At Nipissing, we found that many Board members had limited or no financial literacy expertise or experience, as seen in **Figure 14**. Specifically, 39% of Board members had limited or no competency in the area of finance, and 52% had little or no experience in accounting. Because boards are responsible for overseeing universities' financial operations, including reviewing and approving operating budgets, capital expenditures, debt/financing, and financial statements, the majority or near-to-all members on a board should be financially literate at least to the extent they understand university finances and have the ability to read and understand university financial statements, either at the time of appointment or through training within a year of appointment.

RECOMMENDATION 12

To have a Board with essential skills and competencies for effective oversight, and to promote effective Board member succession planning, we recommend the Board of Nipissing University:

- prioritize and track competencies using competency matrices and other competency tracking tools;
- confirm the Board and its committees possess demonstrably requisite competencies, in order to fulfill its terms of reference; and
- strengthen university financial and accounting literacy among Board members by providing them with either an internal or external training opportunity to increase the effectiveness of their oversight of the operations of the university.

6.5.4 Key Oversight Functions

Key internal oversight functions for effective governance include risk management, compliance and internal audit.

Risk management helps organizations determine their risks and define the level of risk they are willing to assume to accomplish their long and short-term goals. More specifically, risk management is the process of identifying and documenting an organization's risks (financial and non-financial) in its critical business processes, and the internal controls within each process to mitigate those risks. A compliance function monitors and evaluates adherence with relevant organizational policies, laws and regulations. The role of internal audit is to provide independent assurance that an organization's risk management, compliance and internal control processes are operating effectively.

We found that Nipissing University did not have all three key internal oversight functions—risk management, compliance and internal audit, as seen in **Figure 15**. It also has not developed a written risk appetite framework for the Board to review and approve. Such a framework outlines the material

financial and non-financial risks to an organization, the internal controls mitigating each risk, and independent assurance that the financial and operational controls of an organization are working as intended.

RECOMMENDATION 13

To have and promote effective oversight of the university's finances and operations, we recommend that the Board of Nipissing University:

- implement internal oversight functions (i.e., risk management, compliance and internal audit) and have them report regularly to the Board; and
- annually review and approve a written risk appetite framework, which includes identification and defining of material financial and non-financial risks, and independent assurance of internal controls to mitigate each of these risks.

6.5.5 Senate

As noted in **Section 2.1.1**, Nipissing University uses a bicameral governing model. The Board of Governors is accountable for the overall operation of the university, while the Senate oversees the university's academic programming and teaching quality. The Senate is responsible for academic matters such as the composition of degrees and programs offered by the university and for decisions such as adding or removing programs.

The financial sustainability of a university is strongly dependent on the effective relationship between these two governing bodies. In order for the Senate to make well-informed decisions that consider both the academic program offerings and the financial sustainability of the university, it needs to be provided with the appropriate information on the profitability and eventual sustainability of the university's program offerings. However, we found that the Senate was not provided with regular or routine costing information to assess the financial

sustainability of the university's individual program offerings. As noted in **Section 6.3**, in 2021/22 Nipissing University completed a retroactive profit margin analysis of its academic departments for the first time, covering the period 2017/18 to 2021/22, but did not provide this analysis to the Senate. The analysis for 2021/22 showed an overall loss for all programs of about \$4.3 million, with only six of its 21 departments having positive profit margins. Information such as this would help the senate in making decisions on program changes, adjustments and restructuring.

RECOMMENDATION 14

To enable the Senate at Nipissing University to make well-informed decisions with regard to academic programming, and that consider the financial sustainability of the university, we recommend that the Senate be provided with regular costing information on the financial contribution of individual program offerings and the university as a whole.

6.6 Partnerships and Collaborations

We noted that Nipissing University had partnered with employers for a joint work and study program for its students. Specifically, Nipissing has partnered with health-care facilities in 420 locations across the province to deliver its Blended Nursing program, which enables Registered Practical Nurses (who have a diploma in Practical Nursing) to study part-time toward a Nursing degree while continuing to work. The program is delivered through online theory-based courses, while practicum-based courses are offered within one of the partnered health-care facilities across the province, or the facility where the student is employed. Under this arrangement, the university does not obtain revenues from the employers, but it allows for an increase in the number of Registered Practical Nurses in Ontario, while also increasing enrolment for the university.

There is no recommendation in this area.

7.0 Ontario Tech University

7.1 Financial Sustainability

7.1.1 Financial Activity

Throughout the five-year period 2016/17–2020/21, Ontario Tech University had four in-year surpluses, experiencing only one in-year deficit in 2019/20. Both revenue and expenses fluctuated during the period but overall the university was able to increase its total revenue more than total expenses. During the same period, 2016/17–2020/21, Ontario Tech increased full-time equivalent (FTE) international student enrolment by 23% (or 141 FTE students). According to data from the Council of Ontario Finance Officers, between 2016/17 and 2020/21, Ontario Tech's proportion of revenue from international students increased from 6.2% to 7.7%. Further, the proportion of revenue from domestic students decreased from 30.7% to 27.2% during the same five-year period. See **Appendix 8c** for the financial position of Ontario Tech for the five-year period 2016/17–2020/21.

7.1.2 Long-Term Debt Policies

As of the university's year-end on March 31, 2021, Ontario Tech's debt comprised a \$151.5 million debenture maturing in 2034, \$36.2 million in obligations under capital leases, and \$300,000 in unsecured loans from third parties. In addition, Ontario Tech has provided a guarantee of as much as \$3.5 million for a loan taken out by the Ontario Tech Student Union. In January 2021, the university entered into a new \$25 million loan to finance the construction of Shawenjigewining Hall, a new building for the Faculty of Health Sciences, Office of Student Life, Continuous Learning and the Student Union.

Ontario Tech's largest debt, the 30-year debenture, was incurred in 2004, shortly after the university was first established in 2002. According to a business plan for the university from 2001, the initial capital costs associated with establishing the university were to be funded by the government. However, the government

changed following the October 2003 election, and the new government decided that it would not provide funding to finance the initial capital costs.

In response, Ontario Tech completed a \$220 million debenture offering in October 2004, repayable over 30 years, at an interest rate of 6.35%, to construct three academic buildings, a library and related infrastructure. The debenture was secured by the assets of the university that were being constructed and guaranteed by Durham College, with which it shares a campus. In August 2011, the Province agreed to pay the university a \$13.5 million grant annually until maturity in 2034 to cover about 80% of the annual principal and interest payments (\$16.5 million). Over the life of the debenture, the Ministry grant will total \$324 million. The outstanding balance on the debenture as of March 31, 2022 was \$144.6 million.

As noted, Ontario Tech did not have a formal debt policy. Instead it developed debt guidelines in January 2020 focused on minimizing risk and reducing its cost of capital. Guidelines included all external debt for capital projects having to be approved by the Board of Governors, all new debt complying with outstanding debt covenants, an interest burden ratio of less than 5%, after adjusting for the Ministry contribution to the debenture, which indicates the percentage of expenses used to cover the cost of servicing debt, and a downward trending debt per FTE student ratio. Ontario Tech had met all debt guidelines since their inception and retroactively to 2016/17.

RECOMMENDATION 1

So that Ontario Tech University assumes debt only at levels that continue to promote sustainable financial operations, we recommend that the university establish a formal capital debt policy approved by the Board.

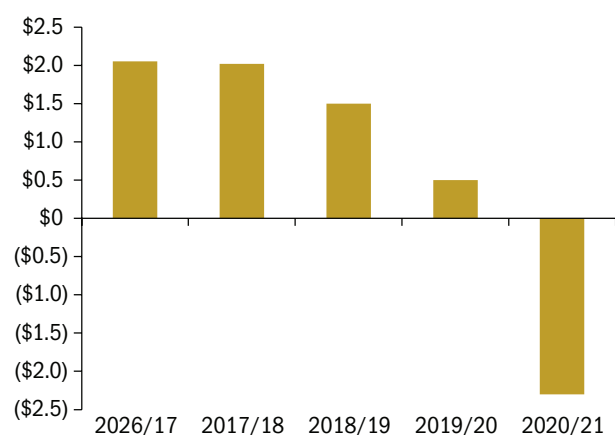
7.1.3 Ancillary Services

Ontario Tech University assessed its ancillary profitability by looking at each of its seven revenue streams. In total, its ancillary operations generated a profit in each year from 2016/17 to 2019/20, but declined

drastically in 2020/21, as seen in **Figure 16**. The university experienced a \$2.3 million in-year deficit in 2020/21, as six of its seven ancillary revenue streams were not profitable due to COVID-19. However, some ancillary services were also unprofitable in years prior to the pandemic. These included day care in each year from 2016/17 to 2019/20, camp in 2016/17, the bookstore in 2018/19, and the Regent Theatre (rental revenue), the Automotive Centre of Excellence (rental revenue), and food services in 2019/20. The university received \$5.2 million in COVID-19 relief funding from the Province.

Figure 16: Ontario Tech University Consolidated Ancillary Profit/(Loss), 2016/17–2020/21 (\$ million)

Source of data: Ontario Tech University



RECOMMENDATION 2

To manage and maximize the profitability of its ancillary services, we recommend that Ontario Tech University develop strategies to maximize the profitability of its ancillary services where necessary.

7.1.4 Restricted Funds

We reviewed Ontario Tech University's financial statements, ledgers and bank/investment accounts to determine whether endowments and externally restricted funds are managed and maintained

separately from regular operating funds. In addition, we assessed whether the university held sufficient cash and investments to cover externally restricted and endowment funds as of the end of 2020/21. As shown in **Figure 8**, we found that Ontario Tech:

- managed and maintained endowments and externally restricted funds using separate ledgers;
- held separate investment accounts for endowment funds;
- maintained separate bank accounts for externally restricted funds; and
- had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments, according to its audited financial statements.

In addition, for the five-year period we reviewed (2016/17–2020/21), Ontario Tech performed an analysis to determine whether it had sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments. Its analysis showed it had enough cash on hand to cover these amounts.

There is no recommendation in this area.

7.1.5 Budgeting Practices

Ontario Tech's Board approved a deficit budget for 2020/21. However, in order to take measures to return to a surplus position, the university included a 6.6% reduction of the total operating budget for all departments (excluding those funded by student ancillary fees). The operating budget document also included strategic discussion for positioning the university for the future.

Ontario Tech also prepares a budget for its ancillary services in which the revenue streams are separated; however, it presents only an aggregate version to the Board. It would be beneficial for decision-making purposes for the Board to receive the breakdown to have a better understanding of which ancillary services were and were not profitable.

Ontario Tech prepares a combined budget for operations and capital projects costing less than \$5 million. However, capital projects costing more than \$5 million are approved separately, but no separate capital budget is prepared, nor is this information included in the combined budget. Having a separate capital budget that includes all capital expenditures, and that is then included in the overall budget package, would be useful to provide a complete picture of all budgeted expenditures.

We also noted that Ontario Tech reviews and compares its operating budget to actual results quarterly and at year-end. In our review of meeting minutes of both the Board and the Audit and Finance Committee, we found there was sufficient discussion among the members regarding variances to provide an understanding of the reasonability and management of revenue and expenditures. Additionally, Ontario Tech prepares the impact of the university's projected cash flows from operations, financing and capital purchasing activities; however, this information is not presented to the Board to inform them of the extent to which each contributes to or draws on the university's resources.

RECOMMENDATION 4

To improve budgeting processes and practices and conduct a complete analysis of the impact from all operations and capital investments and how each will contribute to or draw on the university's resources, we recommend that Ontario Tech University:

- develop a separate budget for all capital investments, and present it to the Board for approval;
- consolidate the capital budget, the operating budget and the ancillary budget, and present the consolidated budget to the Board for approval; and
- as part of its budget, present to the Board the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board on the impact of each activity on the university's resources.

7.2 International Students

7.2.1 Admission Criteria for International Students

The proportion of international enrolment at Ontario Tech University has increased slightly from 7% to 8% from 2016/17 to 2020/21, as seen in **Figure 9**.

We reviewed whether Ontario Tech accepted only international students who met admission criteria. Our review included applicants to undergraduate-degree programs from India, China and Nigeria, the three most dominant countries for international student enrolment (see **Section 4.2.2**) who had not attended an Ontario high school. We noted that Ontario Tech does its own transcript assessments, which are based on grade-conversion charts developed in-house, as no provincial conversion standards have been established by the Ministry. The university also does not require students to submit assessments from third-party foreign transcript evaluation services. Our sample testing of international student applicants that were accepted for admission found that all had the required prerequisites for their program of study.

We also compared the grades among the universities we audited that would be equivalent to 70% in the Ontario secondary school system from India, China, and Nigeria, based on the conversion chart developed by the university. Ontario Tech developed the equivalency based on its experience over the years of admitting students from the different countries and the patterns it has seen. The Ministry does not provide guidance in this area. We found that Ontario Tech considered a 60% average from India equivalent to a 70% from Ontario. The grade-conversion equivalent to a 70% in Ontario at the other universities audited ranged from 50% at Nipissing to 70% at Windsor. See **Section 9.1.4** for a recommendation to the Ministry to develop a standard grade-conversion chart.

7.2.2 Reliance on International Students

In 2018, Ontario Tech University suffered an estimated loss of \$3 million when relations between Canada and

Saudi Arabia deteriorated and Saudi students studying in Canada were recalled home. Ontario Tech updated an International Strategy in 2022, and although not in the strategy, established an internal benchmark where no single country is to generate more than 30% of total undergraduate enrolment. Ontario Tech has met this benchmark in the last five years, with the highest representation of international enrolment being from India in 2021/22, representing only 20% of all international students at the university—a much lower proportion than other universities selected for audit. Ontario Tech’s International Strategy describes focusing on recruitment from five major geographic areas: North Asia, Southeast Asia, the Middle East, Africa and Latin America, which include five of the priority countries mentioned in Canada’s strategy. There is no recommendation in this area.

7.2.3 Tracking International Students

We found that Ontario Tech University did not actively maintain an up-to-date record of international student post-graduate progress or the location of its alumni after graduation. Tracking this information could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

RECOMMENDATION 6

To better understand the contribution of international students to the Canadian workforce/economy after graduation and help inform future recruitment decisions, we recommend that Ontario Tech University:

- collect relevant data on the location and careers of international alumni; and
- use this data to better inform programming and recruitment decisions.

7.2.4 Compensation Structure for International Recruiters

Ontario Tech University uses 61 agencies to recruit international students. Recruiting services contracted

include functions such as representing the university by participating in educational fairs and other promotional activities; generating inquiries and applications from bona fide applicants; pre-screening applicants; and overseeing the collection and facilitating the remittance of all application and registration materials to the university for each student recruited. The agencies are also responsible for recruiting and managing agents, presented to and approved by the university within specific geographic regions.

At Ontario Tech, recruitment agencies were compensated based on a percentage of the base tuition, following successful admission of an international student into one of the university’s programs. In addition, Ontario Tech paid in-country recruiting services a fixed monthly fee plus expenses incurred. Such compensation methods do not incentivize recruiting agents to pursue prospects that exceed admission requirements. One example of incentive-based compensation is offering a fixed rate or percentage top-up for registrants who possess higher than the minimum required English-language proficiency scores. Another example is offering a compensation structure that includes a bonus to agents who successfully recruit students who registered and later attained a certain scholastic achievement, as determined by the university. Both approaches should increase the overall preparedness of entering international students and their likelihood of graduating from their programs.

We noted that over the five-year period 2017/18 to 2021/22, Ontario Tech paid recruiting agencies \$1.2 million for 338 international students. Average compensation on a per student basis was \$3,550, the second highest among the four universities audited.

In considering the preparedness and likelihood of success of admitted international students, we compared the graduation rates of international students to their domestic counterparts at Ontario Tech for the years 2019/20–2021/22. We found the graduation rate of international students to be significantly lower than that of domestic students at Ontario Tech and also lower than the graduate rate for international students at the other three universities we audited, as seen in **Figure 11**.

RECOMMENDATION 7

To promote and incentivize student recruiting agents to find the most highly prepared international students, we recommend that Ontario Tech University apply a fee structure in future contracts that encourages recruiters to target students with higher scholastic achievement, such as applying bonuses for higher student performance as they progress through their university studies.

7.3 Profitability of Academic Programming

Overall, Ontario Tech had a positive contribution margin in each of the past five years from 2017/18 to 2021/22 for all academic programming combined (see **Appendix 11**). Although overall the university's academic programming had positive contribution margins, individual faculties at the institution were not able to cover allocated expenses. It is fair to attribute some of the reason for losses in 2020/21 to revenue reductions due to COVID-19. However, only two of its seven faculties, the Faculty of Business and Information Technology and the Faculty of Engineering and Applied Science, had a positive contribution margin in each year. The university did not complete an analysis of profitability at the academic program level.

Ontario Tech is the only university of the four we audited that used financial analysis as support to restructure a faculty. The analysis (completed prior to our audit) showed that the Faculty of Energy Systems and Nuclear Science had been continuously operating at a deficit since at least 2017/18, when this data began to be collected. Beginning in 2022/23, this faculty was restructured as a department under the Faculty of Engineering and Applied Science in order to achieve efficiencies, such as through sharing administration.

RECOMMENDATION 8

To have a comprehensive picture of the financial contribution of programs in order to offer a sustainable suite of programs, we recommend that as part

of its programming considerations Ontario Tech University:

- complete an analysis of profitability at the academic program level;
- determine whether there are programs that can be reduced or restructured to provide a better financial contribution to the university, while still retaining overall academic credibility with department course offerings; and
- reduce or restructure program offerings based on the results of its program profitability analysis and academic needs, in consultation with its academic departments and with the approval of its Board and Academic Council.

7.4 Capital Planning

We examined three major capital projects the university undertook between 2016/17 and 2020/21, as seen in **Appendix 12**. The largest project, a new building for the Faculty of Health Sciences, Office of Student Life, Continuous Learning and the Student Union, cost \$46.6 million and was completed in 2021. Although a business case was presented to and approved by the Board, it lacked a rigorous cost/benefit analysis that would be expected for a project of this magnitude. There was no analysis of whether the project was expected to generate any revenues, or any future financial projections for the project, such as a net-present-value analysis. Also, the project proceeded without a detailed and sound funding plan and ended up being financed significantly by external debt instead of internal reserves, as originally planned.

In contrast, the other two projects we examined were supported by a financial assessment. For example, for a new building completed in 2017 with a cost of \$31.2 million, Ontario Tech performed several financial analyses and reviewed seven alternative building designs to evaluate the project's feasibility. Those analyses led to its decision to move forward with a four-floor building. Financial analysis included calculating the following for each alternative:

- Net present value—the present value of future cash flows compared with the initial investment.

- Internal rate of return—the expected compound annual rate of return that will be earned on a project or investment. Generally speaking, the higher an internal rate of return, the more desirable an investment is to undertake.
- Payback period—the amount of time it takes to recover the cost of an investment.

RECOMMENDATION 9

To determine whether major capital projects are financially feasible and beneficial, we recommend that Ontario Tech University prepare a business case for each capital project that includes a financial feasibility assessment to help management and then the Board make decisions on major capital expenditures prior to approval.

7.5 Board Governance

7.5.1 Size, Composition and Term Limits of Board of Governors

We found that the size of Ontario Tech’s Board of Governors is considered large without a compelling reason. The Board includes 24 members—18 external to the university and six internal to the university. A typical non-university board should have 14 to 16 directors at most. The specific context of a university would also support having only a small minority (no more than three or four board members) be internal to the university, including the president. Ontario Tech had four board committees, which is within the ideal number according to best practice; see **Figure 13**.

A risk to having a large board is the likelihood that an executive (or other) committee becomes a “board within a board,” where decisions are made in the committee and are brought to a board for ratification only, rather than inclusive review, discussion and decision. Ontario Tech had an executive committee of five members that had the authority to perform duties that should be completed by the Board as a whole, such as overseeing the president (i.e., establish and assess remuneration, and review performance).

We also noted that term limits for Board members at Ontario Tech were of shorter duration than best practice, as seen in **Figure 13**. The term limit for Board members at Ontario Tech is six years compared to the best practice of nine years. The benefit of longer term limits is that they provide members with enough time to gain experience with and knowledge of the university, to better enable them to become proficient on committees and move into senior oversight roles, such as vice-chair and chair of the Board of Governors.

RECOMMENDATION 10

To improve Board effectiveness and minimize the risks posed by large Board sizes and low term limits for board members, we recommend that Ontario Tech University:

- reduce and limit the size of the Board, including the number of internal members; and
- increase the term limits of Board members, including current members.

7.5.2 Presidential Succession Planning

We found that the Board of Ontario Tech University did not have a permanent plan for presidential succession that is regularly reviewed and approved in order to ensure strong leadership is continuously in place, when the president’s term expires. Although a board may choose an external candidate, notwithstanding this, a benefit of a permanent presidential succession plan is that it compels a board, along with the incumbent president, to take all reasonable steps to develop, groom and mentor, as the case may be, an internal candidate or candidates to ensure that they will be “president-ready” when needed. The university also did not have an emergency succession plan that identified an interim president in the event of an unplanned replacement of the incumbent president due, for example, to health reasons, an accident, termination or sudden death.

RECOMMENDATION 11

To provide for an effective future transition of the university president position, we recommend that the Board of Ontario Tech University develop, and annually review and approve, both permanent and emergency presidential succession plans.

7.5.3 Board Competencies

We reviewed the processes Ontario Tech's Board had in place to identify and track the skills and competencies of its board members, and to ensure they align with the suite of abilities required for the Board to make fully informed decisions. We found that Ontario Tech had a competency matrix in place, with 37 competencies listed. However, it had not prioritized the list to identify core competencies. To be effective, priority or core competencies should be identified and be limited to five at most.

Five core competencies for a university board include finance, accounting, executive management, risk management and cybersecurity. However, as seen in **Figure 14**, Ontario Tech's competency matrix did not consider board members' competency in the areas of risk management and cybersecurity. Although information technology was identified as a competency by Ontario Tech, it is a broad area of knowledge and does not necessarily include knowledge of cybersecurity in the depth required to be proficient and able to question management accordingly.

We also examined the competency matrix of Ontario Tech's Board to determine the level of knowledge and experience the Board already possessed in each of the five core competencies, and to ascertain if any gaps in these skills existed. At Ontario Tech, we found that 36% of Board members had limited or no expertise in accounting or finance, as seen in **Figure 14**. Because boards are responsible for overseeing universities' financial operations, including reviewing and approving operating budgets, capital expenditures, debt/financing and financial statements, the majority or near-to-all board members should be financially literate, at least to the extent they understand university finances and have the ability to read

and understand university financial statements, either at the time of appointment or through training within a year of appointment.

RECOMMENDATION 12

To have a Board with essential skills and competencies for effective oversight, and to promote effective Board member succession planning, we recommend that the Board of Ontario Tech University:

- prioritize and track competencies using competency matrices and other competency tracking tools;
- confirm that the Board and its committees possess demonstrably requisite competencies, in order to fulfill its terms of reference; and
- strengthen university financial and accounting literacy among Board members by providing them with either an internal or external training opportunity to increase the effectiveness of their oversight of the operations of the university.

7.5.4 Key Oversight Functions

Key internal oversight functions for effective governance include risk management, compliance and internal audit.

Risk management helps organizations determine their risks and define the level of risk they are willing to assume to accomplish their long- and short-term goals. More specifically, risk management is the process of identifying and documenting an organization's risks (financial and non-financial) in its critical business processes, and the internal controls within each process to mitigate those risks. A compliance function monitors and evaluates adherence with relevant organizational policies, laws and regulations. The role of internal audit is to provide independent assurance that an organization's risk management, compliance and internal control processes are operating effectively.

We found that Ontario Tech University had risk management and compliance functions but did not have an internal audit function, as seen in **Figure 15**. It also had not developed a written risk appetite framework for the Board to review and approve. Such

a framework outlines the material financial and non-financial risks to an organization, the internal controls mitigating each risk, and independent assurance that the financial and operational controls of an organization are working as intended.

RECOMMENDATION 13

To have and promote effective oversight of the university's finances and operations, we recommend that the Board of Ontario Tech University:

- implement internal oversight functions (i.e., risk management, compliance and internal audit) where they do not exist, and have them report regularly to the Board; and
- annually review and approve a written risk appetite framework, which includes identification and defining of material financial and non-financial risks, and independent assurance of internal controls to mitigate each of these risks.

7.5.5 Academic Council

As noted in **Section 2.1.1**, Ontario Tech University uses a bicameral governing model. The Board of Governors is accountable for the overall operation of the university, while the Academic Council oversees the university's academic programming and teaching quality. The Academic Council is responsible for academic matters such as the composition of degrees and programs offered by the university and for decisions such as adding or removing programs.

The financial sustainability of a university is strongly dependent on the effective relationship between these two governing bodies. In order for the Academic Council to make well-informed decisions that consider both the academic program offerings and the financial sustainability of the university, it needs to be provided with the appropriate information on the profitability and eventual sustainability of the university's program offerings. However, we found that the Academic Council was not provided with regular or routine costing information to assess the financial sustainability of individual program offerings. As noted in **Section 7.3**, Ontario Tech University

prepared a profitability analysis of its academic faculties for the past five years (2017/18–2021/22), but not at the program level. Although overall the university's academic programming had positive profit margins, two of the seven faculties had persistent negative profit margins over the five years. Nevertheless, the analysis completed was not shared with the Academic Council. Information such as this would help the Council make decisions on program changes, adjustments, and restructuring.

RECOMMENDATION 14

To enable the Academic Council at Ontario Tech University to make well-informed decisions with regard to academic programming, and that consider the financial sustainability of the university, we recommend that the Academic Council be provided with regular costing information on the financial contribution of individual program offerings and the university as a whole.

7.6 Partnerships and Collaborations

We noted agreements in which Ontario Tech University had established mutually beneficial partnerships with local industry. Ontario Tech has been able to form mutually beneficial partnerships by leveraging its Automotive Centre of Excellence (ACE) research centre. ACE provides testing facilities for the auto sector and other industries to test their products' ability to withstand all kinds of extreme weather. One high-profile ACE collaborator is General Motors, which gets access to the ACE facilities for up to 1,840 hours per year in exchange for financial support that was associated with the creation of ACE. As part of the agreement, General Motors provides its expertise to the university in the areas of automotive product design, development and engineering, and the auto maker supports collaboration between the university and industry-based researchers in developing new applications for the Canadian automotive industry. There is no recommendation in this area.

8.0 University of Windsor

8.1 Financial Sustainability

8.1.1 Financial Activity

The University of Windsor experienced two in-year deficits during 2016/17–2020/21; however, in the most recent year-end 2020/21 it had an in-year surplus of \$28.9 million. The university increased both international student enrolment and revenues between 2016/17 and 2020/21. Windsor increased international enrolment by 33% (or 952 full-time equivalent [FTE] students), and according to data from the Council of Ontario Finance Officers, between 2016/17 and 2020/21, its proportion of revenue from international students increased from 9.6% to 20.9%. See **Appendix 8d** for the financial position of the university for the five-year period 2016/17–2020/21.

8.1.2 Long-Term Debt Policies

As of the university's year-end on April 30, 2021, the University of Windsor had \$236.7 million in debt, comprising:

- three unsecured debentures (that is, fixed-rate loans with fixed interest payments that companies use to raise money) totalling \$175.2 million and maturing from 2046 to 2060, to build new facilities;
- two Toronto-Dominion Bank loans totalling \$60 million that mature in 2043 and 2044; and
- one Bank of Montreal loan for \$1.5 million that matures in 2023.

The largest debenture of \$108.3 million has a corresponding external sinking fund of \$32.1 million (as of April 30, 2021). The sinking fund was a one-time contribution by the university, which is locked in for 30 years through which the university plans to eventually pay the debentures when it matures. The university also has established internally restricted endowments to have funds set aside for the future repayment of the principal at maturity for the other two debentures.

Contributions to these endowment funds are received annually. As of April 30, 2021, the funds had balances of \$3,044,447 and \$747,610.

The university does not have a capital debt policy, although it does monitor aggregate debt levels using the Ministry-prescribed financial-health indicators, which include the interest burden ratio and viability ratio specific to measuring the debt level. The results of the financial health indicators are presented to the Board for its review.

RECOMMENDATION 1

So that the University of Windsor assumes debt only at a sustainable level, we recommend that the university:

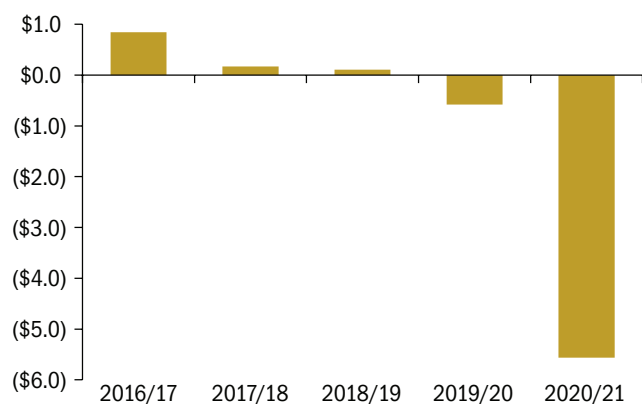
- establish a formal capital debt policy approved by the Board; and
- monitor and adhere to the debt limits outlined in its policy.

8.1.3 Ancillary Services

As seen in **Figure 17**, the University of Windsor had a profit for all ancillary services combined in the three years prior to COVID-19 (2016/17–2018/19), but not in 2019/20 or 2020/21. For the three fiscal years prior to the pandemic, on average five of the eight ancillary services were profitable.

Figure 17: University of Windsor Consolidated Ancillary Profit/(Loss), 2016/17–2020/21 (\$ million)

Source of data: University of Windsor



In fiscal 2020/21, seven ancillary services incurred a loss of \$5.6 million for the university, which it absorbed through its operating funds. We noted that the university outlined a strategy for each of its ancillary operations in its 2022/23 budget to the Board, including a 4.5% increase in meal-plan prices and contracting with a third-party food operator to reduce its exposure to future losses.

There is no recommendation in this area.

8.1.4 Restricted Funds

We reviewed the University of Windsor's financial statements, ledgers and bank/investment accounts to determine whether endowments and externally restricted funds are managed and maintained separately from regular operating funds. In addition, we assessed whether the university held sufficient cash and investments to cover externally restricted and endowment funds as of the end of 2020/21. We found that Windsor commingled externally restricted funds with cash from operations, contrary to best practices (see **Figure 8**). However, in accordance with best practices, we found that it:

- managed and maintained endowments and externally restricted funds using separate ledgers;
- held separate investment accounts for endowment funds; and
- had sufficient cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments.

In addition, since 2019/20 the University of Windsor has annually performed an analysis to ensure that it had sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments. Our own calculation confirmed that the university had sufficient cash and short-term investments at the 2020/21 year-end to cover these amounts.

RECOMMENDATION 3

To help ensure the university continues to have sufficient funds on hand to cover restricted funds and endowments, we recommend that the University of Windsor maintain separate bank accounts for externally restricted funds.

8.1.5 Budgeting Practices

Our review of the University of Windsor's budgets dating back to 2016/17 noted that senior management provided sufficient financial analysis to the Board of Governors (Board) for decision-making purposes. For example, the 2021/22 budget explained the financial impact that the 10% tuition freeze would have on tuition revenue and provided enrolment projections by domestic, international, and undergraduate or graduate student categories. Over the last five fiscal years, the Board has never approved a deficit budget. However, in 2021/22 the university projected an operating deficit of \$3.6 million, which it offset against prior year reserves.

The university breaks down its ancillary budget into revenue streams so its Board can easily identify which ancillary services are expected to contribute to the overall bottom line.

Prior to fiscal 2022/23, it did not present an annual capital budget to the Board. Major capital projects (of more than \$2.5 million) were approved separately by the Board, during regular Board meetings.

The University of Windsor reviews its operating budget to actual-to-date results three times per year (at six, nine and 12 months). However, the 12-month variance analysis is not presented to the Board.

The University of Windsor also does not prepare and present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board of the extent to which each contributes to or draws on the university's resources.

RECOMMENDATION 4

We recommend that the University of Windsor, as part of its budget, present to the Board the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board on the impact of each activity on the university's resources.

8.2 International Students

8.2.1 Admission Criteria for International Students

The proportion of international students enrolled at University of Windsor has increased from 19% to 23% from 2016/17 to 2020/21, as seen in **Figure 9**.

We reviewed whether the university accepted only international students who met admission criteria. We reviewed applications to undergraduate-degree programs of students from India, China and Nigeria, the three most dominant countries for international student enrolment (see **Section 4.2.2**) who had not attended an Ontario high school. We noted that the University of Windsor completes its own transcript assessments, which are based on grade-conversion charts developed in-house, as no provincial conversion standards have been established by the Ministry. The university also does not require students to submit assessments from third-party foreign transcript evaluation services. Our sample testing of international student applicants that were accepted for admission found that all had the required prerequisites for their program of study.

We also compared the grades among the universities we audited that would be equivalent to 70% in the Ontario secondary school system from India, China and Nigeria, based on the conversion chart developed by each university. Windsor developed the equivalency based on its experience over the years of admitting students from the different countries and the patterns it has seen. The Ministry does not provide guidance in this area. We found that the University of Windsor considered a 70% average from India equivalent to a 70%

from Ontario. The grade-conversion equivalent to a 70% in Ontario at the other universities audited ranged from 50% at Nipissing to 60% at Ontario Tech. See **Section 9.1.4** for a recommendation to the Ministry to develop a standard grade-conversion chart.

8.2.2 Reliance on International Students

The University of Windsor has experienced an increase in international students over the years 2016/17–2021/22, with 60% from India and 12% from China in 2021/22. The university recognized the risk of being overreliant on one country or region in its public Enrolment Goals Report (2017–2021), in which it acknowledged that it needed to invest in new enrolment strategies—for example, international partnerships with other institutions; streamlining its admission process; and improving its marketing through student ambassadors, social media and its annual publication of programming. The federal government's International Education Strategy 2019–2024 prioritizes targeting students from countries including Brazil, Colombia, France, Mexico, Morocco, Turkey and Ukraine, as well as students from Indonesia, the Philippines, Thailand and Vietnam. The university's enrolment report did not include specific countries to target for future student recruitment.

RECOMMENDATION 5

To mitigate the risk associated with overreliance on a single or few geographic regions for international student tuition revenue, we recommend that the University of Windsor:

- regularly complete a financial sensitivity analysis of the impact of the loss of students from various regions;
- develop and apply strategies to diversify recruitment of international students from different geographic regions; and
- focus on recruiting students from priority countries identified in the government of Canada's International Education Strategy, 2019–2024.

8.2.3 Tracking International Students

We found that the University of Windsor did not actively maintain an up-to-date record of international student post-graduate progress or location. Tracking this information could help the university adjust its program offerings, improve its recruitment efforts and help in promoting the university.

RECOMMENDATION 6

To better understand the contribution of international students to the Canadian workforce/economy after graduation and help inform future recruitment decisions, we recommend that the University of Windsor:

- collect relevant data on the location and careers of international alumni; and
- use this data to better inform programming and recruitment decisions.

8.2.4 Compensation Structure for International Recruiters

The University of Windsor uses 126 agencies to recruit international students. Recruiting services contracted include functions such as marketing and promoting the university's brand; generating inquiries and applications from bona fide applicants; pre-screening applicants; and monitoring applications from submission to confirmation. The agencies are also responsible for recruiting and managing agents within specific geographic regions, or establishing international offices for agents to operate from.

Recruitment agencies contracted by the university were provided with a fixed rate of compensation for each recruited student, with some variation based on a student's program of choice. In addition, the university paid in-country recruiting services a fixed monthly fee plus expenses incurred. Such compensation methods do not incentivize recruiting agents to pursue prospective students that exceed admission requirements. One example of incentive-based compensation is offering a fixed rate or percentage top-up for registrants who possess higher than the minimum required

English-language proficiency scores. Another example is offering a compensation structure that includes a bonus to agents who successfully recruit students who registered and later attained a certain scholastic achievement, as determined by the university. Both approaches should increase the overall preparedness of international students and their likelihood of graduating from their programs.

We noted that over the five-year period 2017/18 to 2021/22, Windsor paid recruiting agencies \$17.1 million for almost 11,000 international students. Average compensation on a per student basis was \$1,555.

In considering the preparedness and likelihood of success of admitted international students, we compared the graduation rates of international students to their domestic counterparts at the University of Windsor for the years 2019/20 to 2021/22. We found the graduation rate of international students to be consistently lower than domestic students and generally higher than the graduation rates of international students at the other universities we audited, as seen in **Figure 11**.

RECOMMENDATION 7

To promote and incentivize student recruiting agents to find the most highly prepared international students, we recommend that the University of Windsor apply a fee structure in future contracts that encourages recruiters to target students with higher scholastic achievement, such as applying bonuses for higher student performance as they progress through their university studies.

8.3 Profitability of Academic Programming

Prior to 2021/22, the University of Windsor's method for determining profitability of academic programming did not include provincial operating grants as part of faculty revenues. Nor were faculty costs, such as academic and student services, administrative services, athletics and recreation services, and other overhead expenses, allocated to the various faculties.

In 2021/22, the university began to assess profitability of its faculties through its budgeting model, which allocates grants to faculties based on enrolment, and overhead expenses based on related cost drivers such as proportional student enrolment, faculty and staff. The university did not complete an analysis of profitability at the academic program level.

According to the University of Windsor's profitability analysis, the university overall was profitable in three of the last five years, but in the two most recent years, 2020/21 and 2021/22, it had negative profit margins. In addition, over that five-year period only the Faculty of Engineering had a positive profit margin in each year, with the Odette School of Business and Faculty of Law having positive profit margins in four of the last five years. Four of the eight faculties have continuously had negative profit margins in each of the last five years. These were the faculties of Arts, Humanities and Social Science; Human Kinetics; Nursing; and Science. It is fair to attribute some of the reason for losses in 2020/21 to revenue reductions due to COVID-19-related lockdowns and school closures.

RECOMMENDATION 8

To have a comprehensive picture of the financial contribution of programs in order to offer a sustainable suite of programs, we recommend that as part of its programming considerations the University of Windsor:

- complete an analysis of profitability at the academic program level;
- determine whether there are programs that can be reduced or restructured to provide a better financial contribution to the university, while still retaining overall academic credibility with department course offerings; and
- reduce or restructure program offerings based on the results of its program profitability analysis and academic needs, in consultation with its academic departments and with the approval of its Board and Senate.

8.4 Capital Planning

We reviewed four major capital projects undertaken over the past five years at the University of Windsor, as seen in **Appendix 12**, and found that projects were not always supported by a financial cost/benefit analysis to justify the capital expenditures.

Although a business plan was presented to the Board for each of the four projects we reviewed, for one of the four projects reviewed, the renovation of the university's law school at a total expected cost of \$35 million, the business plan prepared by management and approved by the Board was not supported by a financial cost/benefit analysis to justify the costs of the investment. For instance, the analysis did not consider whether the investment was expected to generate any revenues to cover the costs. Nor did it include estimates of future facility operating and financing costs and the university's ability to pay for those costs, which would be expected considering the majority of the project is being funded by debt (73%). The analysis also did not consider how taking on additional debt would impact the university's financial position in both the shorter and longer term.

In another capital investment, the university purchased an existing building as part of a planned campus expansion into Windsor's downtown at an expected cost of \$8.1 million. We found that a financial feasibility analysis was conducted in 2021. However, information presented to the Board did not consider when it would be reasonable to expect the investment to become profitable. Specifically, the business plan presented to the Board identified that the investment would break even in the third year of operations (2024/25). However, that was referring only to the potential profit/loss from academic programming at the Faculty of Science. According to the financial modelling conducted, the investment from the entire operation wasn't expected to break even until 2029/30, but this information was not presented to the Board. This was a significant omission of information of which the Board should have been made aware.

RECOMMENDATION 9

To determine whether major capital projects are financially feasible and beneficial, we recommend that the University of Windsor prepare a business case for each capital project that includes a financial feasibility assessment to help management and then the Board make decisions on major capital expenditures prior to approval.

8.5 Board Governance

8.5.1 Size, Composition and Term Limits of Board of Governors

We found that the size of the University of Windsor's Board of Governors is considered large without a compelling reason. The Board includes 32 members—20 external to the university and 12 internal to the university. A typical non-university board should have 14 to 16 members at most. The specific context of a university would also support having only a small minority (no more than three or four board members) be internal to the university, including the president. Typically, the ideal number of board committees should not exceed four or five. The University of Windsor had seven committees; see **Figure 13**.

A risk to having a large board is the likelihood that an executive (or other) committee becomes a “board within a board,” where decisions are made in the committee and are brought to a board for ratification only, rather than inclusive review, discussion and decision. The University of Windsor had an executive committee of seven members that had the authority to perform duties that should be completed by the Board as a whole—for example, to oversee the president (i.e., establish remuneration and approve the president's contract).

We noted that the term limit of nine years for Board members at the university was in line with best practices, as seen in **Figure 13**.

RECOMMENDATION 10

To improve Board effectiveness and minimize the risks posed by large Board sizes and low term limits

for Board members, we recommend that the University of Windsor:

- reduce and limit the size of the Board, including the number of internal members; and
- reduce the number of committees to accommodate a smaller Board size.

8.5.2 Presidential Succession Planning

We found that the Board of the University of Windsor did not have a permanent plan for presidential succession that is regularly reviewed and approved in order to ensure strong leadership is continuously in place when the president's term expires. It did, however, have an emergency succession plan that identified an interim president in the event of an unplanned replacement of the incumbent president, due, for example, to health reasons, an accident, termination or sudden death.

Although a board may choose an external candidate, notwithstanding this, a benefit of a permanent presidential succession plan is that it compels a board along with the incumbent president to take all reasonable steps to develop, groom and mentor, as the case may be, an internal candidate or candidates to ensure that they will be “president-ready” when needed.

RECOMMENDATION 11

To provide for an effective future transition of the university president position, we recommend that the Board of the University of Windsor develop, and annually review and approve, both permanent and emergency presidential succession plans.

8.5.3 Board Competencies

We reviewed the processes the University of Windsor's Board had in place to identify and track the skills and competencies of its Board members, and to ensure they align with the suite of abilities required for the Board to make fully informed decisions. We found that the University of Windsor had a competency matrix in place, with 16 competencies listed. However, it had not prioritized the list to identify core competencies. To be

effective, priority or core competencies should be identified and be limited to five at most.

Five core competencies for a university board include finance, accounting, executive management, risk management and cybersecurity. However, as seen in **Figure 14**, the University of Windsor's competency matrix did not consider Board members' competency in the area of cybersecurity. Although information technology was identified as a competency by the university, it is a broad area of knowledge and does not necessarily include knowledge of cybersecurity in the depth required to be proficient and be able to question management accordingly.

We also examined the competency matrix of the University of Windsor's Board to determine the level of knowledge and experience the Board already possessed in each of the five core competencies, and to ascertain if any gaps in these skills existed. At the University of Windsor, we found that many Board members had limited or no financial literacy expertise or experience, as seen in **Figure 14**. Specifically, 23% of Board members had limited or no competency in the area of finance, and 30% had little or no experience in accounting. Because boards are responsible for overseeing universities' financial operations, including reviewing and approving operating budgets, capital expenditures, debt/financing and financial statements, the majority or near-to-all board members should be financially literate at least to the extent they understand university finances and have the ability to read and understand university financial statements, either at the time of appointment or through training within a year of appointment.

RECOMMENDATION 12

To have a Board with essential skills and competencies for effective oversight, and to promote effective Board member succession planning, we recommend that the Board of the University of Windsor:

- prioritize and track competencies using competency matrices and other competency tracking tools;

- confirm the Board and its committees possess demonstrably requisite competencies, in order to fulfill its terms of reference; and
- strengthen university financial and accounting literacy among Board members by providing them with either an internal or external training opportunity to increase the effectiveness of their oversight of the operations of the university.

8.5.4 Key Oversight Functions

Key internal oversight functions for effective governance include risk management, compliance and internal audit.

Risk management helps organizations determine their risks and define the level of risk they are willing to assume to accomplish their long and short-term goals. More specifically, risk management is the process of identifying and documenting an organization's risks (financial and non-financial) in its critical business processes, and the internal controls within each process to mitigate those risks. A compliance function monitors and evaluates adherence with relevant organizational policies, laws and regulations. The role of internal audit is to provide independent assurance that an organization's risk management, compliance and internal control processes are operating effectively.

We found that the University of Windsor had risk management and internal audit functions, but did not have a compliance function, as seen in **Figure 15**. In September 2021, the University of Windsor, aided by a consultant, developed a risk management framework for the Board to review and approve. The risk framework was updated by the university in November 2022. Such a framework outlines the material financial and non-financial risks to the university, and next steps to mitigate each risk.

RECOMMENDATION 13

To have and promote effective oversight of the university's finances and operations, we recommend that the Board of the University of Windsor

implement internal oversight functions (i.e., risk management, compliance and internal audit) where they do not exist, and have them reported regularly to the Board.

8.5.5 Senate

As noted in **Section 2.1.1**, the University of Windsor uses a bicameral governing model. The Board of Governors is accountable for the overall operation of the university, while the Senate oversees the university's academic programming and teaching quality. The Senate is responsible for academic matters such as the composition of degrees and programs offered by the university, and for decisions such as adding or removing programs.

The financial sustainability of a university is strongly dependent on the effective relationship between these two governing bodies. In order for the Senate to make well-informed decisions that consider both the academic program offerings and the financial sustainability of the university, it needs to be provided with the appropriate information on the profitability and eventual sustainability of the university's program offerings. As noted in **Section 8.3**, the university prepared a profitability analysis of academic faculties for the past five years (2017/18–2021/22), which it shared with the Senate. However, the analysis was not completed at the program level. According to the university's profitability analysis, four of the eight faculties have continuously had negative profit margins in each of the five years.

RECOMMENDATION 14

To enable the Senate of the University of Windsor make well-informed decisions with regard to academic programming, and that consider the financial sustainability of the university, we recommend that the Senate be provided with regular costing information on the financial contribution of individual program offerings.

8.6 Partnerships and Collaborations

We noted that the University of Windsor had established mutually beneficial partnerships with its host city, local health unit and other partners:

- **Municipal partnership for community recreational programs:** The University of Windsor partnered with the City of Windsor to help build the university's new athletic centre. The city provided the university with a \$3 million grant and agreed to almost \$200,000 in annual fees for 10 years, beginning in the summer of 2022, in exchange for access to the swimming pool for delivery of municipal programming.
- **University partnership for delivery of academic programming:** The University of Windsor partnered with Western University's Schulich School of Medicine & Dentistry to create the Windsor Program, which provides undergraduate medical education and post-graduate training in Windsor. The site is located in the University of Windsor's Medical Education Building and admits up to 38 students annually. The building, constructed in 2012, cost the university \$23.6 million, \$16 million of which was funded through external debt. Western University maintains all academic accreditations through a shared governance committee that oversees operations. Western University collects tuition and academic fees and maintains responsibility for admissions, the academic programming and curriculum for all offerings in the program. It also issues degrees to medical students once they successfully complete their studies. The University of Windsor manages the day-to-day operation of the building, with proportionate costs of operating the building and direct expenses of the program charged to Western University. Western also provides an average of \$623,000 per year to contribute to paying the University of Windsor's debt for construction of the building and for contingency funding for building maintenance and equipment replacement.

- **Landlord-tenant agreement for shared use of space and activities:** In August 2022, University of Windsor entered into a landlord-tenant agreement with the Windsor-Essex County Health Unit to rent an unused residence building after it is retrofitted. This space will support the requirements of the health unit's operations, including expanded office and clinic space. The agreement is a positive example of two parties maximizing the university's properties for mutual benefit, including the opportunity for the University and the health unit to collaborate on future activities, such as research, teaching, experiential learning and community services.

We also noted one partnership arrangement that was unfavourable to the university's reputation. In July 2021, the University of Windsor signed a five-year agreement with Sechenov University, a Russian medical university, to collaborate on joint research projects, educational events and short-term exchanges of students, researchers and teaching staff. At the time of this audit, there had been no initiatives undertaken between the two signatories. This agreement may present reputational risk to the university given the current conflict in Ukraine as well as cybersecurity risk to its intellectual property. Exposure to risk through entering such agreements was expressed in February 2021 by the director of the Canadian Security Intelligence Service (CSIS), who warned that since the onset of the pandemic, Canadian universities are among those facing an elevated level of risk to their cybersecurity. CSIS noted that adversaries have increased interest in intellectual property and advanced research held on computer systems in small start-ups, corporate boardrooms, or university labs across the country.

RECOMMENDATION 15

To only form academic partnerships that are both beneficial to the university's reputation and in the best interests of students and/or researchers, we recommend that the University of Windsor:

- set goals for the type of relationships it plans and then enters into, such as revenue-generating academic relationships;
- have such arrangements approved by its Board and/or Senate; and
- consult national security agencies such as the Canadian Security Intelligence Service for information, advice or support before engaging in international collaborations and partnerships.

9.0 Ministry of Colleges and Universities

9.1 Government Strategy for Post-Secondary Education

9.1.1 The Ministry Does Not Have a Strategy or Long-Term Vision for the Post-Secondary Sector

The Ministry of Colleges and Universities (Ministry) does not have a clearly documented strategy or long-term vision for the post-secondary education sector that distinguishes between the programming at public and private colleges and universities.

The Ministry recognized the importance of providing a vision and priorities for post-secondary education through Ontario's 2013 Differentiation Policy Framework for Postsecondary Education. Although the Ministry stated it no longer actively applies this framework to its work, the overriding goals of the framework are sensible: build on the well-established strengths of each type of institution to enable them to operate as complementary parts of the post-secondary system, and give students affordable access to the full continuum of vocational and academic educational opportunities that are required. The framework also promoted collaboration among institutions to increase options for students and maximize existing resources, while avoiding duplication in programming between universities and colleges.

9.1.2 Overlapping Program Offerings and Qualifications Has Resulted in a Loss of Distinction of the Roles and Purposes of Universities and Colleges

Traditionally, universities and colleges were created to co-exist with distinct functions. Colleges were intended to be more directly career-oriented than universities, meaning they would offer practical or hands-on training, typically through a certificate program of one year or less, or a diploma program of two or three years. Colleges also offer pre-trades and apprenticeship training, language training and skills upgrading. Universities were intended to provide higher learning and be a repository and generator of knowledge through research and offering undergraduate degree programs (typically three or four years) and graduate (master's and doctoral) programs. Many universities also offer professional programs, such as engineering, medicine, dentistry and law. See **Figure 18** for an overview of the current characteristics of colleges and universities in Ontario.

However, the distinction between the two types of institution has started to blur as colleges have been approved to offer degree programs while universities are offering short-term certificate programs. Although this increases access to programs for students, it can also create confusion in differentiating between these two types of institutions and duplication in programming. Furthermore, it could impact the institutions' ability to sustain themselves in the long term due to higher competition and potential lower student enrolment in programs offered by both types of institution.

In 2002, the Ministry began to allow publicly funded colleges to offer four-year applied degree programs. An applied degree blends theory or academic studies with hands-on experience. College degree programs were to include an integrated work component. The Ministry's stated purpose for allowing colleges to grant degrees was to provide more educational choices and access to students to attain post-secondary degrees. At that time, 34 degrees were approved to be issued by 18 colleges; by August 2022, there were 174

Figure 18: Overview of Characteristics of Publicly Funded Colleges and Universities in Ontario

Prepared by the Office of the Auditor General with data provided by selected universities

	College	University
Institutions	24	23
Core purpose	To provide career-oriented education and training to help students gain employment, meet the needs of employers, and support the social and economic development of communities	To provide higher learning to equip graduates for viable employment, and to generate and disseminate knowledge through research for the advancement of society
Legislation	<i>Ontario Colleges of Applied Arts and Technology Act, 2002</i>	Individual Act for each university
Offerings	- Undergraduate degrees - Diploma - Certificate - Apprenticeship	- Undergraduate degrees - Graduate degrees - Co-op programs - Professional programs
Program lengths	- Diploma – 2 to 3 years - Certificate – 1 year or less	- Undergraduate degree – 3 to 4 years - Graduate degree – dependent on graduate program; requires completion of undergraduate program
Program approvals	Ministry approval	Autonomous degree-granting unless otherwise stated by the Province in the university's legislation
Average tuition fees (2020/21)	- Domestic – \$3,228 - International – \$14,306	- Domestic (undergraduate) – \$7,938 - International (undergraduate) – \$40,525

approved four-year degrees that could be attained at, and issued by, 20 colleges. The Ministry also implemented thresholds in order to monitor college degree program activity. Colleges categorized as Institutes of Technology and Advanced Learning (Conestoga, George Brown, Humber, Seneca and Sheridan) could offer degrees as 15% of all program activity, while all other colleges had this limit set at 5%. In April 2022, the Ministry announced that the degree thresholds had been increased by an additional 5% for each college and that they could also offer three-year degree programs. The degree cap limit for Institutes of Technology and Advanced Learning is 20% and for all other colleges it is 10%. As of August 2022, no college had breached the thresholds within at least the prior five years.

As part of the criteria for assessment of three-year college degree programs, the Ministry's Postsecondary Education Quality Assessment Board, which is tasked with conducting independent quality reviews of degree programs for Ministry approval, was given direction about criteria to be used when assessing three-year degree applications. These criteria include considering duplication of programs normally offered by universities in Ontario, considering both program content and delivery. No similar standard exists for four-year degree programs offered by colleges, although, as part of their program proposals, colleges are required to submit information on whether they perceive any duplication with existing degrees at universities.

By increasing the options of the degrees colleges may offer, the Ministry itself is contradicting its goal of not creating unnecessary duplication between colleges and universities, as set out in its 2013 Differentiation Policy Framework for Post-secondary Education. This decision also further increases direct competition for enrolment, as students may be more inclined to study at colleges for degrees with lower tuition fees and granted after three years instead of four, rather than attending a university program. The Ministry itself acknowledged these concerns in a 2022 Ministry document, noting that if Durham College in Oshawa expanded its degrees, this may improve its enrolment,

but possibly to the detriment of Ontario Tech University, which is also in Oshawa.

As of August 2022, applications from three colleges for three-year degrees had been received. This includes a Bachelor of Business Administration degree approved to begin receiving applications for admission in the 2022/23 year from Cambrian College, which is in Greater Sudbury and in close proximity to Laurentian University, which offers four-year Bachelor of Business Administration degrees with several specialties.

As an example of overlap between college and university offerings, St. Clair College is located near the University of Windsor. The University of Windsor offers a four-year Bachelor of Commerce in Business and Computer Science, while the Windsor campus of St. Clair College offers a four-year Bachelor of Business Administration in Information Communication Technology. These two programs are quite similar, and therefore students may choose between the two based on cost. University of Windsor administrators told us they believe the new four-year degree-granting programs compete directly with Ontario universities, especially in business administration, health care, computer science and automotive programs. Senior administration also stated that their student enrolment is also being impacted by four-year business degree programs offered by other colleges in the Greater Toronto and Hamilton area, and mid-western Ontario, as it noted there are five colleges in these regions that offer a four-year Bachelor of Business Administration and Commerce program with a co-op option, as well as specializations in areas of study identical to those taught at the University of Windsor.

Senior administration from all four of the universities we audited told us that the Ministry's decision to allow colleges to offer three-year degrees will bring increased competition with existing university programming. The impact on their student enrolment has not yet been experienced, since colleges' ability to offer three-year degrees was implemented only in April 2022.

Similarly, universities often offer certificates and diplomas for specialist programs in various areas. At the four universities we audited, several certificates

and diplomas were offered both as standalone certification or as an add-on for graduates to further specialize in their field of study. We reviewed publicly available information on these programs for each of these universities to determine whether their programs were similar to diploma or certificate programs offered at nearby colleges. We noted that although they were not directly comparable due to length of study and/or number of courses, offerings at all four universities have similarities to college programming. Universities and colleges tend to give different names to their programs, however. For example:

- The University of Windsor offers a one-year honours certificate in Civil Engineering, while St. Clair College, located close by, offers a three-year diploma in Civil Engineering Technology.
- Nipissing University offers a post-baccalaureate certificate in General Management, while Canadore College, located on the same campus as Nipissing, offers a post-graduate certificate in Business Management as well as a one-year certificate in Business Fundamentals.
- Algoma University offers a one-year certificate in Mobile Software Development, and Sault College offers a one-year certificate in Mobile Applications Design.
- The University of Windsor offers a certificate titled Organizational Management, whereas St. Clair College offers a graduate certificate called Human Resource Management. Both programs have similar lengths and prepare students for the designation of Certified Human Resources Professional.

RECOMMENDATION 16

To support the financial and operational sustainability of post-secondary educational institutions in Ontario and to provide clarity for Ontarians about university and college programming within the context of a long-term vision for the post-secondary sector, we recommend that the Ministry of Colleges and Universities:

- develop a strategic plan and actions to be taken to achieve it;

- establish an implementation timeline for the actions;
- monitor the implementation of the actions and the achievement of the strategic plan over a defined period of time; and
- modify or update the strategic plan and actions as needed.

MINISTRY RESPONSE

The Ministry will work with stakeholders, including publicly assisted universities and colleges, as it works toward the development of a longer-term vision and strategic plan for the post-secondary education sector, with corresponding actions. This will include whatever actions are appropriate for a strategic plan that supports the financial and operational sustainability of post-secondary education institutions and an implementation timeline for these actions.

9.1.3 Ontario's Domestic Tuition Freeze and Relatively Low per-Student Funding Have Necessitated the Increased Dependence on International Students

In 2017, the government of Ontario introduced major program changes to the Ontario Student Assistance Program (OSAP) for the 2017/18 academic year, to make post-secondary education more accessible and affordable. For example, the Ministry provided a larger percentage of aid in non-repayable grants rather than repayable loans, made tuition free for students whose annual family income was less than \$50,000, and made more graduate students eligible for OSAP.

In 2018, the government reversed the 2017 decision to increase financial support to students, and on January 17, 2019, it announced a 10% reduction in post-secondary tuition rates, which would remain frozen at that level for 2019/20 and 2020/21. On March 23, 2022, the government extended the tuition freeze for universities and colleges by an additional year until 2022/23. In 2021, the Ministry completed an analysis to estimate the number of institutions likely to be in a surplus/deficit position with a

Figure 19: Average Domestic and International Tuition Fees by Level of Study for All Ontario Universities, 2017/18–2021/22

Source of data: Statistics Canada

	2017/18 (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)	2021/22 (\$)	5-Year Change (%)
Domestic – Undergraduate	8,519	8,793	7,931	7,938	7,938	(6.8)
International – Undergraduate	32,380	35,029	38,108	40,525	42,185	30.3
Domestic – Graduate	9,785	10,454	9,601	9,739	9,765	(0.2)
International – Graduate	22,226	22,527	23,828	25,521	26,236	18.0

Figure 20: Funding per Full-Time Equivalent (FTE) Student at Selected Universities, 2020/21

Source of data: Ministry of Colleges and Universities

	Algoma	Nipissing	Ontario Tech	Windsor	All Universities
Operating Grants					
Enrolment (\$ million)	3.6	19.1	43.2	63.8	2,523.7
Differentiation (\$ million)	2.6	8.9	12.9	29.3	890.8
Special Purpose (\$ million)	13.1	7.1	21.5	11.1	282.6
Total Operating Grants (\$ million)	19.3	35.1	77.6	104.2	3,697.1
Less: International Student Recovery (\$ million)	0.8	0.04	0.5	2.7	60.3
Operating Grants net of Recovery (A) (\$ million)	18.5	35.1	77.1	101.5	3,636.8
Domestic FTE Enrolment (B)	892	4,384	8,686	12,709	447,032
Avg Funding/Domestic FTE (A÷B) (\$)	20,740	8,006	8,876	7,986	8,135
Capital Grants ¹ (\$ million)	1.5	1.6	2.0	3.1	90.0
Net Funding Grant² (\$ million)	20.0	36.7	79.1	104.6	3,726.8

1. Capital grants provided to the four selected universities were only for facilities renewal, not for major capital support.

2. Net of operating grants, capital grants, and the international student recovery fee.

continued tuition freeze in 2022/23 and 2023/24. The Ministry's analysis projected that eight of 22 universities (excluding Laurentian) would have a deficit in 2022/23 and that this would increase to 12 of 22 universities in 2023/24.

If the 10% tuition reduction and the tuition freezes had not taken place, the universities would have been able to continue increasing tuition rates by 3% annually according to Ministry policy. Had they been able to do so, that would have translated into additional revenues in each fiscal year from 2019/20 to 2022/23. For example, we estimated that in 2020/21 Algoma University and the University of Windsor could have received additional revenues ranging from \$935,000 for Algoma to \$18.7 million for Windsor.

The tuition reduction and tuition freezes did not apply to international students. As seen in **Figure 19**, the impact of the reduction and tuition freeze on domestic tuition in Ontario has resulted in universities making up for the pressure on their finances by rapidly increasing international student tuition. For international students, 2021/22 tuition fees averaged \$42,185 per undergraduate student, a 30.3% increase over the average in 2017/18. In comparison, in the five years from 2018 to 2022, inflation has increased 14.9%, according to data from the Bank of Canada.

In 2020/21, Ministry operating funding averaged \$8,135 per full-time-equivalent (FTE) student, and ranged from \$7,986 to \$20,740 per FTE for the four universities we audited, as seen in **Figure 20**. Algoma

University's average funding per student is significantly higher than other universities because it has been receiving an ongoing special purpose grant of \$5.5 million since 2008/09 to support its transition to an independent degree-granting university.

Ontario universities must rely more heavily on tuition fees, particularly those charged to international students, to meet their capital and operating obligations. For this reason, Ontario charges one of the highest levels of tuition for both domestic and international students of all provinces in Canada.

Figure 21 shows the average domestic undergraduate tuition fees by province, and **Figure 22** shows the average international student tuition by province. Despite the high fees, Canadian institutions are still competitively priced in the international student

market, according to Higher Education Strategy Associates, a research organization that provides advice to higher education policy makers and institutions.

RECOMMENDATION 17

To promote financial sustainability while reducing financial dependence on international student tuition, we recommend that the Ministry of Colleges and Universities:

- complete an assessment of the cost of instruction and operation of universities; and
- determine whether universities will be financially sustainable at current funding levels and under the domestic tuition fee reduction and current freeze; and

Figure 21: Average Domestic Undergraduate Tuition and Student Fees by Province, 2020/21 (\$ 000)

Source of data: Higher Education Strategy Associates

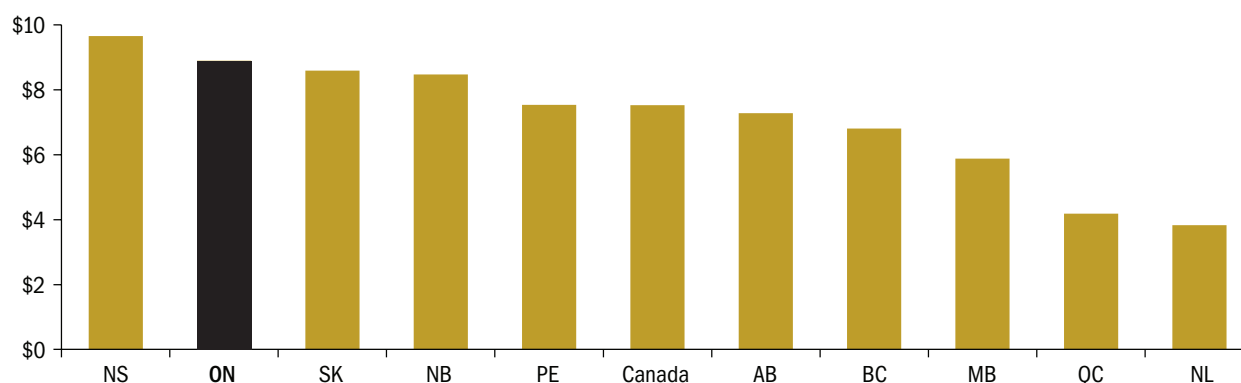
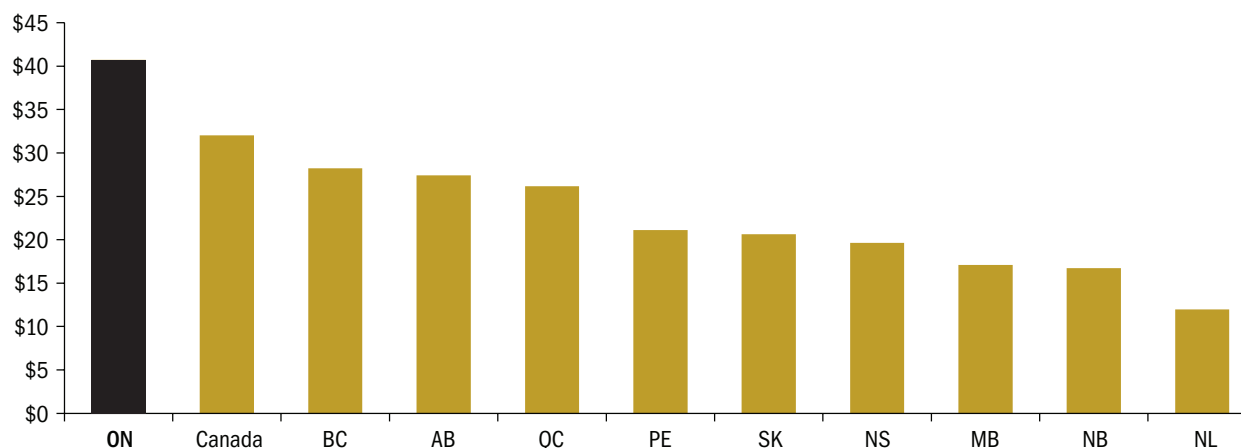


Figure 22: Average International Student Tuition by Province, Canadian Universities, 2020/21 (\$ 000)

Source of data: Higher Education Strategy Associates



- assist universities in developing risk mitigation plans, where necessary.

MINISTRY RESPONSE

The Ministry is committed to addressing issues related to financial sustainability. As part of this work, the Ministry will assess current funding levels, as well as continue to engage with post-secondary institutions in relation to financial health.

The Ministry will work with institutions experiencing financial challenges and will ensure appropriate mitigation plans are in place, issues are identified in a timely manner and proactive steps are taken to appropriately address concerns of financial sustainability.

Given the size and complexity of the post-secondary education sector, the Ministry plans work in the months ahead that will particularly focus on the financial sustainability of institutions and work the Ministry can undertake to support a healthy and vibrant post-secondary education sector.

9.1.4 International Students

In 2018, the Ministry released Ontario's International Postsecondary Education Strategy with the vision of making Ontario's post-secondary system a world-class destination for international students. One of the main goals of the strategy is to achieve balanced international growth across the province, which would reduce the risk presented by overreliance on a single or few geographic regions. However, there are no measurable targets or goals in the strategy for levels of international student enrolment, nor does the strategy provide guidance on global markets to target or how to mitigate risks of becoming over-reliant on one country or reliant on international students in general.

The Ministry has not provided guidance or developed policy to the university sector regarding international student recruitment, to regulate the number of students from a single region. As noted in **Sections 5.2.2, 6.2.2, 7.2.2, and 8.2.2**, with the exception of Ontario Tech, the universities audited were

dependent on students from India for international tuition revenue. Moreover, in making decisions on whether to admit international students, universities convert grades obtained in other jurisdictions to their equivalent in the Ontario system using conversion charts developed separately in-house by each university. In our review of the admission process for international students, we found significant differences in the conversion standards between the universities audited (see **Sections 5.2.1, 6.2.1, 7.2.1, and 8.2.1**). For example, the grade-conversion equivalent to a 70% in Ontario for students educated in India ranged from 50% at Nipissing to 70% at Windsor. The Ministry does not provide universities with any guidance or a standard conversion to apply. Doing so would increase the consistency and objectivity of the process.

The Ministry has also not established a policy relating to the amount of tuition charged to international students, which would help to ensure that Ontario remains an attractive and affordable destination for international students. As described in **Section 9.1.3**, the average international tuition in Ontario has increased more than 30% during the five years from 2017/18 to 2021/22.

RECOMMENDATION 18

To reduce the risk to universities of overreliance on international students from a single or few geographic regions, and to determine whether there is a need for guidance on the recruitment and education of international students, we recommend that the Ministry of Colleges and Universities revise its International Postsecondary Education Strategy to:

- include measurable targets and goals for levels of international student enrolment;
- assess the status of tuition fees for international students to determine whether any policies are needed;
- assess the methods and use of international student recruitments to determine whether any policies are needed such as developing a standard grade-conversion chart for the admission of international students; and

- provide guidance on global markets to target or on how to mitigate the risks of becoming over-reliant on one country or reliant on international students in general.

MINISTRY RESPONSE

The Ministry will commit to assessing its current approach to decision-making and policy related to international education. In its assessment, the Ministry will consider issues such as levels of international student enrolment including the use of measurable goals and targets, international student recruitment, tuition fees for international students and diversification of source countries for international students coming to Ontario.

9.2 Ministry Oversight of Universities' Financial Health

9.2.1 Deficiencies in the Way the Ministry Oversees the Financial Sustainability of Universities

Since 2014/15, the Ministry has calculated and reported seven measures on universities' financial health and sustainability (referred to as financial health indicators), and assigned a risk level to each university (see **Section 2.2.3**). However, the Ministry has not established a formal process that fully utilizes the financial-health indicators to monitor the financial condition of universities each year. We would expect a comprehensive risk-based process to include:

- standard reporting timelines and requirements by universities;
- mutually agreed-upon indicators and thresholds by the university sector and the Ministry, against which a university's financial health is evaluated;
- objective risk rating criteria for assigned risk levels;
- methods to prioritize universities that require greater oversight, support or intervention; and
- clear steps and actions to be taken by the Ministry and university when further oversight, support or intervention is warranted.

As noted in past Strategic Mandate Agreements, the Ministry has taken the view that each university's Board and senior administrators have the responsibility to identify, track and address financial pressures and sustainability issues. Meanwhile, the Ministry's main role is financial stewardship, including providing operating and capital grants, and setting policies and funding mechanisms, for example tuition fee policies and funding approval for programs.

Universities do not submit financial information directly to the Ministry. Instead, Ministry staff calculate the financial-health indicators based on information in the audited financial statements universities publish on their websites each year. The Ministry has established performance benchmarks for each indicator. After the financial-health indicators are calculated, Ministry staff identify instances where each university failed to meet the benchmark. Based on the calculated indicators and benchmark review, the Ministry assigns each university a risk level of high, medium or low. However, the Ministry has not established a formal process to determine the risk levels; instead, the Ministry assigns the risk level based on judgment using performance trends. Furthermore, the Ministry does not use the risk levels as a basis for formally engaging with the universities to provide oversight, intervention, or support. See **Figure 23** for analysis of the number of times in the last five fiscal years the universities we audited did not meet specific benchmarks. Refer to **Appendix 6** for an explanation of each indicator and the associated Ministry benchmark.

9.2.2 Ministry Does Not Take Proactive Action When Financial-Health Indicators Show a Pattern of Poor Results

A challenge for the Ministry is that it does not have the legislative authority to intervene in the operation of publicly funded universities, even if it is aware of a university's poor or worsening financial condition. It also is clear from existing legislation that the Ministry is not expected to be involved in the day-to-day operations of any university. However, we believe that the public would expect the Ministry to perform sufficient oversight to confirm that a university has strong governance

Figure 23: Number of Times Financial-Health Indicators Not Achieved by Selected Universities, 2016/17–2020/21

Source of data: Ministry of Colleges and Universities

Financial Health Indicator	University			
	Algoma	Nipissing	Ontario Tech	Windsor
Net Income/Loss Ratio	0	5	1	3
Net Operating Revenues Ratio	1	3	0	3
Primary Reserve (Liquidity Measure)	3	0	0	1
Interest Burden Ratio (Leverage Measure)	0	0	5	1
Viability Ratio (Leverage Measure)	3	4	5	3
In-Year Surplus	0	5	1	2
Expendable Net Assets	5	5	5	3
Total (max 35 = 7×5)	12	22	17	16
Ministry Risk Level 2021	Medium	High	Medium	Medium

and financial sustainability to continue to deliver programs to students when it receives substantial taxpayer funding.

In practice, while the Ministry typically has not been pro-active in addressing financial problems at universities, it has offered its assistance when asked for help. This occurred in 2014, when Nipissing reached out to the Ministry following consecutive Board-approved deficit budgets. At that time, Nipissing was failing to meet six out of the seven financial sustainability metrics.

Ministry officials met with Nipissing's senior administration and requested that a third-party external financial review be conducted to obtain an independent evaluation of the university's finances and operating processes, as well as to provide a detailed financial plan. The Ministry commissioned a \$508,500 review in 2015. The review identified strategies for financial sustainability and savings consistent with Nipissing's strategic mandate and core values, such as:

- refinancing its debt to reduce annual interest costs;
- selling its campuses outside of North Bay to raise funds and reduce losses; and
- reducing the size of management and support staff.

The Ministry provided further grants totalling \$4.5 million to support the implementation of the measures that were recommended as a result of the Ministry-commissioned review. In return for the

Ministry's financial support, Nipissing agreed to provide unrestricted access to all the data and documents required for a robust financial and operational analysis.

In another instance, Ontario Tech was notified during a credit agency review in January 2012 that its capital lease of downtown Oshawa Campus buildings would breach the university's founding debenture agreement, which prohibited it from incurring additional capital debt until at least \$50 million of the original \$220 million principal was repaid. Ontario Tech contacted the Ministry and, in turn, the Ontario Financing Authority (OFA) for advice. To avert the risk of default, the OFA provided an emergency loan of \$28 million to Ontario Tech so that it could bring the total principal paid at that time to \$50 million, as required for it to be in compliance with the agreement of its debenture. The emergency loan was fully repaid to OFA in October 2017.

9.2.3 Performance-Based Metrics in Strategic Mandate Agreements Do Not Incentivize Continuous Improvement

The Ministry entered into Strategic Mandate Agreements (SMAs) with universities in the province for the period 2020–25, as discussed in **Section 2.2.1**. By 2024/25, the Ministry plans to allocate 25% of the operating funding it provides to each university based

on the university's achievement of 10 performance metric targets.

In the first year of the agreements (2020/21), the Ministry did a theoretical calculation of how funding would have been reallocated had the process (which was delayed due to the COVID-19 pandemic) been activated that year, based on six of the 10 metrics available at that time. Even though targets were missed in many cases, funding would not have been affected significantly enough to encourage the universities to meet or exceed their targeted performance, as illustrated in **Figure 24**. Similarly, in the second year of the agreements (2021/22), the Ministry once again calculated the theoretical reallocation using 2021/22 metric results, this time for nine of the 10 performance metrics and, like the prior year, the reallocated funding would not have been significantly impacted.

The same process and agreements are used by the Ministry in the college sector. The following findings from our 2021 audit of public colleges also apply to the university sector:

- **Performance targets can be set lower than the previous year's actual performance.** The method for establishing targets can result in universities exceeding their own performance target in one year, and then having a lower target set in the following year, because the Ministry's model determines the target based on the three most recent annual data points, and not whether the target was met or recent levels of achievement. Where the university met the 2020/21 target, we would expect the target for the following
- year (2021/22) to be the same or higher than the previous year in order to promote continuous improvement in the post-secondary sector. We found that for Algoma University, Ontario Tech and the University of Windsor, some targets were set lower in 2021/22 despite achievement of the targets in 2020/21. Additionally, for the 2021/22 targets, there were six instances in which a target was not achieved at Algoma University, Nipissing University and Ontario Tech. Yet, rather than maintain the same target level, targets for five of the six metrics were lowered, making it more achievable rather than encouraging the universities to meet the original target. For example, while Algoma University's actual graduation rate for 2021/22 was 51.1%, and the target was 55.3%, the 2022/23 target was lowered to 52.7%.
- **The metric that gauges graduate employment rate in a related field is dependent on external factors.** As reported in our 2021 audit of Public Colleges Oversight, performance on this metric is not entirely within the control of universities. Because it is also dependent on the overall economy, the metric is not a true indicator of a university's performance in this area.
- **One of the metrics encourages dependence on international student enrolment, despite the risks associated with such dependence.** The "community/local impact of student enrolment" metric is defined as the total number of students enrolled (full- and part-time; domestic

Figure 24: Theoretical Reallocation of Funding Based on Performance, at Selected Universities

Source of data: Ministry of Colleges and Universities

University	2020/21 Performance Metrics Targets Missed*	Theoretical Reallocation of Funding (\$)	Theoretical Change in Funding (%)	2021/22 Performance Metrics Targets Missed*	Theoretical Reallocation of Funding (\$)	Theoretical Change in Funding (%)
Algoma	3	(20,361)	(0.4)	4	(107,736)	(1.7)
Nipissing	1	2,665	0.01	1	(25,525)	(0.1)
Ontario Tech	1	(13,837)	(0.02)	1	73,708	0.1
Windsor	2	(161,071)	(0.2)	0	13,950	0.01

* The Ministry's theoretical reallocation analysis for 2020/21 is based on six metrics; the 2021/22 analysis is based on nine metrics.

and international) divided by the population of 15- to 64-year-old individuals in the same region as the university, according to the 2016 census. A portion of a university's operating grant is based on domestic students only, whereby a range is established within which domestic enrolment must fall with 3%, up or down, in order to receive funding. Domestic enrolment above the highest level of the range will result in no additional funding to a university. Hence, while an increase in domestic enrolment will contribute to improve performance on this metric, it may not result in any additional Ministry funding. However, an increase in international enrolment will have the greatest impact in achieving the target for this metric, in terms of receiving the full funding allowed for by this metric and maximizing overall revenue.

The Higher Education Quality Council of Ontario (HEQCO) is a provincial agency established to provide evidence-based research for the continued improvement of the post-secondary education system in Ontario. As part of its mandate, HEQCO is to evaluate the post-secondary sector and provide policy recommendations to the Ministry to enhance the access, quality and accountability of Ontario's colleges and universities. HEQCO published a report in 2019 proposing a framework for measuring performance in higher education. The report noted that current methodologies used in the SMAs could be replaced to provide a complete and more accurate picture of the outcomes. For example, to measure whether students graduate with the skills needed and are successful in the labour market, HEQCO recommended the Ministry replace usage of the cohort-based graduation rate with Ontario student number data and begin tracking student mobility between institutions and programs. HEQCO also recommended replacing the use of the graduate employment survey with income tax data linked to administrative records.

RECOMMENDATION 19

To foster and support continuous improvement of university performance under future Strategic

Mandate Agreements, we recommend that the Ministry of Colleges and Universities:

- reassess future performance metrics and modify them so that the metrics are within the control of universities and do not further increase dependency on international enrolments without a longer-term strategy to address the risks of this approach for financial sustainability;
- work with universities to reassess their performance target-setting formulas in future Strategic Management Agreements so that targets are not set lower than the prior year's target and/or actual performance achieved; and
- use data-driven measures, such as tracking student graduation by student number to assess students' educational pathway to graduation and the labour-market contribution and return they realize following graduation.

MINISTRY RESPONSE

The Ministry agrees that it is important to foster and support continuous improvement of public university performance through the Strategic Mandate Agreements and will work to address this recommendation in collaboration with universities when developing future Strategic Mandate Agreements.

The ten performance metrics were selected to align with government priorities for the public university sector, and were selected in consultation with the sector, from sources that allow for improvements in data quality. Metrics were also selected with the goal of recognizing the individual strengths and mandate of Ontario's universities. The ministry will reassess metrics in future Strategic Mandate Agreements, and modify them if determined to be necessary.

The target-setting methodology, developed in consultation with the college and university sector, is meant to support continuous improvement aligned with institutional performance history, taking into account the differentiated performance strengths of the university system, as well as year-over-year performance fluctuations. The ministry

will work with universities to ensure that targets are not set lower than prior year targets and actuals achieved.

The Ministry agrees that it is important to use data-driven measures for the Strategic Mandate Agreements metrics, and continues to work with universities (and colleges) on transitioning to the Ontario Education Number (OEN)-Enabled Graduation Rate, to better track students and, in particular, transfers between institutions.

9.2.4 Ministry and Universities Have Not Agreed on Which Indicators, Benchmarks and Thresholds Should Be Used to Evaluate Financial Health

In 2015/16, the Ministry and the university sector, through the Council of Ontario Universities (COU), agreed to use five financial-health indicators in the funding agreements in place at that time (SMA2, 2017–2020). However, the COU disagreed with the inclusion of two other indicators that the Ministry tracks. These were “in-year surplus,” which measures the total amount by which revenue exceeds expenses, and “expendable net assets,” which is the amount of assets a university can access quickly and spend to meet operating and capital requirements.

According to the COU, it found the two metrics to be duplicative and not relevant to universities of varying size. Also, at that time, the COU had not agreed to the use of benchmark levels of achievement for the financial-health indicators established by the Ministry. The COU considers the benchmarks to be inappropriate for the sector because they compare universities without taking into consideration significant differences such as their size and geographic location.

In 2020 and 2021, the Ministry and COU held discussions to find common ground on the use of the indicators as a means to identify and assess the risk of institutions in a financially vulnerable position.

In 2022, the Ministry hired an external consultant to set up a financial oversight framework that would provide it with an early warning that an institution was at risk of financial insolvency, so that it could intervene

early. The framework is intended to standardize the collection and use of financial data and establish a set of financial performance ratios from the universities’ annual audited financial statements. The Ministry expects to have a framework in place by the end of 2022, and fully implemented by April 2023.

Financial-health indicators are not part of the 2020–2025 funding agreements (SMA3), nor do they require universities to operate in a financially sustainable manner. The new performance-based funding model—which is to begin to be implemented in 2023/24 and which will distribute 25% of funding based on a university’s performance against 10 metrics by 2024/25—does not include any financial performance metrics that might motivate and require financial sustainability at universities. See **Appendix 4** for the description of each measure included in the SMA3.

The Province typically enters into funding arrangements with broader public sector organizations and recipients external to government through transfer payment agreements. In comparison to those agreements, Strategic Mandate Agreements do not include elements that can be used to provide the Ministry with comfort that value for money is being achieved with provincial funding. For instance, Strategic Mandate Agreements do not include:

- a clause to allow the Ministry or authorized auditors to enter the institution to review the progress on projects using funding, and the allocation and expenditures of funds, by inspecting records and documents or conducting an audit or investigation in respect of expenditures of the funds;
- a clause that allows the Ministry to request additional information outside of reporting the SMA metrics; and
- a mechanism to allow the Ministry to take control of any operation if the institution fails to comply with the SMA requirements.

During our audit, the Ministry did not offer a clear reason why operating funding to universities is not provided through transfer payment agreements. It told us that the provision of funding is based on the relationship between the Ministry and the universities sector.

RECOMMENDATION 20

To provide for a mechanism of greater oversight and accountability of universities, we recommend the Ministry of Colleges and Universities use Transfer Payment Agreements as the funding agreement for universities in place of Strategic Mandate Agreements.

MINISTRY RESPONSE

The policy objectives of Strategic Mandate Agreements are different and broader in scope from standalone transfer payment agreements and have been designed to promote government's accountability and transparency objectives. The Ministry will, however, assess the benefits of using transfer payment agreements as the funding mechanism for universities.

9.2.5 Reviewing Credit Ratings Would Improve the Ministry's Financial Oversight of Universities

As acknowledged by the COU, credit rating reports are effective and objective indicators of the overall creditworthiness and future financial outlook of an institution.

In 2021, the Special Advisor to the Minister on the Long-Term Financial Sustainability of Laurentian University recommended the government make annual credit ratings mandatory for all universities. The Special Advisor noted that credit ratings along with the financial-health indicators, put the government in a much better position to identify a university that is in financial difficulty. The advisor analyzed universities' financial-health indicators and credit rating (where available), and found there was a correlation between the number of times a university recorded a financial-health indicator below the benchmark and the strength of the universities credit rating. As a result, the advisor noted credit ratings substantiated the usefulness of the financial-health indicators. The Special Advisor noted that of the 20 Ontario universities he reviewed, 14 received a credit rating report each year.

At the time of our audit, the Ministry did not use credit-rating information to assess the financial health of universities. As part of a financial oversight framework expected to be implemented in April 2023, the Ministry will request each university to obtain a credit rating report, along with other financial health metrics, to be used to measure the financial health risk of institutions.

Nipissing University, Ontario Tech University and the University of Windsor had recent credit ratings. See **Figure 25** for the most recent ratings. At the time of our audit, Algoma University had begun the tendering process for a credit rating agency to assess the university and provide a credit rating, with results expected in early 2023. The ratings are typically supported by factors such as academic profile, enrolment growth, track record of financial management and operating results, and environmental, social and governance risk factors.

9.2.6 No Legislated Requirements on University Debt Levels, Borrowing or Major Capital Expenditures

All provinces except Ontario, New Brunswick, Nova Scotia and Quebec have legislated limits on university deficits, borrowing and/or major capital expenditures. For example, British Columbia, which has 11 publicly funded universities, has legislation that requires that universities:

- are limited to short-term borrowing that can be repaid out of current revenues;
- obtain Ministerial approval to borrow money for the purpose of acquiring land or erecting, repairing, adding to, furnishing or equipping any building or structure for the use of the university; and
- obtain Ministerial approval of its budget to run a financial deficit in any fiscal year.

See **Appendix 13** for a comparison of the legislated restrictions pertaining to universities' debt, deficit and major capital legislated restrictions for all provinces.

Figure 25: Most Recent Credit Ratings of Selected Universities

Prepared by the Office of the Auditor General of Ontario

University	Date	Rater	Rating	Rating definition
Nipissing	Mar 17, 2022	DBRS Morningstar	BBB (high)	Adequate credit quality. The capacity for the payment of financial obligations is considered acceptable. May be vulnerable to future events.
Windsor	Feb 28, 2022	Moody's Investor Service	Aa3	Obligations are judged to be of high quality and are subject to very low credit risk .
	May 10, 2022	DBRS Morningstar	A	Good credit quality. The capacity for the payment of financial obligations is substantial, but of lesser credit quality than AA. May be vulnerable to future events, but qualifying negative factors are considered manageable.
Ontario Tech	Nov 30, 2021	DBRS Morningstar	A (low)	Good credit quality. The capacity for the payment of financial obligations is substantial, but of lesser credit quality than AA. May be vulnerable to future events, but qualifying negative factors are considered manageable.
	Mar 2, 2022	Moody's Investor Service	A1	Obligations are judged to be upper-medium grade and are subject to low credit risk .
Algoma	n/a			

Applying British Columbia's legislated requirements historically for the five-year period 2017/18–2021/22 to the four universities we audited demonstrates that Nipissing would have required Ministerial approval for all five of its budgets during those years; Ontario Tech would have required approval for its 2020/21 budget; and Algoma University would have required ministerial approval in 2018/19. Further, as seen in **Appendix 12**, Nipissing University, Ontario Tech University and the University of Windsor obtained external debt for the purpose of constructing or acquiring capital over the five-year period, and under the British Columbia legislation would have had to obtain Ministerial approval prior to borrowing the funds.

RECOMMENDATION 21

To provide the Ministry of Colleges and Universities (Ministry) with the tools and authority it needs to ensure the financial viability of universities approved under legislation to deliver post-secondary education in Ontario, we recommend that the Ministry:

- develop criteria to assign a risk rating to each university annually; and
- proactively monitor identified high-risk universities.

MINISTRY RESPONSE

The Ministry is implementing a new Financial Accountability Framework which includes financial ratio/metrics and target thresholds, risk ratings and actions to be taken based on risk rating. The framework will incorporate the use of credit ratings as part of the evaluation. The framework is going to be implemented in collaboration with the sector, will serve as an effective tool in identifying institutions experiencing financial challenges and allow for proactive corrective actions before significant financial sustainability risks emerge.

Appendix 1: Report Recommendations—Financial Management in Ontario Universities

Prepared by the Office of the Auditor General of Ontario

Recommendation	To Whom Recommendation Applies			
	Algoma	Nipissing	Ontario Tech	Windsor
Financial Sustainability (Sections 5.1, 6.1, 7.1, 8.1)				
1. Obtain board approval of the university's debt policy.		✓		
1. Establish a formal capital debt policy approved by the board.			✓	✓
1. Monitor and adhere to the debt limits outlined in its policy.		✓		✓
1. Report semi-annually to the Board on the status of debt maintained by the university and its continuing compliance with its capital debt policy.		✓		
2. Review and monitor the profitability of ancillary services on a consolidated basis and for each ancillary service separately.	✓	✓		
2. Develop strategies to maximize the profitability of ancillary services where necessary.	✓	✓	✓	
3. Maintain separate bank accounts for externally restricted funds.	✓	✓		✓
3. On a quarterly basis, perform an analysis to confirm that it has sufficient cash on hand to cover internally restricted funds, in addition to externally restricted funds and endowments.	✓	✓		
4. Document processes on how its budgets are developed, reviewed and approved.		✓		
4. Develop a separate budget for all capital investments, and present it to the Board for approval.		✓	✓	
4. Develop a separate budget for ancillary services, by revenue stream, and present it to the Board for approval.		✓		
4. Consolidate the capital budget, the operating budget and the ancillary budget, and present the consolidated budget to the Board for approval.		✓	✓	
4. As part of its budget, present to the Board the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board on the impact of each activity on the university's resources.	✓	✓	✓	✓
4. Complete a comparison of the annual consolidated budget to annual actual revenue and expenditures, and cash flows, and present it to the Board for review.		✓		

Recommendation	To Whom Recommendation Applies			
	Algoma	Nipissing	Ontario Tech	Windsor
Reliance on International Students (Sections 5.2, 6.2, 7.2, 8.2)				
5. Regularly complete a financial sensitivity analysis of the impact of the loss of students from various regions.	✓	✓		✓
5. Develop and apply strategies to diversify recruitment of international students from different geographic regions.				✓
5. Focus on recruiting from priority countries identified in the government of Canada's <i>International Education Strategy, 2019–2024</i> .	✓	✓		✓
6. Collect relevant data on the location and careers of international alumni.	✓	✓	✓	✓
6. Use this data to better inform programming and recruitment decisions.	✓	✓	✓	✓
Compensation Structures for International Student Recruiting (Sections 5.2, 6.2, 7.2, 8.2)				
7. Apply a fee structure in future contracts that encourages recruiters to target students with higher scholastic achievement, such as applying bonuses for higher student performance as they progress through their university studies.	✓	✓	✓	✓
Financial Contribution of Academic Programming (Sections 5.3, 6.3, 7.3, 8.3)				
8. Complete an analysis of profitability at the academic program level.	✓	✓	✓	✓
8. Determine whether there are programs that can be reduced or restructured to provide a better financial contribution to the university, while still retaining overall academic credibility with department course offerings.	✓	✓	✓	✓
8. Reduce or restructure program offerings based on the results of its program profitability analysis and academic need, in consultation with its academic departments and with the approval of its Board and Senate/Academic Council.	✓	✓	✓	✓
Capital Planning (Sections 5.4, 6.4, 7.4, 8.4)				
9. Update its capital approval policy to clearly define the nature and cost of projects that will require Board approval before financial expenditure commitments are in place.		✓		
9. Prepare a business case for each capital project that includes a financial feasibility assessment to help management and then the Board make decisions on major capital expenditures prior to approval.	✓	✓	✓	✓
9. Obtain board approval on major capital investments before moving forward with planned projects.		✓		

Recommendation	To Whom Recommendation Applies			
	Algoma	Nipissing	Ontario Tech	Windsor
Board Governance (Sections 5.5, 6.5, 7.5, 8.5)				
10. Reduce and limit the size of the Board including the number of internal Board members.	✓	✓	✓	✓
10. Reduce the number of committees to accommodate a smaller Board size.	✓	✓		✓
10. Increase the term limits of Board members, including current members.	✓	✓	✓	
11. Develop, and annually review and approve both permanent and emergency presidential succession plans.	✓	✓	✓	✓
12. Prioritize and track competencies using competency matrixes and other competency tracking tools.	✓	✓	✓	✓
12. Confirm the Board and its committees possess demonstrably requisite competencies, in order to fulfill its terms of reference.	✓	✓	✓	✓
12. Strengthen university financial and accounting literacy among Board members by providing them with either an internal or external training opportunity to increase the effectiveness of their oversight of the operations of the university.	✓	✓	✓	✓
13. Implement internal oversight functions (i.e., risk management, compliance and internal audit) where they do not exist, and have them report regularly to the Board.	✓	✓	✓	✓
13. Annually review and approve a written risk appetite framework that includes identification and defining of material financial and non-financial risks, and independent assurance of internal controls to mitigate each of these risks.	✓	✓	✓	
14. Senate/Academic Council be provided with regular costing information on the financial contribution of individual program offerings and the university as a whole.	✓	✓	✓	✓
University Partnerships and Collaborations (Sections 5.6, 6.6, 7.6, 8.6)				
15. Set goals for the type of relationships it plans and then enters into, such as revenue-generating academic relationships.	✓			✓
15. Have such arrangements approved by its Board and/or Senate.	✓			✓
15. Ensure arrangements will be and continue to be aligned with the academic and financial interest of students.	✓			
15. Consult national security agencies such as the Canadian Security Intelligence Service for information, advice or support before engaging in international collaborations and partnerships.				✓

Appendix 2: Applicability of Audit Observations to Each University Audited

Prepared by the Office of the Auditor General of Ontario

Observation	Algoma	Nipissing	Ontario Tech	Windsor
Financial Sustainability (Sections 4.1, 5.1, 6.1, 7.1, 8.1)				
University experienced an in-year operating deficit in at least one year during 2016/17 and 2020/21.		✓	✓	✓
University focused on international recruitment and utilized international tuition fees to increase revenues and subsidize the bottom line.	✓		✓	✓
University had been able to service debts and had not breached external debt covenants.	✓	✓	✓	✓
Despite having a high debt per FTE student, the university did not have a formal debt management policy to provide a framework for all borrowing in order to manage the overall risks to the university, as well as minimize borrowing costs.			✓	✓
University had a formal debt policy in place; however, debt limits were exceeded, or would have been exceeded if the new debt policies had been applied retroactively between 2016/17 and 2020/21.	✓	✓		
University did not review or monitor the profitability of its ancillary services on a consolidated basis and for each ancillary service separately.	✓	✓		
University did not develop strategies to maximize the profitability of its ancillary services where necessary.	✓	✓	✓	
University managed and maintained endowments and externally restricted funds using separate ledgers.	✓	✓	✓	✓
University held separate investment accounts for endowment funds.	✓	✓	✓	✓
University commingled in the same bank account externally restricted funds with cash from operations.	✓	✓		✓
University had enough cash and short-term investments at the end of fiscal 2020/21 to cover externally restricted funds and endowments, as well as internally restricted funds.	✓	✓	✓	✓
University did not consistently perform an analysis to determine if it held sufficient cash to cover externally restricted funds and endowments, in addition to internally restricted funds.	✓	✓		
University did not have a documented budget process on how budgets are developed, reviewed and approved.		✓		
University consistently presented its operating budget in a deficit position without a formal strategy on how the university would return to a surplus position.		✓		
University did not prepare a separate ancillary budget broken down by revenue stream (service offered).		✓		
University did not prepare a separate capital budget that it presented to the Board for approval.		✓	✓	
University did not conduct an analysis comparing its annual budget to annual actual revenue and expenses that it presented to the Board for review.		✓		✓
University did not present to the Board the impact of the university's projected cash flows from operations, financing and capital purchasing activities to inform the Board of the extent to which each contributes to or draws on the university's resources.	✓	✓	✓	✓

Observation	Algoma	Nipissing	Ontario Tech	Windsor
Reliance on International Students (Sections 4.2, 5.2, 6.2, 7.2, 8.2)				
International student enrolment has increased in the last five years from 2016/17 to 2020/21, decreasing the proportion of domestic students.	✓			✓
University has increased the proportion of total revenues from international students during the period 2016/17 to 2020/21.	✓	✓	✓	✓
International student applicants were accepted by the university even though their transcripts did not meet admission requirements.	✓			
The proportion of international student enrolment has been driven largely by students from India and to a lesser extent by students from China. Overreliance on a few geographic regions increases the risk that external factors, such as a global economic downturn or foreign policy shift, could significantly impact a university's financial health.	✓	✓		✓
University enrolment and/or internationalization plans did not focus on priority countries identified in the government of Canada's International Education Strategy 2019–2024.	✓	✓		✓
University did not actively maintain data or information regarding international students' mobility following graduation. Tracking this information could help the university adjust its program offerings, improve its recruitment efforts, help in promoting the university, and offer insight into the important contributions these students make to the demographic diversity and economic growth of a region.	✓	✓	✓	✓
Compensation Structures for International Student Recruiting (Sections 4.2, 5.2, 6.2, 7.2, 8.2)				
Payment terms in university's agreements with international student recruitment agencies invariably promote increasing the quantity of students, without any inducement for recruiting the highest performing prospects.	✓	✓	✓	✓
Graduation rate of international students was consistently lower than that of domestic students, which underscores the importance of university's recruiting efforts.			✓	✓
Financial Contribution of Academic Programming (Sections 4.3, 5.3, 6.3, 7.3, 8.3)				
University performed a financial contribution analysis of each of its faculties/departments, but it was not done to determine the financial sustainability of each faculty/department—rather, it was for the purpose of guiding resource-allocation decisions, such as whether a department needs to hire additional faculty, purchase new equipment or expand facilities.	✓	✓	✓	✓
University did not perform a financial contribution analysis at the program level, which limits the university's knowledge when allocating resources or adjusting the structure of programming to support sustainability.	✓	✓	✓	✓
University's financial contribution analysis of faculties/departments was a one-time exercise, only completed in 2020/21, and did not look at each campus's performance separately.	✓			
University did not consider overhead costs such as for physical space, administration, or maintenance in its financial contribution analysis, and therefore a true determination of the profitability was not possible.	✓			
University had not adjusted or restructured programs to improve financial sustainability, despite certain faculties or departments that had experienced losses	✓	✓		✓

Observation	Algoma	Nipissing	Ontario Tech	Windsor
Capital Planning (Sections 4.4, 5.4, 6.4, 7.4, 8.4)				
Major capital projects were not always supported by a comprehensive business case presented to the Board that included a financial feasibility assessment, to help the Board make decisions on whether capital investments would be beneficial, before approving the project to move forward.	✓	✓	✓	✓
Major capital projects proceeded without a detailed and sound funding plan.			✓	
Board Governance (Sections 4.5, 5.5, 6.5, 7.5, 8.5)				
Size of university Board was large, which poses risks to effective governance.	✓	✓	✓	✓
University had Board size larger than the best practice.	✓	✓	✓	✓
Number of committees of university Board exceeded the ideal number.	✓	✓		✓
University Board had an Executive Committee because of the large size of the Board with some form of authority to act as a board, meaning the committee could act as a “board within a board.”	✓	✓	✓	✓
Executive committees had been granted powers that should typically be performed by the Board as a whole for, e.g., authority to approve operating budgets.	✓	✓	✓	✓
Term limits for Board members were lower than the best practice.	✓	✓	✓	
University Board did not have a permanent plan for presidential succession that it reviewed and approved.	✓	✓	✓	✓
University Board did not have emergency succession plan in place for the president in the event of an unplanned replacement.		✓	✓	
University Board had not identified or prioritized competencies that it considered most critical for Board members to possess.	✓	✓	✓	✓
University Board members did not possess competencies in critical areas required to provide effective governance. Board was missing at least one of five competencies on its competency matrix essential for a university board (i.e., finance, accounting, executive management, risk management and cybersecurity).	✓	✓	✓	✓
University Board demonstrated a lack of emphasis on financial literacy. Several Board members had little or no expertise or experience in financial literacy and in finance. The majority or near-to-all Board members should be financially literate to a certain extent because they are ultimately responsible for overseeing the university's financial operations.	✓	✓	✓	✓
One or more internal oversight functions—risk management, compliance and internal audit—were absent at the university.	✓	✓	✓	✓
University did not have an internal audit function.	✓	✓	✓	
University had not developed a written risk appetite framework for the Board to review and approve that includes material financial and non-financial risks to the university, the internal controls to mitigate each risk, and independent assurance that controls are working as intended.	✓	✓	✓	
University Senate/Academic Council was not provided with regular or routine costing information to assess the financial sustainability of individual academic program offerings. Information such as this would help the Senate/Academic Council in making decisions on program changes, adjustments and restructuring.	✓	✓	✓	✓

Observation	Algoma	Nipissing	Ontario Tech	Windsor
University Partnerships and Collaborations (Sections 4.6, 5.6, 6.6, 7.6, 8.6)				
University had established mutually beneficial partnerships with its host city, local health units or other partners and organizations.	✓	✓	✓	✓
University had established partnerships that were unfavourable to the university's reputation and/or did not act in the best interests of its students.	✓			✓

Appendix 3: Full-Time Equivalent Enrolment and Ranking of Ontario Universities

Source of data: Ministry of Colleges and Universities, and *Maclean's* 2023 Rankings

2020/21 Enrolment ¹						<i>Maclean's</i> Ranking ²
University	Location	Domestic	International	International (%)	Total	2023
Maclean's – Undergraduate (UG – out of 19)						
Trent	Peterborough	9,962	1,122	10	11,084	4-UG
Ontario Tech	Oshawa	8,686	763	8	9,449	9-UG
Lakehead	Thunder Bay	7,099	1,348	16	8,447	10-UG
Laurentian	Sudbury	7,484	569	7	8,053	15-UG
Nipissing	North Bay	4,384	57	1	4,441	18-UG
Maclean's – Comprehensive (C – out of 15)						
Waterloo	Waterloo	32,127	9,577	23	41,704	3-C
Guelph	Guelph	26,920	1,746	6	28,666	4-C
Carleton	Ottawa	24,421	4,356	15	28,777	5-C (tie)
York	Toronto	41,328	10,195	20	51,523	5-C (tie)
Ryerson ³	Toronto	39,085	3,788	9	42,873	8-C
Wilfrid Laurier	Waterloo	18,831	1,473	7	20,304	10-C
Brock	St. Catharines	15,838	2,445	13	18,283	13-C
Windsor	Windsor	12,709	3,820	23	16,529	14-C
Maclean's – Medical Doctoral (M – out of 15)						
Toronto	Toronto	68,141	24,929	27	93,070	2-M
McMaster	Hamilton	29,181	5,615	16	34,796	4-M
Ottawa	Ottawa	33,951	8,587	20	42,538	6-M
Queen's	Kingston	27,884	3,484	11	31,368	8-M
Western	London	34,502	6,294	15	40,796	11-M
Maclean's – Not ranked						
Algoma	Sault Ste. Marie	892	1,046	54	1,938	n/a
Hearst	Hearst	70	130	65	200	n/a
NOSM	Thunder Bay	457	NA	0	457	n/a
OCAD	Toronto	3,080	1,110	26	4,190	n/a
Total⁴		447,032	92,454	17	539,486	

Note: Universities selected for this audit are shaded.

- Enrolment represents the full-time-equivalent (FTE) number of students for the 2020/21 academic year.
- Maclean's* magazine places Canadian universities in one of three categories for ranking purposes: Undergraduate, Comprehensive and "Medical Doctoral." This is done in order to recognize differences in types of institutions, levels of research funding, diversity of offerings, and breadth and depth of graduate and professional programs. The table presents the ranking in Canada, along with one of the three categories:
 - Undergraduate universities (UG) tend to be smaller in size and have fewer graduate programs and graduate students.
 - Those in the Comprehensive category (C) have a significant degree of research activity and a wide range of programs at the undergraduate and graduate levels, including professional degrees.
 - Medical Doctoral universities (M) offer a broad range of Ph.D programs and research; all universities in this category have medical schools.
- Renamed Toronto Metropolitan University in April 2022.
- Université de l'Ontario français (Toronto) is not included in this list because 2021/22 was the first academic year it submitted enrolment data to the Ministry.

Appendix 4: Strategic Mandate Agreement Metric Definitions, Targets and Results for Selected Universities, 2021/22

Source of data: Ministry of Colleges and Universities

Metric and Description	Algoma		Nipissing		Ontario Tech		Windsor		Provincial	
	Actual	Target ¹	Actual	Target	Actual	Target	Actual	Target	Avg	Target
1. Graduate Employment Earnings (\$) Median employment earnings of university graduates, two years after graduation. Source: Educational and Labour Market Longitudinal Platform, Statistics Canada	44,700	33,607	51,095	41,890	52,943	44,827	48,669	43,678	51,863	45,613
2. Experiential Learning (%) Number and proportion of graduates in programs who participated in at least one course with required Experiential Learning component(s). Source: Provided by universities	16.9	22.9	62.4	65.9	70.4	69.4	70.5	34.4	67.9	59.4
3. Skills and Competencies Institution specific metric to be determined by each university.	Metric reporting to begin 2022/23.									
4. Graduate Employment Rate in a Related Field (%) Proportion of graduates of undergraduate (bachelor or first professional degree) programs employed full-time who consider their jobs either “closely” or “somewhat” related to the skills they developed in their university program, two years after graduation. Source: Ministry of Colleges and Universities – Ontario University Graduate Survey	85.9	85.4	95.9	90.8	89.6	87.1	88.9	84.8	89.9	87.4

Metric and Description	Algoma		Nipissing		Ontario Tech		Windsor		Provincial	
	Actual	Target ¹	Actual	Target	Actual	Target	Actual	Target	Avg	Target
5. Institutional Strength/Focus (%) Proportion of enrolment in an institution's program area(s) of strength. Source: Ministry of Colleges and Universities – University Statistical and Enrolment Report	39	39.6	22.9	21.5	36.5	33.9	34.8	30.6	41.5	38.5
6. Graduation Rate (%) Proportion of all new, full-time year one university students of undergraduate (bachelor or first professional degree) programs who commenced their study in a given fall term and graduated from the same institution within seven years. Source: Ministry of Colleges and Universities data collection from universities	51.1	55.3	84	82.4	65.5	65.9	74	73.3	73.8	72.5
7. Research Funding and Capacity: Federal Tri-Agency Funding Secured (%) Amount and proportion of funding received by institution from federal research granting agencies (Social Sciences and Humanities Research Council, Natural Sciences and Engineering Research Council, Canadian Institutes of Health Research). Source: Tri-Agency Institutional Programs Secretariat	0.04	0.04	0.1	0.1	0.6	0.6	1.3	1.3	5	4.8

Metric and Description	Algoma		Nipissing		Ontario Tech		Windsor		Provincial	
	Actual	Target ¹	Actual	Target	Actual	Target	Actual	Target	Avg	Target
8. Research Revenue Attracted from Private Sector Sources (\$) Research revenue attracted from private-sector and not-for-profit sources. Source: Council of Ontario Finance Officers	131,000	149,475	144,220	56,307	3,557,667	957,928	5,846,333	4,649,625	58,278,278	51,629,595
9. Community/Local Impact of Student Population (%) Institutional enrolments' share of the population of the city (cities) or town (towns) in which the institution is located. Source: The University Statistical Enrolment Report; Ministry of Colleges and Universities, Census Data, Statistics Canada	2.1	1.9	15.3	14.3	10	9.6	11.8	11.2	13.6	12.8

Metric and Description	Algoma		Nipissing		Ontario Tech		Windsor		Provincial	
	Actual	Target ¹	Actual	Target	Actual	Target	Actual	Target	Avg	Target
10. Economic Impact (Institution-specific)² Algoma – International Student Enrolment: Definition: Impact of Fiscal Full Time Equivalent International Enrolment. Source: Algoma University Enrolment Data Collection; Statistics Canada/Global Affairs Economic Impact Multiplier Nipissing – Economic impact of students enrolled at Nipissing from outside North Bay: Definition: Based on the following Ontario average household expenditures: food, rent and public transportation. Source: PFIS-University and Statistical Enrolment Reporting, Ontario Universities' Application Centre, Statistics Canada) Ontario Tech – Student placement contributions to local economic activity: Definition: The number of assessment-based student work related placements placed in Durham/ Northumberland Region. Source: Institutional Experiential Learning Database Windsor – Non-Local Student Spending in the Windsor-Essex Region. Definition: The economic impact of non-local students as a result of expenditures in the local economy. Source: KPMG Study	\$38,202,480	\$10,514,800	\$45,970,920	\$35,950,837	309	265.1	\$161,031,550	\$138,382,344	n/a	n/a

1. Target used is the Allowable Performance Target, equal to Target minus annual Band of Tolerance.

2. The metric used and unit of measurement vary by institution. In some instances, an institution's values will be represented by a whole number, others by a percentage or a dollar amount. Even where institutions use the same unit of measurement, they will refer to diverse measures. Therefore, for this metric, analysis and comparison should only compare an institution to its own historical data, not the data of other institutions. Consult each institution's agreement for its chosen metric and definition.

Appendix 5: Ministry Performance Indicator Results for Selected Universities¹

Source of data: Ministry of Colleges and Universities

Key Performance Indicator	Algoma	Nipissing	Ontario Tech	Windsor	Provincial Average
Graduation Rate² (%)	51.1	84.0	65.5	74.0	77.5
Graduate Employment Rate (Full and Part Time)					
6 months (%)	85.1	96.0	87.7	89.4	91.2
2 years (%)	89.8	96.8	92.1	93.4	92.7
Job Relatedness (Full and Part Time)					
Skills Match³					
6 months (%)	82.0	90.0	84.0	80.0	82.0
2 years (%)	82.0	94.0	86.0	85.0	87.0
Subject Matter Match⁴					
6 months (%)	72.0	85.0	75.0	74.0	72.0
2 years (%)	73.0	90.0	79.0	78.0	77.0
Average Annual Salaries of Graduates					
Full Time					
6 months (\$)	38,603	45,702	48,090	42,684	47,124
2 years (\$)	47,109	52,434	56,050	51,437	56,972
Graduate Occupations					
Occupations in education, law and social, community and government services (%)	34.7	46.3	22.8	38.8	27.2
Business, finance and administration occupations (%)	37.3	14.5	17.7	13.3	23.2
Natural and applied sciences and related occupations (%)	10.7	2.0	17.2	12.5	14.6
Health occupations (%)	1.3	25.3	19.9	14.9	13.2
Sales and service occupations (%)	8.0	6.3	12.3	10.5	10.4
Other (e.g., management, art/culture, sport/rec, trades, transport, manufacturing) (%)	8.0	5.7	10.0	10.1	11.5
OSAP loan default rate⁵	5.1	2.5	2.8	3.7	2.7

1. Performance indicators that exceed the provincial average are **bolded**. There are no associated targets.

2. For individuals who started university in 2013 and graduated within seven years (i.e. by 2020).

3. Percentage of graduates who said their work is closely or somewhat related to the skills developed at university (such as critical thinking, problem solving).

4. Percentage of graduates who said their work is closely or somewhat related to the program of study they completed.

5. 2020 rates.

Appendix 6: Ministry's Financial Health Indicators—Calculation, Definition, and Benchmark

Source of data: Ministry of Colleges and Universities

Financial Health Indicator	Calculation	Explanation/Purpose	Ministry Benchmark
Financial Performance Measures			
1. Net Income / (Loss) Ratio ¹	$(\text{Total Revenue} - \text{Total Expense}) \div (\text{Total Revenue})$	Measures the percentage of an institution's revenues that contribute to net assets: a negative value indicates that revenues are not covering expenses	1.5% or above
2. Net Operating Revenues Ratio ¹	$(\text{Cash Flow from Op. Activities}) \div (\text{Total Revenue})$	Cash flow from operating activities as a proportion of revenues	5% or above ²
Liquidity Measures			
3. Primary Reserve (# of Days) ¹	$(\text{Expendable Net Assets}) \div (\text{Total Expenses} \times 365 \text{ days})$	The number of days an institution could function using its unrestricted assets (reserves), assuming there are no other sources of revenues	30 Days or above
Leverage Measures			
4. Interest Burden Ratio ¹	$(\text{Interest Expense}) \div (\text{Total Expense} - \text{Depreciation})$	The proportion of total expenses supporting the annual cost of servicing debt	3% or below ³
5. Viability Ratio ¹	$(\text{Expendable Net Assets}) \div (\text{Long-Term Debt})$	The proportion of long-term debt that could be settled using unrestricted assets	30% or above
Other Measures			
6. In-Year Surplus ⁴	$(\text{Total Revenue}) - (\text{Total Expense})$	A university's "bottom line" from the audited financial statements	\$0 or above
7. Expendable Net Assets ⁴	The value is derived from data in the Statement of Changes in Net Assets and the Notes to Financial Statements	Expendable net assets are assets an entity can access quickly and spend to meet its operating and capital requirements and are not constrained to internal or external restrictions	\$50 million or above

1. Financial health indicator agreed to by both the Ministry and the Council of Ontario Universities (COU).

2. The COU is proposing a minimum threshold of 2%.

3. The COU is proposing a maximum threshold of 5%.

4. Financial health indicator proposed by Ministry but not agreed to by the COU.

Appendix 7: University Financial Health Indicator Achievement and Ministry Risk Assessment, 2016/17–2020/21

Source of data: Ministry of Colleges and Universities

Number of Times in the Last Five Years an Annual Financial Health Indicator Was Not Met

Region/ University	Financial Health Indicator							Sum
	Net Income/ Loss Ratio	Net Operating Revenues Ratio	Primary Reserve (Liquidity Measure)	Interest Burden Ratio (Leverage Measure)	Viability Ratio (Leverage Measure)	In-Year Surplus	Expendable Net Assets	
Central								
Brock	0	0	0	1	0	0	2	3
Guelph	2	1	0	0	0	2	0	5
McMaster	0	0	0	0	0	0	0	0
Trent	0	1	1	0	4	0	5	11
Waterloo	0	1	0	0	n/a ¹	0	0	1
Wilfrid Laurier	2	2	0	0	1	2	0	7
East								
Carleton	0	1	0	0	0	0	0	1
Ottawa	1	1	0	0	0	1	0	3
Queen’s	0	0	0	0	0	0	0	0
GTA								
OCAD	3	4	3	0	3	3	5	21
Ontario Tech	1	0	0	5	5	1	5	17
Toronto Metropolitan	2	1	0	0	0	1	0	4
Toronto	0	0	0	0	0	0	0	0
York	0	1	0	0	0	0	0	1
North								
Algoma	0	1	3	0	3	0	5	12
Hearst	2	1	0	0	0	1	5	9
Lakehead	2	1	0	3	0	1	4	11
Laurentian ²	5	5	5	1	5	4	5	30
Nipissing	5	3	0	0	4	5	5	22
NOSM	3	5	0	0	n/a ¹	2	5	15
South West								
Western	0	0	0	0	0	0	0	0
Windsor	3	3	1	1	3	2	3	16

Note: Universities selected for this audit are **bold**.

1. Indicator could not be calculated because university did not report any debt under liabilities.

2. Excludes 2020-21 data because it was not yet calculated due to insolvency proceedings.

Ministry's Annual Financial Health Risk Assessment Rating by Ontario University³

Region/University	2016/17	2017/18	2018/19	2019/20	2020/21
Central					
Brock	Low	Low	Low	Low	Low
Guelph	Low	Low	Low	Low	Low
McMaster	Low	Low	Low	Low	Low
Trent	Medium	Medium	Medium	Medium	Medium
Waterloo	Low	Low	Low	Low	Low
Wilfrid Laurier	Low	Low	Low	Medium	Medium
East					
Carleton	Low	Low	Low	Low	Low
Ottawa	Low	Low	Low	Low	Low
Queen's	Low	Low	Low	Low	Low
GTA					
OCAD	High	High	High	Medium	Medium
Ontario Tech	Medium	Medium	Medium	Medium	Medium
Toronto Metropolitan	Low	Low	Low	Low	Low
Toronto	Low	Low	Low	Low	Low
York	Low	Low	Low	Low	Low
North					
Algoma	High	High	High	High	Medium
Hearst ⁴	High	High	High	High	Medium-High
Lakehead	Medium	Medium	Medium	Medium	Low
Laurentian	High	High	High	High	High
Nipissing	High	High	High	High	High
NOSM ⁴	Medium	Low	Low	High	High
South West					
Western	Low	Low	Low	Low	Low
Windsor	Medium	Low	Low	Medium	Medium

Note: Universities selected for this audit are **bold**.

3. The Ministry did not implement these risk assessments until 2018/19. The assessments were completed in fall 2019 and calculated retroactively. A new framework was put in place in November 2022.

4. These universities were part of Laurentian University until April 1, 2022.

Appendix 8: Audited Financial Position of Universities, 2020/21 (\$ 000)

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

Revenue Source	Algoma		Nipissing		Ontario Tech		Windsor	
	\$	%	\$	%	\$	%	\$	%
Grants and Contracts	13,745	31.9	38,840	51.0	93,358	43.6	143,855	36.8
Student Fees	23,514	54.5	29,709	39.0	79,533	37.2	205,349	52.6
Donations and Non-Government Grants and Contracts	285	0.7	81	0.1	2,809	1.3	3,048	0.8
Other Student Fees and Ancillary Revenue and Contracts	1,575	3.6	2,515	3.3	11,973	5.6	6,607	1.7
Amortization of deferred capital contributions	1,418	3.3	1,532	2.0	9,612	4.5	9,023	2.3
Investment Revenue	-	-	1,643	2.2	1,132	0.5	13,470	3.4
Other ¹	2,606	6.0	1,864	2.4	15,481	7.3	9,418	2.4
Total Revenue	43,143	100	76,184	100	213,898	100	390,770	100
Salaries and Benefits	24,883	69.8	57,071	71.2	113,243	57.0	258,888	71.5
Operating and research expenses	10,300	28.9	14,046	17.5	36,255	18.2	58,102	16.1
Amortization of capital assets	2,578	7.2	3,563	4.5	23,090	11.6	23,298	6.4
Scholarships, Bursaries, etc.	3,243	9.1	4,481	5.6	12,720	6.4	19,163	5.3
Interest	307	0.9	991	1.2	12,930	6.5	10,767	3.0
Other ²	(5,660) ³	(15.9)	0	0.0	518	0.3	(8,377)	(2.3)
Total Expenses	35,651	100	80,152	100	198,756	100	361,841	100
Surplus ÷ (Deficit)	7,492		(3,968)		15,142		28,929	
Net Assets – Opening Balance ⁴	16,806		19,169		84,802		104,285	
External Contributions	-		120		679		1,447	
Employment benefit remeasurement	3,190		750		2,155		48,158	
Net Investment gain	-		-		-		15,741	
Net Assets – Ending Balance	27,488		16,071		102,778		198,560	

1. Includes non-credit course tuition fees, miscellaneous fees, borrowing, sales of services and products, endowments, other investment income and miscellaneous investment income.

2. Includes miscellaneous fees, gains/losses of capital assets and other investments and changes in fair value interest swaps.

3. Algoma included a \$5.3 million government COVID-19 relief grant as an offset to expenses. All other universities classified this as revenue.

4. Net assets includes unrestricted assets, internally restricted assets and endowments. The university's accumulated surplus/(deficit) is included in unrestricted and internally restricted assets.

Appendix 8a: Audited Financial Position of Algoma, 2016/17–2020/21 (\$ 000)

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

Revenue Source	2016/17		2017/18		2018/19		2019/2020		2020/21	
	\$	%	\$	%	\$	%	\$	%	\$	%
Grants and contracts	14,272	44.4	15,109	47.5	15,391	44.3	13,668	28.1	13,745	31.9
Student fees	10,205	31.7	9,219	29.0	8,873	25.5	26,706	55.0	23,514	54.5
Donations and non-government grants and contracts	425	1.3	48	0.1	407	1.2	619	1.3	285	0.7
Other student fees and ancillary revenue and contracts	2,165	6.8	2,221	7.0	2,182	6.3	3,063	6.3	1,575	3.6
Amortization of deferred capital contributions	1,234	3.8	1,191	3.7	1,136	3.3	1,274	2.6	1,418	3.3
Investment revenue	–	–	–	–	–	–	–	–	–	–
Other ¹	3,869	12.0	4,024	12.7	6,760	19.4	3,232	6.7	2,606	6.0
Total Revenue	32,170	100	31,812	100	34,749	100	48,562	100	43,143	100
Salaries and benefits	16,755	53.6	17,116	57.9	17,391	52.3	24,172	58.7	24,883	69.8
Operating and research expenses	12,533	40.1	12,339	41.7	14,046	42.2	13,742	33.4	10,300	28.9
Amortization of capital assets	1,962	6.3	1,847	6.2	2,116	6.3	2,269	5.5	2,578	7.2
Scholarships, bursaries, etc.	–	–	–	–	–	–	660	1.6	3,243	9.1
Interest	–	–	–	–	–	–	333	0.8	307	0.9
Other ²	–	–	(1,719)	(5.8)	(281)	(0.8)	(1)	(0.0)	(5,660) ³	(15.9)
Total Expenses	31,250	100	29,583	100	33,272	100	41,175	100	35,651	100
Surplus ÷ (Deficit)	920		2,229		1,477		7,387		7,492	
Net Assets – Opening Balance	4,029		7,707		7,320		11,670		16,806	
Prior period adjustment to opening net assets	–		–		–		(844)		–	
External contributions	560		(1,611)		85		–		–	
Employment benefit remeasurement	2,198		(1,005)		2,788		(1,407)		3,190	
Net investment gain	–		–		–		–		–	
Net Assets – Ending Balance	7,707		7,320		11,670		16,806		27,488	

1. Includes non-credit course tuition fees, miscellaneous fees, other investment income and miscellaneous investment income.

2. Includes gains/(loss) of investments.

3. Algoma included a \$5.3 million government COVID-19 relief grant as an offset to expenses.

Appendix 8b: Audited Financial Position of Nipissing, 2016/17–2020/21 (\$ 000)

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

Revenue Source	2016/17		2017/18		2018/19		2019/2020		2020/21	
	\$	%	\$	%	\$	%	\$	%	\$	%
Grants and contracts	40,519	50.3	42,107	50.7	40,341	48.9	42,051	50.8	38,840	51.0
Student fees	27,929	34.7	28,652	34.5	29,095	35.3	28,826	34.8	29,709	39.0
Donations and non-government grants and contracts	297	0.4	483	0.5	717	0.9	585	0.7	81	0.1
Other student fees and ancillary revenue and contracts	5,683	7.1	5,673	6.8	6,053	7.3	5,809	7.0	2,515	3.3
Amortization of deferred capital contributions	2,038	2.5	1,887	2.3	1,532	1.8	1,519	1.8	1,532	2.0
Investment revenue	1,196	1.5	1,122	1.4	1,408	1.7	1,250	1.5	1,643	2.2
Other ¹	2,841	3.5	3,132	3.8	3,389	4.1	2,756	3.4	1,864	2.4
Total Revenue	80,503	100	83,056	100	82,535	100	82,796	100	76,184	100
Salaries and benefits	52,855	65.4	56,254	68.4	57,720	66.7	58,494	69.1	57,071	71.2
Operating and research expenses	18,906	23.4	19,130	23.3	19,691	22.7	16,877	19.9	14,046	17.5
Amortization of capital assets	3,837	4.7	3,975	4.8	3,606	4.2	3,595	4.2	3,563	4.5
Scholarships, bursaries, etc.	4,448	5.5	4,432	5.4	4,497	5.2	4,736	5.6	4,481	5.6
Interest	1,667	2.1	1,705	2.1	1,085	1.2	999	1.2	991	1.2
Other ²	(901)	(1.1)	(3,293)	(4.0)	(19)	(0)	-	-	-	-
Total Expenses	80,812	100	82,203	100	86,580	100	84,701	100	80,152	100
Surplus ÷ (Deficit)	(309)		853		(4,045)		(1,905)		(3,968)	
Net Assets – Opening Balance	25,233		24,178		25,218		21,355		19,169	
External contributions	24		(44)		263		108		120	
Employment benefit remeasurement	(770)		231		(81)		(389)		750	
Net investment gain	-		-		-		-		-	
Net Assets – Ending Balance	24,178		25,218		21,355		19,169		16,071	

1. Includes miscellaneous fees.

2. Includes gains/(loss) of capital assets and other investments and changes in fair value interest swaps.

Appendix 8c: Audited Financial Position of Ontario Tech, 2016/17–2020/21 (\$ 000)

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

Revenue Source	2016/17		2017/18		2018/19		2019/2020		2020/21	
	\$	%	\$	%	\$	%	\$	%	\$	%
Grants and contracts	83,291	41.1	85,753	40.4	87,711	41.6	88,792	42.6	93,358	43.6
Student fees	74,817	37.0	78,266	36.9	80,152	38.0	77,110	37.0	79,533	37.2
Donations and non-government grants and contracts	1,090	0.5	1,934	0.9	1,573	0.8	1,865	0.9	2,809	1.3
Other student fees and ancillary revenue and contracts	17,767	8.8	17,067	8.0	16,279	7.7	17,720	8.5	11,973	5.6
Amortization of deferred capital contributions	8,796	4.4	9,036	4.3	9,238	4.4	9,559	4.6	9,612	4.5
Investment revenue	865	0.4	1,166	0.5	1,520	0.7	1,586	0.8	1,132	0.5
Other ¹	15,791	7.8	19,107	9.0	14,394	6.8	11,737	5.6	15,481	7.3
Total Revenue	202,417	100	212,329	100	210,867	100	208,369	100	213,898	100
Salaries and benefits	96,519	50.9	97,530	49.5	106,246	52.1	114,363	54.2	113,243	57.0
Operating and research expenses	53,612	28.2	49,876	25.3	48,479	23.8	46,452	22.0	36,255	18.2
Amortization of capital assets	24,859	13.1	23,730	12.1	23,676	11.6	23,752	11.3	23,090	11.6
Scholarships, bursaries, etc.	–	–	11,478	5.8	12,479	6.1	12,839	6.1	12,720	6.4
Interest	14,823	7.8	14,317	7.3	13,862	6.8	13,443	6.4	12,930	6.5
Other ²	–	–	–	–	(742)	(0.4)	78	0.0	518	0.3
Total Expenses	189,813	100	196,931	100	204,000	100	210,927	100	198,756	100
Surplus ÷ (Deficit)	12,604		15,398		6,867		(2,558)		15,142	
Net Assets – Opening Balance	47,300		61,349		78,171		85,841		84,802	
External Contributions	1,445		1,424		803		1,519		679	
Employment benefit remeasurement	–		–		–		–		2,155	
Net investment gain	–		–		–		–		–	
Net Assets – Ending Balance	61,349		78,171		85,841		84,802		102,778	

1. Includes miscellaneous fees, other income and unrealized gain/(loss) on investments.

2. Includes miscellaneous fees, other losses and gains/(loss) of capital assets and other investment.

Appendix 8d: Audited Financial Position of Windsor, 2016/17– 2020/21 (\$ 000)

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

Revenue Source	2016/17		2017/18		2018/19		2019/2020		2020/21	
	\$	%	\$	%	\$	%	\$	%	\$	%
Grants and contracts	129,211	37.4	131,338	36.5	134,954	35.3	135,323	35.9	143,855	36.8
Student fees	165,548	47.9	181,911	50.5	194,840	50.9	193,536	51.4	205,349	52.6
Donations and non-government grants and contracts	2,332	0.7	1,582	0.4	1,707	0.4	1,818	0.5	3,048	0.8
Other student fees and ancillary revenue and contracts	20,172	5.8	20,423	5.7	20,661	5.5	18,745	5.0	6,607	1.7
Amortization of deferred capital contributions	7,756	2.3	7,749	2.1	8,084	2.1	8,499	2.3	9,023	2.3
Investment revenue	11,111	3.2	8,305	2.3	12,341	3.2	7,625	2.0	13,470	3.4
Other ¹	9,242	2.7	8,912	2.5	9,972	2.6	11,168	2.9	9,418	2.4
Total Revenue	345,372	100	360,220	100	382,559	100	376,714	100	390,770	100
Salaries and benefits	229,786	67.2	236,779	67.9	252,327	65.8	254,316	65.3	258,888	71.5
Operating and research expenses	66,516	19.4	69,487	19.9	79,216	20.7	75,044	19.3	58,102	16.1
Amortization of capital assets	21,227	6.2	20,254	5.8	21,053	5.5	22,646	5.8	23,298	6.4
Scholarships, bursaries, etc.	17,361	5.1	18,027	5.2	18,539	4.8	19,616	5.0	19,163	5.3
Interest	8,191	2.4	9,315	2.7	9,535	2.5	9,458	2.4	10,767	3.0
Other ²	(1,065)	(0.3)	(5,399)	(1.5)	2,743	0.7	8,649	2.2	(8,377)	(2.3)
Total Expenses	342,016	100	348,463	100	383,413	100	389,729	100	361,841	100
Surplus ÷ (Deficit)	3,356		11,757		(854)		(13,015)		28,929	
Net Assets – Opening Balance	101,684		142,288		121,603		136,138		104,285	
Related party transactions	–		–		–		5,630		–	
External contributions	1,323		2,002		2,925		2,858		1,447	
Employment benefit remeasurement	26,725		(33,473)		10,519		(21,605)		48,158	
Net investment gain	9,200		(971)		1,945		(5,721)		15,741	
Net Assets – Ending Balance	142,288		121,603		136,138		104,285		198,560	

1. Includes miscellaneous fees, rebates, sales of services and products and other income.

2. Includes changes in fair value of interest rate swaps.

Appendix 9: Financial Management and Governance in Ontario Universities—Audit Criteria

Prepared by the Office of the Auditor General of Ontario

Audit Criteria—Universities

1. (International Students) Recruitment and enrolment processes are in place to ensure that entry requirements for domestic and international students are comparable; international students entering university have met standards for English proficiency; the fee schedule is applied consistently to all international students in the same program; agreements with recruiters are designed to attract the best international student candidates; and there exists an appropriate mix between domestic and international students.
2. (Collaborations and Partnerships) Effective academic and corporate collaborations and partnerships are in place that provide a positive benefit to the university.
3. (Academic Programming) The suite of graduate and undergraduate programs and course offerings are decided upon with due regard for the financial sustainability of the institution and its mandate.
4. (Recruitment) Recruitment policies are fair and transparent resulting in only qualified candidates being hired, and achieve the right balance between faculty and staff. Compensation is in accordance with Government of Ontario directives and that of comparable institutions.
5. (Restricted Funds) Processes and procedures ensure restricted funds are appropriately segregated and used only for the purposes intended.
6. (Capital) A robust capital planning process exists and significant capital expenditures are approved following a thorough cost-benefit analysis that takes into consideration an estimate of all associated revenues and costs. Capital projects are procured in accordance with policies and best practices to ensure value-for-money.
7. (Governance) The Board collectively has the skills and knowledge, and is provided sufficient and timely information to effectively oversee operations of the university.
8. (Financial Reporting) There is regular internal reporting on financial operations, including cash flow, and audited financial statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP).
9. (Performance Indicators) Meaningful performance measures and targets are established, monitored and compared against actual results and publicly reported to ensure that the intended outcomes are achieved and corrective actions are taken on a timely basis when issues are identified.

Audit Criteria—Ministry of Colleges and Universities

10. The Ministry has established effective funding agreements that include meaningful performance measures and targets to identify universities with performance or financial sustainability concerns, and acts to address concerns identified.
11. Where performance or financial sustainability concerns exist, the Ministry intervenes when necessary to correct identified concerns.

Appendix 10: Debt per Full-Time Equivalent (FTE) Student for Selected* Ontario Universities, 2020/21

Prepared by the Office of the Auditor General of Ontario based on university audited financial statements

University	Total Debt (\$ 000)	Number of FTE Students	Debt per FTE Student (\$)
Ontario Tech University	188,019	9,449	19,898
University of Ottawa	661,874	42,538	15,560
University of Windsor	236,706	16,529	14,321
Lakehead University	109,347	8,447	12,945
Queen's University	385,354	31,368	12,285
York University	597,649	51,523	11,600
Wilfrid Laurier University	211,900	20,304	10,436
University of Western Ontario	344,609	40,797	8,447
Nipissing University	34,705	4,441	7,815
McMaster University	268,391	34,796	7,713
University of Toronto	709,000	93,070	7,618
University of Guelph	192,921	28,666	6,730
OCAD University	27,474	4,189	6,558
Trent University	71,000	11,083	6,406
Toronto Metropolitan University	271,155	42,873	6,325
Algoma University	11,322	1,938	5,842
Brock University	47,295	18,283	2,587
Carleton University	59,307	28,777	2,061
University of Waterloo	–	41,704	–
Average	233,054	27,936	8,692

* Universities selected for this audit are **bold**. Laurentian University, which entered the *Companies' Creditors Arrangement Act* (CCAA) process in 2021 and its previously affiliated universities, Northern Ontario School of Medicine, and Université de Hearst, have been excluded. The Université de l'Ontario français, established in 2018, has also been excluded.

Appendix 11: Summary of Profitability Analysis by Faculty at Selected Universities, 2017/18–2021/22

Prepared by the Office of the Auditor General of Ontario

Faculty	2017/18	2018/19	2019/20	2020/21	2021/22
University of Windsor¹					
Faculty of Arts, Humanities & Social Science	(10,728,142)	(10,817,138)	(11,825,360)	(16,475,610)	(9,791,193)
Odette School of Business	1,308,773	1,376,534	179,416	(1,774,636)	1,189,519
Faculty of Education	304,952	491,081	(599,758)	(36,041)	(729,365)
Faculty of Engineering	5,829,493	10,035,547	11,639,710	6,996,357	10,239,935
Faculty of Human Kinetics	(613,481)	(700,242)	(1,210,432)	(1,872,397)	(54,095)
Faculty of Law	4,017,511	3,161,567	2,610,062	927,543	(2,714,050)
Faculty of Nursing	(572,159)	(1,084,401)	(1,321,587)	(1,837,900)	(396,323)
Faculty of Science	(2,578,207)	(1,630,410)	(393,376)	(1,019,541)	(1,374,427)
Academic Total	(3,031,260)	832,538	(921,325)	(15,092,225)	(3,629,999)
Non-faculty Units	6,620,674	9,489,512	7,789,469	11,894,265	3,003,300
Institution Total	3,589,414	10,322,050	6,868,144	(3,197,960)	(626,699)
# of faculties in loss	4	4	5	6	6
Ontario Tech²					
Faculty of Business and Information Technology	2,717,725	2,366,117	1,621,402	5,265,508	3,612,904
Faculty of Education	(2,452,401)	(2,531,615)	(1,380,491)	(2,003,389)	(2,128,055)
Faculty of Energy Systems and Nuclear Science	(3,151,874)	(3,503,016)	(2,395,714)	(2,598,196)	(2,372,078)
Faculty of Engineering and Applied Science	4,630,881	6,406,572	1,015,320	3,182,892	5,452,912
Faculty of Health Sciences	3,194,740	3,465,717	8,076,672	(450,835)	34,610
Faculty of Science	(1,402,377)	(2,525,032)	(1,480,707)	(403,920)	599,708
Faculty of Social Science and Humanities	1,008,561	854,914	(1,791,136)	(1,290,658)	(1,336,940)
Total	4,545,255	4,533,657	3,665,346	1,701,402	3,863,061
# of faculties in loss	3	3	4	5	3

Faculty	2017/18	2018/19	2019/20	2020/21	2021/22
Nipissing University³					
Faculty of Arts & Science	(1,839,154)	(4,676,117)	(5,214,550)	(6,388,563)	(6,986,486)
Faculty of Education & Professional Studies	6,271,310	2,274,050	5,260,204	4,644,500	2,676,210
Total	4,432,156	(2,402,067)	45,654	(1,744,063)	(4,310,276)
# of faculties in loss	1	1	1	1	1
Algoma University⁴					
Faculty of Business and Economics				5,000,825	
Faculty of Social Sciences & Humanities				(282,486)	
Faculty of Sciences				2,502,727	
Total				7,221,066	
# of faculties in loss				1	

1. University of Windsor calculated profitability at the faculty level by using only tuition fees and direct faculty costs, prior to 2021/22. Beginning in 2021/22, it also allocated grants to faculties based on enrolment, and overhead expenses based on related cost drivers such as proportional student enrolment, faculty and staff.
2. Ontario Tech calculated profitability at the faculty level by allocating to its faculties both tuition revenue and Ontario grants each generates, and total budgeted operating expenses based on various drivers including the proportion of FTE students, proportion of FTE faculty, and proportion of space utilized.
3. Nipissing University calculated profitability at the department level based on an allocation of revenues from Ontario grants and the actual amount of tuition fees generated by the department, and deducting direct expenses, salaries and benefits of faculty, and an allocation of administrative expenses based on proportional enrolment. Nipissing completed a profit margin analysis of its academic departments for the first time in 2021/22. However, the university used historical data to complete the analysis for prior fiscal years.
4. Algoma University calculates profitability at the department level and only takes into consideration the tuition revenue and cost of instruction for each student enrolled in each specific department. One-time analysis done in 2020/21.

Appendix 12: Major Capital Projects and Source of Funding, 2016/17–2020/21 (\$ million)

Prepared by the Office of the Auditor General of Ontario

Nipissing University Major Capital Projects and Source of Funding, 2016/17–2020/21 (\$ million)

Year Completed	Capital Project ¹	Source of Funding				Total Project Costs
		External Funds			Internal Funds	
		Government	Donations	External Debt	Prior and In-Year Operating Surplus	
2012–2015	Athletic Centre^{2,3}	9.5	–	8.5	5.1	23.1
2018	Education Centre HVAC Renewal and Roofing Replacement	1.0	–	–	0.3	1.3
2019	Turf Field³	–	0.05	2.3	–	2.4
2019	Education Centre Greenhouse Gas Retrofits	0.9	–	–	–	0.9
2021	Teaching Hub	–	0.4	–	–	0.4
2021	Immersive Classroom	0.2	–	–	–	0.2
Total		11.6	0.5	10.8	5.4	28.3

1. We selected the bolded projects for our review.

2. University did not consider the projects completed in the last five years major capital construction projects because they were not a new building or an addition or expansion to an existing building. We therefore selected this project for review outside of the five-year audit time frame.

3. The university did not have detailed records to support the breakdown of how projects were funded i.e. source of funding.

Ontario Tech University Major Capital Projects and Source of Funding, 2016/17–2020/21 (\$ million)

Year completed	Capital Project ¹	Source of Funding					Total Project Costs
		External Funds				Internal Funds	
		Government	Donations	External Debt	Student Union	Prior and In-Year Operating Surplus	
2017	Software and Informatics Research Centre	13.0	2.1	–	–	16.1	31.2
2021	Shawenjigewining Hall	–	3.3 ²	25.0	5.0 ³	13.3	46.6
2022	Automotive Centre of Excellence – Moving Ground Plane	13.5	1.3	–	–	4.5	19.3
Total		26.5	6.7	25.0	5.0	33.9	97.1

1. We selected all projects for our review.

2. Donations include \$125,529 from an insurance claim.

3. Student Union contribution was financed by external debt, of which Ontario Tech guaranteed \$3.5 million.

University of Windsor Major Capital Projects and Source of Funding, 2016/17–2020/21 (\$ million)

Year Completed Capital Project ¹		Source of Funding					Total Project Costs
		External Funds				Internal Funds	
		Government	Donations	External Debt	LSRC Corp. ²	Prior and In-Year Operating Surplus	
2016–2018	Campus Master Plan	2.4	0.5	1.4	–	4.0	8.3
2018	School of Creative Arts (Tunnel Bar-B-Q)/Alan Wildeman Centre for Creative Arts	–	–	12.1	–	1.4	13.5
2018	School of Creative Arts (Armouries)	25.0	0.9	5.8	–	11.4	43.1
2018	Science Research and Innovation Facility, Essex Core	17.4	–	12.8	–	0.8	31.0
2018	UWinsite (Campus Wide Information System)	–	–	–	–	29.5	29.5
2019	Human Kinetics Greenhouse Gas Reductions	4.5	–	–	–	3.2	7.7
May 2022 ³	Lancer Sport and Recreation Centre	–	6.8	11.4	54.8	–	73.0 ⁵
Oct 2022 ⁴	Innovation Hub, 300 Ouellette	–	–	8.1	–	–	8.1 ⁵
Jan 2023 ⁴	Centre for Engineering and Innovation Charge Lab	–	–	–	–	5.3	5.3 ⁵
Feb 2023 ⁴	Transforming Windsor Law	–	5.7	25.5	–	3.8	35.0 ⁵
Oct 2023 ⁴	Chiller Replacement Project	–	–	–	–	7.2	7.2 ⁵
Total		49.3	13.9	77.1	54.8	66.6	261.7

1. We selected the bolded projects for our review.

2. LSRC Corp. is a taxable corporation established under the *Ontario Business Corporation Act* and was incorporated on April 25, 2019. The University of Windsor is a 25% shareholder of LSRC Corp. along with the university's three student unions (University of Windsor Student Alliance (UWSA); Graduate Student Society (GSS); Organization of Part-time University Students (OPUS)), which also each own 25% of the corporation. LSRC Corp. is a special purpose project company for the purpose of constructing, financing, and maintaining the new Lancer Sports and Recreation Centre (LSRC). The corporation owns the LSRC and has taken on \$54.8 million in debt used to finance its construction. Debt payments are to be covered by student fees over the 30-year term of the loan starting August 2022. The University of Windsor has accounted for its share in LSRC Corp. as an investment using the equity method in its audited financial statements.

3. Date project substantially complete.

4. Date project expected to be substantially completed.

5. Total project costs expected upon completion.

Algoma University Major Capital Projects and Source of Funding, 2016/17–2020/21 (\$ million)

Year Completed	Capital Project ^{1,2}	Source of Funding			Total Project Costs
		External Funds		Internal Funds	
		Government	Student Union	Restricted Funds and In-Year Operating Surplus	
2018	Shingwauk Hall Renewal	2.8	–	2.6	5.4
2019	Greenhouse Gas Retrofit	0.5	–	–	0.5
2021	Computer Science Renovations	1.6	–	–	1.6
2021	Speakeasy – Student Bar	–	0.8	–	0.8
2022	Brampton Campus Leasehold Improvements	4.2	–	1.1	5.3
2024³	Online Learning Platform	3.0	–	6.8	9.8⁴
Ongoing	Sault Ste. Marie Campus Master Plan	–	–	0.8	0.8
Total		12.1	0.8	11.3	24.2

1. We selected the bolded projects for our review.

2. Does not include major capital project selected for review for the construction of a new Indigenous cultural centre (Mukwa Waakaa'igan). No costs for this project were incurred prior to April 30, 2021. Costs incurred in 2022 for architectural services amounted to \$215,000.

3. Year project expected to be completed.

4. Total project costs expected upon completion.

Appendix 13: Provincial Comparison of Universities' Debt, Deficit and Major Capital Legislated Restrictions

Prepared by the Office of the Auditor General of Ontario

Province	Debt, Deficit and Major Capital Legislated Restrictions
British Columbia	- Limited to borrowing funds that can be repaid out of current revenues - Ministerial approval required for borrowing money for the purpose of acquiring land or erecting, repairing, adding to, furnishing or equipping any building or structure for the use of the university - Ministerial approval required to run a financial deficit in any fiscal year
Alberta	- Limited to borrowing funds that can be repaid out of current revenues and prohibiting the use of high interest borrowing (for example, lines of credit) - Ministerial approval required for long-term borrowing - May not run a deficit unless the Board has written approval from the Minister
Saskatchewan	- Lieutenant Governor in Council consent required to borrow money to meet current expenditures until revenues for the current year are available to repay the borrowed funds - Minister approval required for borrowing or expenditures over \$100,000 on purchasing lands or constructing buildings; Lieutenant Governor in Council approval required for expenditures over \$500,000 on purchasing lands or constructing buildings - Minister approval required for any liabilities or expenditures that would, in the opinion of the Minister, impair the financial status of the university - Appointment of a university controller to serve as the chief accounting and business officer of the university
Manitoba	- Limited to borrowing funds that can be repaid out of current revenues - Lieutenant Governor in Council approval required to borrow money for any purposes other than ordinary expenditures of the university
Prince Edward Island	- Lieutenant Governor in Council consent required to borrow money to meet current expenditures until revenues for the current year are available to repay the borrowed funds - Lieutenant Governor in Council approval required for all borrowing for or expenditures on lands and buildings
Newfoundland and Labrador	- Lieutenant Governor in Council consent required to borrow money to meet current expenditures until revenues for the current year are available to repay the borrowed funds - Lieutenant Governor in Council approval required for all expenditures on lands and buildings - Approval required to run an annual deficit beyond 0.25% of total government grants and estimated revenues from other sources - Limiting expenditures to avoid annual deficit

Note: Legislation governing universities in the provinces of New Brunswick, Nova Scotia, and Quebec do not impose restrictions with respect to universities' debt, deficit and major capital.

Ministry of Finance

Financial Services Regulatory Authority: Regulation of Private Passenger Automobile Insurance, Credit Unions and Pension Plans

1.0 Summary

Well-regulated financial services are important for a strong economy. The Financial Services Regulatory Authority of Ontario (FSRA) is the primary regulator of non-securities-related financial services in the province, including about 60 credit unions/caisses populaires (“credit unions” hereafter), 310 insurance companies, 67,000 insurance agents, and 4,600 pension plans. It is a self-funded Crown agency that is accountable, through the Minister of Finance, to the Ontario Legislature.

FSRA is mandated by the *Financial Services Regulatory Authority of Ontario Act, 2016* to perform a wide range of functions, from promoting the disclosure and transparency of information to deterring deceptive or fraudulent conduct by the entities it regulates. As such, FSRA is responsible for ensuring Ontario’s financial institutions are operating in compliance with relevant laws, regulations and sector-specific rules. However, FSRA by itself does not have the power to make legislative changes over the sectors it regulates (such as

changes to accident benefit coverages in the private passenger automobile insurance sector).

In 2019, FSRA assumed not only the responsibilities of its predecessor organizations—the Financial Services Commission of Ontario (FSCO) and the Deposit Insurance Corporation of Ontario (DICO)—but also the ongoing sector-specific challenges that FSCO and DICO faced. Although we noted that FSRA has greater regulatory authority than its predecessors to levy administrative monetary penalties against entities who do not comply with sector requirements, our audit found that it could do much more in the sectors we reviewed to protect consumers and pension plan beneficiaries and contribute to public confidence.

This audit focused on FSRA’s regulatory activities in the private passenger automobile insurance, credit union and provincially registered pension plan sectors.

In the private passenger automobile insurance sector, despite Ontario having a rate of automobile injuries per one billion kilometres travelled that is lower than most other provinces, Ontario’s average private passenger automobile insurance rate is the highest in the country. FSRA could take action on

initiatives that may help reduce insurance rates, including reducing instances of fraud and waste. FSRA could also establish an updated territory framework for greater equity in insurance rates throughout Ontario. For instance, neither the Ministry of Finance nor FSRA has done significant work to establish an accreditation process for automobile repair shops to minimize fraudulent claims, or address the costly medical assessment process, which at times results in duplicate medical assessments being performed, that occurs in certain accident benefits cases. These factors have resulted in a costlier insurance model for Ontarians and inefficiencies in how the industry operates.

In the credit union sector, FSRA did not inspect credit unions in a timely or thorough manner. For example, its inspections did not always cover all key operating processes, such as how a credit union's board operates. As a result, FSRA may not currently be fully aware of a credit union's operating practices and the changes needed to reduce the risk of fraud or insolvency, thereby reducing its ability to protect credit union members' deposits from being put at risk.

In the provincially registered pension plan sector, changes to better protect multi-employer pension plan (MEPP) members have not been made since 2007. While relatively rare, we noted that members of plans that have been wound up, due to industry downturns, have experienced an unexpected permanent reduction of as much as 77% of the amount of pension benefit that was targeted. Moreover, current disclosure requirements do not make it clear to MEPP members that their benefits are only a target amount, and that the actual benefit they receive could be reduced at any time.

The following are some of our significant findings:

Private Passenger Automobile Insurance

- **Ontario has the highest private passenger automobile insurance premiums in Canada.** Historically, Ontarians have paid the most for private passenger automobile insurance in Canada, and the average premium increased by almost 14% to \$1,642 between 2017 and 2021, double the rate of inflation. Certain initiatives

may enable Ontario's automobile insurance sector to operate more effectively and at a lower cost. For example, like Alberta, Ontario could develop more protocols to treat automobile accident injuries instead of providing cash for those injured to seek their own treatment. Ontario could also follow British Columbia and Saskatchewan in implementing a mandatory licensing or certification regime for automobile repair businesses to protect consumers against poor repairs and fraud. We noted that several reports over the last decade have proposed similar initiatives to improve Ontario's private passenger automobile insurance sector; however, the Ministry of Finance (Ministry) has not provided FSRA with direction to take any significant action on these proposals.

- **FSRA's territorial framework results in individuals paying widely different insurance rates based on where they live.** FSRA provides insurance companies with a territorial framework that outlines how insurers can provide different private passenger automobile insurance premiums to individuals based on where they live in Ontario. However, this has not been updated since 2005. The population of Ontario has increased by about 20% since then, with territories differing in growth rates. We obtained 10 quotes for private passenger automobile insurance for a consumer where the only factor about the person we changed was where they lived in Ontario. Insurance rates for this individual ranged from \$1,200 per year (when the individual lived in London) to \$3,350 per year (when the person lived in Brampton).
- **System makes it difficult for consumers to make informed choices on who to get automobile insurance quotes from.** Insurance brokers work, on a commission basis, with a variety of private passenger automobile insurance companies to provide the lowest quote possible to consumers. FSRA, as part of its review of the Registered Insurance Brokers of Ontario (RIBO), which is the self-regulatory

body for insurance brokerages and insurance brokers, has not taken steps to ensure that RIBO confirms that insurance brokerages comply with the requirement to disclose in private passenger automobile insurance quotes to consumers any financial interests (including ownership) insurance companies have in them. FSRA is also not confirming that RIBO ensures that consumers receive disclosure of the commissions received by insurance brokerages from the insurance companies they work with. We requested private passenger automobile insurance quotes over the phone from a sample of 10 insurance brokerages and found that only one (10%) disclosed both the degree of financial interest in it from any insurance companies and the commissions it receives from the insurance companies it works with. We also reviewed the websites for 50 automobile insurance brokerages in Ontario and found that only 14 (28%) publicly disclosed both the degree of financial interest in them by automobile insurance companies and their commission structure. These disclosures are important for ensuring consumers are informed when determining which insurance brokerage to work with to obtain automobile insurance.

- **FSRA's requests for more authority to effectively regulate the automobile insurance sector have only been partially answered by the Ministry.** In 2019 and 2020, FSRA requested additional regulatory authority from the Ministry, including the power to collect details of fraudulent activity identified by automobile insurance companies. Examples of such fraudulent activity include consumers providing false addresses to obtain cheaper insurance rates; inflated invoices related to towing, storing and repairs; and overstating an injury in the event of an automobile accident. FSRA told us they wanted to better understand where actions to more effectively address alleged fraud in the sector were required, as well as to collect fraud-management plans from automobile insurance companies to assess their adequacy. The Ministry

informed us that the government responded to FSRA's request by introducing legislative changes in September 2022 that give FSRA legislative powers to collect fraud information from the sector. The Ministry has not, however, responded to other requests from FSRA as identified in **Section 4.1.2.**

Credit Unions

- **FSRA's inspections of credit unions did not involve the procedures needed to identify and resolve governance concerns in a timely manner.** We selected a sample of 20 credit union inspections performed by FSRA and noted that eight did not collect fulsome information to evaluate governance processes at the credit union (such as how the credit union's board operates). Further, in four inspections we identified that an issue found in the credit union's previous inspection occurred in the subsequent inspection, even though the credit union's board of directors had provided a written attestation to FSRA that the necessary change had been made. FSRA has not levied any administrative monetary penalties or taken any other enforcement action in such circumstances or when credit unions do not implement the governance recommendations identified through FSRA's assessments, giving little incentive for credit unions to make the identified changes. Given the reduced effectiveness of these inspections, particularly in assessing and correcting deficiencies in the oversight of credit unions' operations, member deposits are put at risk. During the course of our audit, FSRA launched a new inspection framework to oversee credit unions; however, it is still being implemented to fully resolve the above-noted issues.
- **FSRA has only just completed an independent inspection to identify and address changes needed to its inspection process and overall regulatory approach to address the poor governance practices that went undetected by DICO's investigations of PACE Savings and**

Credit Union Limited (PACE). DICO's 2015 and 2017 inspections of PACE failed to identify the credit union's significant governance deficiencies—for example, inappropriate transaction approvals by the Board of Directors, and sales practices in breach of regulations—that were brought to light by a whistle blower employee of PACE. The failure was partly due to DICO inspectors relying on self-reporting by PACE, even though prior inspections had noted issues with PACE's poor internal audit and board governance practices. While FSRA has launched a new inspection framework to oversee credit unions (as mentioned above), it did so prior to completing an analysis of the root causes of the issues that emerged at PACE to determine how the inspection process it uses can be improved to prevent similar inappropriate activities from occurring at other credit unions. The issues identified at PACE resulted in DICO placing the credit union under administration with the intention of changing management and reducing exposure to bad loans. FSRA eventually took over as the administrator of PACE and oversaw its sale to another credit union in June 2022. FSRA agreed to up to \$155 million in additional payments from the Deposit Insurance Reserve Fund (DIRF) to the purchasing credit union, to cover any losses associated with the activities PACE engaged in.

- **The DIRF is not based on comprehensive information on credit unions' actual risks of insolvency and is funded lower than comparable reserve funds in Canada.** The DIRF serves as insurance to protect depositors' eligible deposits from loss in the event of a credit union's insolvency. The DIRF is funded by credit unions' annual fees, which are based on a risk assessment completed by FSRA. We found that FSRA considers only one financial factor when determining these fees, despite collecting dozens of financial indicators for the credit unions it regulates. Our analysis suggests that some credit unions are paying lower premiums into the DIRF than they would be if a comprehensive

set of financial factors were used to determine the annual DIRF fee. For a sample of 10 credit unions that had a perfect (or near perfect) score on this one financial factor, the "capital score", we found that when other key financial performance measures were considered, those credit unions actually performed relatively poorer than credit unions with similar assets and of a similar size. By comparison, British Columbia's credit union regulator uses 10 financial measures to assess the financial performance of a credit union and thereby the associated fee it must pay into the province's DIRF.

Further, FSRA targets the DIRF at 1% of the actual insured deposits held by Ontario-based credit unions (over \$48 billion), but as of June 30, 2022, the DIRF was only funded at 0.79% of insured deposits (\$383 million). Moreover, as mentioned above, the sale of PACE to another credit union could result in payments of up to \$155 million against the DIRF. If all these payments are eventually made, the DIRF will only have remaining funds of \$228 million, or about 0.47% of insured deposits. As eligible deposits in Ontario credit unions are only insured subject to funding available in the DIRF, it is possible that the DIRF does not have the necessary funds to cover future claims in relation to a credit union's insolvency.

Provincially Registered Pension Plans

- **FSRA and the Ministry have not clearly communicated the risk to plan members of multi-employer pension plans (MEPPs) that they may not receive their full targeted pension benefits.** Over one million Ontarians (about 25% of all Ontario pension plan members) are members of provincially registered defined benefit (DB) MEPPs—plans where members may be employed by multiple employers throughout their career. This is a common pension plan structure for tradespeople. In other DB plans, plan sponsors (employers) are obligated to provide the level of benefits (pension income) that members are promised to receive.

However, unlike other DB plans, MEPPs generally only establish a *target* benefit level that may be reduced instead of providing a fixed level of pension income. Because of this, these plan members are at risk of not receiving their full targeted pension benefits. Also, in 2007, the Ministry enacted a rule that MEPPs could choose to no longer be funded on a solvency basis (funded so that if a plan was wound up, it would have enough assets to pay all pension benefits). Around that time, MEPPs were on average funded at 93% on a solvency basis. The 2008 expert commission on pensions recommended that new legislation should be developed concerning the funding, regulation and governance of MEPPs. Related legislation to address this was passed between 2010 and 2020; however, these provisions remain unproclaimed and are currently not in force, while the rule allowing certain MEPPs to elect to no longer be funded on a solvency basis remains in place. As of June 30, 2022, we found that MEPPs were funded on average 74% on a solvency basis (or only have on average 74% of the necessary assets to pay all targeted pension benefits), with some MEPPs having as low as 43% of the necessary assets to pay all targeted pension benefits. Since 2001, two MEPPs have been wound up due to downturns in their industry, meaning these plans ceased to receive contributions and paid out benefits to members based solely on available assets. In one case, this represented a permanent reduction of 77% of the targeted pension income. The *Pension Benefits Act* currently does not require MEPPs to disclose to members that their plan benefits could be reduced at any time (to meet minimum funding requirements of the plan), or communicate the likelihood or impact of the MEPP being wound up.

- **FSRA performs fewer inspections of pension plans than FSCO did, and does not assess the accuracy of the information provided to it despite FSCO finding that over a quarter of inspected plans reported inaccurate**

information. During its administration, FSCO performed about 55 on-site inspections of pension plans each year, whereas FSRA performed in-depth reviews of 18 pension plans in 2021/22. These reviews focused on collecting information on how the plan sponsor intended to improve the plan's solvency and were not designed to detect instances of a pension plan administrator submitting inaccurate information. However, between 2013 and 2016, FSCO found that 28% of pension plans it inspected had provided it with incorrect information in their required statutory filings, such as the amount contributed into a plan by the sponsoring employer. FSRA's ability to accurately assess the risk of a plan sponsor going insolvent is directly impacted by the accuracy of the information it receives for analysis. As of September 2022, FSRA initiated a pilot project to perform more thorough examinations of pension plans, including verifying that information it receives from pension plans is accurate. However, at the time of our audit no examinations had been completed through this pilot.

- **FSRA takes limited action when pension plans do not comply with information submission requirements.** In each of the past three fiscal years, about 718 pension plans submitted a total of 1,058 required filings late. In these cases, FSRA has the authority under the *Pension Benefits Act* to take enforcement actions such as levying administrative monetary penalties (AMPs). However, since its inception, FSRA has taken only 22 enforcement actions—issuing 17 warning letters and five compliance orders. If it had levied AMPs against the late filers, it could have charged penalties to active pension plans of approximately \$47 million. FSRA could have used some of this funding for research or education initiatives (such as improving MEPP members' understanding of where they are at risk of not receiving the amount of pension benefits targeted, as discussed above).

- **FSRA lacks certain powers that would allow it to more effectively regulate pension plans and protect members.** We identified that FSRA lacks important regulatory powers that other regulators of pension plans have, including the regulator of federal pension plans in Canada, and a federal regulator of pension plans in the US. These powers include the ability to require plan sponsors to inform the regulator of certain events that may be harmful to plan members (such as if a pension plan sponsor defaults on a loan), and the ability to access non-public information (including financial information) from plan sponsors. Having these powers would allow FSRA to better identify and respond to risks that could result in pension benefits being reduced for pension plan members.

FSRA's Reporting on Performance

- **Useful performance measures to evaluate FSRA's performance as a regulator are lacking.** FSRA does not sufficiently track and report on its performance such that the public can assess how effective FSRA is in achieving its mandate to regulate the private passenger automobile insurance, credit union and provincially registered pension plan sectors. For example, across these regulated sectors, FSRA does not report on the target and actual number of inspections performed of regulated entities, the percentage of those entities that implemented all inspection recommendations within a specified time period, and the percentage of entities who missed a regulatory filing deadline. We noted that other jurisdictions (such as British Columbia and Alberta) have implemented more useful performance measures for the regulation of their automobile insurance sectors.

This report contains 18 recommendations, with 60 action items, to address our audit findings.

Overall Conclusion

Our audit concluded that the Financial Services Regulatory Authority of Ontario (FSRA) continues to be a work in progress and needs to accelerate its efforts to fully protect consumers, thereby increasing public confidence in the sectors we reviewed: private passenger automobile insurance, credit unions and provincially registered pension plans. As well, FSRA is not effectively measuring and publicly reporting on its effectiveness in achieving its mandate, such as publishing the number of investigations it plans to perform and how many it actually performs annually in each sector.

In the private passenger automobile insurance sector, automobile insurance rates increased at a rate greater than inflation under the predecessor regulator and FSRA's actions to date have not significantly reduced the high cost of automobile insurance or provided Ontarians with equitable insurance rates. Ontarians pay private passenger automobile insurance rates that depend on where they live in the Greater Toronto Area and throughout Ontario. Other areas we have identified where action could be taken include establishing an accreditation process for automobile repair shops who want to perform repairs paid for by automobile insurance, and implementing treatment protocols to facilitate better care for automobile accident victims at a lower overall cost by providing them with treatment instead of cash.

In the credit union sector, FSRA's inspection process did not identify and resolve governance issues in credit unions in a timely manner. Credit unions are not being regularly investigated within an established time frame, investigations did not cover each key governance area of the credit union, and past inspection findings identified as resolved by credit unions' board of directors were occurring again on subsequent inspections. Due to the reduced effectiveness of these inspections, particularly in assessing and correcting deficiencies in the oversight of credit unions' operations, member deposits are put at risk. In addition, we found that the Deposit Insurance Reserve Fund (DIRF)—a fund that insures credit union depositors'

eligible deposits from loss in case of a credit union's insolvency—is currently funded below FSRA's target.

In the provincially registered pension plan sector, we found that FSRA and the Ministry of Finance (Ministry) have not protected multi-employer pension plan members from the risk of a significant and permanent reduction to their targeted pension benefits. In addition, FSRA and the Ministry are not ensuring that pension plan administrators are transparent with their members about the fact that their pension benefits can be reduced at any time.

OVERALL RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA acknowledges and accepts the recommendations of the Auditor General, some of which reflect initiatives already planned for or underway at FSRA. We believe that these initiatives, when complete, will substantially address the Auditor General's recommendations.

FSRA was established to take over the responsibilities of FSCO and DICO following a review of the mandates of FSCO/DICO by a government-appointed Expert Panel that made numerous recommendations intended to create a more effective regulator with enhanced powers and more effective governance by having a skills-based Board of Directors. While FSRA has been given, and has in some cases already used, new regulatory and supervisory tools such as rule-making, as identified by the Auditor General, FSRA lacks regulatory authority in a number of areas, such as the automobile insurance and pension sectors, and looks forward to working with the government to address these policy matters to improve consumer protection and public confidence.

Despite a pandemic within a year following its June 2019 launch and the need to recruit new employees, FSRA has made important strides in its first 1,000 days, including:

- the enactment of the new Unfair or Deceptive Act or Practices Rule, which has given FSRA greater

ability to define proper industry practices based on actual outcomes for insurance consumers;

- the enactment of three new rules in the credit union sector to improve prudential oversight and regulatory effectiveness;
- a new sector-wide whistle-blower program;
- a new inspection framework for credit unions;
- revitalization of our conduct supervisory practices and focus;
- a new risk-based approach to supervision for pensions; and
- building a new culture and hiring over 200 staff.

FSRA has also begun to change the regulatory oversight model for Ontario financial services it inherited by implementing a principles-based, outcome-focused approach to supervision and enforcement. This has required a fundamental shift in assessing regulatory effectiveness, one that does not focus on the number of inspections or the amount of administrative penalties imposed but by carefully assessing the regulatory and public protection outcomes based on evidence and relevant data.

FSRA agrees with the Auditor General that many systems which FSRA assumed remain outdated, impeding FSRA's ability to be proactive and efficient. That is why FSRA is investing over \$30 million revamping its systems. This includes upgrading portal and data systems to make them more efficient and ensuring that FSRA generates information that informs its regulatory strategy by measuring outcomes. There is still work to be done.

2.0 Background

2.1 Overview

The Financial Services Regulatory Authority of Ontario (FSRA) is a key regulator of several financial services in Ontario. Specifically, it has authority over non-capital market financial services including credit unions, automobile insurance and provincially registered pension plans. It does not regulate the securities sector, which falls under the supervision of the Ontario Securities

Commission, nor banks, which are regulated federally by the Office of the Superintendent of Financial Institutions (OSFI). **Figure 1** shows which financial services and entities FSRA and OSFI regulate.

FSRA's revenue comes from licensing and other fees charged to the entities it regulates as well as activity fees, such as fees related to renewing existing licences. In 2021/22, FSRA collected approximately \$104 million in revenue and had over \$93 million in total costs. FSRA is overseen by its Board of Directors and the Minister of Finance.

See **Appendix 1** for a glossary of terms.

2.2 History

In 2019, FSRA officially assumed the responsibilities of two predecessor organizations through an amalgamation with the Deposit Insurance Corporation of Ontario (DICO) and the transfer of certain operations and business from the Financial Services Commission of Ontario (FSCO) via a Minister's Transfer Order.

Appendix 2 provides a timeline of events preceding the creation of FSRA.

2.3 Financial Services Regulatory Authority

As identified in **Figure 1**, FSRA regulates a number of sectors including the credit union, insurance (which includes private passenger automobile insurance) and provincially registered pension plan sectors. Per the *Financial Services Regulatory Authority of Ontario Act, 2016* (FSRA Act), FSRA's legislative mandate for these sectors is to, amongst other things:

- regulate and generally supervise the sectors;
- contribute to public confidence;
- monitor and evaluate developments and trends;
- promote public education and knowledge;
- promote transparency and disclosure of information; and
- deter deceptive or fraudulent conduct, practices and activities (of regulated entities).

Figure 1: Financial Services Regulation in Ontario

Prepared by the Office of the Auditor General of Ontario

Regulated by FSRA	Regulated by FSRA and OSFI ¹	Regulated by OSFI
• Co-operative corporations • Credit unions • Financial planners and financial advisors • Health-care service providers³ • Insurance agents • Mortgage administrators • Mortgage brokerages • Mortgage brokers and agents • Provincially registered pension plans	• Insurance companies • Loan and trust companies	• Banks • Federally registered pension plans²

Legend: FSRA—Financial Services Regulatory Authority of Ontario; OSFI—Office of the Superintendent of Financial Institutions

Note: Please see **Appendix 1** for the definitions of some of these financial services, entities and participants.

1. OSFI regulation of these entities generally relates to conducting prudential reviews (to assess the entities' financial soundness), while FSRA generally licenses entities that operate within the province and regulates their operations and market conduct.
2. Federal pension plans are federal public service pension plans and federally registered pension plans for certain industries such as airlines and banks. Provincial pension plans relate to provincially registered pension plans operating in Ontario.
3. FSRA regulates health-care service providers that provide services to automobile accident victims and directly bill insurance companies for these services.

Figure 2: Type and Size of Sectors Regulated by FSRA

Source of data: Financial Services Regulatory Authority of Ontario

Sector	Type of Entities/Persons Regulated	# of Regulated Entities/Persons as of June 30, 2022
Co-operative Corporations	Co-operatives offering statements ¹	1,740
Credit Unions	Financial institutions	61
Financial Planners and Financial Advisors	Credentialing Bodies ²	4
Insurance	Automobile insurance companies	167
	Registered insurance agents	67,310 ³
	Life and health insurance companies	95
	Property and casualty insurance companies	218
	Health-care service providers	4,884
Loan and Trust	Companies offering loans and trust services	52
Mortgage Brokering	Mortgage brokerages	1,250
	Mortgage brokers	2,953
	Mortgage agents	15,514
	Mortgage administrators	242
Pension Plans	Defined benefit or defined contribution plan administrators	4,632 ⁴

1. The only responsibility the Financial Services Regulatory Authority of Ontario (FSRA) has in relation to co-operatives (co-ops) is reviewing and issuing receipts for (or approving) offering statements related to the raising of capital by co-ops that have more than 35 members or will have more than 35 members/investors involved with the offering. FSRA reviews the offering statements to confirm that they comply with the requirements of the Co-operative Corporations Act, including determining if all necessary disclosures are made.

2. Under the title protection framework that came into effect on March 28, 2022, FSRA approves certain entities, such as credentialing bodies, to offer approved Financial Planner and Financial Advisor credentials in Ontario.

3. This number comprises 10,725 general insurance agents; 14,111 sponsored life insurance agents; 949 accident and sickness insurance agents; and 41,525 life insurance, accident and sickness insurance agents.

4. Of this total, 1,787 are defined benefit plans and 2,845 are defined contribution plans.

Figure 2 shows the entities and individuals as well as the size of the sectors that FSRA regulates as of June 30, 2022.

2.3.1 Organizational Chart

Appendix 3 shows FSRA's organizational chart as at June 30, 2022. After FSRA's inception, 299 full-time-equivalent staff (FTEs) were transferred from the legacy organizations FSCO and DICO to FSRA. Subsequently, FSRA hired an additional 237 FTEs, and had a total of 536 FTEs as of June 30, 2022.

2.3.2 Board of Directors and Committees

The FSRA Act provides that FSRA's Board of Directors be composed of three to 11 directors to provide oversight of FSRA. At the time of our audit, nine directors were on the Board. Directors are appointed by the Lieutenant Governor in Council on the recommendation of the Minister of Finance in accordance with the Agencies and Appointments Directive, which sets out rules for provincial agencies, short-term advisory bodies and special advisors. The Lieutenant Governor in Council may remove a director from office at any time.

To help fulfill its mandate relating to policy and rule development, FSRA established six stakeholder and 15 technical advisory committees. The stakeholder advisory committees are committees established to gather

information on the regulation of the various sectors and industry trends. While some are permanent, the technical advisory committees are generally short-term or temporary committees created to provide FSRA with expert advice on specific topics of importance to the sector. Most of these committees will dissolve once their work is completed. See **Appendix 4** for a list of the committees active as of June 30, 2022, and the matters they advise on. FSRA also has a Consumer Advisory Panel which provides the consumer perspective to inform FSRA's work.

2.3.3 Overview of Key Activities

While the specific activities FSRA performs in each sector it regulates can differ, FSRA conducts some common activities across sectors including: rule-making, registration, licensing, information collection, reviews, inspections and enforcement. See **Appendix 5** for more details of these activities, and **Figure 3** for enforcement actions taken by FSRA for the years 2019/20–2021/22 in the insurance, health-care service provider, credit union and provincially registered pension plan sectors.

2.3.4 Funding and Financial Information

FSRA is a self-funded organization. It obtains revenues from licensing and other fees it charges regulated entities. FSRA also charges fees when participants file documents such as incorporation and renewal applications, and imposes administrative monetary penalties on participants for non-compliance with legislation.

For the 2021/22 fiscal year, FSRA had a net income of about \$11 million. **Figure 4** shows FSRA's revenue and expenses by item/sector, for the years 2019/20–2021/22. About 62% of FSRA's annual revenue and expenses come from the automobile insurance, credit union and provincially registered pension plan sectors.

2.3.5 Ministry of Finance

The Ministry of Finance (Ministry) is responsible for setting policy direction for the regulated financial services sectors in Ontario, and for establishing the legislative framework to implement that policy direction. The Ministry provides policy research, analysis and advice in support of the Province's objectives in regulating these sectors.

Figure 3: Enforcement Actions Taken by FSRA, 2019/20–2021/22

Source of data: Financial Services Regulatory Authority of Ontario

Enforcement Action	2019/20 ¹	2020/21	2021/22	3-Year Total
Warning notices	1	0	1	2
Citation or caution letters	1	72	70	143
Warning letters	24	234	643	901
Compliance orders (including cease and desist orders)	2	1	1	4
Licence suspensions	2	3	63	68
Licence revocations	7	0	171	178
Licence refusal/denials	2	2	4	8
Other ²	0	2	19	21
Total	39	314	972	1,325
Administrative monetary penalty (AMP)				
Number	4	4	12	20
Amount (\$)	11,500	13,000	171,750	196,250

Note: Includes enforcement actions taken by FSRA in the insurance, health-care service provider, credit union, and provincially registered pension plan sectors.

1. From June 8, 2019 to March 31, 2020.

2. Includes amending a licence or imposing conditions on a licence.

Figure 4: FSRA's Revenue and Expenses by Item/Sector, 2019/20–2021/22 (\$ 000)

Source of data: Financial Services Regulatory Authority of Ontario

Item/Sector	2019/20	2020/21	2021/22	3-Year Change (%)
Revenue				
Insurance	35,848	43,355	44,264	23
Pension plans	21,760	26,253	25,843	19
Credit unions	10,748	13,067	15,680	46
Mortgage brokers	8,937	14,384	17,350	94
Loans and trusts	218	57	107	(51)
Financial advisors and financial planners	0	0	35	n/a
Corporate ¹	759	541	640	(16)
Total Revenue	78,270	97,657	103,919	33
Expenses				
Insurance	28,826	43,079	41,964	46
Pension plans	16,934	27,994	25,828	53
Credit unions	7,300	11,189	13,394	83
Mortgage brokers	9,057	14,644	12,114	34
Loans and trusts	131	67	98	(25)
Financial advisors and financial planners	0	90	1,915	n/a
Corporate	8,259	2,444	2,056	(75)
Subtotal	70,507	99,507	97,369	38
Less: Recoveries ²	(3,749)	(4,832)	(3,845)	3
Total Cost	66,758	94,675	93,524	40
Add: Restructuring transactions	797 ³			(100)
Excess/(Deficiency) of Revenues over Expenses	12,309	2,982	10,395	(16)

1. Fees for reviewing co-operative corporations are included here. However, this revenue source is minimal as the Financial Services Regulatory Authority of Ontario (FSRA) charges \$50 to review an offering statement and has reviewed no more than 13 such statements a year since inception.

2. This relates to the recovery of administrative services from a number of organizations including the Motor Vehicle Accident Claims Fund (a fund for uninsured individuals in accidents administrated by the Ministry of Government and Consumer Services) and the Financial Services Tribunal.

3. This amount represents the net value of assets and liabilities of the Financial Services Commission of Ontario and the Deposit Insurance Corporation of Ontario on June 8, 2019 (the day after they ended their regulatory activities) that were not transferred to FSRA.

The Minister of Finance (Minister) is responsible for administering the FSRA Act as well as the *Credit Unions and Caisses Populaires Act, 2020* (Credit Union and Caisse Populaire Act), the *Insurance Act* and the *Pension Benefits Act*.

An MOU establishes the accountability relationship between the Minister and FSRA through FSRA's Board of Directors and Chair in areas such as administration, communications and operations. It also outlines reporting requirements to the Minister, including submitting an annual business plan, an annual report and annual

attestation of compliance with legislation and applicable directives.

2.4 Sector Overview

2.4.1 Automobile Insurance

FSRA regulates insurance companies and insurance agents for compliance with the *Insurance Act* and the requirements of their licence. FSRA also licenses health-care service providers (such as physiotherapists) who directly bill insurance companies for providing services to people injured in automobile accidents.

The majority of Ontarians have some form of automobile insurance. In 2021, property and casualty insurance companies, which offer both automobile and property insurance, among other insurance products, billed over \$30 billion in insurance premiums (\$16 billion or 53% was for automobile insurance) in Ontario and incurred approximately \$15 billion in direct insurance claims. Automobile insurance is mandatory. In 2021, FSRA regulated over 164 automobile insurance companies and over 66,000 insurance agents (including those who sell life and health and/or property and casualty insurance, which may include insurance for automobiles, houses and other properties). In 2021, 12 insurers wrote about 95% of the insurance premiums in Ontario, as shown in **Figure 5**.

FSRA approves applications from automobile insurance companies seeking to change the rates they use to calculate the premiums charged to their private passenger automobile (PPA) customers. FSRA also approves the companies' customer rating variables and rating algorithm. PPA customers are those who obtain insurance for personal reasons. Non-PPA premiums are made up of other categories of drivers including company fleets, commercial vehicles (e.g., trailers) and ATVs. It is up to an insurance company to determine if or when it wants to request a change in rates. If it is requesting rate changes, it must provide FSRA with detailed information on its reasoning and planned change(s). FSRA can deny all or part of an application.

Most provinces and territories in Canada (including Ontario) use a private model to sell automobile insurance to customers, where insurance companies (such as Intact or Aviva) are overseen by a regulator, such as FSRA in the case of Ontario. British Columbia, Manitoba and Saskatchewan operate under a fully public model for automobile insurance, where a government Crown corporation is the insurer with insurance sold through brokers or directly to customers. Quebec has a hybrid system with personal injury coverage delivered through the public system and vehicle damage coverage delivered through the private system.

As shown in **Figure 6**, Ontario has the same minimum amount of liability insurance as most other provinces (at \$200,000). The basic accident benefits

Figure 5: Participants in the Automobile Insurance Sector in Ontario, by Size and Percentage of Written Premiums, for the Year Ended December 31, 2021

Source of data: Financial Services Regulatory Authority of Ontario

Company/ Insurance Group	2021 Written Premiums (\$ million)	Share of Sector (%)
Intact	2,581	19.74
Desjardins	2,052	15.69
Aviva	1,576	12.05
TD	1,363	10.42
Allstate	1,120	8.56
Co-operators	1,018	7.78
Economical/Definity	932	7.13
CAA	574	4.39
Travelers	395	3.02
Wawanesa	394	3.01
Gore Mutual	214	1.64
Northbridge	197	1.51
Total of all others	661	5.05
Total	13,077	100

Note: This chart reflects personal passenger automobile premiums (not commercial).

Ontario insurers are required to cover are lower in most categories than those of public delivery provinces, but Ontario has more generous basic accident benefits than those of all private delivery provinces. As shown in **Figure 7a**, Ontario has had the highest average premium compared with all Canadian jurisdictions with a private insurance model over the past five calendar years (2017 to 2021). As well, in **Figure 7b**, we noted that Ontario's percentage increase in year-over-year average premiums was lower in the last two comparative years than that of most other provinces with a private insurance model.

We also noted that Ontario's automobile injury rate per one billion kilometres travelled has generally been lower than other provinces. For example, in 2019, Ontario's injury rate of about 308 accidents per one billion kilometres was lower than all other provinces except New Brunswick, Saskatchewan and Alberta. In 2020, Ontario's injury rate of about 238 accidents per

Figure 6: Monetary Limits of Liability and Accident Benefits in Canadian Provinces (\$ 000), as of December 31, 2021

Source of data: Financial Services Regulatory Authority of Ontario

Province	Delivery Model	Liability (Minimum)	Medical Care (Non-Catastrophic) ¹	Medical Care (Catastrophic) ¹	Minor Injury Caps	Income Replacement (Annually)	Death – Spouse (Maximum)	Death – Dependent (Maximum)	Funeral (Maximum)
SK (no fault)	Public	200,000	7,397,579	7,397,579	7,397,579	105,430	105,430	105,430	11,094
SK (tort)	Public	200,000	28,952	217,139	28,952	24,544	105,430	105,430	7,238
BC	Public	200,000	172,154 ²	271,834 ²	5,830	105,500	517,500 ³	61,680	9,386
MB	Public	200,000	100,000	100,000	100,000	103,500	540,000	59,657	9,293
QC	Hybrid ⁴	50,000	10,000,000	10,000,000	10,000,000	88,000	440,000	66,363	7,500
NS	Private	500,000	50,000	50,000	9,300	13,000	25,000	5,000	2,500
ON	Private	200,000	65,000	1,000,000	3,500	20,800	25,000	10,000	6,000
NB	Private	200,000	50,000	50,000	8,638	13,000	25,000	5,000	2,500
PEI	Private	200,000	50,000	50,000	8,358	13,000	25,000	5,000	2,500
AB	Private	200,000	50,000	50,000	5,488	20,800	10,000	3,000	6,150
NL	Private	200,000	25,000	25,000	5,000	7,280	25,000	2,000	1,000

– Indicates arbitrary figures where there is no statutory maximum.

– Indicates indexed figures.

1. A medical practitioner will assess the type of injury that has occurred, which can range from a minor injury (such as a sprain or strain) to catastrophic (such as an amputation or severe impairment of limbs).

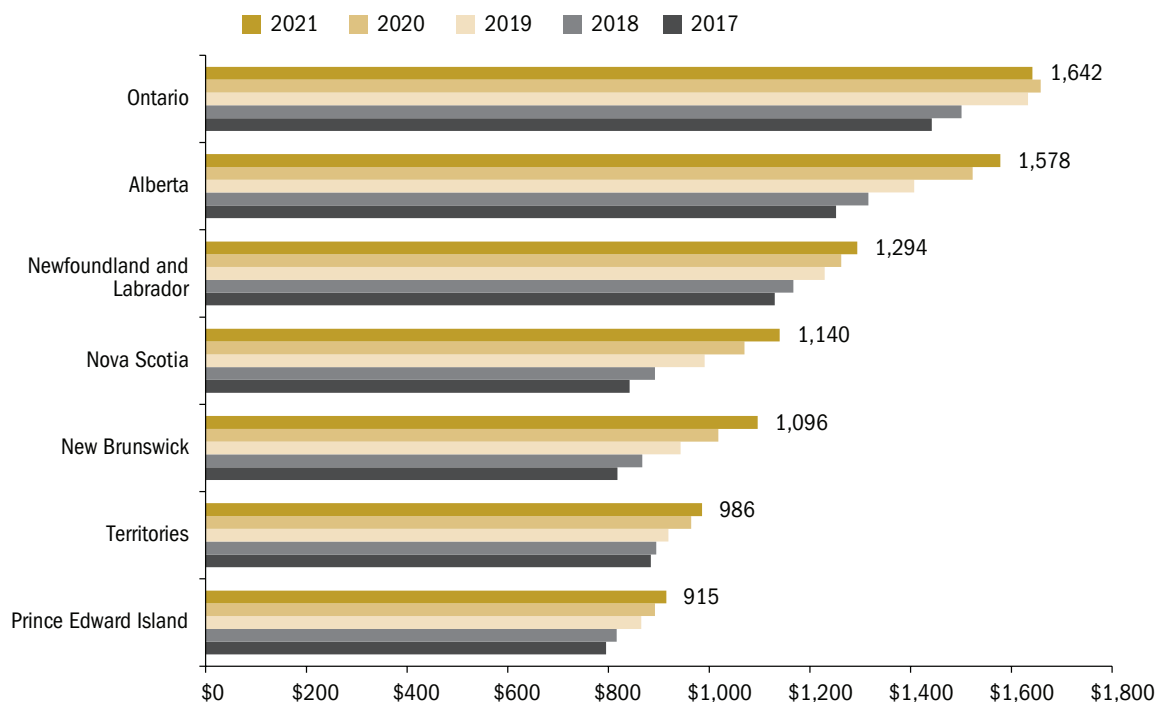
2. Represents a lump sum amount for permanent injury; \$7,500,000 also available for medical expenses with limits on heads of recovery.

3. Figure based on highest possible benefit as a function of age and income, where a 45-year-old with capped insurable income receives the maximum benefit.

4. Quebec operates under a hybrid model, whereby personal injury coverage is delivered through the public system and vehicle damage coverage is delivered through the private system.

Figure 7a: Average Premiums among Private Automobile Insurance Systems in Canada, by Province/Territories¹, 2017–2021

Source of data: General Insurance Statistical Agency (GISA)²

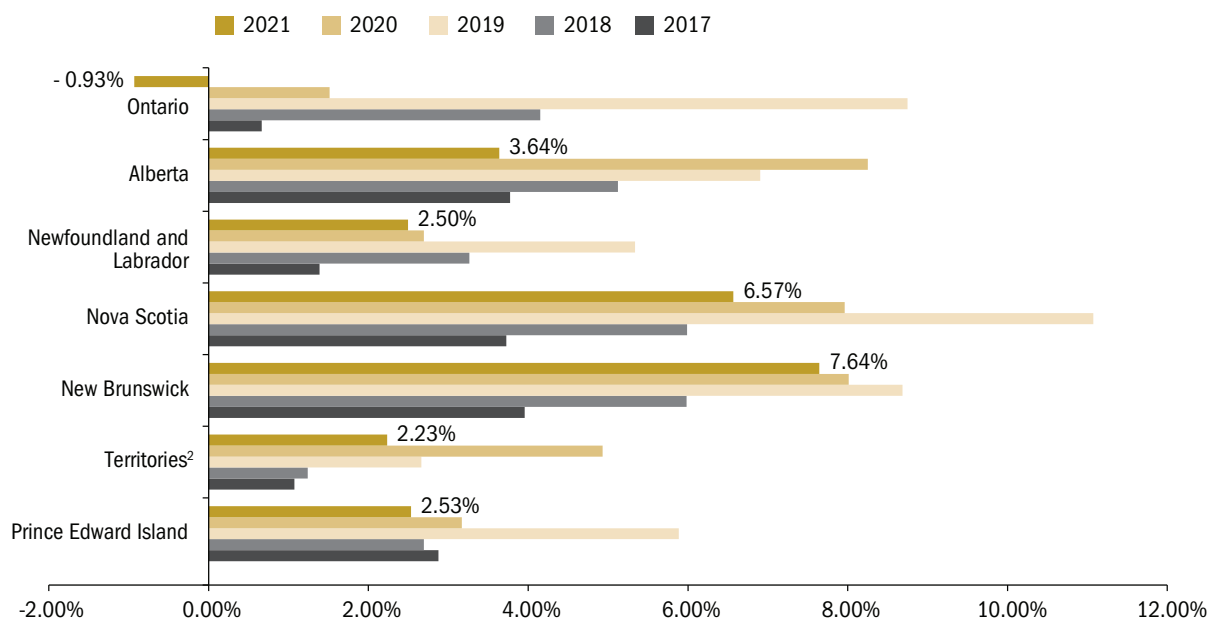


1. Comprises the Northwest Territories, Nunavut and Yukon.

2. GISA only collects five-year information on private automobile insurance systems (not public automobile insurance systems). In 2020, FSRA collected information on average premiums among provinces with public automobile insurance systems, including British Columbia (\$1,544), Manitoba (\$1,283), Saskatchewan (\$1,235), and Quebec (\$798). This shows that Ontario had the highest average premiums in 2020 (\$1,658) when compared to all provinces, regardless if that province had a private or public automobile insurance system.

Figure 7b: Year-Over-Year Percentage Change in Average Premiums among Private Automobile Insurance Systems in Canada, by Province/Territories¹, 2017–2021

Source of data: General Insurance Statistical Agency (GISA)²

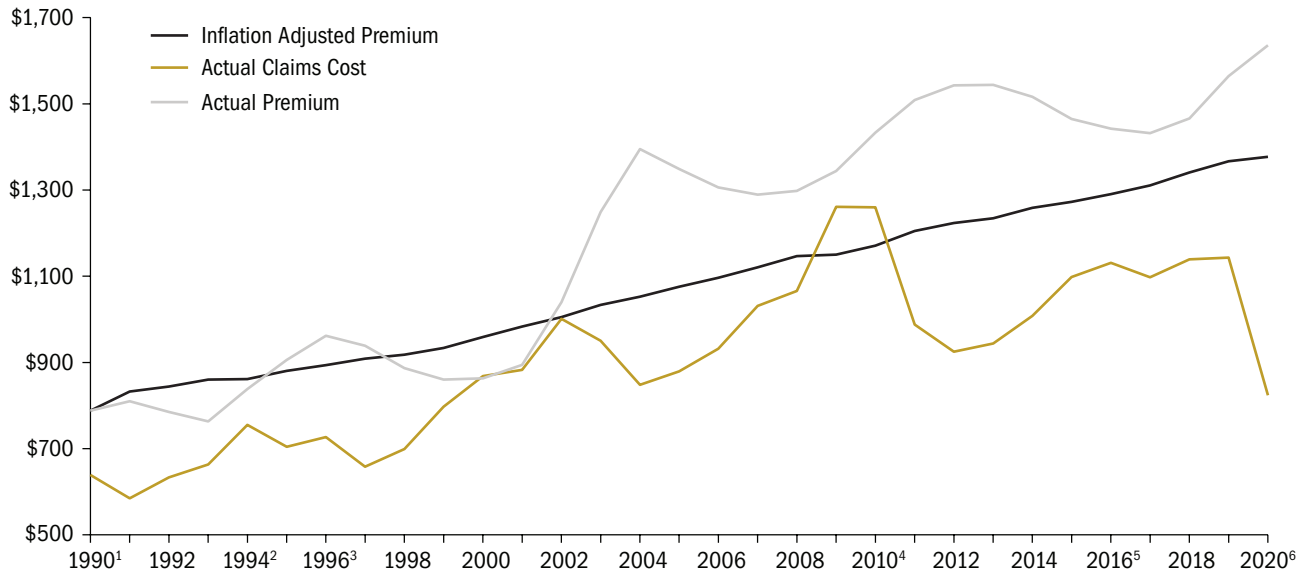


1. Comprises the Northwest Territories, Nunavut and Yukon.

2. GISA only collects five-year information on private automobile insurance systems (not public automobile insurance systems).

Figure 8: Ontario Automobile Insurance Premiums (Actual and Inflation Adjusted) and Claims Costs, 1990–2020

Source of data: Financial Services Authority of Ontario



Note: Details of major changes to automobile insurance rules and regulations since 1990, which have impacted premiums and claims costs, can be found in **Appendix 6**.

1. Rising tort costs lead to the creation of a no-fault structure.
2. A comprehensive no-fault structure is developed following a review of public automobile insurance.
3. The sector moves away from a comprehensive no-fault system, providing consumers with greater access to courts and more options.
4. Rising accident benefit costs lead to significant changes in accident benefit levels and assessments as well as more consumer choice.
5. Significant changes are made to accident benefits, more options are provided to consumers, restrictions in tort increase, and anti-fraud measures are developed.
6. In April 2020, FSRA issued guidance that included the means for insurers to voluntarily offer emergency rate reductions and premium rebates to consumers after the declaration of the COVID-19 pandemic. This led to insurers (55 in total, including the 12 largest automobile insurance companies at the time) providing over \$1.8 billion in premium rebates to consumers as of September 2022.

one billion kilometres was lower than all other provinces except Alberta.

Ontario's automobile insurance landscape has changed dramatically since 1990. **Figure 8** shows the impacts of reforms of insurance premiums and claims costs (impacted by eligibility, maximum benefit limits and torts). Actual premiums between 2002 and 2020 have been increasing higher than the rate of inflation. **Appendix 6** provides further details on automobile insurance sector reforms made since 1990.

Premium Rebates due to COVID-19

In April 2020, FSRA issued guidance that included the means for insurers to voluntarily offer emergency premium rate reductions and rebates to consumers after the COVID-19 pandemic was declared. This guidance set the way for insurers to voluntarily reduce rates and provide consumers with financial relief in the amount of over \$1.8 billion in premium rebates as

of September 2022. However, we noted that overall, private passenger automobile insurance companies exceeded the 5% profit provision target set by FSRA in both 2019 (at 7.7%) and 2020 (at 27.6%, a vast increase). FSRA stated that it appears insurers likely could have offered more rebates or rate reductions to their customers during the height of the COVID-19 pandemic.

FSRA did not mandate pandemic relief for a number of reasons, including the uncertainty of the length of the pandemic, the differing financial positions of insurance companies, and the fact that FSRA does not have statutory authority to order insurance companies to immediately make reductions and issue rebates. It has analyzed the impact of rate reductions, rebates and other actions taken by insurers through a number of sources, including internal data which tracks the monthly average premium in Ontario throughout the pandemic. We noted that even while considering

these relief options, the gap between the premium charged and actual claims costs incurred in 2020 was significant.

FSRA did track which insurance companies implemented emergency rate reductions. From April 1, 2020 to April 1, 2022, FSRA approved 108 emergency rate reductions and 45 emergency premium rebates. FSRA publicly reported which insurance companies participated in these rebates, and we noted that 55 insurance companies participated.

2.4.2 Credit Unions and Caisses Populaires

A credit union provides similar financial services to banks (such as deposit taking) primarily for its members on a co-operative basis, as defined by the Credit Union and Caisse Populaire Act. Although historically these financial institutions have been owned by members who may share a common bond of association, such as occupation or religious/ethnic background, this structure has been evolving as many people now join credit unions based on them being conveniently located where they live and/or because they offer financial products at competitive rates. Caisses populaires are francophone credit unions that promote the interests of French-speaking communities in Ontario and provide financial services in French. Membership in a credit union is governed by the credit union's bylaws, subject to the provisions of the Credit Union and Caisse Populaire Act.

A credit union's business is carried on primarily for the benefit of its members. Any net income that accrues from its business may be used for various activities such as to provide additional services for its members; develop its business; or distribute the net income to its members and shareholders, for example, by paying dividends such as patronage dividends, which are partially based on how much of a credit union's services or products each shareholder used.

FSRA is responsible for the regulation and oversight of the approximately 60 credit unions that operate in Ontario. A credit union may come under FSRA's administration (where FSRA takes over its management) when it is at risk of insolvency and "when serious improvements are needed when the Credit Union's business operations or circumstances potentially put depositors at risk" (as stated in FSRA's Supervisory Framework under Intervention Guidelines).

As of June 30, 2022, Ontario's credit unions held a total of about \$69 billion in member deposits. As of December 31, 2021, the sector employed about 8,000 staff and served about 1.7 million Ontarians through 573 locations.

As per **Figure 9**, from 2012/13 to 2021/22, the number of credit unions in Ontario declined by 52% (from 127 to 61) because of consolidation in the sector, while average member deposits held by each credit union increased 363% over the same time period (from \$235 million to almost \$1.11 billion). In 2020 alone,

Figure 9: Credit Union Sector Participants and Total Deposits, 2012/13–2021/22

Source of data: Financial Services Regulatory Authority of Ontario

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	10-Year Change (%)
Number of Credit Unions	127	117	110	99	93	78	77	62	61	61	(52)
Total Deposits* (\$ billion)	29.9	32.3	34.3	36.8	41.4	45.7	50.9	55.6	62.1	66.5	134
Avg Deposits (\$ million per credit union)	235	276	312	372	445	586	661	897	1,018	1,090	363

* About 70% of total deposits are insured subject to funding in the Deposit Insurance Reserve Fund. Deposits in an Ontario credit union are insured for each credit union member to a maximum of \$250,000 for non-registered accounts (such as savings and chequing accounts) and to the full amount of the deposit for registered accounts (such as registered retirement savings plans and tax-free savings accounts).

Figure 10: Credit Unions In Ontario by Total and Insured Deposits, as a Percentage of Total Sector, as of June 30, 2022

Source of data: Financial Services Regulatory Authority of Ontario

Credit Union	Total Deposits (\$ million)	Total Insured Deposits (\$ million)	Share of Sector by Total Deposits (%)
13 Credit Unions with >\$1 Billion in Deposits			
Meridian	17,498	11,623	25
Caisse Desjardins	6,649	4,140	10
DUCA	5,353	2,921	8
Alterna	5,212	3,940	8
Libro	5,036	3,640	7
FirstOntario	4,589	3,194	7
Windsor Family	3,307	1,741	5
CP Alliance	1,927	1,493	3
Kawartha	1,821	1,638	3
Your Neighbourhood	1,729	1,398	3
Kindred	1,671	1,116	2
Northern	1,504	1,307	2
Tandia	1,126	818	2
Total – Top 13 Credit Unions	57,421	38,969	83
Total – 30 Credit Unions with Deposits Between \$100M–\$1B	10,943	8,725	16
Total – 17 Credit Unions with Less than \$100M in Deposits	674	565	1
Total – 60 Credit Unions^{1,2}	69,037	48,260	100

1. Excludes PACE Savings and Credit Union Limited (PACE) as, at the end of June 2022, assets of PACE were purchased by (and are reported under) Alterna. As of June 30, 2022, there were 61 credit unions including Lighthouse Credit Union. However, Lighthouse Credit Union's assets have not been included in the list above as it has only started operations (its first deposits were processed in early July 2022) and its first monthly filing was expected in August 2022.
2. In total, about 70% of deposits held by Ontario credit unions are insured deposits. Deposits in an Ontario credit union are insured for each credit union member to a maximum of \$250,000 for non-registered accounts (such as savings and chequing accounts) and to the full amount of the deposit for registered accounts (such as registered retirement savings plans and tax-free savings accounts).

11 caisses populaires amalgamated into one (Caisse Desjardins Ontario).

As of June 30, 2022, the 13 largest credit unions each had member deposits in excess of \$1 billion and in aggregate held over \$57 billion (or 83%) of all credit union deposits. See **Figure 10** for a list of these 13 credit unions in Ontario by deposits. Over \$48 billion (or about 70%) of total credit union deposits are insured (see below for more details).

Deposit Insurance Reserve Fund (DIRF)

Per the Credit Union and Caisse Populaire Act, FSRA maintains the Deposit Insurance Reserve Fund (DIRF)

for the primary purpose of paying for deposit insurance claims in the event of a credit union insolvency, that is, when a credit union is unable to pay its existing debts or other financial obligations (including providing members with their deposits back on demand).

Deposits in an Ontario credit union are insured for each credit union member to a maximum of \$250,000 for non-registered accounts (such as savings and chequing accounts) and to the full amount of the deposit for registered accounts (such as registered retirement savings plans and tax-free savings accounts). The DIRF is funded by annual fees paid by credit unions based on a percentage of the insured deposits they hold; that

percentage is based on FSRA's assessment of the credit union's risk of going insolvent. The DIRF may also be used in some additional limited circumstances, such as to provide financial assistance (like liquidity support to meet deposit withdrawals) to a credit union under administration.

As of June 30, 2022, the DIRF's assets were about \$383 million, or about 0.79% of insured deposits held at Ontario credit unions.

2.4.3 Pension Plans

As the regulator of the provincially registered pension plan sector, FSRA's mandate is to promote good administration of pension plans and to protect and safeguard the benefits and rights of pension plan beneficiaries (in accordance with the *Pension Benefits Act*). All pension plans providing benefits to employees in Ontario—other than certain plans that cover only one employee, often

for owner-managed businesses, and federally registered pension plans—are required to register with FSRA.

In Ontario, as of June 30, 2022, there were about 4,630 such pension plans that collectively were managing around \$800 billion of assets and had a total of 4.3 million members (2.3 million contributing members and 2 million pensioners collecting benefits).

A pension plan may be administered by the employer who sponsors or contributes to the plan, by a Board of Trustees representing union members and the employer, or by a third party hired by the employer to administer the plan on their behalf. A pension plan administrator is responsible for managing the pension fund, which includes collecting contributions (from the plan sponsor or from both the employer and employee in contributory plans) and investing the funds.

Figure 11 provides a breakdown of pension plan members and assets by plan type in Ontario, as of June 30, 2022.

Figure 11: Pension Plans in Ontario by Number of Plans/Members and Plan Assets, as of June 30, 2022

Source of data: Financial Services Regulatory Authority of Ontario

Type of Pension Plan	Plans (#)	Plan Members (#)	Plan Assets (\$ billion)	Average Assets per Member (\$ 000)
Defined benefit				
SEPP	1,131	394,568	119	302
MEPP	64	1,006,011	44	44
JSPP	12	1,528,429	481	315
Total Defined benefit	1,207	2,929,008	644	219
Defined contribution				
SEPP	2,800	529,216	29	54
MEPP	45	58,730	3	58
JSPP	-	-	-	-
Total Defined contribution	2,845	587,946	32	55
Hybrid*				
SEPP	570	810,323	127	157
MEPP	9	25,184	1	32
JSPP	1	444	0	98
Total Hybrid	580	835,951	128	153
Total	4,632	4,352,905	804	Average of 185

Legend: JSPP – jointly sponsored pension plan; MEPP – multi-employer pension plan; SEPP – single-employer pension plan

* A hybrid pension plan contains both defined benefit and defined contribution provisions. Generally, this is because a defined benefit plan has been converted to a defined contribution structure on a go-forward basis. Members who were part of the initial defined benefit plan will: 1) continue to accrue defined benefits as if there had not been a conversion, or 2) continue to receive defined benefits for the period of time they were accrued up to the time of conversion, and receive defined contribution benefits from the point of conversion onward. New members of the plan will only receive defined contribution benefits.

As shown in **Figure 12**, 10 pension plans make up 67% of the market value of the assets in the sector.

Pension Benefits Guarantee Fund (PBGF)

The PBGF was established in 1980 to reduce the risk of plan members or beneficiaries losing pension benefits in the case of an employer insolvency. In the event an eligible plan's sponsor becomes insolvent and the plan does not have enough assets to cover its obligations, the PBGF can cover a portion of each member's earned pension to a maximum of \$1,500 per month, subject to the total assets in the PBGF fund.

The PBGF is funded by assessments paid by sponsors of defined benefit (DB) single-employer pension plans that are covered by the PBGF. Single-employer-sponsored DB pension plans whose benefits are not covered by the PBGF include some large pension plans (as listed in **Appendix 7**), such as the Public Service Pension Plan, and all individual pension plans (generally small pension plans with no more than three members set up by an owner-managed business).

PBGF-covered pension plans represent 60% of all single-employer sponsored DB pension plans, and 99.8% of all single-employer sponsored DB pension plan members.

As shown in **Figure 13**, the financial position of DB pension plans improved from 2011 to 2021. As indicated in this figure, DB pension plans improved their surplus position from \$1,706 million in 2011 (168 plans) to \$5,474 million in 2021 (410 plans), and reduced their deficit position from \$16,784 million in 2011 (1,195 plans) to \$7,114 million in 2021 (581 number of plans).

3.0 Audit Objective and Scope

The objective of our audit was to assess whether the Financial Services Regulatory Authority of Ontario (FSRA) has effective and efficient regulatory processes and systems in place for the private passenger

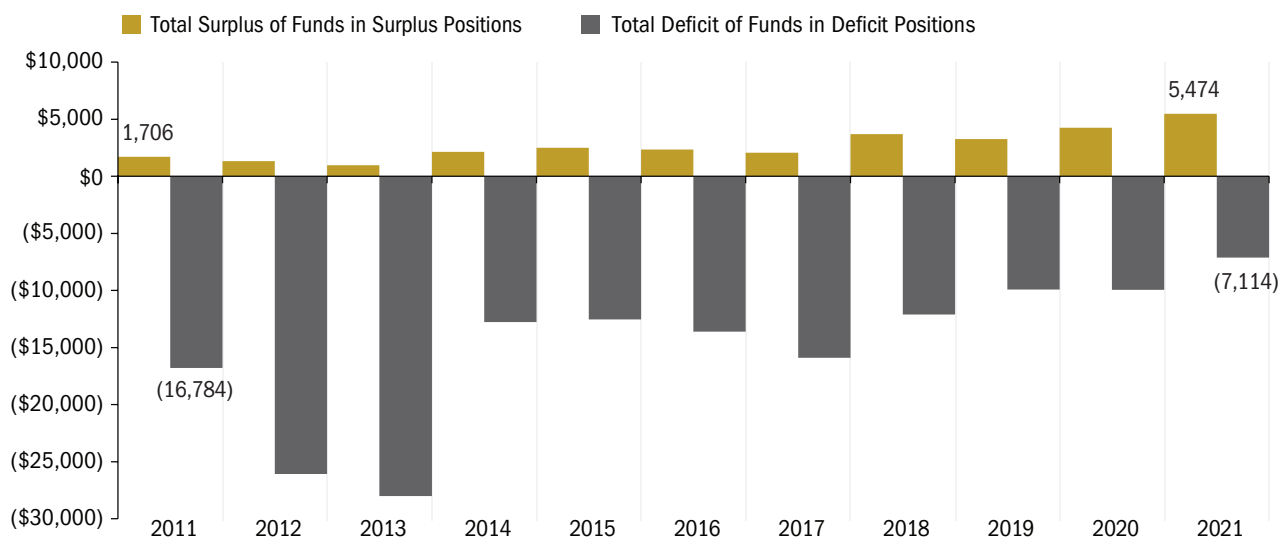
Figure 12: Top 10 Pension Plans in Ontario Based on Market Value of Assets, as of June 30, 2022

Source of data: Financial Services Regulatory Authority of Ontario

Pension Plan Name	Pension Plan Sponsor	Market Value of Assets (\$ million)
Ontario Teachers' Pension Plan	Ontario Teachers' Federation	221,241
OMERS Primary Pension Plan	OMERS Sponsors Corporation	105,400
Healthcare of Ontario Pension Plan	Board of Trustees of the Healthcare of Ontario Pension Plan	103,983
Public Service Pension Plan	Province of Ontario	31,000
Ontario Public Service Employees Union Pension Plan	OPSEU Pension Trust, Joint Trustees, Province of Ontario OPSEU	23,046
Colleges of Applied Arts and Technology Pension Plan	Colleges of Applied Arts and Technology	15,846
Ontario Power Generation Inc. Pension Plan	Ontario Power Generation Inc.	15,359
General Motors Canadian Hourly-Rate Employees Pension Plan	General Motors of Canada Company	9,989
Rules and Regulations of the LiUNA Pension Fund of Central and Eastern Canada	LiUNA Pension Fund of Central and Eastern Canada	9,046
Hydro One Pension Plan	Hydro One Inc.	8,144
Total of Top 10 Pension Plans		543,054
Total of All Other Pension Plans in Ontario		261,547
Total		804,601

Figure 13: Cumulative Surplus or Deficit for Defined Benefit Pension Plans Covered by the Pension Benefits Guarantee Fund, 2011–2021 (\$ million)

Source: Financial Services Regulatory Authority of Ontario



Note: Data is as of December 31 for each year based on the most current data submitted by a pension plan to the Financial Services Regulatory Authority of Ontario at that time. Plans generally are only required to file updated financial information, including their overall surplus or deficit position, once every three years.

automobile insurance, credit union and provincially registered pension plan sectors to:

- protect consumers and contribute to public confidence in these sectors through its regulatory and supervisory activities (licensing, registration, monitoring compliance, investigation, enforcement and education for consumers) in accordance with legislation, rules and policies; and
- measure and publicly report its effectiveness in achieving its mandate.

In planning for our work, we identified the audit criteria we would use to address our audit objective (see **Appendix 8**). These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at FSRA and the Ministry of Finance (Ministry) reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between December 2021 and August 2022. We obtained written representation from management at FSRA and the Ministry that, effective November 23, 2021, they had provided us with all the information they were aware of that could

significantly affect the findings or the conclusion of this report.

In performing our audit work, we conducted work on-site at FSRA's head office in Toronto, where we met with management and staff. Our audit focused on FSRA's regulatory activities in the private passenger automobile insurance, credit union and provincially registered pension plan sectors. These sectors impact the majority of Ontarians, and the revenue from these three sectors aggregated to an average of 62% of total revenue earned by FSRA over the last three years, from 2019/20–2021/22. Private passenger insurance is mandatory in the province. Our audit did not extend to commercial automobile insurance.

We noted that FSRA is shifting to a Principles-Based Regulation approach in the sectors that it regulates, which focuses on a risk-based approach to regulation (focused on the overall consumer outcome) as opposed to just assessing compliance with regulations. As the implementation of this approach is in its early stages, we could not assess the effectiveness of FSRA's envisioned approach.

We interviewed senior management and staff from FSRA and the Ministry. We also examined related data

and files (for the last three to five years, with some trend analyses going back as far as 10 years) from both FSRA and the Ministry.

In our audit work, which included file reviews, analyses, interviews and research on best practices in other jurisdictions, both in and outside Canada, we also:

- inspected and analyzed information submitted by regulated entities and inspected reports prepared by FSRA to better understand its regulatory activities;
- inspected information submitted to the Ministry by FSRA in relation to its regulatory activities of the automobile insurance, credit union and pension plan sectors;
- examined meeting minutes from FSRA's Board of Directors and advisory committees to understand current events and concerns in the sectors we audited;
- examined expert reports related to the private passenger automobile insurance, credit union and provincially registered pension plan sectors to gain an understanding of key issues within these sectors;
- interviewed key private passenger automobile insurance, credit union and provincially registered pension plan stakeholders (both in Ontario and other jurisdictions) to understand their views on the sector and FSRA's activities. These stakeholders included the FAIR Association of Victims for Accident Insurance Reform, the Insurance Bureau of Canada, the Insurance Corporation of British Columbia, the Licence Appeal Tribunal, the Registered Insurance Brokers of Ontario, and Saskatchewan Government Insurance for the automobile insurance sector; the Canadian Credit Union Association, Central 1, Alberta's Credit Union Deposit Guarantee Corporation, and the Deposit Guarantee Corporation of Manitoba for the credit union sector; and the BC Financial Services Authority, Canadian Association of Retired Persons, and the Canadian Federation of Pensioners for the pension plan sector;

- researched best practices from other jurisdictions, including other Canadian provinces, the United States and the United Kingdom; and
- reviewed FSRA's relevant internal audit reports to enhance our understanding of its operations and risks.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standard on Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations – Private Passenger Automobile Insurance

4.1 Ontario's Private Passenger Automobile Insurance System Is Complex and Costly

Despite several reports providing recommendations over the past decade to improve Ontario's private passenger automobile insurance framework and lower premium costs, the former Financial Services Commission of Ontario, the Financial Services Regulatory Authority of Ontario (FSRA) and the Ministry of

Finance (Ministry) have not sufficiently improved the framework to provide less costly private passenger automobile insurance to Ontarians. Contributing to this, the Ministry has only begun acting on the requests FSRA has made for additional powers to improve the automobile insurance regulatory environment.

Currently, FSRA's licensing systems lack efficiency, and its renewal process can enable insurance agents who have engaged in misconduct to be licensed. As well, FSRA has not, as part of its review of the Registered Insurance Brokers of Ontario (RIBO), taken steps to have RIBO improve its requirements for insurance brokerages to disclose pertinent information (such as any financial interest in them by insurance companies and the commissions they receive from insurance companies) to consumers who are deciding to buy automobile insurance, and its inspection is not sufficient to confirm that RIBO is effectively overseeing insurance brokers (for example, it has not regularly determined why RIBO consistently is inspecting fewer insurance brokers annually than its targets). Further, FSRA does not analyze Licence Appeal Tribunal cases related to automobile insurance claim disputes to understand how it can improve its oversight of the industry to provide better information to the public on the insurance companies that have been involved in disputes. FSRA has conducted limited analyses to determine if the variables used in calculating automobile insurance premiums are fair to all Ontarians. These issues are discussed in greater detail below.

4.1.1 Ontario Has the Highest Private Passenger Automobile Insurance Premiums in Canada

As shown in **Figure 7a**, Ontario has the highest private passenger automobile insurance premiums in Canada, which grew 14% between 2017 and 2021 from \$1,442 to an average of \$1,642 per vehicle. Our analysis of the province's private passenger automobile insurance industry data, review of practices of other jurisdictions and entities within Ontario, and review of past reports on Ontario's automobile insurance industry identified a number of changes that FSRA has not acted on that

may result in lower private passenger automobile insurance rates for Ontarians.

Over the past decade, several reports have proposed ways to make Ontario's automobile insurance industry operate more effectively and at a lower cost (see **Appendix 9**). One important report is *Fair Benefits Fairly Delivered: A Review of the Auto Insurance System in Ontario* written in 2017 by David Marshall (former President and CEO of the Workplace Safety and Insurance Board), who was appointed by the Ministry of Finance in 2016 to review the province's automobile insurance system and make recommendations to the government of the day for improvements. **Appendix 10** lists the recommendations made in Marshall's initial report.

To date, little action has been taken on the report's several proposals and recommendations. We have summarized four areas where improvements to the industry could potentially reduce automobile insurance premiums in Ontario and make the sector more efficient. The first three are discussed in detail in **Appendix 11**.

Ontario Uses a Cash Payment Model Versus a Care-Based Model for Insurance Claims Handling, Which Contributes to Higher Legal Costs

Ontario's private passenger automobile insurance sector model is a mixed tort and no-fault system, meaning that insurance companies provide coverage to insured individuals when an accident occurs, but that those injured may also sue an at-fault driver who would rely on their insurance company to cover a resulting financial settlement. Tort raises the costs for the system as a whole. This model of automobile insurance in Ontario creates an incentive for accident victims and lawyers to seek cash for potential health costs instead of treatment, as well as cash for legal and settlement fees that insurance companies pay, which are costs ultimately passed onto insurance policyholders. This process may involve lawyers who are hired to dispute payments and benefits offered by insurance companies, including through a tribunal and the courts (see **Section 4.1.5** for more details). In 2019 (the final full year of normal operations prior to the impacts of

COVID-19), FSRA estimated that contingency fees—which lawyers charge to their clients if their client’s claim is successful—accounted for an estimated \$445 million of the total bodily injury and accident benefits claims paid from proceeds given to their insured client by insurance companies. **Figure 14a** breaks down the 2019 costs of delivering private passenger automobile insurance in Ontario, of which 61% are related to claims. **Figure 14b** illustrates the breakdown of the claims cost for 2019, with contingency fees accountable for 6% of those costs. On top of this, FSRA estimated that about 30%–35% of settlements paid in personal injury disputes between insurance companies and claimants are used to pay for professional and legal fees, such as contingency fees, instead of benefitting injured parties.

Other jurisdictions within Canada (such as Alberta) have treatment protocols that provide a more structured way to treat injuries such as sprains, strains and

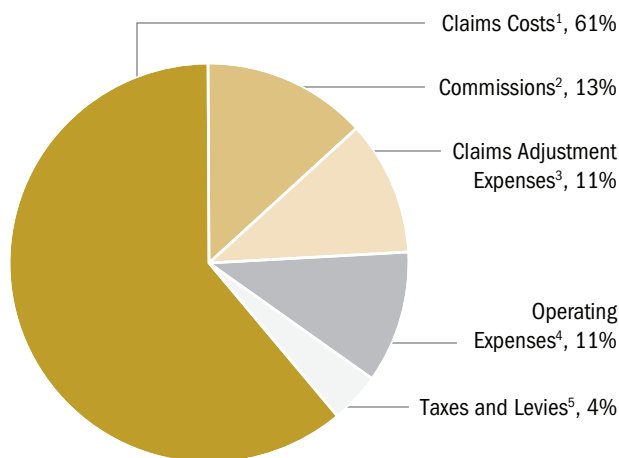
whiplash versus through the payment of cash. Ontario has a Minor Injury Guideline (MIG) in place, but it has not been reviewed since 2014. Reforming the current system in Ontario by creating a more structured approach or “programs of care” for both minor and non-minor injuries—outcome-focused treatment plans designed around the patient’s needs—could potentially reduce legal and frivolous claims, thereby decreasing overall private passenger automobile insurance premiums.

The Medical Assessment Process for Automobile Accident Benefit Claims Fosters Duplicate Medical Assessments, Contributing to More Costs

The cost of the insurance claims process can include the cost of unnecessary repeat medical assessments to determine the severity of injuries after an accident. Once an accident victim reports a claim to their insurer, the insurer will determine if coverage exists

Figure 14a: Breakdown of Costs of Delivering Private Passenger Automobile Insurance in Ontario (%), 2019

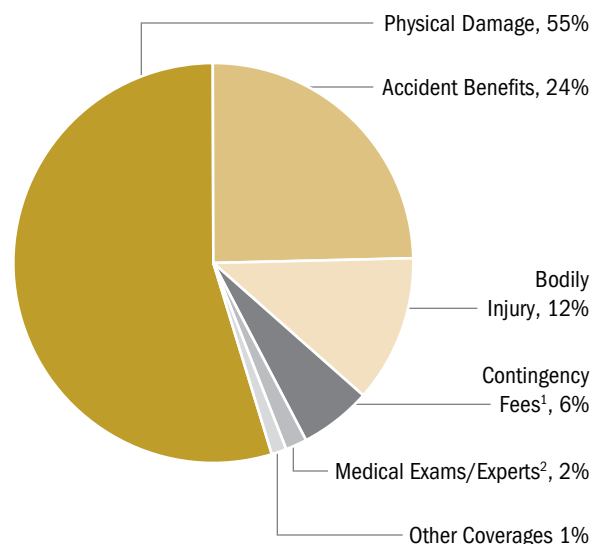
Source of data: Financial Services Regulatory Authority of Ontario



1. Claims costs include costs to insurance companies for the insurance benefits they provide, such as accident benefits, physical damage, and bodily injury.
2. Commissions are costs incurred through sales channels, most commonly insurance brokers.
3. Claims adjustment expenses include both allocated and unallocated loss adjustment expenses. Allocated loss adjustments include costs incurred by an insurance company that are attributed to the processing of a specific claim, such as expert witness or defense attorney fees. Unallocated loss adjustment expenses include costs incurred by an insurance company that cannot be attributed to the processing of a specific claim, such as the claim department’s salaries and rent.
4. Includes all other company expenses, such as office space, underwriter salaries, IT, etc.
5. Include the Ontario Premium Tax (3%) and the Ontario Health Levy (1%).

Figure 14b: Expenses Making Up Total Claims Costs in Ontario (%), 2019

Source of data: Financial Services Regulatory Authority of Ontario



1. Costs charged by lawyers to clients who are successful in claims against insurance companies. FSRA’s estimate is based on the findings in David Marshall’s 2017 report *Fair Benefits Fairly Delivered: A Review of the Auto Insurance System in Ontario*.
2. Costs charged to assess a victim’s medical needs after an automobile accident. FSRA’s estimate is based on the findings in David Marshall’s 2017 report *Fair Benefits Fairly Delivered: A Review of the Auto Insurance System in Ontario*.

and if it does, explain the victim's entitlement. The claimant can then have a medical assessment completed by a medical practitioner and a treatment plan recommended to them, which is then submitted to the insurer for approval (the insurer may reject all or part of the plan, except for those injuries covered under the MIG where no approval is needed and practitioners can submit and invoice for services provided in accordance with the MIG) to fund their treatment. The current system can result in multiple assessments being conducted to determine the severity of an accident victim's injuries. This can delay when an accident victim receives the care they require. In his 2017 report to the Ministry, Marshall also discussed the high costs of medical assessments to the system in Ontario.

Unlike Other Provinces, Ontario Does Not Accredit Automobile Repair Shops Paid Through Private Passenger Automobile Insurance Claims, Which Increases the Risk of Poor Repair Work and Fraud

Automobile repairs add substantial costs to accident claims. For example, based on information from the Insurance Bureau of Canada, between 2015 and 2019, bodily injury and accident benefit claims costs as a percentage of total claims costs have decreased from 62% to 47%, whereas collision-related car repair costs have increased from 29% of total costs in 2015 to 39% in 2019. However, unlike some other provinces (including British Columbia and Saskatchewan), Ontario does not have a mandatory licensing or certification regime for automobile repair businesses to protect consumers against poor repair work and fraud. Articles we reviewed stated that examples of fraud that can occur with automobile repair shops include repair shops overstating bills for parts that were not required and/or repairs that were never completed.

FSRA Does Not Have Information-Sharing Protocols in Place with the Ministry of Transportation to Effectively Regulate Tow Trucks

During our audit, FSRA and the Automotive Industries Association (AIA) raised concerns with us about the potential for tow truck operators to be a source of

fraudulent activity and that towing fees contribute to the cost of private passenger automobile insurance premiums in Ontario, which are higher than those in other provinces (as identified in **Figure 7a**). Marshall also identified this concern in his independent 2022 C.D. Howe Institute report. Tow truck operators are a critical part of the automobile insurance claims process, especially in cases of major accidents, because they are usually among the first people to arrive at an accident site where victims may be in a distraught mental state. While the cost of the towing of a vehicle may make up a smaller portion of overall automobile insurance claims, our discussions with the Ministry of Transportation (MTO) and AIA noted that once a tow truck operator has a car hooked, they can influence the client on what other businesses they should engage—such as automobile repair shops, storage facilities, clinics—which all add to the cost of an insurance claim.

We met with MTO to inquire about the regulation of tow truck operators in the province. MTO has recently begun the regulation and enforcement of tow truck operators. The *Towing and Storage Safety and Enforcement Act* (Act) received Royal Assent in June 2021 and outlines a new regulatory environment for tow truck operators that aims to improve customer protections and reduce crime and fraud throughout the towing cycle. The Act has not yet been proclaimed but is expected to be fully in force by July 2023. In its 2022 analysis of the regulatory impact of the Act, MTO identified that nefarious actions involving insurance fraud (such as inflated invoices) have been ongoing in the towing and storage sectors, leading to rising costs for insurers and consumers. FSRA, as the regulator of the automobile insurance industry in Ontario, has a stake in identifying these bad actors in the insurance ecosystem and taking necessary action. FSRA has engaged with MTO to create information-sharing agreements but has not yet created such agreements with MTO to collect information regarding tow trucks and identify bad actors in the sector. FSRA stated the current data in the MTO collision database is of limited value to identify these actors. As such, FSRA should reassess available data as the Act becomes law.

RECOMMENDATION 1

To lead automobile insurance reforms in the province and reduce the cost of private passenger automobile insurance for Ontarians, we recommend that the Financial Services Regulatory Authority of Ontario, and where necessary, the Ministry of Finance take the lead to:

- develop and implement up-to-date programs of care for injuries such as sprains, strains and whiplash to standardize the treatment provided to clients after an accident and the costs of such treatment, beyond just those of minor injuries;
- assess the cost of implementing a centralized medical assessment process, and if beneficial and cost-effective, implement that process while requiring both insurers and consumers to use the process to reduce the amount of medical assessments and disputes related to those assessments;
- work with relevant industry associations and ministries to develop an accreditation regime for automobile repair shops in Ontario, and require shop accreditation;
- implement an information-sharing agreement with the Ministry of Transportation (MTO) to collect data on how tow truck operators are involved in the automobile insurance system and the costs associated with that; and
- undertake enforcement action, when necessary, in collaboration with MTO, against automobile repair shops and tow truck operators to reduce instances of fraudulent, unreasonable services or poor repairs being performed that result from an automobile accident.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA thanks the Auditor General for the recommendation and agrees to work together with the Ministry of Finance on automobile insurance reforms to reduce the cost of automobile insurance for Ontarians. FSRA will continue to work with

the Ministry of Finance to further the interests of Ontario's drivers.

Established programs of care based on medical evidence and reducing the cost and treatment delays associated with medical assessments continue to be of interest to FSRA. This also aligns with one of six major themes from the 2021 Final Report of FSRA's Residents Reference Panel on Auto Insurance which cited the need for access to timely, recovery-focused care. Implementing such programs or an accreditation regime for automobile repair services is, however, beyond FSRA's authority, and would require legislative changes.

Having struck a data-sharing agreement between FSRA and the Ministry of Transportation for the first time in Ontario, FSRA welcomes the Auditor General's recommendation to grow the scope of that relationship to include more data as it becomes available so that it can be used in reducing fraud and identifying other sources of consumer harm.

FSRA agrees with the Auditor General that there are many participants in the automobile insurance ecosystem including some collision repair shops and tow operators that provide poor service and may engage in fraud. While FSRA has recently implemented a rule on Unfair and Deceptive Acts and Practices in the insurance sector which improves FSRA's ability to sanction service providers that commit a fraud on insurers/insured persons, we note that in **Recommendation 3**, the Auditor General recognizes the limits of FSRA's current authority to oversee unlicensed entities. FSRA will continue to take enforcement action against bad actors in the automobile insurance system within the bounds of its authority and will propose amendments to its authority when necessary.

MINISTRY RESPONSE

The Ministry acknowledges the importance of continued efforts to reduce the cost of automobile insurance. The *2022 Ontario Budget* stated the government's plan to continue reducing these costs by

creating more choice for consumers, cracking down on fraud, and enhancing fairness in rates. The Ministry will continue working with FSRA and partner ministries to deliver on these objectives, including consideration of expanded programs of care for automobile accident injuries, possible changes to the medical assessment process and potential processes to better oversee the operations of automobile repair shops.

RECOMMENDATION 2

To make headway on previous reports' recommendations that will improve the private passenger automobile insurance industry in Ontario, we recommend that the Financial Services Regulatory Authority of Ontario, and where necessary, the Ministry of Finance:

- perform a comprehensive review of the automobile insurance reform reports in Ontario (such as those identified in **Appendix 9**) and the recommendations made in those reports;
- identify and prioritize the recommendations and reforms that can most reduce costs and premiums in the Ontario automobile insurance industry, strengthen industry oversight and increase consumer protection; and
- develop and execute on a plan to implement those recommendations.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA welcomes the Auditor General's recommendation to advance the work of previous reports aimed at improving automobile insurance in Ontario where that work continues to be relevant. FSRA has also reviewed reports from other jurisdictions. FSRA will be pleased to work with the Ministry to understand and, where deemed prudent, to implement past report recommendations. As noted in our 2023–2024 Draft Statement of Priorities, FSRA will continue to support legislative changes to reform automobile insurance

regulation and provide expert advice on key trends and opportunities to improve outcomes for consumers.

MINISTRY RESPONSE

The Ministry acknowledges there have been a number of valuable reports on automobile insurance in the past and will continue to consider them where relevant as it works with FSRA to implement The Blueprint for Putting Drivers First Plan, first announced in the 2019 budget and the 2022 budget commitments to continue improving automobile insurance in Ontario.

4.1.2 Ministry Has Begun Acting on FSRA's Request for Additional Powers to Improve the Automobile Insurance Regulatory Environment

The Ministry of Finance (Ministry) has begun moving forward on some of FSRA's requests to receive additional powers to more effectively regulate the private passenger automobile insurance sector in Ontario. FSRA's requests would allow for more consumer protection and potentially lower insurance premiums, such as identifying and taking enforcement action against automobile repairs shops that charge for repairs not completed.

In 2019, FSRA submitted three such proposed amendments to the Ministry. We reviewed the details as to why each proposal was made and the benefit it could potentially bring (see **Figure 15**). At the time of our audit, the Ministry had not yet moved forward with these three proposals. FSRA advised us that the Ministry raised general concerns about its requests for more powers and authority.

When asked why these proposals have not been implemented, the Ministry explained to us that when FSRA proposed these amendments in 2019, it had not yet implemented its first rule, the Unfair or Deceptive Act or Practices (UDAP) rule, and the Ministry wanted to assess its success before proceeding with additional rule proposals. The UDAP rule, which was approved in February 2022 and came into effect on April 1, 2022, essentially allows FSRA to supervise conduct in the

Figure 15: FSRA's Proposed Amendments for the Regulation of the Automobile Insurance Sector, 2019

Source of data: Financial Services Regulatory Authority of Ontario

Proposed Amendment	FSRA Rationale
FSRA should be given modern oversight tools to investigate and sanction bad actors.	This would give FSRA additional authority to take stronger actions, such as higher penalties or disgorgement, against bad actors such as those engaging in fraudulent activity.
FSRA should be given full market conduct rule-making authority that would enable it to set industry-leading legal standards, such as principles for fair treatment of consumers.	The <i>Insurance Act</i> is unable to adopt a regulation that provides a statutory code of conduct.* This means that everything one would normally expect to be in a code of conduct must be positioned as a negative—for example, rather than having a requirement that “insurers treat policyholders fairly,” it would read, for instance, “it is an unfair and deceptive act or practice to fail to treat a consumer fairly.” FSRA could regulate the sector more effectively if an insurer had to demonstrate compliance with a positive obligation (as it could then audit that the insurer has complied) rather than having to find and react to instances where a consumer has not been treated fairly.
FSRA should have full authority to make rules governing automobile insurance products so that it would have the continuous, long-term ability to make timely changes to products as needed.	While automobile insurance policy wording is approved by FSRA, key components are set through legislation (i.e., the SABS). FSRA has extensive automobile insurance expertise to support a comprehensive review of the insurance system and its products, and has proven it can run a successful rule-making process under the <i>Insurance Act</i> (e.g., establishing the UDAP rule) to modernize parts of Ontario insurance law. Full automobile insurance product rule-making authority would be a key enabler for FSRA to deliver meaningful automobile insurance reform.

Legend: SABS - Statutory Accident Benefits Schedule; UDAP - Unfair or Deceptive Act or Practices

* Other FSRA sector acts (e.g., *Credit Unions and Caisses Populaires Act, 2020*) have the ability to adopt this regulation.

automobile insurance industry by defining which outcomes are unfair and harmful. This has given FSRA a greater ability to define proper industry practices by setting what sector participants are no longer allowed to do if FSRA has deemed them unfair or harmful to consumers, such as prohibiting them from giving incentives or gifts to insured individuals to make a decision related to insurance products.

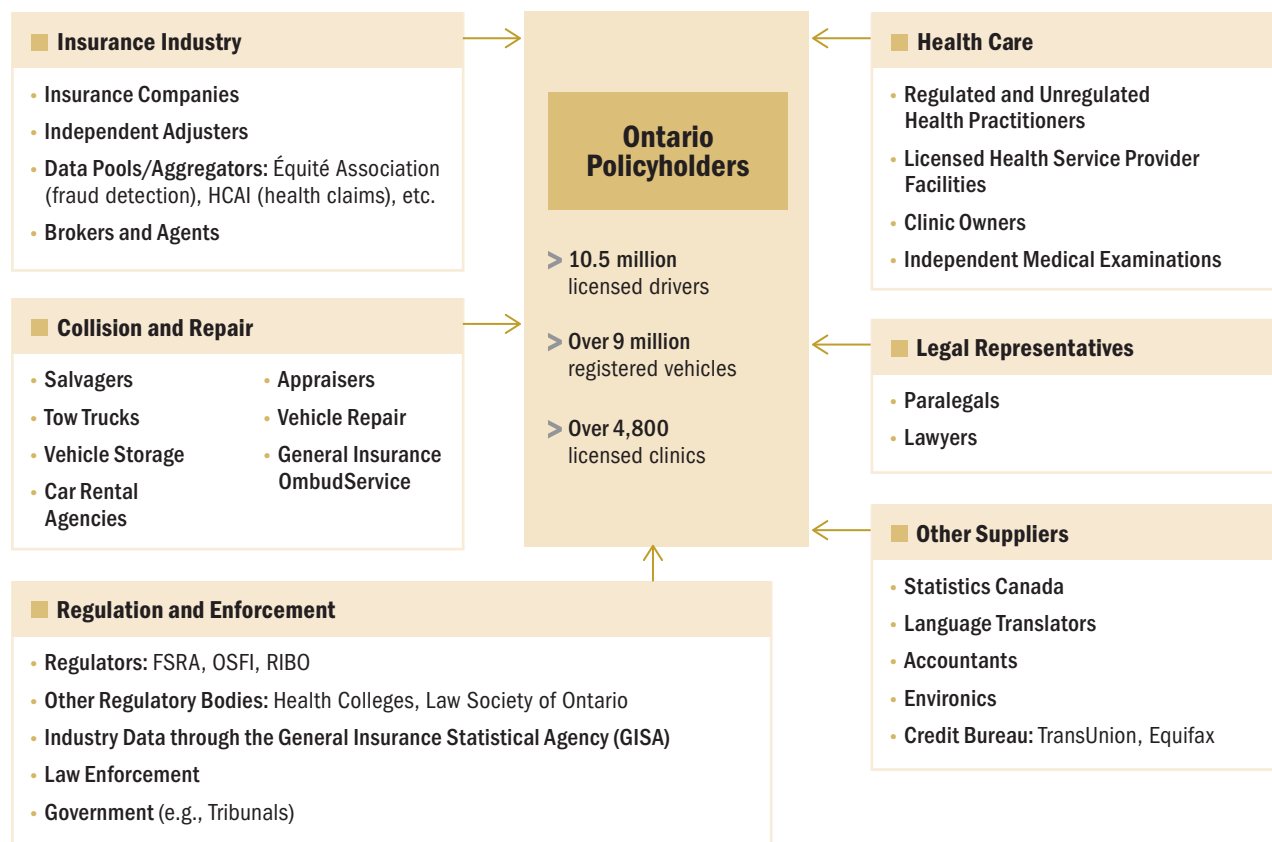
The automobile insurance ecosystem is diverse and engages participants from many different sectors, sometimes governed by their own statutes and regulators. FSRA's ability to effectively and comprehensively regulate more key aspects (such as the tow truck and automobile repair industries) of the automobile insurance industry is limited since its current legislated mandate and statutory authority is not exhaustive. FSRA is only responsible for licensing and overseeing insurance agents, adjusters and provincially licensed insurers. However, numerous other participants within the insurance ecosystem—such as automobile repair

shops, tow truck operators, legal professionals and regulated and unregulated health-care service providers—contribute to automobile insurance claims costs (see **Figure 16**). Thus, to be able to regulate the actions of a greater number of industry participants, FSRA may need its authority to be expanded under the *Insurance Act* to cover a greater number of these sector participants as it relates to claims costs and the treatment of those in vehicle accidents.

In October 2020, FSRA made additional proposals (see **Figure 17**) to the Ministry to strengthen its investigation and enforcement authority in relation to fraud, so that it can take possible enforcement action when needed against persons who engage in fraud and abuse in the broader insurance industry. As of July 2022, FSRA's proposal to modernize its authority under the *Insurance Act* has been partially acted on by the Ministry. In the 2022 Spring Budget, the government announced its intent to combat fraud and abuse in the automobile insurance sector, which includes

Figure 16: Entities Comprising the Automobile Insurance Sector in Ontario

Source of data: Financial Services Regulatory Authority of Ontario



Legend: FSRA - Financial Services Regulatory Authority of Ontario; HCAI - Health Claims for Auto Insurance; OSFI - Office of the Superintendent of Financial Institutions; RIBO - Registered Insurance Brokers of Ontario

providing additional legislative powers to FSRA, particularly the ability to have fraud information provided to it by automobile insurance companies. However, the Ministry has not acted on the other requests (identified in **Figures 15** and **17**), such as granting FSRA greater authority to take enforcement actions or giving FSRA greater rule-making authority over the automobile insurance sector.

The government of Ontario has put forward proposals to improve the regulation of the automobile insurance sector. Its 2019 The Blueprint for Putting Drivers First Plan included 21 initiatives to, for example, lower costs, reform the medical assessments process and make the automobile insurance market more competitive. Some of the items within this plan align with recommendations Marshall made in his 2017 report to the government, such as implementing a

“Care, Not Cash” approach. However, partly due to the COVID-19 pandemic, no action has been taken on multiple initiatives (see **Appendix 12** for the government of Ontario’s progress against its 2019 The Blueprint for Putting Drivers First Plan). In its 2022 Budget, the Province reaffirmed its commitment to this blueprint and to “continue fixing automobile insurance”—including proposing amendments to the *Insurance Act* that would require insurers to provide fraud information and data to FSRA on an ongoing basis. As noted in **Section 4.1.1**, while the extent of fraud has historically been difficult to measure, it has been identified as a contributor to the high cost of automobile insurance premiums in Ontario.

Figure 17: FSRA's Proposed Amendments for the Regulation of the Automobile Insurance Sector, October 2020

Prepared by the Office of the Auditor General of Ontario

Proposed Amendment to the Ministry of Finance	Rationale
FSRA requested further authority to take enforcement actions, such as levying financial penalties and sanctions, against non-licensed entities in the industry as required.	- FSRA has the ability to sanction licensed agents who engage in fraudulent or abusive conduct and/or revoke their licences. However, the Unfair or Deceptive Act or Practices (UDAP) rule and the overall legislative scheme have not been expanded to include misconduct by sector participants whom FSRA does not license (e.g., collision repair shops, storage facilities, tow truck operators). As well, lawyers are entitled to certain exemptions. - This amendment would allow FSRA to take enforcement action, such as levying financial penalties and sanctions against these entities as required.
FSRA requested to implement a fraud-reporting service whereby automobile insurance companies would report identified fraudulent activity and metrics related to fraud management. FSRA also sought approval to require insurers to develop fraud-management plans that it would assess for adequacy.	This would allow FSRA to more accurately identify, investigate and quantify fraud in the entire sector. With the 2022 <i>Ontario Budget</i> committing to consultation on fraud management plans, FSRA can take the next step of exploring ways to implement this initiative.
FSRA requested to obtain Special Constable Status for its investigators, who are already Provincial Offence Officers, so they can lay charges under fraud-related provisions of the Criminal Code of Canada.	- This would allow FSRA, subject to pre-consultation with the Crown Attorney, to take direct action against sector participants it does not license and FSRA licensees who engage in fraudulent conduct. Criminal Code tools such as production orders and search warrants would then also be available. - These powers are already in place for other regulators, such as the Ontario Securities Commission, but the Ministry of the Solicitor General has not yet decided whether to extend these powers to FSRA's investigators, despite requests that this be done.

RECOMMENDATION 3

To improve the tools the Financial Services Regulatory Authority of Ontario (FSRA) uses to oversee Ontario's private passenger automobile insurance sector, we recommend that the Ministry of Finance (Ministry):

- review whether FSRA can better oversee more entities in the insurance system (including automobile repair shops and tow truck operators);
- work with FSRA to develop a co-ordinated assessment process for both entities of any legislative or rule-related requests that FSRA makes, including regular updates on the status and timing of a decision; and
- prioritize the further review of FSRA's already proposed fraud reduction initiatives and recommendations, and if warranted, approve them.

MINISTRY RESPONSE

The Ministry accepts the Auditor General's recommendation and will continue working collaboratively with FSRA to ensure the agency has the appropriate authority to fulfill its mandate and continues to receive updates on the status and timing of any proposals it makes.

The Ministry recently expanded FSRA's authority by increasing the applicability of the Unfair or Deceptive Acts or Practices (UDAP) rule as well as giving FSRA legislative powers to collect fraud information from the sector. The Ministry will consider further expanding FSRA's authority where deemed necessary.

The Ministry and FSRA collaborate on a regular basis to improve consumer protection for automobile insurance. The working relationship

between the Ministry and FSRA is established and guided by the Agencies and Appointments Directive.

4.1.3 Oversight and Disclosure Requirements of Automobile Insurance Brokerages Are Inadequate

Our audit found that FSRA has not focused on ensuring, through its review of the Registered Insurance Brokers of Ontario (RIBO), which is the self-regulatory body for insurance brokerages and insurance brokers, that insurance brokerages and brokers are effectively overseen and that they provide important disclosures to consumers. For example:

- FSRA's oversight is limited**—RIBO oversees both insurance brokerages and insurance brokers, who can provide consumers with insurance from a number of different insurance companies. Insurance agents work with only one insurance company. FSRA reviews RIBO's operations annually to ensure that automobile insurance brokers and brokerages are being effectively overseen by RIBO, in the best interests of automobile insurance consumers. However, FSRA's most recent review focused on RIBO's plans and policies as opposed to RIBO's oversight of the insurance broker industry as a whole. Neither FSRA nor RIBO have performed a detailed analysis of the insurance broker industry overall to determine if there is systemic bias in the way brokers operate or refer clients, based on ownership and commission structures between them and insurance companies (see below).
- Consumer disclosure of brokerage ownership or insurer/brokerage insurance sales arrangements is not always occurring**—An insurance company can own all or most of an insurance brokerage, potentially resulting in that brokerage suggesting more of its parent company's products to consumers. However, there is no requirement for a broker to explicitly communicate this ownership relationship to

consumers prior to them providing a quote and product recommendation. We noted that most brokerages disclose this on their website. Particularly, as a result of the COVID-19 pandemic, obtaining a private passenger automobile quote online became more attractive. In a sample of 50 websites of insurance brokerages in Ontario we reviewed, 43 (86%) of them disclosed the degree of financial interest (including ownership) that insurance companies have in them. However, we noted that in a sample of 10 phone calls we made to insurance brokerages to request a quote for private passenger automobile insurance, only one disclosed any financial interest in it from insurance companies prior to being asked. Knowing the commission brokerages receive from insurance companies they sell insurance for can help consumers decide where to purchase their insurance from. However, in the sample of 50 websites we reviewed, only 14 (or 28%) of brokerages disclosed this type of information to consumers. FSRA can do more to encourage RIBO to require that important information (such as if an insurance company has any ownership of an insurance brokerage) is disclosed by insurance brokers to all private passenger automobile insurance consumers, and that this and other information (such as the commissions insurance brokerages receive from each insurance company they work with) are confirmed as being disclosed to consumers based on FSRA's own inspections or by ensuring that RIBO's inspections verify that this is occurring. In total, only 14 (or 28%) of the 50 insurance brokerage websites we reviewed disclosed both financial interest in it and commissions received by insurance companies. See **Appendix 13** for more details.

RECOMMENDATION 4

To improve the oversight of insurance brokers and brokerages, and to offer consumers better protection and information about these entities, we

recommend that the Financial Services Regulatory Authority of Ontario (FSRA):

- collaborate with the Ministry of Finance and the Registered Insurance Brokers of Ontario (RIBO) to improve and refine requirements for brokerages, brokers and insurance companies to disclose information (such as the degree of financial interest an insurance company has in a brokerage, including ownership, and the commission structure of each insurance company a brokerage works with) to consumers prior to providing them with all available quotes including on their website and over the phone;
- collect information from insurance brokerages (such as on the commission structure), or require RIBO to systematically collect and provide to FSRA such information as part of its annual inspection of RIBO, and prioritize conducting inspections of brokerages identified as higher-risk (such as those brokerages who receive higher commissions than usual and/or brokerages who insurance companies have a financial interest in and sell insurance for); and
- incorporate an assessment of RIBO's proposed actions, or recommend actions to improve RIBO's compliance with its own insurance broker and brokerage inspection targets, as part of its annual inspection of RIBO.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA thanks the Auditor General for this recommendation.

While insurance broker conduct is regulated by the Registered Insurance Brokers of Ontario (RIBO) and RIBO is governed by the *Registered Insurance Brokers Act* (RIBO Act), FSRA reports to the Minister of Finance on RIBO. FSRA will continue to prioritize the importance of disclosure and proactive supervision in its RIBO examinations. The 2021 examination of RIBO conducted by FSRA covered RIBO's shift to a risk-based approach that targets broker compliance, which will include

improved data collection. FSRA will continue to monitor and assess RIBO's oversight, including the execution of RIBO's strategic plan.

Requiring additional disclosures on, or supervisory actions related to, insurer ownership of brokerages goes beyond FSRA's authority, but the regulator is able to collect information from and to review how RIBO is overseeing the insurance brokerage industry. FSRA will review how RIBO is prioritizing inspections of higher risk brokerages.

FSRA will also review how RIBO is overseeing compliance with disclosure requirements for brokerages, and if actual disclosures to consumers as well as supervisory actions (such as broker and brokerage inspections) taken by RIBO are all sufficient.

The results of the reviews above will be included in our annual examination of RIBO, which is performed per the requirements in the RIBO Act.

4.1.4 Limited Oversight of Health-Care Service Providers Who Treat Automobile Accident Victims

Some health-care service providers (HSPs) offer medical treatment, such as physiotherapy and chiropractic services, to individuals involved in automobile accidents. As of June 30, 2022, over 4,800 HSPs were licensed with FSRA and, as such, must adhere to certain business practices such as providing annual information about their operations to FSRA.

However, our audit found that many HSPs are not licensed with FSRA because it is not a requirement to do so. The benefit of holding a licence is that HSPs are able to receive payment directly from insurers for medical services provided to automobile accident victims through the Health Claims for Auto Insurance (HCAI) system, an Ontario-wide accident benefit billing system. A licence requires HSPs to pay a fee (\$337 at the time of licensing, and then an annual fee based on the size of and number of Statutory Accident Benefits Schedule claimants at the HSP) and submit to FSRA annual information, for example, on billing and business practices. As of June 30, 2022, there were

over 1,480 medical providers who provided medical treatment to individuals involved in automobile accidents that were unlicensed to bill insurance companies directly. Services provided by these providers represent 1% of all HCAI invoices.

An individual seeking treatment at an unlicensed clinic will have to pay out of pocket at the clinic, and then seek reimbursement from their insurance company. Unlicensed HSPs also do not need to submit any information to FSRA. The regulator has the authority to conduct further review of unlicensed HSPs, but to date it has not done so as its ability to do such reviews is limited to when it has reasonable belief that an HSP has been conducting a licensed activity without a licence, which to date it has not had.

FSRA Does Not Conduct Follow-Up Work on Health-Care Service Providers to Confirm They Have Addressed Recommendations from Its Inspections

In 2014, FSRA's predecessor, FSCO, was granted authority over HSPs who treat automobile accident victims whose claims are submitted to an automobile insurance company for direct payment. FSCO, in its 2016/17 inspections of HSPs, identified that a lack of signing insurance forms by HSPs and/or clients was noted in 36% of inspections, and stated that this creates an opportunity for an HSP to facilitate fraud, directly or indirectly. The impact of the COVID-19 pandemic required FSRA to move to virtual inspections of such providers. In 2021/22, FSRA conducted virtual inspections of 326 HSPs, which focused on previously identified risks. However, these inspections were limited to questionnaires and email correspondence, which relied entirely on self-attestation by HSPs. It is important to note that FSRA did not have much choice in terms of conducting virtual versus on-site inspections; however, with COVID-19 restrictions eased, the lack of on-site inspections is a risk identified by FSRA for the HSP sector. FSRA is currently exploring options for a return to on-site inspections.

As part of our audit work, we reviewed 20 virtual inspections of HSPs conducted by FSRA since its inception in 2019. We noted that five of these inspections found instances of non-compliance by HSPs, including

an outdated roster of clinicians who bill for medical services, and insufficient policies and procedures. In these instances, FSRA issued a warning letter to each HSP explaining the issues that required action to comply with the law. FSRA also has the ability to provide education, issue warnings, or levy administrative monetary penalties, depending on the severity of the non-compliance. Additionally, FSRA may also require HSPs to surrender their licences, or may suspend, revoke or place conditions on their licences.

However, we noted that FSRA does not require HSPs to attest to or demonstrate that all cases of non-compliance have been rectified after an inspection. Moreover, FSRA does not currently have a regime in place where it follows up on all HSP licensee reviews where non-compliances were identified. Instead, FSRA uses a risk-based approach to select licensees for review. This approach incorporates prior findings, if any, as well as other factors such as complaint history. Given the past history of non-compliances found by FSCO, we believe that further work is needed to ensure HSP non-compliances are fully addressed.

RECOMMENDATION 5

To improve regulatory oversight of health-care service providers (HSPs) who provide medical treatment to individuals involved in private passenger automobile accidents, we recommend that the Financial Services Regulatory Authority of Ontario (FSRA):

- determine under what conditions should further review of an unlicensed HSP occur;
- return to on-site inspections of HSPs as soon as operationally possible; and
- require HSPs to provide evidence (such as through attestation) that they have corrected all issues identified during an inspection, and conduct follow-up examinations or desk reviews to confirm this on a risk basis.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA appreciates and accepts the recommendation of the Auditor General and will perform an analysis to identify under what conditions an unlicensed HSP should be reviewed and inform the Ministry of the results.

FSRA has had notable success in removing HSPs from the Health Claims for Auto Insurance system (HCAI) without the cost and expense of on-site examinations but, where appropriate, FSRA plans to resume HCAI compliance examinations in 2023 on a trial basis, subject to applicable government directives and public health recommendations. Our on-site examinations will focus on higher risk HSPs, including those with prior deficiencies, to verify compliance with FSRA's billing-related regulatory requirements. We will compare the costs/benefits of desk reviews, on-site reviews and data analytic reviews as we develop our HSP supervisory model.

FSRA accepts the recommendation to require HSPs to provide evidence that they have corrected all issues identified during an inspection, such as through attestation. We will perform an analysis and engage with stakeholders to determine how best to address this recommendation, including verification that HSPs corrected the issues raised during inspections on a risk basis.

4.1.5 Accident Benefit Appeals Are Not Reviewed to Improve Oversight of Insurers and Provide Consumers with Information

The Licence Appeal Tribunal (LAT) conducts hearings in multiple sectors, including hearings on disputes over private passenger automobile insurance accident benefits claims. FSRA receives data on automobile insurance disputes that are processed through the LAT as part of an information-sharing agreement with Tribunals Ontario. The purpose of this agreement is to enable FSRA to carry out its mandate to monitor and evaluate developments and trends in the regulated sectors.

FSRA Could Benefit from the Review of Information from the LAT to Determine How It Can More Effectively Regulate the Sector

As part of our audit, we reviewed the LAT data that is shared with FSRA. This data includes very high-level statistics such as the number of dispute applications, the categories each falls into (e.g., medical benefits), and how each party was represented (e.g., by a lawyer). We found that although FSRA receives this information from the LAT quarterly, it does little with it to better understand the types of cases that are appearing before the LAT, and if regulatory changes or other actions would reduce the number of LAT hearings on automobile insurance matters.

For instance, in the fourth quarter of the 2021/22 fiscal year, 2,072 (or over 13%) of the disputes received by the LAT's automobile insurance appeal unit were associated with medical assessment costs. Based on the data we reviewed at FSRA, we noted that from 2015–2021, assessment billing approval ratings varied by insurance company. One insurer had abnormal results in 2015 and 2016 with an approval ratio for insured-initiated medical inspections of 82% and 86%, respectively. All other approval ratios in other years for all insurers were greater than or equal to 98%. While FSRA does review approval/denial rates at both the industry and individual insurer levels, it does not currently follow up with insurance companies that have a lower or higher approval rate of submitted medical expenses to understand why their results deviate from the rest of the industry. FSRA explained that it started obtaining this data in November 2020 for the first time and is regularly collecting and working with the data to identify emerging trends.

FSRA Does Not Obtain Details of Automobile Insurance Companies That Frequent the LAT to Better Monitor the Industry

FSRA also has an opportunity to receive more data from the LAT to better oversee the insurance companies it regulates. For instance, FSRA does not receive the names of the companies that each claim involves, specific details of cases, or the time period a dispute was within the Tribunal. As such, FSRA is unaware of

Figure 18: Appeals at the Licence Appeal Tribunal, 2018/19, and Market Share of the Automobile Insurance Industry, 2021

Source of data: Financial Services Regulatory Authority of Ontario; Licence Appeal Tribunal

Company/ Insurance Group	Written Premium (\$ million)	Appeals within the LAT	% of Industry by Written Premiums	% of Appeals within the LAT
Intact	2,581	1,483	19.74	10.94
Desjardins	2,052	9	15.69	0.07
Aviva	1,576	2,682	12.05	19.79
TD	1,363	394	10.42	2.91
Allstate	1,120	987	8.56	7.28
Co-operators	1,018	432	7.78	3.19
Economical/Definity	932	404	7.13	2.98
CAA	574	136	4.39	1.00
Travelers	395	466	3.02	3.44
Wawanesa	394	598	3.01	4.41
Gore Mutual	214	144	1.64	1.06
Northbridge	197	52	1.51	0.38
All others	661	5,768	5.05	42.55
Total	13,077	13,555	100	100

– Indicates instances where companies had a higher percentage of appeals within the Licence Appeal Tribunal than their share of written premiums in the industry.

which insurers were most involved with disputes and the common reasons those companies had specific claims brought before the LAT.

For example, we found that in 2018/19, the LAT received over 13,500 applications involving over 130 insurance companies. We compared the total number of appeals by each of the largest 12 automobile insurers in Ontario at the LAT, against the market share of each of these companies. We found that a major insurance company, Aviva, had a disproportionately large number of applications and appeals at the Tribunal. As shown in **Figure 18**, this insurer held about 12% of the total market share of the industry in Ontario in 2020, but was involved with over 19% of the appeals at the Tribunal in the 2018/19 fiscal year. This does not necessarily mean that Aviva is over-utilizing the LAT or engaging in inappropriate behaviour with its customers, or that other automobile insurance companies are appropriately using the LAT. However, without further discussion with or inspection of automobile insurance companies or further analysis of cases heard before the LAT, this is still unclear.

While FSRA is not responsible for the operations of the LAT, the insurance companies it licenses and regulates will always be one of the parties involved in disputes that arise over issues such as denied claims or treatment plans processed by the LAT. FSRA has not conducted inspections of specific insurance companies to understand why so many claims are brought forward against them. If it did, FSRA could use such assessments to engage the insurers in order to identify necessary changes to its own rules or industry regulations to decrease the need for LAT hearings in the future. However, without performing sufficient analysis of this information, FSRA may be losing out on the opportunity to more proactively monitor the industry.

For example, our analysis of LAT appeals between Q3 2019/20 and Q4 2021/22 noted that one of the most frequent issues raised in cases at the LAT was related to the costs of medical assessments, which was raised in about 13% of claims. FSRA has an opportunity to analyze this data and provide details of these cases to the Ministry and the public to better inform their understanding of disputes between automobile

insurers and claimants. FSRA could also use the findings of such an analysis to engage with automobile insurance companies to ensure their practices reduce the likelihood that LAT cases are needed, or to help inform regulatory changes that FSRA (and the Ministry) can make to reduce such cases at the LAT for the benefit of the industry as a whole.

As identified in **Section 4.1.1**, this is of concern as contingency fees (paid to lawyers by individuals to represent their cases at the LAT) surrounding automobile insurance claims result in several hundred million dollars each year—costs that are ultimately recovered by insurance companies through higher consumer automobile insurance premiums.

Important Details in LAT Proceedings with Insurers Are Not Made Public

In addition, our audit found that little about automobile insurance claims heard by the LAT is publicly reported (by either the LAT or FSRA). Specifically, the data disclosed by the LAT to FSRA and the public includes the total number of closed files, categorized by how they were closed (e.g., settlement, LAT decision). The LAT releases decisions on its cases through the Canadian Legal Information Institute (CanLII), but the information is not easy for the public to obtain or understand as the website only offers transcripts of court cases, and not summary data of companies or disputes in question.

Other important items could be made public, such as details of the common categories or types of disputes heard at the LAT and which insurance companies these commonly occur with, to increase transparency to members of the public and help them make more informed insurance purchasing decisions.

RECOMMENDATION 6

To reduce the number of claims brought forward to the Licence Appeal Tribunal (LAT) and to provide the public with more information about such cases, we recommend that the Financial Services Regulatory Authority of Ontario:

- expand its information-sharing agreement with the LAT to request information about automobile accident disputes, including which companies were involved and how long cases took to resolve;
- expand its quarterly analysis of data received from the LAT to determine which companies may be over-appearing at the Tribunal (such as relative to their market size) and/or which types of claims are most frequent;
- follow up, by way of discussion, or if necessary inspection, on the market conduct of insurance companies that have a disproportionately high number of LAT disputes relative to their market size, or a high volume of specific types of disputes, and identify necessary action items for the companies to take to reduce the occurrence of such cases going forward; and
- study the reasons for the most frequent types of disputes.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA thanks the Auditor General for its recommendation to reduce the number of claims brought forward to the Licence Appeal Tribunal (LAT) and to provide the public with more information.

Where FSRA believes that interpretation of the information on LAT outcomes is required to improve the regulation of the private passenger automobile insurance sector, we will collect this information. However, FSRA has no jurisdiction over the LAT or reliable information on its processes and, leaving aside extenuating circumstances such as insurer misconduct, contractual disputes between the insurer/insured are outside of FSRA's jurisdiction. FSRA has, however, heard the view expressed that the number of disputes brought to the LAT is too high.

FSRA has advised the Auditor General that the current system incentivizes prolonged disputes and

litigation. This is driven by parties on both sides of automobile insurance disputes and not only by insurers. It is FSRA's view that the most productive way to reduce LAT disputes is by reducing conflict in the automobile insurance system among financially interested parties at its root cause rather than addressing a symptom. This is consistent with FSRA's approach to regulation, in general, which is focused on desired outcomes.

FSRA will bring forward this recommendation to its Product Technical Advisory Committee for Auto Insurance Products (P-TAC). The P-TAC is focused on improving consumer outcomes and includes insurers, health-care service providers, and lawyers—all participants in the LAT. The Committee's Terms of Reference permit the P-TAC to make recommendations including those that may be outside FSRA's current regulatory authority in which case they can be referred to the appropriate body. We will also explore what other information may be useful for FSRA to receive and share.

4.1.6 FSRA's Licensing System Lacks Efficiency and Its Renewal Process May Allow Insurance Agents to be Re-licensed Without Updated Criminal Record Checks Being Performed

We found that FSRA does not have a streamlined process to license entities other than insurance agents, despite being responsible for licensing insurance companies, agents, adjusters and health-care service providers (HSPs) in Ontario. As of June 30, 2022, about 310 insurance companies, 67,000 insurance agents, and 4,600 HSPs were licensed with FSRA. From 2018/19 to 2021/22, the number of applications received by FSRA from prospective insurance agents increased by over 8% to 35,315.

Outdated Licensing Systems Contribute to Inefficient Application Processing Work

FSRA's Market Conduct Division, which is responsible for licensing these entities and individuals, has an authorized complement of 124 full-time staff for 2022/23. FSRA uses legacy systems from its

predecessor FSCO to license market participants. The most commonly used system, ALIAS, has been used to license insurance agents since 2002. As part of our audit, we obtained walkthroughs of FSRA's licensing systems and processes from Market Conduct Division staff and noted the following:

- The process to license insurance adjusters is not linked to an application system. Adjusters must complete an online form that is uploaded and submitted to FSRA through an online portal. FSRA's Market Conduct Division team must then manually key in the information from the form into the adjuster database before starting the licence application review.
- FSRA has a watchlist of individuals who, for example, were caught cheating on a prior insurance exam or engaging in criminal activity. However, the ALIAS licensing system does not automatically monitor and flag if people on the watchlist make licensing requests. Instead, FSRA's licensing staff must check each applicant against the watchlist, which increases the risk that an individual who applies to be licensed and is on the watchlist is not identified and is allowed to be licensed. If an individual is found on the watchlist, FSRA will not license them without going through a review by an escalated unit. However, as mentioned above, given that this is a manual check, it is possible that an individual on the watchlist is not accurately identified when a licensing request is made.
- In discussing these points with licensing staff at FSRA, we found that, as a result of these limitations, FSRA's licensing systems lacks efficiency as the many manual steps within the process have contributed to long turnaround times and an inability to automatically integrate licence applications into a licensing system at the point of application. We also reviewed the backlog in processing licence applications at one point in time (May 2022) for both adjusters and insurance agents as FSRA's current systems do not have the capability to generate a pending report from the past. We noted that 62 adjusters and

1,178 agents were waiting to have their licence processed at that time. The average wait time for the approval of applications was about 64 days for adjusters and about 35 days for agents. FSRA explained that many of the individuals on these lists have not responded to the regulator when asked for additional items before being licensed, and this has slowed down the approval time. Although this is reasonable, upgrading its licensing system would allow FSRA to have greater data-tracking capabilities and may also help to reduce turnaround times.

Criminal Background Checks of Insurance Agents Not Consistently Performed on Licence Renewal Applications

In our walkthroughs of FSRA's licensing systems and processes, we noted that in order to obtain a general insurance licence, which allows an individual to sell automobile insurance (among other types of insurance), the individual must meet certain criteria including being sponsored by an insurance company and completing the Other Than Life Agent's Exam which allows agents to sell insurance other than life insurance. Applicants must also answer questions such as whether they have claimed bankruptcy, have a criminal record, or have been flagged by other regulators for issues such as penalties or licence suspensions.

FSRA conducts its own assessment of these individuals, using criminal background checks and checks with other regulators, but only when an individual is initially licensed and not upon renewal (unless the licensing system kicks the application out for review when an applicant is red-flagged or a disclosure prompts it).

There are many reasons for a renewal to not be automatically granted, such as the individual being red-flagged as noted above, an individual disclosing a criminal charge or offence, or an individual being found to omit such disclosure on their licensing renewal form. FSRA's renewal process largely depends on insurance agents self-reporting; individuals who have been charged with an offence or obtained a

criminal record after being initially licensed might indicate that they have not on their renewal application.

FSRA has an agreement with the Royal Canadian Mounted Police, giving it access to a Canadian Police Information Centre (CPIC) terminal at no cost to the regulator. This terminal allows FSRA to identify whether an individual has been charged and/or convicted with a criminal offence for all new applications and certain flagged renewals. However, FSRA does not check all renewal applications in this manner.

We selected a sample of 50 insurance agent renewal forms and asked FSRA to run a CPIC background check on the individuals. Three (or 6%) of the individuals sampled had been charged with a crime at some point in their lives, although we noted that no individuals were convicted, and all charges were either withdrawn or involved a stay of proceedings (when a court is ordered to stop or pause a legal case). Examples of these charges include theft, assault, and false pretences under \$1,000.

In all the cases we reviewed, the criminal charges related to before the initial licensing, and fortunately the cases were known by FSRA when the individuals were initially licensed. However, we noted that all three of the individuals who had been charged in the past responded "No" when filling out their licence renewal forms. This illustrates that agents may not always provide accurate information when self-reporting.

While it can be very time-consuming to run criminal background checks on all agent licence renewals, not doing so may allow individuals with recent criminal charges to sell insurance in Ontario. As such, there is a risk that some insurance agents may still have their licence renewed after having engaged in illegal conduct. FSRA's own Stakeholder Advisory Committee for Life and Health Insurance (made up of senior managers of insurance companies or sector participants) suggested in June 2020 that FSRA should enhance its licence renewal process for insurance agents.

Since FSRA is not prohibited from issuing or renewing a licence to those with charges or convictions, especially if they are very minor in nature, it is important that FSRA is vigilant in ensuring it has

fulsome and accurate information before determining whose licence should be renewed.

RECOMMENDATION 7

To ensure that private passenger automobile insurance companies, adjusters and agents are efficiently and fully reviewed for eligibility and suitability, and that necessary information is considered before making any automobile insurance-related licensing decisions, we recommend that the Financial Services Regulatory Authority of Ontario:

- implement an automated licensing system that includes improved information-capture capabilities (such as an online information system for the registration and licensing of all regulated automobile insurance sector participants), and enhanced controls (such as a hard-coded watch-list), to prevent individuals deemed ineligible and/or unsuitable for licensing from being licensed;
- review the current licensing requirements with internal staff and external stakeholders and strengthen them where the review concludes it would be appropriate to do so; and
- identify and perform a pre-determined number of criminal background checks and other licensing requirements, such as checks with other regulators, before renewing an insurance licence, using a risk-based approach.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA acknowledges this recommendation. FSRA is implementing an automated licensing system as part of a broader project which will enable its core regulatory and other business areas to operate as a modern, efficient, outcomes-focused regulator. The licensing function is one of the priorities of the project and it is expected that automation will be implemented in aspects of FSRA's licensing processes.

There are presently licensing requirements for General Agents who work in Property & Casualty insurance, including automobile insurance. The requirements include a licensing exam and mandatory sponsorship by an insurance company at all times. FSRA will further review and recommend changes to strengthen the legislation as needed.

FSRA will review the requirement for criminal record checks on a risk-based approach for insurance licence renewals, and make the necessary changes to strengthen this process.

4.1.7 Factors Used to Determine Automobile Insurance Rates May Lead to Inequitable Rates Among Consumers Based on Gender or Where They Live

Each insurance company determines which rating variables to use in calculating an individual's automobile insurance premium. We found that Ontario allows insurance companies to use variables (such as sex/gender or territory) that other jurisdictions do not use or prohibit by law. For example, while Ontario allows these variables, Manitoba and Saskatchewan do not use an individual's age or sex to calculate insurance premiums. On the other hand, Ontario prohibits other rating variables (such as a credit-based insurance score used in Nova Scotia) by law that other jurisdictions permit.

We reviewed a sample of five rate applications received by FSRA from automobile insurance companies, which showed how these companies calculate their insurance rates. We found that some of the companies may use up to 20 rating variables to calculate each individual's premium, including age, sex/gender, driving history, territory, type of vehicle, years insured and marital status. While using more rating variables for individuals tends to reduce the impact of any one variable, and spreads risk and cost over large groups of people, we noted that using certain variables may create an inequitable situation for consumers, particularly those with a good driving history.

In our review of a sample of the rating applications submitted to FSRA, we found differences in how each

insurance company calculates a consumer's premium; when reviewing the impact of territory on insurance premiums, we found that different insurance companies weighted where a person lives differently. The difference can be as low as approximately 67% to as high as approximately 300%. For example, a territory comprising most of the GTA (a historically more expensive territory for private passenger automobile insurance) had an average annual premium of \$2,231 in 2021, while the Ottawa territory had an average annual premium of \$1,360 in 2021. FSRA confirmed that territory can impact an insurance premium in multiple ways, and there may be interaction within multiple variables. Insurance companies do this in order to reflect the impact of higher claims cost in the geographic area where a person lives. However, territory differences can encourage consumers to provide an address in a cheaper territory where they do not live, in order to reduce their premium, a source of fraud.

We obtained 10 quotes for private passenger automobile insurance from different insurance companies for a consumer where the only factor about the person we changed was where they lived in Ontario. Insurance rates for this individual ranged from \$1,200 per year (when the individual lived in London) to \$3,350 per year (when the person lived in Brampton).

The use of an individual's postal code as an insurance rating variable has been a topic of conversation in government and criticized by some as unfair. In March 2022, MPPs brought forward Bill 103, Ending Automobile Insurance Discrimination in the Greater Toronto Area (GTA), which proposes to consider the GTA as a single territory and to stop using single municipal geographic territories as a rating variable in the GTA. Historically, residents in certain municipalities, such as Brampton and Vaughan, have paid higher premiums on average compared to residents in other parts of the GTA and Ontario, even if individuals living in those municipalities have accident-free driving records, due to these being areas with higher claims costs overall. Use of the rating variable has allowed insurance companies to establish different rates for territories that are inherently riskier, for instance, based on driving conditions, driver behaviour, population density and

highways. We noted that companies are not permitted to use more than 55 territories in the province, and that Ontario's territory definitions are significantly outdated, as the last review of them was released in 2005 by FSRA's predecessor FSCO.

In April 2022, the Minister directed FSRA to review its territorial ratings framework and report its findings to the Minister of Finance. The Insurance Bureau of Canada (IBC) also stated in a July 2022 article that a review of current territory rules in Ontario may be beneficial.

We reviewed how insurance premiums are calculated in other Canadian jurisdictions. In the provinces with public insurance systems, the calculation of an insurance premium is much simpler. For instance, as shown in **Figure 19**, Saskatchewan does not calculate rates using age, gender or where an individual lives, but rather uses variables such as vehicle type and use, and the individual's driving record. Manitoba uses vehicle, territory, vehicle use and driving record as rating variables. Alberta, which has a private system like Ontario, uses similar variables as Ontario to calculate insurance premiums. We noted that in 2021, Alberta implemented an updated method of using territories in the calculation of insurance premiums, whereby the cap on the number of territories to be used was removed, leaving it up to automobile insurance companies' actuarial data to determine how many territories are necessary. All territories must be approved by the province's regulator. FSRA should review the impact of this decision on Alberta's private passenger automobile insurance rates to help it determine the most appropriate changes to make regarding the inclusion of territory in consumer's private passenger automobile insurance rates.

We also found that certain Canadian provinces (such as Manitoba and Saskatchewan) in addition to other jurisdictions around the world—including the European Union and multiple US states (such as California, Hawaii, Massachusetts)—have eliminated the practice of using an individual's sex/gender to determine their insurance premium, on the basis of this being inequitable. It was noted in some of these jurisdictions that although this practice was banned, male drivers still paid higher insurance rates than women,

Figure 19: Examples of Rating Variables Used to Determine Private Passenger Automobile Insurance Premiums in Selected Provinces

Prepared by the Office of the Auditor General of Ontario

Rating Variable	AB	SK	MB	ON
Age	✓			✓
Sex/Gender	✓			✓
Marital Status	✓			✓
Territory ¹	✓		✓	✓
Driving History/Record	✓	✓	✓	✓
Vehicle Type	✓	✓	✓	✓
Vehicle Use ²	✓	✓	✓	✓
Years Insured	✓	✓		✓
Kilometric Travel ³	✓			✓

1. Territory only impacts the insurance rates taxi drivers pay in Saskatchewan.

2. In Saskatchewan, vehicle use may be used as a rating variable, for example, when an individual is renting their vehicle for compensation.

3. In Saskatchewan, kilometric travel is not generally factored into rates for private passenger vehicles for personal use. This may be used in some of the commercial classes, as well as for Transportation Network Companies, such as Uber, in the province for drivers participating in ride sharing.

assuming that male drivers, overall, create a higher claim cost to automobile insurance companies than female drivers. This has meant that men with good driving records have to pay a higher premium simply because other men are higher-risk drivers. Based on the data we assessed, we found that men, on average, generally do pay higher insurance premiums than women.

We noted that insurance companies also differ in the way they use sex/gender in their calculation of premiums, such as reducing rates at different ages depending on sex. For instance, as part of our review of filing applications, we noted that for one insurer, males do not always pay more than females. Males between ages 16 and late 20s, and above late 50s, generally pay around 15% more, on average, than their female counterparts for two coverage categories included in an insurance premium (bodily injury and property damage). However, in this example, females typically pay more for accident benefits across most ages.

To date, FSRA has not analyzed how changes to the current rating variables (specifically, removing sex as a variable for calculating premiums) would impact consumers. FSRA has completed a territorial analysis internally and has identified how removing territory

as a rating variable could impact average premiums by geographic location in the province. For instance, with this variable removed, residents in the GTA would see a reduction in their average premium by \$543, while Ontarians in Ottawa–Carleton would pay \$503 more, on average, to subsidize the removal of territory as a rating variable. However, despite Ontario's population growing about 20% between 2005 and 2022 (from about 12.5 million people in 2005 to about 15.1 million in 2022) and the population change in each territory occurring at a different rate (for example, between 2005 and 2022, the Kitchener-Cambridge-Waterloo area grew over 30% from about 445,000 people in 2005 to about 579,000 in 2022), FSRA, as noted above, has not yet updated the territory definition guidance used by insurance companies for determining automobile insurance rates to keep up with demographic changes that have occurred over the past 17 years (since 2005). However, in June 2022, FSRA began a Territory Research Project to identify ways to make territorial ratings fairer for consumers. It is working with an external consultant to review the existing territory guideline requirements; establish a new principles-based territory guidance; and identify, detect and

measure unfair discrimination. FSRA's preliminary review is expected to be completed in March 2023.

RECOMMENDATION 8

To maintain a regulatory environment where private passenger automobile insurance rates are based on equitable factors in determining insurance premiums to be paid by Ontarians, we recommend that the Financial Services Regulatory Authority of Ontario:

- conduct a review (including consultation with the Ministry of Finance, relevant stakeholder groups and the public) of the objectivity and fairness in insurance companies' use of certain rating variables to determine insurance premiums, such as the insurance purchaser's address, sex/gender and age;
- analyze the impact of removing or changing existing rate variables in insurance premium calculations;
- complete the review of its territory-based framework, and if necessary, update current territory definitions, identify the impact to average premiums of having both fewer and/or more territories in Ontario and make related recommendations;
- provide the results of the above reviews to the Ministry;
- publicly report on the results of the reviews; and
- implement the recommended changes to how automobile insurance companies can determine and charge for insurance premiums.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA thanks the Auditor General for its recommendation regarding automobile insurance rates including factors that determine premiums. While certain rating variables are outside FSRA's authority to regulate private passenger automobile insurance rates (e.g., prohibited variables such as credit scoring), FSRA reviews insurer rates and

underwriting rules for actuarial soundness and compliance with legislative requirements. FSRA notes, however, that prohibiting statistically sound rating variables could result in unfairness.

In FSRA's 2023–2024 draft Statement of Priorities, FSRA proposes to begin execution of its strategy for reforming the regulation of automobile insurance rates and underwriting in Ontario. This will consider the recommendation of the Auditor General and include, for example, continuing the review of the territory-based framework as directed by the Minister of Finance in April 2022.

The strategy is aimed at making FSRA's oversight more dynamic, flexible, and transparent for Ontario's consumers to ensure fair rates. Planned outcomes include a reformed legal and supervisory framework as well as improved sector operations that enable market entry, responsiveness, and innovation, and deliver value for money to consumers. Finally, we expect the strategy to empower consumers to make more informed decisions by enhancing transparency and providing more resources to improve their understanding of automobile insurance. Consultations on the strategy will continue in late 2022. We will consider what additional reviews should be conducted in addition to the territory-based review and other research in progress.

5.0 Detailed Audit Observations – Credit Unions

5.1 Credit Union Sector Oversight Needs Improvement

As the financial regulator of the credit union sector, FSRA is responsible for conducting key activities to ensure that credit unions are complying with all necessary rules and regulations and have good processes in place to reduce the risk of insolvency. FSRA does this through activities such as collecting information, monitoring credit union financial indicators, and

conducting inspections of regulated entities. Prior to 2019, these were the responsibility of the Deposit Insurance Corporation of Ontario (DICO). FSRA's initial regulatory processes followed those that DICO had implemented; we noted weaknesses with these processes and that FSRA has made improvements on a number of these.

Our audit found that FSRA's credit union inspection process has not been thorough or timely, and it has not confirmed whether issues found were actually resolved by inspected credit unions. FSRA's inspection process has been similar to the approach used by the Deposit Insurance Corporation of Ontario (DICO), which failed to detect the inappropriate processes used by Pace Savings and Credit Union Limited (PACE). In April 2022, FSRA implemented a new inspection process called the Risk-Based Supervisory Framework (RBSF). However, our audit found that the RBSF was launched prior to the release of a third-party report containing findings and lessons learned from the fraudulent practices that occurred at PACE (such as inappropriate payments to senior management and unlawful sales practices by PACE employees), and is still being developed to fully address the weaknesses we noted above. Further, FSRA does not consider all relevant information to determine what fees credit unions should pay into the Deposit Insurance Reserve Fund (DIRF), which would be available to reimburse members in the event of a credit union's insolvency. The DIRF is presently underfunded compared with similar funds in other Canadian provinces and FSRA's own historical target. These findings are discussed in greater detail below.

5.1.1 FSRA Did Not Inspect Credit Unions Thoroughly or in a Timely Manner and Did Not Ensure Issues Found Were Resolved

Our review of FSRA's credit union inspection process noted a number of weaknesses, including:

- **Inspections were incomplete**—For a sample of 20 inspections selected, we noted that eight did not collect fulsome information to evaluate governance at the credit union (such as how the

credit union's board operates) as this area was not included in the scope of the inspection. For instance, we found that in two inspections, there was no evidence that FSRA had assessed the effectiveness of the credit union's internal audit practices. Without a complete governance evaluation, FSRA may end up with an inaccurate risk profile for these credit unions, putting consumer deposits at risk.

- **Little action was taken to ensure inspection findings were resolved**—In four of the 20 credit union inspections we reviewed, we identified that an issue raised in the previous inspection of that credit union recurred in the subsequent inspection, even though the credit union's board of directors had provided a written attestation to FSRA that the necessary change had been made to prevent recurrence. For example, in 2018, FSRA's predecessor DICO inspected a credit union and identified that there was no evidence of sufficient board oversight of the audit committee, including audit committee duties that were unfulfilled such as assessing the independence and effectiveness of the internal auditor. The credit union's board provided an attestation in December 2019 that all issues were addressed. However, FSRA found the same deficiency still present in its inspection of the credit union in 2021.
- **Credit unions have little incentive to implement governance recommendations made by FSRA**—FSRA does not ensure credit unions resolve inspection findings after the inspection is completed, and has not taken any enforcement actions (such as levying an administrative monetary penalty) when repeat issues are found. We also found that FSRA's current methodology to determine the value of insurance premiums required to be paid by a credit union into the Deposit Reserve Fund (DIRF) gives less weight to FSRA's assessment of the credit union's governance practices (36% of the rating used to determine the value of the insurance premium) compared to a single financial factor of the credit union (64% of the rating used to determine the

value of the insurance premium). As a result, even when FSRA identifies significant governance deficiencies during an inspection, a credit union may choose to continue to operate with poor governance practices as the cost to improve its governance practices may be higher than the increased premium amount FSRA determines it must pay into the DIRF.

- **FSRA has not performed inspections of credit unions with the frequency of its policy targets**—There has been a 60% reduction in the number of inspections FSRA performed in 2021 (20) compared to the number DICO performed in 2017 (54) (see **Figure 20**). FSRA informed us that they are relying less on consultants to complete these inspections compared to DICO. Per **Figure 21**, FSRA has less than half the staff than its counterpart in British Columbia, despite the credit union sector being similarly sized and

each regulator having similar responsibilities.

As of June 30, 2022, FSRA will not be able to inspect 14 (or 21%) of all the credit unions it regulates within 36 months of their last inspection, which was FSRA's prior target time frame before the implementation of its Risk-Based Supervisory Framework in April 2022 (see below). As of June 2022, FSRA had 17 (or 68%) of the 25 staff it believed were necessary to complete all inspections on time based on its prior target time frame.

Appendix 14 provides further details about these weaknesses and our related findings.

We noted that FSRA has started implementing a new Risk-Based Supervisory Framework (RBSF), which replaced the previous credit union oversight process in April 2022. However, the RBSF still lacks the documented policies and procedures to fully address all of the inspection weaknesses we identified above. Also,

Figure 20: Number of Credit Unions and Inspections Conducted 2017–2021

Source of data: Financial Services Regulatory Authority of Ontario

Year	2017	2018	2019	2020	2021	% Change
Total number of credit unions and caisses populaires	93	78	77	62	61	(34)
Number of inspections conducted per calendar year	50	41	32	24	20	(60)
% of sector inspected	54	53	42	39	33	(39)

Note: Inspections up to June 7, 2019 relate to those done by the Deposit Insurance Corporation of Ontario, and those on or after June 8, 2019 relate to those done by the Financial Services Regulatory Authority of Ontario.

Figure 21: Jurisdictional Comparison of Credit Union Regulatory Agencies and Staffing Levels

Source of data: Financial Services Regulatory Authority of Ontario

Measure	Province				
	ON	BC	MB	SK	AB
Supervisory Staff (Full-Time Equivalent)	30	66	24	28	26
Credit Unions in the Sector (#) (Dec 2019)	77	42	26	40	16
Regulator's Supervisory Staff per Credit Union (#)	0.39	1.57	0.92	0.7	1.6
Sector Assets (\$ million) (Dec 2019)	70,376	72,014	28,599	19,740	23,412

Note: FSRA conducted the jurisdictional analysis in October 2020.

given that it was only recently implemented, we were unable to assess whether RBSF does fully correct for these weaknesses. FSRA's previous inspection process provided prescriptive guidance over what the credit union should do to resolve an issue identified in an inspection. In contrast, the new framework is considered to be outcome-focused. This means that while FSRA will still provide recommendations based on its inspection findings to credit unions, it will expect the credit unions' boards to determine how best to address those findings. FSRA informed us that its intention with the new framework is to also place more responsibility on a credit union's board of directors and audit committee to resolve the inspection finding recommendations FSRA provides as part of inspections. FSRA will then use inspection information to better monitor the risk of insolvency and determine the rate of deposit insurance premiums to be paid into the DIRF by each credit union (see **Section 5.1.3**).

FSRA informed us that it will consult with the sector on a proposal for a new DIRF premium score methodology, which it expects will be partially determined from the findings of its inspections. It will then finalize its proposal and work with the Ministry of Finance to propose amendments to a regulation under the *Credit Unions and Caisses Populaires Act, 2020*. This process may take a few years to complete. Given that the current premium calculations provide little incentive for credit unions to improve on governance practices, as noted in **Appendix 14**, thought should be given to how to encourage credit unions to improve governance practices in the meantime.

As noted, FSRA has not documented a process to confirm inspection findings are resolved. We found that it has also not established a target time frame for how frequently credit unions should be inspected under the RBSF.

RECOMMENDATION 9

To ensure that it provides effective oversight of credit unions to protect members' deposits, we recommend that the Financial Services Regulatory Authority of Ontario:

- regularly collect information to conduct assessments of all key governance processes of credit unions (such as board operations, internal auditing, and functions of the audit committee of the board as well as processes related to the issuing and monitoring of loans), as part of its inspections of the credit unions;
- implement a process to collect and review documentation that shows credit unions implemented corrections to address each issue in its inspection results;
- levy penalties for credit unions that provide inaccurate or misleading information on actions taken to address inspection findings;
- re-evaluate the methodology used to determine the rate of insurance credit unions are required to pay into the Deposit Insurance Reserve Fund in order to determine a more appropriate weighting for the governance score;
- complete an assessment to determine the optimal number of qualified inspection staff based on a targeted frequency of credit union inspections; and
- develop and execute a plan to achieve this frequency of credit union inspections.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA appreciates the Auditor General's recommendation and acknowledges the importance and benefits of regularly collecting and assessing all key governance processes of credit unions. With the enactment of the FSRA rule in 2021 on Standards of Sound Business and Financial Practices and the implementation of the Risk-Based Supervisory Framework (RBSF) as of April 2022, FSRA is prioritizing and continuing to regularly collect information to conduct assessments of all key governance processes of credit unions as part of its supervisory reviews. FSRA will continue the implementation of this principles-based, proportional process to collect and review data, documentation,

and information that evidence whether desired outcomes have been achieved and, where they are not, whether appropriate remediation is underway or has been completed. This will verify that the credit union has implemented corrective actions and has resolved the material and root cause issues identified by FSRA. Once the initial RBSF assessment cycle is completed, all credit union risk profile assessments will be updated on an annual basis and examinations will be prioritized and focused based on the identified risks.

FSRA acknowledges the Auditor General's recommendation that FSRA should levy financial penalties against credit unions that provide inaccurate or misleading information—FSRA will review its processes with a view to strengthening our investigation and sanction processes.

FSRA agrees with the Auditor General that changes are required to the methodology to better assess deposit insurance premiums based on the risk profiles of credit unions. Work has been completed to develop a new methodology that incorporates credit union risk profile ratings as determined through the RBSF process. The proposed deposit insurance premium methodology will undergo a public consultation this fiscal year. Following this consultation, FSRA will incorporate feedback and expects to proceed with a phased implementation of the new methodology with the credit union sector.

FSRA agrees with the Auditor General that we currently do not have the optimal number of qualified supervisors to conduct all necessary supervisory reviews, particularly as the RBSF process requires sophisticated skills and experience. FSRA has conducted a resourcing assessment, restructured the credit union supervision department, added new positions and staff in 2022, and will continue to progress toward reaching an optimal level of staffing by the 2024/25 fiscal year. As these costs are borne by the sector, FSRA will continue to work with credit unions to appropriately resource the credit union supervision team over the next two years.

5.1.2 Learnings from PACE Credit Union's Inappropriate Practices Not Yet Fully Incorporated in Inspections

Prior to the new inspection framework launched in April 2022, FSRA's inspection process was similar to the one used by its predecessor, DICO. DICO's 2015 and 2017 inspections of PACE Savings and Credit Union Limited, a major credit union, did not identify the significant governance deficiencies that were occurring at PACE. FSRA took over as the administrator of PACE from DICO in June 2019. While FSRA made some changes to its inspection processes compared to what was used by DICO, it took FSRA over three years to obtain an external advisor's analysis of the root causes of the issues that emerged at PACE to determine how the inspection process it uses can be improved to prevent similar inappropriate activities from occurring at other credit unions.

PACE, headquartered in Vaughan, Ontario, began operating in the 1960s. In December 2021, it had over 40,000 members and held over \$900 million in member deposits accessible through 13 locations. In October 2017, DICO received a whistle-blower letter alleging that fraud was occurring at PACE, and subsequently initiated an investigation to assess the allegations. In November and December of 2017, DICO received additional information to support the original letter, and in May 2018 it hired an external firm to perform an investigation of PACE.

The investigation found evidence of activities at PACE that potentially contravened the *Credit Unions and Caisses Populaires Act, 1994* (Credit Union and Caisse Populaire Act), such as engaging in non-compliant loans, paying secret commissions to senior management, and engaging in self-dealing (whereby PACE's senior management directly profited on loans provided by PACE to another organization). The investigation also identified governance issues with PACE's board of directors and senior management, such as negligence and breach of fiduciary duty in approving transactions, inadequate oversight of senior management, and a lack of appropriate oversight of activities where there were conflicts of interest. For example, PACE's Audit Committee Chair reviewed and approved

loans to subsidiaries that involved inappropriate fees being paid to senior management at PACE.

While DICO's investigation was ongoing, in September 2018, another whistle-blower letter was sent to DICO indicating that they believed the slow pace of action by DICO caused "serious additional harm to the members and employees" of PACE. Later in the same month, based on preliminary findings from its own investigation, DICO placed PACE under administration. In December 2018, DICO terminated PACE's chief executive officer. In June 2019, FSRA took over the administration of PACE from DICO.

PACE had been inspected by DICO regularly as part of DICO's routine inspection process of all credit unions, which is similar to the process discussed in **Section 5.1.1** and **Appendix 5**. In its last two inspections performed of PACE (in 2015 and 2017), DICO gave PACE near-perfect scores related to the credit union's governance practices. In 2017, DICO inspectors identified several important governance deficiencies. However, it did not act to expand the work done during the inspection to more fully assess the potential impact of those deficiencies on PACE's operations.

For example, the 2017 inspection found that:

- PACE's internal audit spent less than three days per year reviewing commercial transactions to ensure they complied with all regulatory requirements. This was noted in the inspection as being an insufficient amount of time;
- PACE did not keep accurate records of related-party transactions and loans; and
- PACE's board did not maintain sufficient minutes on directors' deliberations on significant matters such as the approval of mergers, real estate investments, the business and strategic plans.

We noted that inspections conducted by DICO and FSRA between 2013 to 2020 identified many governance non-compliance issues with credit unions.

From 2013 to 2016 (inclusive), DICO's inspections identified on average 12 governance deficiencies per year for all credit unions inspected in that year. From 2017 to 2020 (inclusive), governance deficiencies identified increased to an average of more than 72 per year. As well, in the period of 2013–2016, 40% of the

total deficiencies found were related to issues with a credit union's internal audit practices and board governance. In the period of 2017–2020, this increased to 78% of all deficiencies. Our review also noted that in 2017 (prior to the issues at PACE being identified to DICO by a whistle-blower), DICO started implementing changes to its inspection process—such as starting to inspect whether credit unions were following guidance released by DICO in 2015 that outlined better corporate governance practices that credit unions should follow—that contributed to more findings occurring in inspections after 2017.

Issues at PACE continued or were only discovered while under FSRA's administration. For example, sales practices by PACE employees between July 2017 and June 2019 were found to be in breach of regulations and resulted in an approximately \$29 million settlement from affected investors against PACE that was covered by the DIRF. In November 2020, PACE's interim board and chief executive officer resigned, partially over differences with FSRA in how credit union members and creditors were to be compensated for their losses. As well, a 2021 investigation of a PACE employee confirmed that the employee was responsible for over \$10 million in fraudulent loans over a 13-year period (2008–2021). In April 2022 (almost three years after taking over regulatory oversight of credit unions and administration of PACE from DICO), FSRA engaged a third party to start a review to identify whether its current regulatory approach over credit unions was more effective than that of DICO, and whether FSRA's processes had any gaps or potential weaknesses that needed to be addressed. In October 2022, the report was finalized. We noted that FSRA had started action on a plan to address the recommendations in the report.

As noted in the DIRF financial statements for the year ended March 31, 2022, as of June 30, 2022, FSRA, in its role of the administrator of PACE, sold most of the assets and liabilities of PACE to another credit union (Alterna Savings and Credit Union Limited). The contractual agreement of the sale limits any further PACE-specific impact to the DIRF up to \$155 million for a five-year period (until June 30, 2027).

In February 2022, FSRA's external advisor estimated that if PACE went insolvent and was not acquired by a third party, this could lead to payments from the DIRF between \$60 million and \$340 million, which would reflect a significant portion of the DIRF's total value (\$383 million as of June 30, 2022, as discussed in **Section 5.1.3**). As such, the external analysis recommended that, even with the potential of \$155 million in DIRF payments that could occur as a result of the sale, FSRA should move forward with the sale of PACE, which was finalized on June 30, 2022.

We also noted that FSRA, in its capacity as the administrator of PACE, did not require PACE to obtain a financial statement audit for the fiscal year ended December 31, 2021. The previous auditor of PACE had withdrawn their audit opinions for the years ended December 31, 2018, 2019 and 2020 as a result of a fraud that resulted in a material misstatement to the consolidated financial statements. Considering the significance of the purchase and assumption transaction related to PACE and the potential impact to the DIRF, we believe that an audit of PACE's consolidated financial statements should have been performed.

RECOMMENDATION 10

To better safeguard credit union member deposits and to improve consumer confidence in the credit union sector and how it is regulated, we recommend that the Financial Services Regulatory Authority of Ontario develop a plan and implement the necessary changes identified in its root cause analysis.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA agrees with the Auditor General on the importance of safeguarding member deposits and improving consumer confidence. In 2022, to learn from the events that led to the PACE Savings and Credit Union Limited administration by the Deposit Insurance Corporation of Ontario (DICO) (a predecessor regulator that amalgamated with FSRA in

June 2019), FSRA engaged an independent expert third party to review DICO's supervisory practices and make recommendations to FSRA on the root causes of supervisory issues contributing to this credit union failure. FSRA has developed and is in the process of taking action on a plan to address all recommendations that will further enhance the quality of our assessments of credit unions and expects to complete this in 2023.

5.1.3 Funding of the Deposit Insurance Reserve Fund Is Insufficient

Limited Financial Information Used to Determine Premium Paid by Credit Unions into the DIRF

In 2018, the Credit Union and Caisse Populaire Act was amended (and later proclaimed in 2019) to require FSRA to maintain the Deposit Insurance Reserve Fund (DIRF) for the primary purpose of paying deposit insurance claims in the event of a credit union insolvency. The DIRF may also be used in some additional limited circumstances by FSRA for a credit union that is under administration—such as to support an orderly closure in a liquidation scenario (as was the case for PACE).

The DIRF is funded by credit unions' annual contributions that are based on a percentage (generally 0.75% to 1.75%) of the total amount of insured deposits held by each credit union. The determination of the percentage (or premium) is based on two components assessed by FSRA: a single financial factor which assesses the relative riskiness of a credit union's assets (see below) accounts for 64% of the rate paid, and three governance factors comprise the remaining 36%. These three governance factors are how the credit union's board operates, how the credit union's internal audit department and its board's audit committee function, and the credit union's processes related to the issuing and monitoring of loans to credit union members.

We found that although FSRA collects dozens of financial measures on credit unions as part of its other regulatory activities, it only considers one financial factor (a score it calculates based on the relative riskiness of the assets and investments a credit union holds)

to calculate the 64% portion of the score, known as the “capital score.” Even if a credit union’s capital score is considered lower than that of other similar credit unions, FSRA still gives the credit union a perfect capital score as long as it meets the regulatory requirement (at least 14% of a credit union’s risk-weighted assets, calculated based on a rule from FSRA that identifies the level of risk that should be applied to each asset class, must be what is known as “regulatory capital”, which is primarily a credit union’s investments and retained earnings).

We also found that this single factor does not provide for an accurate measure of overall financial risk at each credit union. Since 2019, FSRA has developed various monitoring tools which collect dozens of financial factors used to establish a peer group comparison for each credit union. We asked FSRA to identify key financial performance measures it uses to assess credit

union health and performed a comparative peer group analysis of credit unions with capital scores above 90% (a score of 57 or more out of a maximum of 64). We found that 10 credit unions with nearly perfect capital scores had lower key financial performance measures in some instances than those of their relative peers. We also found that three of these 10 credit unions were on FSRA’s “watchlist” for poor or deteriorating performance. However, neither of these issues impacted the 64% portion of the insurance premium score. This suggests that some credit unions are paying lower premiums into the DIRF than they would be if FSRA considered more financial factors in assessing the insurance premium score (see **Figure 22** for details).

We found that other jurisdictions including British Columbia and the federal regulator of banks (OSFI) use more financial factors in assessing the premium required to be paid into their deposit insurance fund.

Figure 22: Credit Unions with High Capital Scores and Lower Comparative Scores Across Key Performance Measures

Source of data: Financial Services Regulatory Authority of Ontario

Credit Union	Capital Score (out of 64)	Leverage ¹	ROAA ²	Liquidity Ratio ³	Delinquencies Over 30 Days ⁴	On the Watchlist ⁵
Credit Union A	64.0	■	■	■	●	×
Credit Union B	64.0	●	●	●	●	✓
Credit Union C	64.0	●	●	■	●	×
Credit Union D	64.0	■	●	●	●	×
Credit Union E	64.0	●	●	■	■	×
Credit Union F	64.0	●	●	■	■	×
Credit Union G	62.7	●	■	●	●	✓
Credit Union H	59.4	■	●	■	■	✓
Credit Union I	59.2	■	●	●	●	×
Credit Union J	57.0	●	●	■	●	×

● – Indicates the credit union performed relatively better than its peer group.

■ – Indicates the credit union performed relatively worse than its peer group.

Note: The Financial Services Regulatory Authority of Ontario (FSRA) determines each credit union’s peer group based on details it collects of the credit union’s size and assets held.

1. Capital adequacy as a percentage of net assets.

2. Return on Average Assets (ROAA)—an indicator used to assess the profitability of the credit union’s assets.

3. Indicator of liquid assets over liabilities.

4. Interest and principal on loans provided by the credit union to its clients past due over 30 days.

5. FSRA-identified credit unions with significant issues that require more frequent monitoring or supervisory action.

For example, British Columbia's credit union regulator uses 10 financial measures to assess the financial performance of a credit union and the associated rate the credit union should pay into its deposit insurance fund.

We discussed this with FSRA staff, who agreed that a single measure does not represent all financial risks at a particular credit union. FSRA staff informed us that it is in the process of building a new model which will better incorporate other financial risks into the insurance premium calculation, and that they are working on improving their peer comparison model to make it more useful. No date for the completion of this model was provided.

FSRA Does Not Ensure Credit Union Members Are Fully Aware of Insured Deposit Limitations

Ontario credit union deposits were historically insured up to \$100,000 per depositor (or credit union member) in non-registered accounts (such as savings and chequing accounts), while registered accounts (such as registered retirement savings plans and tax-free savings accounts) have unlimited insurance coverage. As of January 2018, the amount of non-registered credit union deposits insured increased up to a maximum of \$250,000 per depositor. In 2018, the Credit Union and Caisse Populaire Act was amended (and later proclaimed in 2019) to identify that insured deposits could only be claimed by depositors in the event of a credit union failure up to the total value of assets available in the DIRF, and that the Ontario government has no statutory obligation to provide funding to the DIRF if its assets are not sufficient to meet all claims. Prior to this, the legislation did not explicitly limit claims by depositors in relation to insured deposits to the funds available in the DIRF. Overall, not all deposits may be fully protected in certain scenarios where the DIRF is insufficiently funded unless the provincial government at the time decides to step in.

We found that FSRA's guidelines did not require credit unions to clearly identify and reference the DIRF limitation in their public materials. For example, we noted that a credit union advertising chequing and savings accounts referenced that FSRA protects deposits up to \$250,000, but did not note that this

insurance is limited to the assets in the DIRF. Therefore, a consumer would likely not understand the overriding limit on FSRA's liability for deposit insurance and the risks that poses to their investments. In July 2022, we raised this concern with FSRA, particularly that it would not be reasonable to conclude that a consumer would understand the limit for deposit insurance to the amounts in the DIRF (as a result of the amendment to the Credit Union and Caisse Populaire Act in 2018 occurring without full discussion and public debate on the issue). On September 6, 2022, FSRA publicly issued a requirement to credit unions to include the wording that "the liability of FSRA to insure deposits held at Ontario credit unions is limited to the assets of the Deposit Insurance Reserve Fund." While this was done to improve credit union members' understanding of the degree that their eligible credit union deposits are insured; the 2018 legislation change has not been publicly communicated (other than the legislation being publicly accessible). Existing credit union members may be surprised to learn about this.

We noted that British Columbia's credit union regulator also discloses that deposit insurance is subject to the assets of its deposit insurance fund. However, their disclosures are more explicit in identifying that the provincial government does not guarantee additional funding nor provide a separate deposit insurance guarantee.

We also noted that the overall level of protection for insured deposits in Ontario's credit unions appears weaker than that provided federally in relation to insured bank, trust and loan company deposits. Bank deposits are insured (up to \$100,000 for each insured category, such as for amounts held in tax-free savings accounts or registered retirement savings plans). The Canada Deposit Insurance Corporation operates the Deposit Insurance Fund, which provides basic protection coverage to depositors for up to \$100,000 of eligible deposits with each member bank, trust or loan company. Canada's Public Accounts discloses that "in the event that the corporations [including the Canada Deposit Insurance Corporation] have insufficient funds, the government will have to provide financing." While in practice the Ontario government may provide

additional funding if the DIRF does not have enough funds to meet future claims, the overall protection for Ontario credit union members now appears weaker than what exists for insured deposits through the Canada Deposit Insurance Corporation. Historically, credit unions have used the deposit protection as an important membership draw.

DIRF Is Less Funded than Its Counterparts in Other Provinces and FSRA's Target

FSRA must ensure it has access to an appropriate level of liquidity (funding or access to cash) to cover the ultimate cost of a credit union failure in a timely manner. The DIRF is one of five sources of liquidity that FSRA can access in the event a credit union is placed under administration or fails. The other four sources are the credit union's liquidity resources; the credit union's line of credit with its lender, if available; a line of credit established in 2013 under DICO with the Ontario Financing Authority (OFA); and an increase in deposit insurance premium rates and/or payment of a special levy (a step that would require Ministry approval). The primary purpose of establishing a line of credit with OFA was to address challenges in the Ontario credit union sector that could result in deposit insurance obligations requiring resources beyond those in the DIRF.

As per **Figure 23**, as of September 30, 2021, despite the average premium rate that Ontario credit unions pay into the DIRF (per \$1,000 of insured deposits they hold) being higher than what credit unions pay

in other provinces, the DIRF is less well-funded than its counterparts in other provinces, and FSRA's target funding for the DIRF (of 1% of insured deposits, or about \$473 million) is also lower than that in other provinces.

Each year, FSRA is required to submit a DIRF adequacy report (which is developed with the help of an actuary to assess the likelihood the DIRF can cover insured deposits of future credit union insolvencies) to the Ministry. For example, in 2021, FSRA engaged a consulting firm that identified that the DIRF should be funded to 1% of insured deposits to ensure it can pay anticipated future claims against the fund. Since the early 2000s, the DIRF has been underfunded well below 1%. In 2021, FSRA estimated that it will reach its target in insured deposits of 1% by 2025. However, as of June 30, 2022, the DIRF was reduced to about \$383 million (due to the settlement against PACE that was covered by the DIRF, as discussed in **Section 5.1.2**), or about 0.79% of insured deposits (from 0.83% in 2021), which is about \$100 million below the targeted 1% (about \$480 million). In addition, due to the PACE sale agreement, payments of up to \$155 million could need to be made from the DIRF. If payments of \$155 million do actually occur, this would effectively lower the available funds in the DIRF to \$228 million, or about 0.47% of insured deposits. As such, it is unlikely that FSRA will meet its target of insuring 1% of deposits by 2025.

Figure 23: Jurisdictional Comparison of Deposit Reserve Funds, as of September 30, 2021¹

Source of data: Financial Services Regulatory Authority of Ontario

Reserve Fund	Province					
	ON	BC	AB	SK	MB	QC
\$ million	393	829	423	350	402	1,317
% Insured Deposits ²	0.83	1.33	1.78	1.53	1.18	1.09
Target % Insured Deposits	1	1.05–1.35	1.4–1.6	1.4–1.6	1.05–1.3	1.30–1.5
Avg Premium Rate (\$) ³	0.81	0.78	0.5	0.8	0.8	0.5

1. This jurisdictional comparison was done on a one-off basis as part of the Financial Services Regulatory Authority of Ontario conducting an adequacy review of the Deposit Insurance Reserve Fund.

2. The value of the deposit reserve funds relative to the total insurable deposits.

3. The average of all credit union premiums for every \$1,000 of insurable deposits maintained.

RECOMMENDATION 11

To ensure the Deposit Insurance Reserve Fund (DIRF) is adequately funded to protect eligible credit union member deposits, we recommend that the Financial Services Regulatory Authority of Ontario work with the Ministry of Finance to:

- identify and implement multiple financial factors in the DIRF insurance premium calculation charged to credit unions;
- identify under what circumstances the Province would provide funding to cover DIRF claims that exceed the assets of the DIRF; and
- regularly assess if insurance premiums are sufficient to keep the DIRF at a level of funding comparable with that in other provinces.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA agrees with the Auditor General that the Deposit Insurance Reserve Fund (DIRF) should be adequate to protect eligible credit union member deposits in the event of a credit union insolvency. The proposed amendments to the deposit insurance premium calculations (see **Recommendation 9**) include Risk-Based Supervisory Framework (RBSF) risk ratings as one of the components in determining the overall premium. The risk ratings determined through the RBSF methodology comprehensively include the assessment of many financial factors. FSRA is also working with the credit union sector on the Enhanced Data Collection initiative which will facilitate enhancements to better determine the appropriate size of the DIRF.

The Ontario Financing Authority (OFA) currently provides a \$2 billion credit facility to FSRA, which is publicly disclosed. This OFA credit facility is intended to provide funds to FSRA for liquidity purposes that can be used to supplement the DIRF and assists FSRA in fulfilling its statutory objects (e.g., to minimize losses to depositors and the DIRF, ensure sector stability). FSRA will work with the Ministry to consider if any additional public

disclosures may be necessary to identify under what circumstances the Ontario government would provide funding to cover deposit insurance claims that exceed the assets of the DIRF.

We will continue to regularly assess if the DIRF has sufficient funding or credit facilities to adequately protect eligible credit union member deposits or if changes are needed (such as to the insurance premium charged to credit unions).

MINISTRY RESPONSE

The Ministry acknowledges the importance of protecting members' deposits. The Ministry also supports FSRA's ongoing work to modernize the DIRF insurance premium calculation model and to regularly assess the sufficiency of the DIRF.

In accordance with the *Credit Unions and Caisses Populaires Act, 2020*, FSRA administers the DIRF which provides deposit protection coverage to eligible credit union depositors for up to \$250,000 of eligible deposits plus all insurable deposits in registered accounts with each member credit union. Under the Act, the liability of FSRA to insure deposits held at Ontario credit unions is limited to the assets of the DIRF.

The DIRF also provides financial support to credit unions. In the event that the credit unions have insufficient funds, the government can provide financing.

The Ministry will work with FSRA to consider under what circumstances the Ontario government would provide funding to cover deposit insurance claims that exceed the assets of the DIRF.

RECOMMENDATION 12

To ensure that credit union members are aware of the change that was made that impacted the protection of their deposits, we recommend that the Financial Services Regulatory Authority of Ontario communicate directly to credit union members through their credit unions that a 2018 legislative change to the *Credit Unions and Caisses Populaires Act, 1994* resulted in the credit union deposit

guarantee being limited to the assets of the Deposit Insurance Reserve Fund.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

We agree with the importance of communicating transparently with credit union members and the public regarding limitations of the DIRF coverage. As per FSRA's 2019 Deposit Insurance Advertising Rule, all credit unions are required to provide a FSRA brochure to their members outlining the details of the deposit insurance coverage. In addition, credit unions are required by this rule to have a hyperlink to the electronic version of the deposit insurance brochure on FSRA's website.

In September 2022, the FSRA deposit insurance brochure and website disclosure was updated to include the express limitation of deposit insurance coverage to the assets of the DIRF to thereby incorporate the wording from the *Credit Unions and Caisses Populaires Act, 2020*. This change was communicated publicly and published to FSRA's website. We will continue to assess if additional disclosures are needed to strengthen credit union members and the public's understanding regarding limitations of the DIRF coverage.

pension benefit. Poor disclosure requirements mean that plan members are likely unaware that their benefit can be reduced if contributions and plan assets are insufficient. Further, the Pension Benefit Guarantee Fund (PBGF) was created to reduce the risk of pension plan members losing their pension benefits if the plan sponsor goes insolvent but the maximum PBGF guarantee is less than half of what it was when first implemented in 1980, when inflation is considered. It also guarantees a lower maximum amount of pension income (up to \$18,000 annually) than similar funds in the US and UK (over \$62,000 Cdn each annually).

Since FSRA took over as regulator of the pension plan sector from FSCO, it has reduced the number and changed the type of inspections it performs, resulting in the elimination of procedures to identify whether inaccurate information is submitted to the regulator. FSCO's inspections had identified this as a fairly common concern. As well, since its inception, FSRA has taken little action where pension plan providers have been over a year late in filing required documents that are critical for timely and informed oversight by FSRA.

We also noted that compared with pension regulators in other jurisdictions, FSRA's access to information and its ability to work with distressed plans (including those who do not have the necessary cash to meet required funding contributions) are limited. These issues are described in more detail below.

6.0 Detailed Audit Observations – Provincially Registered Pension Plans

6.1 Improvements Needed to Sector Oversight by FSRA

Certain multi-employer pension plans (MEPPs), a common type of pension plan for tradespeople, are significantly underfunded on a solvency basis, and FSRA (through persuasion of pension plan administrators) and the Ministry (through legislative changes) have not taken measures to reduce the risk that pension plan members may not receive their full (targeted)

6.1.1 FSRA and the Ministry Have Not Clearly Communicated the Risk to Members of Defined Benefit Multi-Employer Pension Plans That They May Not Receive Their Full Targeted Pension Benefits

Most MEPPs are defined benefit (DB) pension plans (95% of MEPP members belong to MEPP DB plans). As of June 30, 2022, MEPPs represented 73 (or 4%) of all DB pension plans in Ontario and about one million (or 25%) of all pension plan members. Examples of MEPP members include individuals who are part of trade unions, including Ontario members of the Laborers' International Union of North America and of the United Steelworkers.

These plans are fundamentally different from all other DB plans in that the expected benefit paid to employees may be reduced and is thus just a target as opposed to an obligation. Employers and members (usually represented by a union) agree upon the contribution rate into the plan. If the contributions and investment gains return more than is expected, pension benefits can under certain circumstances be increased above the initial targeted benefit. If, however, these contributions and investment gains are not enough to pay members their full benefits, the benefits paid to active workers and/or those who are already retired and collecting benefits can be (and regularly are) reduced to satisfy the funding requirements of the *Pension Benefits Act*. Doing so does not require agreement from plan members. Therefore, these MEPPs function more like defined contribution plans than DB plans, that is, the amount of pension income that the member receives upon retirement is primarily determined by the agreed-upon contributions and whatever investment income is earned.

A study completed by FSRA in 2019 showed that between 2014 and 2019, there were 55 instances of MEPP member benefit reductions. For example, in 2017, a pension plan permanently reduced the accrued benefit for all members who were not yet receiving a pension benefit by 20%–74%, depending on the member's age and years of service. Approximately 2,000 members were affected. In another example, in 2018, a plan reduced pension benefits by 5% for both active and retired members, which impacted approximately 2,100 members.

Change in Funding Rules May Negatively Impact Plan Members if an MEPP Is Wound Up

MEPPs also differ from other DB plans because, in 2007, the Ministry enacted new rules that enable certain MEPPs to become specified Ontario multi-employer pension plans (SOMEPPs), which are not required to meet solvency funding rules and instead need only to be funded on a going-concern basis. Solvency funding provides for the possibility of the plan being wound up at some point—for example, if the employer goes out of business—and ensures that in

such a situation the plan will have enough funds to pay its obligations to members. Going-concern funding assumes the plan will continue indefinitely and sets funding requirements needed for the plan to provide benefits to members and retirees based on reasonable actuarial assumptions. Of the 68 MEPPs in Ontario, 59 pensions covering 994,069 (or more than 97%) of the 1,020,404 MEPP members have elected to become SOMEPPs.

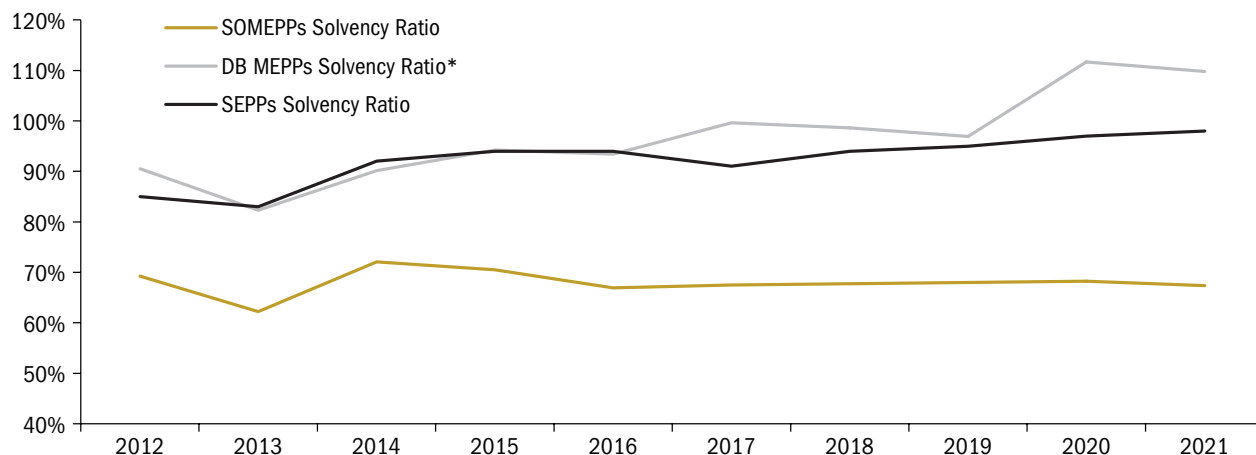
Prior to the new funding rules, in 2006, MEPPs had an average solvency ratio of 93% (meaning the plans had current assets available to cover 93% of benefits for retired members should the employers become insolvent). As of June 30, 2022, the MEPPs' average solvency ratio had dropped to 74%. **Figure 24** illustrates that during the 10 years leading up to January 2021, median solvency ratios for DB MEPPs and single-employer pension plans that remained subject to solvency funding rules improved, while the solvency ratios for the plans exempted from such rules (SOMEPPs) declined, placing their beneficiaries at increased financial risk. **Appendix 15** summarizes the solvency funding status of MEPPs as of June 30, 2022.

While it is less likely that a MEPP will be wound up due to insolvency compared to a single-employer pension plan, since this requires several sponsors to fail at once, when it has occurred the results have been devastating. Since 2003, there have been two instances of this as a result of industry downturns. In 2003, one of these pension plans was wound up and all pension plan members experienced a 47% reduction in targeted or actual benefits. In 2010, a second plan was wound up and pension plan members (those receiving a pension as well as those who had not yet retired) experienced a permanent 77% reduction in targeted or actual benefits. The rules exempting SOMEPPs from solvency funding have been continually extended and are expected to continue until January 1, 2024 or, if earlier, the first anniversary of the date a new target-benefit pension plan framework under the *Pension Benefits Act* comes into effect.

The Ministry informed us that the government enacted the 2007 rule as a result of requests from MEPP representatives, as well as in anticipation of

Figure 24: 10-Year Trend of Median Solvency Ratios for Specified Ontario Multi-Employer Pension Plans (SOMEPPs), Defined Benefit Multi-Employer Pension Plans (DB MEPPs) and Single-Employer Pension Plans (SEPPs), 2012–2021

Source of Information: Financial Services Regulatory Authority of Ontario



* DB MEPP Solvency Ratio refers to the solvency ratio for all DB MEPPs, except those that are SOMEPPs.

changes to MEPP-related legislation resulting from recommendations that were to be issued by an Expert Commission on Pensions that had been appointed by the Minister of Finance in 2006.

In 2008, the Expert Commission on Pensions released its report, “A Fine Balance” (the Report). The Report stated that continuing the exemption from solvency funding in some form past 2010 (the date the rule was due to expire) was compelling, though not without problems. Compared to funding on a solvency basis, funding only on a going-concern basis allows for a greater range of assumptions to be factored in, such as a greater range of expected returns on plan assets. In turn, this could result in a more optimistic target benefit pension income that is more difficult for the plan to achieve, which ultimately results in a pension plan member receiving a smaller pension income than was targeted. Going-concern funding also gives plans a much longer period of time (e.g., 12 years for SOMEPPs) than solvency rules allow (five years) to address and eliminate any underfunding of the plan.

The Report recommended, following consultation with Ontario’s MEPPs, that special legislation and regulations should be developed related to all aspects of funding, regulation and governance of MEPPs. However, since the Report, no legislative changes or regulations related to MEPPs have come into force, leaving the MEPPs at risk of more frequent

benefit reductions. The Ministry informed us that it has been working on developing policy changes since the Report was released, and that several pieces of legislation have been passed (between 2010 and 2020) which will provide the structure for a permanent target benefit framework. As well, two consultations were held in 2015 and 2018 on key elements of the framework to support implementation. However, these provisions remain unproclaimed and are currently not in force.

We noted the *2022 Ontario Budget* (Budget) specified that temporary SOMEPP rules will expire beginning in 2024, unless replaced by a permanent framework. We expect that a permanent target benefit framework would include updated funding rules; definitions of the types of sponsors that could offer target benefits (single or multi-employer plans, public or private sector plans, in a unionized or non-unionized environment); and required disclosures to MEPP members. The Budget identified that the government will consult with affected stakeholders on proposed regulations before implementing a permanent target benefit framework in 2023. We expect that a new, more aptly named, permanent target benefit MEPP framework will include some of the protective features required in other jurisdictions for such plans. For example, in British Columbia, target benefit pension plans are required to incorporate a Provision

for Adverse Deviation in their funding formula. This results in contributions to the pension plans being slightly more than is anticipated to meet the target pension benefit, which reduces the chances that the pension benefit will need to be decreased in the future. In New Brunswick, target benefit pension plans are mandated to follow risk management principles to help stabilize the targeted benefits that can be provided in the vast majority of economic scenarios. Specifically, target benefit plans are required to demonstrate a 97% likelihood based on a set of actuarial assumptions regarding future economic and demographic conditions that benefits they target to provide members will not need to be reduced in the next 20 years.

MEPP Best Practices Benchmarking Will Not Be Completed Before the Current Funding Rules Expire

Acknowledging the different risk profile of MEPPs compared with other DB plans, FSRA completed a review in 2020 to identify best practices for MEPPs, including those in the areas of governance, risk-management and communication strategies. For example, one best practice identified was that trustees should provide a plain language explanation of the potential for and likelihood of benefit adjustments to members. FSRA has begun to benchmark MEPPs against these best practices, but informed us that as this is a very labour-intensive process, it will not complete this effort until March 2024, which is after the current funding rules expire in January 2024.

Current Required Disclosures Do Not Make MEPP Members Aware of the Risk Their Pension Benefits May Be Reduced

Our audit found that current required disclosures to MEPP members do not clearly make them aware of the risk that their pension benefits could be reduced. MEPP administrators are required to indicate in member statements that pension benefits are not guaranteed by the PBGF and that benefits might be reduced if there are insufficient assets to meet the liabilities should the plan be wound up. However, FSRA (through persuasion of pension plan administrators) and the Ministry

(through legislative change) have not required disclosure regarding the far more usual occurrence that benefits can be reduced at any time to meet the funding requirements of the *Pension Benefits Act*, a gap that leaves members unaware of a risk they continually face.

RECOMMENDATION 13

To improve the benefit stability of multi-employer pension plans (MEPPs) and to increase awareness among members of how the funding status of their plans can impact their future pension benefits, we recommend the Financial Services Regulatory Authority of Ontario (FSRA) work with the Ministry of Finance to:

- assess MEPP best practices;
- complete the MEPP benchmarking exercise and act on any rule changes or other remedies deemed as needed;
- consider requiring member disclosures to include an explanation of how a plan's level of funding impacts pension benefits, and that benefits may be reduced at any time if needed to satisfy the level of funding required by the *Pension Benefits Act*.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA appreciates the Auditor General's audit of our work to supervise defined benefit (DB) multi-employer pension plans (MEPPs).

FSRA committed to a multi-year benchmarking initiative through its Annual Business Plan as a next step to the MEPP guidance already released. The benchmarking exercise will identify how the practices outlined in the guidance are being adopted. This exercise will conclude with the release of a findings report toward the end of 2024.

FSRA's DB MEPP Leading Practice Guidance includes a specific best practice in terms of member communication regarding variability of benefits under their plan. FSRA will support the Ministry

with exploring new areas for the regulation of DB MEPPs, including member disclosures.

MINISTRY RESPONSE

The Ministry acknowledges this recommendation and will consider what best practices and member disclosures multi-employer pension plans should follow. The development of a permanent framework for target benefit pension plans has been and continues to be a key priority. Accordingly, the Ministry held substantial consultations on elements of a target benefit pension plan framework in 2015 and 2018.

As announced in the 2022 Budget, the government will consult with affected stakeholders on proposed regulations before implementing a permanent target benefit framework in 2023.

6.1.2 FSRA's More Limited Inspections of Pension Plans Did Not Look at Areas of Concern Previously Identified by FSCO

Since beginning operations on June 8, 2019, FSRA has not performed the same volume, and in certain cases, quality, of inspections of pension plans that its predecessor, the Financial Services Commission of Ontario (FSCO), conducted. In the six years prior to its dissolution on June 8, 2019, FSCO usually performed about 55 on-site inspections of pension plans annually. These inspections included interviews with staff and a review of documents to both verify information submitted to FSCO and to confirm the plan was complying with the *Pension Benefits Act*.

FSRA relies primarily on information provided by pension plan administrators to assess plan solvency and compliance with the *Pension Benefits Act*. If submitted information is inaccurate, FSRA's ability to assess and respond to at-risk plans can be severely impaired. From 2013 to 2016, FSCO identified inaccurate information reported by pension plans in 28% of the inspections it performed and identified a number of other areas of non-compliance, as shown in **Figure 25**. Verifying the accuracy of information in areas such as what

a pension plan sponsor actually contributed to the pension plan during a specific period is important for FSRA when it assesses a pension plan's funding risk, including when a more in-depth investigation may be warranted. Given the prior issues of inaccurate information being received that FSCO uncovered in its inspections of pension funds, there is ongoing value in FSRA continuing these types of inspections.

At the time of our audit, the only pension plans that were subject to in-depth reviews were plans on FSRA's monitored list. To be considered for this list, a plan must be covered by the Pension Benefits Guarantee Fund (PBGF). However, about 72% of pension plan members in Ontario are in plans not covered by the PBGF; these members could lose some of their pension benefits if their plan is not administered properly. Therefore, there can be value in FSRA performing inspections of non-PBGF-covered pension plans overall and in a more timely manner, especially when perceived risk to pension plan members is deemed high (for example, due to a pension plan having an overall low level of funding or missed contributions). In 2021/22, FSRA performed in-depth reviews of 18 pension plans. Instead of continuing the type of inspections performed by FSCO, FSRA has prioritized performing in-depth reviews of the plans on its actively monitored pension plan list and other activities, such as completing a review of multi-employer pension plans (see **Section 6.1.1**).

In September 2022, FSRA initiated a pilot project to determine when and how to conduct more fulsome inspections of pension plans. This inspection process is expected to consider performing inspections of all pension plans (not just those covered by the PBGF). As part of these inspections, FSRA plans to confirm that information submitted to it by a pension plan is accurate. At the time of the audit, FSRA had not determined how many such inspections it would do each year (broken down by category) or how many would be of PBGF-covered pension plans, and had not completed any such inspections. FSRA expects to finalize and implement its new examination process by March 2023.

Figure 25: Common Financial Services Commission of Ontario Pension Plan Inspection Findings, 2013–2016

Source of data: Financial Services Regulatory Authority of Ontario

Finding	Example	# of Plans Where Finding Occurred	% of Plans Examined Where Finding Occurred
Disclosure on members' benefits statements was missing.	Members' statements for terminated employees did not provide the time period for transfer options to be elected. This may result in a member, upon termination, missing the deadline to transfer the value of the pension benefit out of the plan.	122	60
The statement of investment policies and procedures (SIPP) was out of date.	The plan administrator is required to review and confirm or amend the SIPP at least once a year to reflect the latest investment-related information. The SIPP had not been updated for 19 years and did not address the defined-contribution component of the plan. The SIPP needs to meet legislative requirements for holding certain types of investments to ensure the plan takes on the appropriate level of risk to meet its investment needs. If the SIPP is not updated, it may not be in compliance with any regulatory changes made since its last update. As a result, a SIPP's investments could face a higher risk of providing lower returns or incurring losses that place members' benefits at risk.	69	34
Incorrect information was reported in statutory filings.	A large variance of \$9.5 million (22%) was found between contributions reported in audited financial statements and what was actually remitted into the account of the plan's trustee. Incorrect information directly impacts FSRA's ability to accurately assess and respond to the risks of the plan.	58	28
Member benefit statements were issued late.	Annual benefit statements for active members (identifying details of the pension plan's performance) are to be issued within six months of the year end. 2015 statements (due to be issued by June 30, 2016) had not been issued as of December 2016 (six months late at time of inspection). Member statements provide members with critical information to ensure they are saving enough to support them in retirement. Examples of such information include how much money or benefit is available, how investments are performing, and options for diversification to reduce risk.	58	28
The information booklet for plan members was out of date.	Plan booklets had not been updated for four to seven years to reflect current legislation and plan terms. Plan booklets are important to help members understand their available options, how their entitlement is affected in various situations, and how to best plan for retirement with enough income to support them. Out-of-date information means members may be misled on what current legislation and plan terms actually are.	44	21

RECOMMENDATION 14

To strengthen its knowledge that pension plans are compliant with the *Pension Benefits Act*, member benefits are protected and plans are being well-administered, we recommend that the Financial Services Regulatory Authority of Ontario:

- complete its pilot project to set up an inspection framework for pension plans; and
- finalize and implement new inspection guidelines and an inspection process (including staffing considerations) that incorporates a process for plan selection (including both defined benefit and defined contribution plans); verification of data in regulatory filings; and identification of insufficient member communications, governance and compliance issues, and any other relevant risk factors learned through the pilot project for inspections of pension plans.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA appreciates the Auditor General's recognition of the importance of good plan administration.

As the Auditor General acknowledged, FSRA has taken a different approach to supervision than FSCO, reflecting its creation as a modern principles-based regulator focused on the outcomes of protecting beneficiaries' rights and entitlements and promoting good plan administration. Our new supervisory approach considers the unique aspects of each plan type under supervision. FSRA is supplementing its risk-based approach with a revamped plan examination framework. This will build on its risk-based, outcomes-focused supervisory approaches and engagements with plan administrators to protect benefits rights and ensure good administration of plans as evidenced since launch and throughout the COVID-19 pandemic.

FSRA expects to complete its pilot project on plan examinations by the end of 2023. As the Auditor General recommends, on completion of its pilot, FSRA will evaluate its outcomes, make

adjustments and implement its final examination process by winter 2024, with consideration for the Auditor General's recommendation of a process for plan selection; verification of data in regulatory filings; and identification of insufficient member communications, governance and compliance issues, and any other relevant risk factors learned through the pilot project for inspections of pension plans.

6.1.3 FSRA Has Taken Limited Action When Pension Plans Are Late Submitting Required Information

FSRA's supervision of pension plans is reliant on the information that pension plans are required to submit. If this information is submitted late or not submitted at all, FSRA does not have the ability to conduct a timely and/or accurate assessment of a pension plan's risks, and it may be unable to initiate a timely investigation of the pension plan when warranted.

FSRA has authority under the *Pension Benefits Act* to take enforcement actions—ranging from issuing compliance orders to levying administrative monetary penalties—to enforce pension plans' compliance with regulatory obligations. Between June 8, 2019 (FSRA's start of operations) and June 30, 2022, FSRA undertook a limited number of enforcement actions against pension plans (17 warning letters and five compliance orders).

Regulatory obligations of pension plans include submitting accurate information to FSRA by pre-identified dates. However, FSRA's information system for these plans' submissions does not automatically notify FSRA staff when a required document is not submitted on time, nor does it send a letter notifying the pension plan's administrator that they have missed a deadline. As of June 30, 2022, FSRA had never levied an administrative monetary penalty when a pension plan's filings were late. FSRA has the power to impose penalty amounts at \$100 or \$200 per day if a filing is late up to a maximum of \$25,000 per offence for corporate plan administrators.

Had FSRA been levying those penalties from its start of operations in 2019 to June 30, 2022, we calculate the value of the unenforced penalties (on active plans as of June 30, 2022) to be over \$47 million based on about 1,500 plans not filing about 3,120 documents on time. A total of 988 (66%) of the plans that did not file documents on time were defined contribution pension plans and 516 (34%) were defined benefit plans. Since August 3, 2021, FSRA has been able to retain money from administrative monetary penalties that can be used for research and education purposes (such as improving MEPP members' understanding of the risks to their pension benefits as discussed in **Section 6.1.1**). Prior to that, money collected from AMPs would have been added to the Province's consolidated revenue fund. Had FSRA elected to implement administrative monetary penalties, that total could conceivably have been substantially lower since many administrators would have likely filed the required information after

receiving a warning from FSRA. However, the key point is that had FSRA taken action, it would have collected more timely information for its assessments. As shown in **Figure 26**, among active plans, about 72% (2,290) of all late filings since FSRA's inception were more than 30 days late, and 23% (743) of those late filings were more than one year overdue.

RECOMMENDATION 15

For the timely collection of accurate and complete information required from pension plans to effectively regulate the sector and protect pension plan members, we recommend that the Financial Services Regulatory Authority of Ontario (FSRA):

- update its technological capabilities to facilitate automatic identification and notification to its own staff and to pension plan administrators of missed reporting deadlines;

Figure 26: Aging of Required Pension Plan Filings

Source of data: Financial Services Regulatory Authority of Ontario

	June 8, 2019 to March 31, 2020		April 1, 2020 to March 31, 2021		April 1, 2021 to March 31, 2022	
	Pension Plans (#) ¹	Filings (#)	Pension Plans (#) ¹	Filings (#)	Pension Plans (#) ¹	Filings (#)
1-30 days late	244	335	175	216	256	334
31-60 days late	60	72	56	63	83	104
61-90 days late	108	127	41	48	43	50
91-365 days late	152	206	274	388	363	488
>1 year late ²	140	216	242	360	98	167
Total late (#)³	658	956	726	1,075	771	1,143
Total late (%)	16%	8%	17%	9%	18%	10%
Total on time (#)¹	3,463	10,744	3,526	10,899	3,509	10,592
Total on time (%)	84%	92%	83%	91%	82%	90%

1. Pension plans were considered to have been filed on time if all of their required filings within the time period were received on or before the applicable due dates.
2. Some of these filings were eventually filed, while others still have not been filed as of June 30, 2022. This includes 47 plans not having submitted 81 filings that were due between June 8, 2019 to March 31, 2020; 110 pension plans not having submitted 181 filings that were due between April 1, 2020 to March 31, 2021; and 93 pension plans not having submitted 160 filings due between April 1, 2021 to March 31, 2022.
3. The total number of pension plans does not match the sum of the number of pension plans for each late time period. This is because some plans had multiple late filings and were included in multiple categories, but for the total were only included once. For all late filings due between June 8, 2019 to March 31, 2022, 885 filings (28%) were between 1-30 days late, 1,546 filings (49%) were between 31-365 days late, and 743 filings (23%) were more than one year late. Therefore, in total, 72% (2,289) of all late filings were more than 30 days overdue.

- develop a plan to improve pension plan administrators' compliance with information submission deadlines;
- develop and implement guidelines for FSRA staff on when to initiate enforcement actions against pension plan administrators who miss key information reporting deadlines; and
- as required by the to be implemented guidelines, consistently issue warning letters, compliance orders and levy penalties.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA acknowledges the need to improve its technology and increase automation, where appropriate. Going forward, FSRA's multi-sectoral IT refresh project should enhance our ability to automate identification and notification of late filings. The benefits of the IT refresh project in the pension sector are expected to be realized by 2024.

With the onset of the pandemic, FSRA paused its filing compliance processes, including the use of administrative monetary penalties. Those processes have since resumed. FSRA has also enhanced its processes to include direct engagements of pension plans that submit filings to FSRA more than one month late. To date, FSRA has identified and commenced work engaging approximately 250 defined contribution pension plans who had missed reporting deadlines. These engagements are aimed at educating the sector where required, enhancing FSRA's understanding of issues that resulted in reporting deadlines being missed and ensuring future compliance with information submission deadlines.

FSRA acknowledges the Auditor General's recommendation that FSRA should develop and implement guidelines on enforcement actions (e.g., warning letters, compliance orders, monetary penalties) for delinquent plan administrators. FSRA will review its processes with a view to strengthening our sanction-related processes.

6.1.4 FSRA Has Insufficient Powers to More Effectively Regulate Pension Plans and Protect Plan Members

FSRA uses a Risk-Based Supervisory Framework approach in regulating single-employer pension plans, meaning it spends the most time monitoring and engaging with plans perceived as having the greatest risk of failure. This approach is appropriate and relies heavily on FSRA's ability to accurately assess the level of risk faced by each pension plan. To best assess this risk, FSRA needs to not only consider the pension plan itself but also assess the pension plan sponsor and the sponsor's ability to make the necessary contributions into the plan. However, while FSRA is able to access information on the pension plans it regulates, information related to plan sponsors is limited, generally to whatever information is made publicly available.

We noted instances where FSRA lacked powers to be able to fully assess the risk facing a pension plan compared to other regulators in other jurisdictions. For example, pension plan sponsors are not currently required to inform FSRA of events that could be detrimental to beneficiaries and the pension insurance system (for example, the sponsor defaulting on a loan). Section 98.1 of the *Pension Benefits Act*, which was passed into legislation on May 8, 2018, has not yet been proclaimed, and therefore is not in force. Proclaiming this section would enable FSRA to receive more fulsome information and require that such events be disclosed. We noted other areas where FSRA lacks power. For example, FSRA does not have the authority to work with plan sponsors on establishing payment plans to best support the pension plan and protect members. See **Appendix 16** for a comparison of powers between FSRA and other pension regulators.

RECOMMENDATION 16

To strengthen the Financial Services Regulatory Authority of Ontario's (FSRA) oversight of pension plans for the benefit of Ontario pension plan members, we recommend that the Ministry of Finance work with FSRA to address FSRA's desire to:

- have the unproclaimed amendment (s.98.1 Duty to Notify re Disclosable Event) of the *Pension Benefit Act* proclaimed so that it would require certain events to be disclosed to FSRA and allow for the negotiation of financial protections related to such events;
- have greater access to plan sponsor information, in line with the Canadian federal pension regulator and the Pension Benefit Guarantee Corporation in the US, and develop a proposal for FSRA to gain such access; and
- have the authority to work with plan sponsors on payment plans without requiring legislative or regulatory changes.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA appreciates the Auditor General's understanding that FSRA may benefit from more tools to protect the rights and entitlements of plan beneficiaries. FSRA is ready to support the government's consideration of these issues and is working to actively supervise plans where there may be heightened concern over the security of the plans' benefits.

MINISTRY RESPONSE

The Ministry acknowledges this recommendation and will take it into consideration. The government passed legislation to provide authority related to disclosable events, and regulations would be necessary for the implementation of this authority. The regulations would be informed by evidence-based policy analysis and public consultations.

Regarding potential additional authorities for FSRA, the Ministry will work with FSRA to assess the evidence-informed basis for FSRA's proposal to have additional authority.

6.1.5 The Pension Benefit Guarantee Fund Requires Ongoing Assessment to Confirm That It Contains and Has Access to Sufficient Funds to Protect Pension Plan Members and the Province

The Pension Benefit Guarantee Fund (PBGF) exists to provide protection (subject to specific maximums and exclusions) to Ontario members and beneficiaries of certain defined benefit single-employer pension plans in the event the sponsor becomes insolvent. However, we found that the PBGF only protects members up to a maximum of \$1,500 per month per pension plan member.

PBGF Has at Times Not Been Able to Cover Claims Without Additional Provincial Funding

As shown in **Figure 13**, since 2017, the cumulative deficit of PBGF covered plans (for pension plans in a deficit position) has been decreasing from about \$15.9 billion to \$7.1 billion, based on the most recently filed information as of December 31, 2021. As of June 30, 2022, the cumulative deficit of PBGF-covered plans (for pension plans in a deficit position) was \$5.1 billion. In the unlikely event that all these plans go insolvent at the same time, the PBGF currently has insufficient funds (about \$1 billion) to cover the financial impact to pension plan members' pension benefits.

FSRA performed an assessment of the PBGF's ability to fund various plausible economic scenarios, including those that would result in pension plans going insolvent and claims being made against the PBGF, as at June 30, 2022. Overall, this determined that the PBGF would likely remain solvent. For example, the worst economic event considered (an event similar to the financial crisis in 2008/09) was deemed to require the PBGF to pay out \$400 million in the first year after the event was to occur. However, this was a point-in-time assessment and would change if economic conditions worsened. While FSRA has established a funding target for the Deposit Insurance Reserve Fund that serves as

insurance to protect credit union depositors' eligible deposits from loss in the event of a credit union's insolvency (see **Section 5.1.3**), FSRA has not determined a similar funding target for the PBGF to allow it to effectively monitor and assess the funding of the PBGF over time.

Under the *Pension Benefits Act*, the PBGF's liability to pay claims related to insolvent pension plans is limited to the assets of the fund. The Lieutenant Governor in Council may, at its discretion, authorize the Minister of Finance to make a grant or a loan to the PBGF to help meet any shortfall. Historically, when the PBGF has been unable to cover claims, the Province has provided the necessary funding (see **Figure 27**). Due to the risk of exposure to the Province (if, similar to what has been done in the past, it provides a loan or grant to the PBGF to help meet a shortfall), it is important that FSRA continues to monitor the PBGF and considers changes to how the PBGF is funded so it holds sufficient funds that may be needed to pay potential claims.

Past Recommendations for a Separate Administrator of the PBGF Were Not Followed

FSRA is the regulator of pension plans and its CEO is the administrator of the PBGF. There is an apparent conflict of interest if the pension regulator and administrator of the pension insurance fund are the same entity (or that entity's CEO). If the pension insurer and regulator are related to the same entity, then it may

focus their regulatory activities excessively on items related to maintaining the longevity of the pension insurance fund, without considering risks to pension plan members not covered by the fund. As discussed in **Section 6.1.2**, the only plans currently eligible to be considered for inclusion on FSRA's actively monitored pension plan list (and therefore subject to regular inspections) are those covered by the PBGF. If the regulator of provincially registered pension plans was separate from the administrator of the PBGF, it may have historically inspected pension plans not covered by the PBGF on a more regular and routine basis.

Past reports to the previous government have identified that the PBGF should be administered by a separate entity. For example:

- The 2008 Ontario Expert Commission on Pensions (appointed by the Ontario government to identify improvements to the pension system in Ontario) recommended that a separate agency be established to operate the PBGF.
- The 2016 Ministry of Finance Mandate Review (which guided the creation of FSRA) strongly urged the government to explore new options for administering the PBGF, concluding: "The [PBGF] should not be administered or overseen by FSRA."

The Ministry has argued that the PBGF is administered by the CEO of FSRA, not FSRA as an organization,

Figure 27: Ontario Government Financial Support for the Pension Benefits Guarantee Fund (\$ million)

Source of data: Financial Services Regulatory Authority of Ontario

Year of Payment	Amount	Type of Support (loan/grant)	Purpose
1990	25	Loan	To pay claims from Massey Combines Corporation pension plan
2004	330	Loan	To pay claims from Algoma Steel pension plan
2009	30	Loan	To pay claims to various claimants
2010	100	Loan	To pay claims for which the superintendent had appointed an administrator
2010	500	Grant	To enable the repayment of the 2009 and 2010 loans and to place the PBGF on more sustainable financial footing*
Total	985		

* While the \$500 million grant was not earmarked for Nortel at the time, on May 31, 2011, two claims totaling \$384 million were paid to Nortel pension funds.

and that the duties of the CEO are distinct from those of FSRA under the FSRA Act. It indicated that while the Minister of Finance had the authority to appoint and/or remove the Superintendent of Financial Services, it does not have the power to remove the CEO of FSRA, who owes fiduciary duties to all current and future beneficiaries of the PBGF. However, the 2016 Ministry of Finance Mandate Review recommended the separation of the PBGF from the then-regulator FSCO at a time when, comparably, the Superintendent (not FSCO itself) was also responsible for the administration of the PBGF. This is consistent with the way it works now. When FSRA was created, “Superintendent” was replaced with “CEO” in the legislation. One distinction between FSRA and FSCO is that the FSCO Superintendent reported to the Minister of Finance while the FSRA CEO reports to a Lieutenant-Governor-in-Council-appointed Board of Directors. Otherwise, it appears nothing else has changed.

PBGF Coverage of Pension Plan Members’ Benefits Is Insufficient Compared with the Fund’s Initial Coverage and That of Jurisdictions Outside of Canada

Given the name of the Pension Benefits Guarantee Fund (PBGF), members might expect that the fund guarantees their pension benefits. But in reality, the PBGF only acts to cover any shortfall in a member’s pension benefit up to \$1,500 a month; any additional benefit owed to the member by a pension plan will be limited by how well-funded the plan is. For example, if a plan is only 50% funded, members would only get 50% of their pension benefit over \$1,500 a month.

While no other province or territory has a similar fund to the PBGF, a plan member in the US or UK is far more likely to receive a full pension because the insured amounts in those jurisdictions are significantly higher. As of June 30, 2022, while Ontario guarantees up to \$18,000 annually, the UK guarantees full pension coverage, and the US guarantees about \$62,300 Cdn a year at age 60 and almost \$96,000 Cdn a year at age 65.

Since its inception in 1980 until June 30, 2022, PBGF coverage has increased only once, from \$1,000 to

\$1,500 per month. To have kept up with inflation, the amount would have needed to increase to \$3,447, more than double the current amount.

As the PBGF was seen as presenting large financial risks to the Province in the event of an economic downturn (which could result in similar loans or grants as identified in **Figure 27**), the 2012 Commission on the Reform of Ontario’s Public Services recommended that “the province either terminate the [PBGF] or explore the possibility of transferring it to a private insurer.” As the PBGF is a useful protection for pension plan members in the case their employer goes insolvent, it is worth considering how the PBGF can be reformed to provide greater protection to plan members while improving its sustainability going forward.

RECOMMENDATION 17

To balance the needs of pension plan sponsors, the needs of members, and the financial risks to the Pension Benefits Guarantee Fund (PBGF) and the Province, we recommend the Financial Services Regulatory Authority of Ontario (FSRA), working with the Ministry of Finance:

- establish a funding target for the PBGF and assess the PBGF’s actual funds against this target regularly (at least annually);
- identify and implement mitigating actions that should be taken when the fund is assessed as not being adequate to cover the estimated amount of future claims under normal conditions;
- assess whether the PBGF’s oversight and operating structure is effective for the PBGF to remain financially sustainable and to meet the needs of pension plan members (to receive a suitable level of coverage);
- assess whether coverage of the fund should be increased to match comparable funds, like those in the United Kingdom and the United States; and
- based on the results of the assessments, implement an updated framework to better protect pension beneficiaries.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA thanks the Auditor General for their audit and recommendations to improve the sustainability of the PBGF. The CEO is the Administrator of the Fund, and as required under the *Financial Services Regulatory Authority of Ontario Act, 2016*, the FSRA Board established a Pension Benefits Guarantee Fund Advisory Committee.

FSRA is continuing to enhance its assessment of PBGF adequacy to be better informed about the range of possibilities. This work also supports the government's determination of PBGF assessments and benefits. FSRA will consider establishing a target for the PBGF adequacy level and assess the actual funds against the established level regularly. FSRA will consider what mitigating actions should be taken when the fund is believed to no longer be adequate to cover the estimated amount of future claims under normal conditions.

In addition to improving its modelling capacity, FSRA has taken steps to optimize the PBGF investment returns given the long-term nature of obligations including going to market to select a new investment fund manager to implement this return-enhancing strategy.

To improve transparency in the funded status of the PBGF, FSRA has committed in its Annual Business Plan to publicly deliver a report on the PBGF. Subject to stakeholder input and the completion of work to assess PBGF adequacy, FSRA aims to publish the first report in late 2023/24.

MINISTRY RESPONSE

The Ministry acknowledges this recommendation and will take it into consideration as part of future reviews of the PBGF.

The PBGF plays an important role in Ontario's pension system by providing the security of a guaranteed maximum monthly pension benefit for plan beneficiaries. It is the only fund of its kind in Canada.

The Ministry's 2020/21 review of the PBGF identified a need for data to better estimate the fund's exposure to future claims and the appropriate level of funding by employer sponsors. This data collection is underway and will support evidence-based policy development going forward.

7.0 Detailed Audit Observations – FSRA Reporting on Performance

7.1 Useful Performance Measures to Evaluate FSRA's Performance as a Regulator Are Lacking

FSRA does not sufficiently track and report on its performance to better help the public assess how effectively it is achieving its mandate in regulating the private passenger automobile insurance, credit union and provincially registered pension plan sectors (as identified in **Section 2.3**).

FSRA publicly reports on its performance, on a quarterly and annual basis, against 22 service standards in total (with separate standards existing for each sector it regulates) including nine service standards specifically for the three sectors we audited, namely:

- For the automobile insurance sector, FSRA tracks the percentage of rate filings reviewed and decisions made within 45 business days for major filings and 25 business days for minor filings, and the percentage of underwriting rules, endorsement and form filings reviewed and decisions made within 30 business days.
- For the credit union sector, FSRA tracks regulatory applications processed within 30 business days of receipt of required information, phone/email inquiries acknowledged or responded to within one business day, and inspection reports provided no later than 60 business days after the inspection.
- For the pension plan sector, FSRA tracks the percentage of pension plan wind-up applications

processed within 90 business days for defined contribution plans and 120 business days for defined benefit plans, and the percentage of inquiries responded to within 45 business days.

FSRA reporting on the timeliness of services it provides to stakeholders and consumers is useful, but this information is not sufficient to help members of the legislature or the public assess how effectively FSRA is performing at achieving its overall mandate.

We noted that certain performance measures would be useful for FSRA to report on across all regulated industries and other measures that may be sector-specific. For example, across all regulated sectors, FSRA could report on the target and actual number of inspections performed of regulated entities, the percentage of those entities that implemented all inspection recommendations within a specified time period, and the percentage of entities who missed a regulatory filing deadline that were followed up on and submitted the filing within a specified time period.

Sector-specific measures for the credit union sector (such as the target and actual funding status of the DIRF, as discussed in **Section 5.1.3**) are generally useful to the public. Other sector-specific measures that FSRA could report on for other sectors include:

- Within the private passenger automobile sector, FSRA could establish targets for how much automobile insurance premiums should increase each year as well as targets and measures for how effectively insurers are combatting fraud (in relation to the fraud reporting service it asked the Ministry for approval to implement, as discussed in **Section 4.1.2**).
- Within the pension plan sector, FSRA could establish a target to evaluate the adequacy of PBGF funding against (discussed in **Section 6.1.5**) and publicly report performance against this target.

We noted that British Columbia publicly reports useful performance measures for its automobile insurance sector, including a jurisdictional comparison of year-over-year rate changes (with a target of rate change being at or below the jurisdictional average),

the percentage of claims costs that go to customers (with targets established), and customer service measures including on-time delivery of digital capabilities to provide customers with digital options to purchase and renew their automobile insurance. In Alberta, the automobile insurance regulator publicly reports on the weighted average percentage change in private passenger vehicle insurance premiums, and has set targets to monitor against such as the weighted average percentage being below the province's consumer price index.

RECOMMENDATION 18

To enable members of the legislature and the public to fully assess the effectiveness of the Financial Services Regulatory Authority of Ontario (FSRA) in meeting its mandate, we recommend that FSRA:

- develop and track informative specific performance measures and targets for the private passenger automobile insurance, credit union and provincially registered pension plan sectors that better align with its overall mandate; and
- report on progress against these targets (including the reason the target for any performance measure was missed) on an annual basis.

RESPONSE FROM THE FINANCIAL SERVICES REGULATORY AUTHORITY OF ONTARIO

FSRA welcomes the recommendation to review the performance measures/targets across our various lines of business.

We will consider the performance measures identified by the Auditor General and have initiated work within FSRA to begin a review of our service standards/performance measures—through this, we will endeavour to enhance our metrics that were initially developed in 2020, and our reporting on these metrics, including continuing to publicly report through various channels. We will finalize the performance measures we report on after consultation with stakeholders in each sector.

Appendix 1: Glossary of Terms

Prepared by the Office of the Auditor General of Ontario

Term	Description
Administrative monetary penalty (AMP)	A financial deterrent or penalty imposed by a regulatory organization for non-compliance with legislation and related regulations.
Co-operative corporation	An entity that carries on their business on a co-operative basis (i.e., members contribute to the decision-making of the business and share surplus revenue). FSRA's oversight of these entities is limited to reviewing and approving offering statements to ensure they comply with the <i>Co-operative Corporations Act</i> .
Credit union	A provider of financial services primarily for its members on a co-operative basis. Credit unions offer similar services to banks (such as deposit taking), investments (such as Guaranteed Investment Certificates) and loans. However, banks are allowed to operate federally with any customer, while credit unions register to operate provincially and only serve credit union members.
Defined benefit pension plan	A pension plan that provides members with a pre-determined pension income when they retire. The formula used to determine a member's retirement income usually involves factors such as number of years of membership in or contribution to the plan and the member's average income, and is not dependent on the investment returns of the plan fund.
Defined contribution pension plan	A pension plan where the employer (and possibly the employee) contribute a set or defined amount. The amount of pension income that the member receives upon retirement is determined by the contributions accumulated and investment income earned (less administrative costs).
Deposit Insurance Corporation of Ontario (DICO)	The prudential regulator for credit unions from 1994 to June 7, 2019, it also functioned as the deposit insurer for credit unions and caisses populaires prior to the establishment of the Financial Services Regulatory Authority of Ontario (FSRA).
Financial Services Commission of Ontario (FSCO)	An agency established under the <i>Financial Services Commission of Ontario Act, 1997</i> (FSCO Act) with a legislative mandate to regulate pension plans, the insurance industry, mortgage brokers, credit unions and caisses populaires, loan and trust companies, co-operative corporations, and service providers that invoice auto-insurers for statutory accident benefits claims. Certain FSCO operations, activities, affairs, assets, liabilities, rights and obligations were transferred to FSRA via a Minister's Transfer Order.
Financial Services Tribunal (FST)	A tribunal established in 1997 by the FSCO Act to provide dispute-resolution services and enforce the provisions of the FSCO Act. It was originally structured within FSCO's organization, with a common Chair and Vice-Chair. It has operated independently of FSRA since April 2019.
Individual pension plan	A pension plan that contains a defined benefit provision and has three or fewer plan members, where at least one of them is related (within the meaning of the <i>Income Tax Act</i>) to a participating employer in the plan.
Insurance agent	An individual licensed and overseen by FSRA, who is able to sell insurance policies for one particular insurance company as an employed member of that company.
Insurance broker	An individual overseen by the Registered Insurance Brokers of Ontario (RIBO), who works independently and is therefore able to offer policies and plans from different insurance companies to customers.
Jointly sponsored pension plan (JSPP)	A pension plan in which decision making and funding of the benefits is shared jointly by both employees and their employer(s). A JSPP provides defined benefits to plan members and contributions are always made by both plan members and their employers.

Term	Description
Licence Appeal Tribunal (LAT)	An independent body that reports to the Ministry of the Attorney General. It adjudicates applications and resolves disputes concerning compensation claims and licensing activities regulated by the provincial government. The LAT receives about 1,300 applications for disputes every month. Over 15,500 cases were brought forward at the LAT at the end of the 2021/22 fiscal year. The LAT's total expenditures in 2021/22, which consisted mainly of salaries and benefits, were nearly \$14.5 million. The LAT operates under a cost-recovery model, whereby insurers reimburse the tribunal based on their usage of it.
Loan and trust company	A company that offers loans and trust services, including the administration or execution of a trust (assets of an individual overseen by a third party for the eventual distribution to beneficiaries).
Mortgage administrator	A business licensed by FSRA to receive mortgage payments from borrowers and send them to lenders. Mortgage administrators are hired by lenders to monitor the agreements and take steps on the lenders' behalf to enforce mortgage payments.
Mortgage agent	An individual licensed by FSRA to carry out mortgage activities for a licensed mortgage brokerage, under the supervision of a licensed mortgage broker.
Mortgage broker	An individual licensed by FSRA to carry out mortgage activities for a licensed mortgage brokerage. A mortgage broker may also be responsible for supervising several mortgage agents at the same brokerage.
Mortgage brokerage	A business licensed by FSRA to carry out mortgage activities, such as arranging mortgages for Ontarians. A mortgage brokerage usually employs several mortgage brokers and agents who work directly with clients.
Multi-employer pension plan (MEPP)	A pension plan in which two or more unrelated employers participate and contribute to the same plan. Often, MEPPs are sponsored by the union that represents the employees of unrelated employers in a specific industry. It can be a defined benefit plan or defined contribution plan, or a combination of both types of plans.
Principal mortgage broker	An individual whose role is to be the chief compliance officer for their mortgage brokerage. Under the <i>Mortgage Brokerages, Lenders and Administrators Act, 2006</i> , each mortgage brokerage must appoint one Principal Broker.
Single-employer pension plan (SEPP)	A pension plan sponsored by a single employer or a group of related employers within a corporate group.

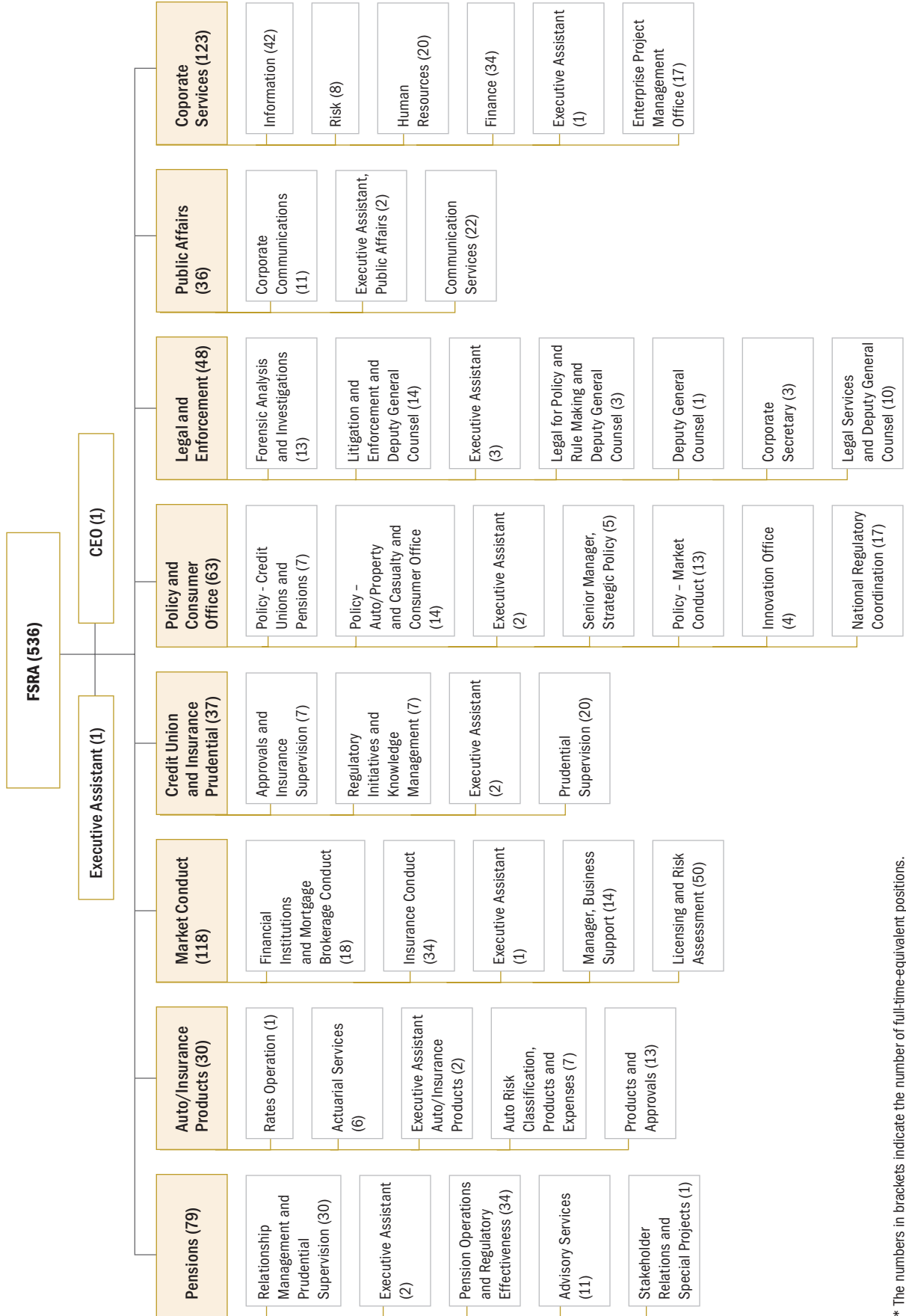
Appendix 2: Timeline of Events Preceding the Creation of FSRA

Source of data: Financial Services Regulatory Authority of Ontario

Year	Event
1977	The Deposit Insurance Corporation of Ontario (DICO) is established as the Ontario Share and Deposit Insurance Corporation under the <i>Credit Unions and Caisses Populaires Act, 1976</i> .
1994	DICO becomes the prudential regulator for credit unions, meaning it is tasked with ensuring these financial firms minimize risk in their operations and hold adequate capital to protect their financial health in the event of unexpected circumstances. DICO also functions as the deposit insurer for credit unions.
1997	The Financial Services Commission of Ontario (FSCO) is established under the <i>Financial Services Commission of Ontario Act, 1997</i> (FSCO Act) to regulate pension plans, the insurance industry, mortgage brokers, credit unions, loan and trust companies, co-operative corporations, and service providers that invoice auto-insurers for statutory accident benefits claims. The FSCO Act also establishes the Financial Services Tribunal (FST) to provide dispute-resolution services and enforce the provisions of the FSCO Act. The FST is structured within FSCO's organization with a common Chair and Vice-Chair.
2015	The Ministry appoints an Expert Advisory Panel (Panel) to conduct a review of the mandate of DICO, FSCO and the FST to make recommendations on creating a more flexible and modern regulator for the Province's financial services and pension plan sectors. Through stakeholder consultations and submissions, the Panel identifies significant inefficiencies and the opportunity for transformation and modernization. The Panel also notes that the current regulatory framework and structure are not flexible or responsive enough to offer a high level of service and protection to consumers, investors and pension plan beneficiaries.
2016	The Panel's final report recommends replacing FSCO with a new modern regulator, which would also take over DICO's oversight functions, and establishing FST as an independent tribunal separate from the regulator. The government introduces the <i>Financial Services Regulatory Authority of Ontario Act, 2016</i> (FSRA Act).
2017	The FSRA Act is proclaimed in force on June 29. The Financial Services Regulatory Authority of Ontario (FSRA) is established by the Legislature under statute as a Crown agency pursuant to the provisions of the FSRA Act.
2019	The FST becomes an independent tribunal on April 1. FSCO and DICO end their activities on June 7. FSRA replaces FSCO and DICO as an integrated and self-funded regulator for the non-securities financial services and pension plan sectors in Ontario on June 8.

Appendix 3: FSRA Organizational Chart, as of June 30, 2022*

Source of data: Financial Services Regulatory Authority of Ontario



* The numbers in brackets indicate the number of full-time-equivalent positions.

Appendix 4: FSRA's Advisory Committees, Active as of June 30, 2022

Source of data: Financial Services Regulatory Authority of Ontario

Advisory Committee	Responsibilities
Property and Casualty Insurance	
Stakeholder Advisory Committee on Property and Casualty Insurance	Provides feedback to the Board of Directors on FSRA's insurance-related priorities and other industry issues
Technical Advisory Committee for Auto Insurance Rate Regulation	Provides expert advice on proposed changes to rating and underwriting regulation, including legal requirements and FSRA rule-making
Technical Advisory Committee for Auto Data and Analytics Strategy	Provides expert advice on the consumer impacts and regulator implications of the use of artificial intelligence and big data analytics in the automobile insurance sector
Technical Advisory Committee for Automobile Insurance Products	Helps identify problems with automobile insurance products and proposes potential solutions for the benefit of consumers
Credit Unions	
Stakeholder Advisory Committee for Credit Unions	Provides feedback to the Board on credit union-related priorities and other industry issues
Technical Advisory Committee for Credit Union Data Strategy and Digital Transformation	Provides advice on data collection, retention and sharing between the credit union system and FSRA
Advisory Committee for Credit Union Regulatory and Supervisory Initiatives	Provides expert insight and advice to FSRA on key credit union sector initiatives and advice to inform FSRA on regulatory initiatives, such as guidance and rules. This is a permanent committee.
Technical Advisory Committee for Deposit Insurance Reserve Fund (DIRF)	Provides expert insights to FSRA on its approach to the DIRF, which pays deposit insurance claims in the event of a credit union insolvency. Also provides advice on initiatives such as the DIRF Adequacy Assessment Framework, Differential Premium Score and other key projects. This is a permanent committee.
Technical Advisory Committee for Insurance Prudential Regulation and Supervision	Advises FSRA on key sector and regulatory initiatives, such as the Insurance Prudential Supervisory Framework (IPSF) and development of supervisory approaches
Health-Care Service Providers	
Stakeholder Advisory Committee for Health Service Providers	Provides feedback to the Board on insurance-related (health service provider) priorities and any other industry issues
Life and Health Insurance	
Stakeholder Advisory Committee for Life and Health Insurance	Provides feedback to the Board life and health insurance-related priorities and other industry issues
Technical Advisory Committee for Insurer Oversight of Managing General Agencies (MGAs)	Provides technical input and expert advice to FSRA from an industry perspective regarding trends and issues related to MGAs (entities that can perform the activities of both insurance companies and insurance brokers on behalf of other insurance companies)
Technical Advisory Committee for Segregated Funds	Provides input and expert advice from an industry perspective on trends and issues related to segregated funds (investments similar to a mutual fund that provide some form of protection/insurance)

Advisory Committee	Responsibilities
Mortgage Brokering	
Stakeholder Advisory Committee for Mortgage Brokering	Provides feedback to the Board on the progress made by FSRA on its mortgage brokering-related priorities and other industry issues
Technical Advisory Committee for Mortgage Brokering	Exchanges information and views about the mortgage and real estate markets, including innovation in the industry, with FSRA and the public. This is a permanent committee.
Pension Plans	
Stakeholder Advisory Committee for Pensions	Provides feedback to the Board on pension-related priorities and other industry issues
Retiree Advisory Panel	Provides external input and personal experience from the perspective of retirees
Defined Benefit Single Employer Plans Advisory Committee	Provides advice on technical issues and proposed legislation and regulations, as well as on FSRA guidance and communication initiatives, related to defined-benefit single-employer plans
Defined Contribution Plans Committee	Provides advice on technical issues and proposed legislation and regulations, as well as on FSRA guidance and communication initiatives, related to defined-contribution plans
Multi-Employer Pension Plans (MEPPs) Advisory Committee	Provides advice on technical issues and proposed legislation and regulations, as well as on FSRA guidance and communication initiatives, related to MEPPs
Public Sector Pension Plans Advisory Committee	Provides advice on technical issues and proposed legislation and regulations, as well as on FSRA guidance and communication initiatives, related to public sector pension plans
All Sectors	
Consumer Advisory Panel	Acts as an advisory body to provide advice from a consumer perspective on proposed FSRA policy-related matters and changes

Appendix 5: Overview of FSRA's Key Activities as a Financial Regulator

Prepared by the Office of the Auditor General of Ontario

Activity	Description	Example
Rule-Making	- The Financial Services Regulatory Authority of Ontario (FSRA) can issue rules with respect to the sectors it regulates under the <i>Financial Services Regulatory Authority of Ontario Act, 2016</i>, subject to sector-specific legislation (with the exception of the loan and trust sector). - Rules are similar to legislation (they must be followed by regulated persons and entities). - The rule-making process involves public consultations, and rules must be approved by the Minister of Finance before they are implemented. - In 2020, a Consumer Advisory Panel was established to provide FSRA with advice from a consumer perspective on policy changes.	To date, FSRA has established seven rules, including a rule related to how credit unions advertise deposit insurance coverage, and a rule specifying what acts and practices in the insurance sector should be considered unfair or deceptive.
Issuing Guidance	- FSRA issues guidance documents for the public, new entrants and incumbents to understand what is legally binding and what is FSRA's interpretation or application of law. - Since FSRA's creation, over 25 guidance documents have been issued.	Examples of guidance FSRA has issued include considerations for training for credit union directors to ensure they can effectively oversee the credit union, as well as best practices for the administration of pension benefits in the case of a marriage breakdown.
Registration and Licensing	FSRA gathers information to ensure an entity or person is operating within Ontario and/or has the necessary qualifications/meets minimum requirements to operate in the province.	- Pension plans must register with FSRA and identify the type of plan and number of members in the plan, among other things. - Insurance agents must be licensed by FSRA to operate in Ontario, and prove they maintain adequate insurance.
Information Collection and Reviews	FSRA requires information to be submitted by regulated entities and persons on a regular (often annual) basis and, in some cases, before those entities can make changes to their operations.	- Pension plans must provide details of their investments and an actuarial valuation of the plan on a regular basis. - For automobile insurance, FSRA approves the rates that insurance companies use to calculate the premiums they charge to their customers (excluding fleets).
Inspections	- FSRA performs routine inspections of regulated entities. - Inspections are performed to determine if previous information reported to FSRA is accurate, as well as to help assess if the regulated entity or person is following relevant legislation and sector rules. - Inspections can involve on-site visits, interviews with staff and requests for documentation.	For a credit union inspection, an inspector will perform analytical procedures on a credit union's information to assess its oversight of significant activities, key performance measures and governance practices (e.g., if the credit union is following relevant legislation and sector rules). These inspections involve FSRA staff conducting interviews with credit union staff and senior management; analyzing credit union policies; and reviewing documents related to credit union activity, such as consumer or commercial lending agreements.

Activity	Description	Example
		• FSRA also conducts assessments within the credit union sector to determine a portion of the rate that a credit union will pay into the Deposit Insurance Reserve Fund (DIRF). The rate is based on the following: • About 36% is based on FSRA's assessment of three main governance factors: how the credit union's board operates, how the credit union's internal audit department and its board's audit committee function, and its processes related to the issuing and monitoring of loans to credit union members. • About 64% is based on a calculation that FSRA performs to determine the level of a credit union's capital relative to the riskiness of a credit union's assets (determined from the credit union's financial statements on an annual basis).
Investigations	• Investigations may be performed based on concerns over non-compliance with relevant laws, regulations and rules as part of FSRA's regular monitoring and examinations, or based on complaints received from members of the public.	• We noted that for the 2019/20 to 2021/22 fiscal years, the highest number of complaints were received with respect to the property and casualty insurance sector. On average, this sector received 375 complaints over the three years (or 40% of the total).
Enforcement	• When FSRA finds evidence of non-compliance with relevant laws or rules, it can use its enforcement powers. These include issuing compliance orders, which require the entity to take a certain action, or issuing an administrative monetary penalty. See Figure 3 for enforcement actions taken by FSRA.	• FSRA issued \$5.8 million in administrative penalties to four insurance subsidiaries of a bank related to the subsidiaries charging insurance rates that were different than what was authorized by the provincial government. In 2021, the bank settled by agreeing to pay \$3.2 million.
Complaints handling and risk assessment	• FSRA reviews complaints against individuals/entities that are licensed or should be licensed by FSRA within its regulated sectors. Where non-compliance is identified, potential outcomes may include issuing warning letters, publishing public warning notices, or referring a non-compliance for investigation and/or enforcement to the legal and enforcement department.	• FSRA received a complaint from a consumer alleging that an unlicensed agent is selling insurance. Upon review, FSRA issued a public warning notice posted on its website that the agent is not licensed to conduct insurance business in Ontario.

Appendix 6: Overview of Past Provincial Government Reforms to the Ontario Automobile Insurance Sector

Source of data: Financial Services Regulatory Authority of Ontario

Year	Summary of Coverage Changes	Notes
1990	Accident Benefits - Introduced a partial no-fault insurance scheme - Set a \$500,000 limit on medical and rehabilitation benefits - Set income replacement benefits to a maximum of \$600 per week Tort¹ - Created bodily injury and monetary threshold	Bill 69 (June 1990) introduced the Ontario Motorist Protection Plan (OMPP).
1994	Accident Benefits - Increased income replacement benefits to \$1,000 maximum per week - Increased medical and rehabilitation benefits to a limit of \$1 million - Established Designated Assessment Centres² to address disputes over benefit entitlements Tort - Expanded bodily injury threshold - Established \$10,000 deductible³ - Eliminated ability to sue for economic loss	Bill 164 (January 1994) tightened the right to sue for economic and non-pecuniary damages, and further expanded a comprehensive no-fault benefits system.
1996	Accident Benefits - Reduced income replacement benefits to a maximum of \$400 per week - Introduced a two-tier schedule of benefits for catastrophic versus non-catastrophic injuries - Required insurer approval prior to treatment Tort - Limited bodily injury threshold - Increased deductible to \$15,000³ - Restored right to sue for economic loss	Bill 59 (November 1996) reversed some tighter tort rules while moving away from the comprehensive no-fault benefits of Bill 164.
2003⁴	Accident Benefits - Introduced pre-approved treatment frameworks for minor injuries - Capped fees charged by health-care service providers - Required insurers to set up a medical assessment or a Designated Assessment Centre assessment for denials² - Enabled non-catastrophically injured parties to claim future care costs Tort - Increased deductible to \$30,000³ - Introduced definitions for “serious,” “important” and “permanent” to tighten verbal threshold	Bill 198/Bill 5 (October 2003) introduced: (i) measures to control bodily injury costs, and (ii) the Statutory Accident Benefits Schedule (SABS).

Year	Summary of Coverage Changes	Notes
2006⁴	Accident Benefits • Eliminated Designated Assessment Centres • Transferred oversight of assessment providers to health professional associations	
2010⁴	Accident Benefits • Introduced minor injury guideline and \$3,500 limit on benefits • Reduced medical and rehabilitation benefits for non-catastrophic injuries to \$50,000 and introduced a \$100,000 optional medical and rehabilitation benefit • Made housekeeping/home maintenance and caregiver benefits optional • Capped medical assessment costs at \$2,000 per assessment	Reg 34/10 (September 2010) brought in reforms from the Financial Services Commission of Ontario (FSCO) review designed to simplify the system, provide consumers with more product choices, encourage price stability and promote a long-term financially sustainable system. Take-up of optional coverage was relatively low (less than 5% of insured vehicles).
2014–2016⁵	Accident Benefits • Established a new licensing requirement for health-care service providers to allow for receipt of direct payment by insurers • The Dispute Resolution System under FSCO was replaced; all future SABS disputes were to be resolved through the LAT and not in courts • New optional combined medical, rehabilitation and attendant care benefit for non-catastrophic injuries were allowed to be offered by automobile insurance providers and benefits to injuries remaining in instances where the non-catastrophic benefits are exhausted • Amended the definition of catastrophic injury Tort • Increased the deductible on court awards for pain and suffering³ and introduced annual indexation of the deductible • Increased the monetary threshold beyond the tort deductible for non-pain and suffering, and introduced annual indexation of the threshold • Introduced the ability to consider the tort deductible, if applicable, when determining a party's entitlement to costs in bodily injury action Other • Introduced a mandatory winter tire discount	Bill 15 (January 2015) introduced changes to improve efficiency, regulation and licensing of third-party vendors; and reduced the prejudgment interest rate. Bill 91 (introduced in stages) changed the tort deductible and threshold effective August 2015; and revised the catastrophic impairment definition and SABS benefit level. Like the 2010 reforms, take-up of optional coverage remains relatively low (~10% of vehicles insured).

1. Tort, as it relates to automobile insurance, refers to instances where accident victims are able to sue at-fault drivers for damages related to their injuries.
2. Designated Assessment Centres were created in 1994 and eliminated in 2006. The centres were for automobile insurance companies and claimants to use when a third-party neutral opinion was required to determine a claimant's injuries and the benefits that applied to those injuries.
3. When victims successfully sue at-fault drivers under the tort system, if the amount awarded by the courts exceeds a certain threshold (indexed to \$138,344 in 2022), a deductible from what the insurance company must pay out applies (indexed to \$41,503.50 in 2022). For example, if a victim is awarded \$150,000 for suing an at-fault driver for pain and suffering damages, the insurance company would only have to pay them out \$108,496.50.
4. Reforms between 2003 and 2010 were aimed at health-care service provider fees and assessments, pre-approved treatment guidelines, and an increased monetary threshold for court awards for pain and suffering. The 2010 changes were impactful as they scaled back accident benefits, expanded optional benefits, and introduced a minor injury definition and treatment cap.
5. Initiatives during this period introduced major changes in multiple stages under Bills 15 and 91, forcing insurers to re-file rates (which is how insurers determine what rate to charge individuals for an automobile insurance premium).

Appendix 7: Ontario Single-Employer Defined Benefit Pension Plans Identified in the *Pension Benefits Act* as Not Covered by the Pension Benefits Guarantee Fund

Source of data: Financial Services Regulatory Authority of Ontario

City of Etobicoke Pension Plan
City of Ottawa Superannuation Fund
Corporation of the City of Hamilton Municipal Retirement Fund
Corporation of the City of North Bay Employees' Pension Plan
Corporation of the City of Oshawa Employees' Pension Plan
Corporation of the City of York Employee Pension Plan
Corporation of the Town of Tillsonburg Employees Pension Plan
General Motors Canadian Hourly-Rate Employees Pension Plan
General Motors Canadian Retirement Program for Salaried Employees
Hamilton Street Railway Pension Plan (1994)
Improved Retirement Plan for the Employees of The Corporation of the City of Chatham
Metropolitan Toronto Pension Plan
Municipality of Metropolitan Toronto Police Benefit Fund
Ontario Public Service Employees' Union Pension Plan
Public Service Pension Plan
Registered Pension Plan for Employees of The Township of North Glengarry
Toronto Civic Employees Pension and Benefit Fund
Toronto Fire Department Superannuation and Benefit Fund
Town of Gananoque Employees Pension Plan

Appendix 8: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

Private Passenger Automobile Insurance

1. Effective and efficient processes are in place to regularly collect and assess information on automobile insurance sector participants to confirm compliance with all required legislation, regulations and other requirements.
2. Effective and efficient processes are in place to identify, investigate, take appropriate enforcement action on and deter non-compliant activity among automobile insurance sector participants.
3. Effective and efficient processes are in place to maintain reasonable insurance rates through the identification and reduction of fraudulent activities and other areas of excess cost in the automobile insurance sector.
4. Effective and efficient processes are in place to educate and enhance the knowledge of consumers and provide the resources they need to make informed automobile insurance decisions.
5. Meaningful performance indicators and targets are established, and performance is monitored against the indicators and targets. Results of performance indicators that are useful to the public are publicly reported and any corrective actions required are taken in a timely manner.

Credit Unions

1. Effective and efficient processes are in place to regularly collect and assess information on credit union operations and practices to confirm compliance with all required legislation, regulations and other requirements.
2. Effective and efficient processes are in place to identify, investigate, take appropriate enforcement action on and deter non-compliant activity by credit unions and their staff.
3. Effective and efficient processes are in place to assess the adequacy of the Deposit Insurance Reserve Fund and take any corrective actions required in a timely manner.
4. Effective and efficient processes are in place to educate and enhance the knowledge of consumers and provide the resources they need to make informed financial decisions.
5. Meaningful performance indicators and targets are established, and performance is monitored against the indicators and targets. Results of performance indicators that are useful to the public are publicly reported and any corrective actions required are taken in a timely manner.

Provincially Registered Pension Plans

1. Effective processes are in place to regularly collect and assess information on pension plan operations and practices to confirm compliance with all required legislation, regulations and other requirements.
2. Effective and efficient processes are in place to identify, investigate, take appropriate enforcement action on and deter non-compliant activity by pension plan administrators, trustees and employers.
3. Effective and efficient processes are in place to assess the operation of the Pension Benefits Guarantee Fund and take any corrective actions required in a timely manner.
4. Effective and efficient processes are in place to educate and enhance the knowledge of pension plan beneficiaries and provide the resources they need to make informed decisions regarding their pension benefits.
5. Meaningful performance indicators and targets are established, and performance is monitored against the indicators and targets. Results of performance indicators that are useful to the public are publicly reported and any corrective actions required are taken in a timely manner.

Appendix 9: Examples of Reports Proposing Automobile Insurance Reform

Prepared by the Office of the Auditor General of Ontario

Report Name	Author	Release Date
Enabling Recovery from Common Traffic Injuries: A Focus on the Injured Person	Ontario Protocol for Traffic Injury Management Collaboration (through the Financial Services Commission of Ontario)	January 2015
Returns on Equity for Automobile Insurance Companies in Ontario	Dr. Fred Lazar and Dr. Eli Prisman	March 2015
Fair Benefits, Fairly Delivered: A Review of the Auto Insurance System in Ontario	David Marshall	April 2017
Final Report of the Residents' Reference Panel on Automotive Insurance in Ontario	Residents' Reference Panel on Automotive Insurance in Ontario (through the Financial Services Regulatory Authority of Ontario)	January 2021 August 2022*
Time for a Tune-up: Reforms to Private-Sector Auto Insurance Could Lower Costs and Add Value for Consumers	David Marshall	March 2022

* FSRA convened the Residents' Reference Panels on Automobile Insurance in 2020 and 2022. The 2020 Panel's report was published in March 2021, and the 2022 Panel's report was published in August 2022.

Appendix 10: Recommendations from the 2017 Marshall Report to the Ministry of Finance

Prepared by the Office of the Auditor General of Ontario with data from the David Marshall Report, 2017, *Fair Benefits Fairly Delivered: A Review of the Auto Insurance System in Ontario*

Recommendation

1. The regulator should undertake serious discussions with the Ministry of Health and Long-Term Care to develop a service for lifetime management of care for seriously injured accident victims. Eventually, as the province develops this expertise, the expertise and even services could expand to address other injuries outside of the auto insurance system.
2. The regulator should move as quickly as possible to create programs of care for the most common types of automobile injuries (based on the Common Traffic Injury Guidelines).
3. The regulator should be provided with a sufficient budget to monitor and continuously improve the outcomes of existing programs of care and partner with the government on research into the development of new programs of care as the need arises—for example, for neurological injuries, injuries from concussions, chronic pain and post-traumatic stress disorder. Consideration should be given to leveraging existing programs that have been developed by other jurisdictions.
4. The regulator should conduct regular quality control studies of the outcomes of future care recommended by independent examination centres to monitor the quality of such recommendations and ensure their effectiveness.
5. The regulator should undertake a complete overhaul of the pricing schedules for treatment by providers and evaluators to bring them more in line with prices being paid by other similar bodies, such as workers' compensation boards, and to emphasize outcomes rather than [number] of treatments.
6. The regulator should monitor the overall use of legal representation in the accident benefits system to analyze why claimants are needing to resort to legal advice. Also, the regulator should examine if the system should be further simplified, barriers should be removed or other practices changed to reduce the need for the time and expense of legal involvement.
7. The regulator should monitor, on a continuous basis, the length of time insurance companies are taking to provide benefits to claimants and determine if undue delays are causing financial harm to accident victims.
8. Insurers should be required to establish an internal appeal process to provide an early resolution to claims and reduce the number that have to proceed to the external dispute resolution system. The regulator should monitor the effectiveness of the internal appeal process and be empowered to order corrective action if a particular insurer is generating an unusual number of claims to the dispute resolution process.
9. The new regulator should be given authority to make regulations. Rules should support insurers to be in direct contact with their clients so that they can manage care and recovery for their clients.
10. Consumer education in the field of auto insurance is a key component of a well-functioning system. In conjunction with making the rules and regulations governing the system simpler, the government should seriously address the need for enhanced consumer education. The recommendations of the Ontario Auto Insurance Anti-Fraud Task Force and the creation of an "Office of Driver Adviser" should be considered.
11. The regulator should monitor the awards and costs of the tort system to determine if changes need to be made to the no-fault system to avoid having to sue under tort and to recommend changes to the tort system if costs appear to outweigh benefits from a public policy point of view.
12. To the extent possible, the regulatory regime should be overhauled to encourage insurers to innovate and introduce new products even on a trial or experimental basis.
13. A new, independent regulator with its own board of directors for automobile insurance [should] be established either as part of the new Financial Services Regulatory Authority or a new separate office specifically for auto insurance.
14. The new regulator needs to be equipped with the staff and expertise to act as a central governor over the automobile insurance marketplace including the conduct of all the players and providers within that marketplace.
15. The new regulator should be required to set standards of performance for the marketplace and to be accountable to the government for meeting those targets.

Appendix 11: Examples of Practices Done in Other Jurisdictions and/or Recommended to FSRA and the Ministry of Finance to Improve the Private Passenger Automobile Insurance Sector

Prepared by the Office of the Auditor General of Ontario

Area	Current Practice in Ontario	Practice in Other Jurisdiction/Industry
Model for Treatment for Automobile Accident Victims	• Ontario uses a cash-payment model. The amount an insurance company pays to an automobile accident victim for first-party insurance coverage is based on the Statutory Accident Benefit Schedule (SABS), a regulation under the <i>Insurance Act</i>. The SABS describes what benefits must be included and coverage limits, including medical, rehabilitation and attendant care benefits that stipulate dollar thresholds for minor (\$3,500), more serious (\$65,000 standard with options to increase), and catastrophic (\$1 million standard with options to increase) injuries. This schedule can create an incentive for claimants to reclassify a minor injury to something more serious in order to increase damages, leading to an increase in lawyer fees. • The SABS has not been reviewed since our Office's previous audit of the automobile insurance industry in 2011. Currently, the Financial Services Regulatory Authority of Ontario (FSRA) has no authority to make changes to the regulation as that power rests solely with the Ministry of Finance. In its Blueprint for Putting Drivers First plan (discussed in Section 4.1.2), the Ministry introduced an initiative that would implement a "Care, Not Cash" default, with an option for consumers to choose cash settlements, but the initiative was paused due to the COVID-19 pandemic. • FSRA does not have the authority alone to pursue a care-based model as it would require changes to regulations. Nevertheless, as the insurance regulator, FSRA has not conducted comprehensive qualitative and quantitative analyses to validate/support the creation of a care-based model. However, FSRA has provided advice to the Ministry of Finance about how to ensure the concept of care is addressed in a "Care, Not Cash" model, and has also recommended that its authority be expanded to allow for testing of care-based approaches.	• Other jurisdictions in Canada use a care-based model. This approach provides health-care providers, consumers and insurance companies with more certainty of the cost and duration of treatments needed in the event of an automobile accident injury, for example, by implementing treatment protocols that provide a more structured way to treat injuries such as sprains, strains and whiplash. • For example, Alberta has published the Diagnostic and Treatment Protocols Regulation for insurers, lawyers and health-care practitioners, with each protocol providing a number of treatments. These treatment plans are developed in consultation with health-care practitioners and best available research and cannot be disputed by insurers. • Marshall's 2017 and 2022 reports* recommended that Ontario move from a cash-payment to care-based model, as allowing cash to be a part of the claims process can raise the cost of claims (such as through frivolous claims) and therefore premiums. The government's 2019 Budget also indicated a move toward a "Care, Not Cash" default to ensure that coverage paid by policyholders goes to treatment, and not legal fees. • Saskatchewan changed its cash-based tort system to a no-fault care-based system, resulting in a decrease of 28% in whiplash claims.

Area	Current Practice in Ontario	Practice in Other Jurisdiction/Industry
Medical Assessment Process for Automobile Accident Benefits Claims	- Ontario's current claims process allows for disputes between the insurer and the health practitioner's opinions over the accuracy of the medical assessment and appropriateness of the related treatment plan. When this occurs, the insurer will obtain its own medical assessment to assess the individual's needs, at an additional cost. We noted that even though the Province has limited the amount payable by an insurer for a medical assessment conducted under the SABS to \$2,000, the current system can result in multiple medical assessments being conducted to determine the severity of an accident victim's injuries. This increases costs to the insurance system and can delay when an accident victim receives the care they require. The subjective "reasonable and necessary" test in the SABS for benefit eligibility, and the allowance for multiple assessments of injuries, can frequently lead to claimants retaining lawyers to navigate the accident benefits claims process. - Our review of information surrounding medical assessment costs from Health Claims for Auto Insurance (HCAI)—an Ontario-wide accident benefits billing system—found that in 2019, it cost \$85 million to provide \$269 million in treatment to accident victims. Looking to previous years, we see this amount has historically been much higher. Given the nature of HCAI's billing system, the treatment amount for older accident years and the amount for medical exams are much higher than recent accident years. For instance, for accidents in 2015, it cost \$213 million in insurer- and medical provider-initiated exams to provide \$412 million in treatment to accident victims. Medical assessment costs were 52% as much as treatment costs. - KPMG, retained by the IBC, estimated in 2012 that fraud covers between 9% and 18% of total claims costs of automobile insurance in Ontario. Fraud was also identified by the government of Ontario in 2019 (as discussed in Section 4.1.2), as an area where changes would be made to lower automobile insurance costs for consumers. However, no action has been taken by FSRA or the Ministry to date on this initiative. While FSRA is constrained by its authority to make these identified changes, it does have the ability to publish analysis and disclosure information surrounding these costs for the Ministry and the public.	- As noted in Marshall's 2017 report to the Ministry, the Workplace Safety and Insurance Board (WSIB), which also deals with injured patients, pays on average a total of about \$26 million for medical assessments per year for a system that handles 170,000 claims a year. On the other hand, the Ontario automobile insurance system on average handles about 60,000 (or 64% fewer) claims per year at a tremendous cost of about \$350 million, or a more than 12 times higher cost. - Marshall recommended the creation of independent assessment centres which would provide an independent opinion on the best future care for an individual within the financial limits of the insurance policy. The insured and insurer would not be able to dispute those decisions, and the assessment of the independent medical professional would be final. This approach would reduce claim costs by decreasing the risk of fraudulent medical assessments.

Area	Current Practice in Ontario	Practice in Other Jurisdiction/Industry
Accreditation of Automobile Repair Shops	• Ontario does not require shops involved in automobile repairs paid through insurance to be accredited. Requirements for such shops in Ontario are mainly outlined by the <i>Consumer Protection Act, 2002</i>. As well, the Ministry of Public and Business Service Delivery is responsible for complaints and the inspection of these shops, and (where appropriate) investigations and enforcement action through Consumer Protection Ontario. • Due to the lack of a licensing or accreditation requirement, the Consumer Services Operations Division of Consumer Protection Ontario does not have data on the total number of these shops in the province to be inspected. Since 2019, the organization conducted 234 inspections based on complaints received, but only one led to charges. There is a risk that the current oversight of automobile repair shop operations is unable to minimize fraudulent or overstated claims that may be flowing through those shops. Our audit found that the standards these businesses have to meet to operate may be lower than those of accredited shops. • The Automotive Industries Association (AIA) of Canada informed us that adequate oversight of automobile repair shops and tow truck operators is lacking in Ontario, and that the industry is supportive of changing the system. The AIA administers I-CAR, a training and recognition program aimed at providing and updating necessary skills for service providers in the collision repair industry. Automobile repair shops in Ontario are not required to take this program.	• The Insurance Corporation of British Columbia (ICBC) sets the minimum requirements for collision repair facilities to apply to its Collision Repair Program, which sets standards to be followed by these facilities, including those related to training and equipment. ICBC tracks certain performance indicators of each facility, each with its own minimum threshold. When there are instances of severe or repeated non-compliance, or a facility fails to meet these minimum thresholds for 12 months, the ICBC can remove facilities from the program. Facilities must participate in the program to be able to directly bill the insurance provider, which in this case is done through the government of British Columbia. The ICBC may also recover funds from facilities for instances such as billing for an operation not performed. • Saskatchewan General Insurance (SGI) accredits automobile repair shops and requires that shops doing business with them obtain the AIA's I-CAR training for their staff, or equivalent. SGI also performs repair audits of vehicles whose damages were paid through insurance, and can recover funds from an automobile repair shop found to be non-compliant with the accreditation requirements. SGI's data system allows access to data from all points of the repair process and can target audits this way as well, for example, if it sees that costs for one type of repair or at one stage of the repair at an accredited shop are much higher compared to those at other accredited shops. SGI and automobile collision repair shops enter into contractual agreements that identify the requirements of each party and prohibited practices. • In his 2022 report, Marshall identified that the actual automobile repair is one of the areas where fraud occurs in the sector. To reduce this fraud, he recommended limiting automobile insurance claimants to work only with repair shops accredited under an accreditation program.

* Reports include Marshall's 2017 report titled *Fair Benefits Fairly Delivered: A Review of the Auto Insurance System in Ontario*, as well as the 2022 report titled *Time for a Tune-up: Reforms to Private-Sector Auto Insurance Could Lower Costs and Add Value for Consumers*.

Appendix 12: Status of 21 Initiatives within the Government of Ontario's Blueprint for Putting Drivers First (Blueprint), as of September 30, 2022

Source: Ministry of Finance

Initiative	Description of Initiative	Status ¹
Tackling Fraud		
1. Make contingency fee agreements more transparent	Working with the Ministry of the Attorney General (MAG), the Ministry of Finance (MOF) implemented regulatory amendments that now require a lawyer/paralegal to disclose the maximum contingency fee percentage charged in certain circumstances and to provide potential clients with the standard form consumer guide.	Completed on January 1, 2022
2. Overhaul the licensing system for health-care service providers (HSPs)	MOF to work with the Financial Services Regulatory Authority of Ontario (FSRA) to review the licensing system and make necessary amendments. * Implementation of anti-fraud measures may result in system changes that impact HSPs (e.g., refusal of a licence to a fraudulent HSP).	Little to no progress This initiative is dependent on FSRA being granted powers to implement anti-fraud measures (see Section 4.1.2).
3. Lower the treatment fees charged by HSPs	MOF to review HSP fees for treatment of accident injuries (tied to medical assessment reform).	Little to no progress Put on pause in 2019. ² This change would be bundled with initiative #2 above.
4. Bring credibility and accountability to the medical assessment process	MOF to engage stakeholders, FSRA and the Ministry of Health to determine a more effective medical assessment process, to bring greater credibility and accountability to the system and stop competing assessments for the same injury from occurring.	Little to no progress Put on pause in 2019 ²
5. Develop strong anti-fraud measures/FSRA Unfair or Deceptive Acts or Practices (UDAP) rule	Anti-Fraud Measures MOF to work collaboratively with FSRA to develop stronger anti-fraud and anti-abuse measures with respect to automobile insurance to deter deceptive or fraudulent conduct, practices and activities.	In progress – announced in 2022 spring bill
	UDAP Rule MOF to work collaboratively with FSRA to modernize the UDAP Regulation (O. Reg 7/00) which described activities and behaviours that are unfair or otherwise harmful to consumers. FSRA's new UDAP rule, which replaced the UDAP Regulation, was brought into effect on April 1, 2022.	Completed on April 1, 2022
6. Establish a modern online claims process to allow consumers to see how their benefits are being used	Provide customers with helpful information about their claim, including payment provider (first payer) and amounts, to promote transparency. (Implementation of the Anti-Fraud Measures may result in system changes that impact the delivery of this initiative.)	Put on pause in 2019 ²

Initiative	Description of Initiative	Status ¹
Offering Consumer Choice		
7. Create more choice in discount options: file and use; endorsements (i.e., clauses added to an automobile insurance policy that make changes)	FSRA implemented a streamlined rate approval (“file-and-use”) system, established a new Guidance Framework, and started its review of inherited guidance to eliminate unnecessary regulatory burden for the industry.	Completed on October 9, 2019
8. Create more choice to make automobile insurance more affordable: credit history	Grant consumers the ability to opt to share credit information with insurers, which may result in a premium saving. Policy analysis has been conducted on this initiative, but the government has not made a decision to move forward on this item.	Put on pause in 2019
9. Create more choice in automobile insurance coverage	Grant consumers the ability to opt out of Direct Compensation Property Damage coverage when they determine that insuring their older vehicle costs more than the vehicle is worth.	In the process of being implemented (comes into force January 1, 2024)
10. Simplify consumer experience: electronic proof of automobile insurance	Insurers may now provide electronic insurance cards that serve as proof of automobile insurance on a mobile device. Consumers have the option of keeping an electronic insurance card on their mobile device instead of, or in addition to, a paper version.	Completed on September 5, 2019
11. Simplify consumer experience: electronic communications	The government clarified that insurers can use electronic communications and e-commerce when interacting with their customers. Customers have the choice of whether to receive paper or electronic communications.	Completed in December 2019
12. Simplify consumer experience: forms, policies, etc.	FSRA is working to modernize and update its policies and form documents to the new FSRA standard, including forms previously posted on the Financial Services Commission of Ontario website. Timelines for completion vary.	In progress – FSRA continuing to update and modernize forms (e.g., OCF-1)
Adopting the Driver Care Plan		
13. Establish a Driver Care Card: information to make the claims process easier to navigate	Improves and simplifies consumer experience after an accident. The government has not publicly consulted on the Driver Care Card proposal and cannot comment on any policy implementation details.	Put on pause in 2019
14. Establish a “Care, Not Cash” default, with the option to choose cash settlements	Remove incentives for fraud by ensuring insurance coverage is used only for treatment and care.	
15. Establish \$2 million default benefit limit for catastrophic injuries	Ensures options are available and coverage meets consumer needs by increasing the minimum coverage to \$2 million.	
16. Improve early treatment system for common injuries, including mental health treatment	With the purpose of improving access to care for common injuries. The government has not yet publicly consulted on a proposal for this initiative and cannot comment on any policy implementation details.	

Initiative	Description of Initiative	Status ¹
Increasing Competition and Innovation		
17. Increase monetary limit for simplified procedures	Working with MAG, MOF made changes to the simplified procedures rule that increased the monetary limit for simplified procedure claims from \$100,000 to \$200,000, exclusive of interest, including the amount of money claimed (if any) and the fair market value of any real or personal property. Additionally, the monetary limit for the Small Claims Court increased from \$25,000 to \$35,000.	Completed on January 1, 2020
18. Support innovative business models, pricing structures and technology	- Enables FSRA to operate a “regulatory sandbox” for insurers to pilot innovative initiatives to bring new consumer-focused products and services to market more quickly (came into force January 1, 2022). - Allows insurers to electronically terminate policies, which would enable fully digital insurers to operate in Ontario (came into force January 1, 2022). - Enabled credit unions to sell insurance in-branch and/or online.	Completed on January 1, 2022
19. Improve automobile insurance rate regulation	Insurers must file with FSRA how they will be pricing their private passenger (personal automobile) and some commercial automobile insurance for approval prior to use. FSRA is implementing a new strategy for reforming the regulation of automobile insurance rates and underwriting to ensure fairness in rates in areas such as replacing outdated guidance, including existing guidance on territorial ratings.	In progress – FSRA’s Rate Regulation Strategy to be delivered to MOF in March 2023
20. Reduce burden (FSRA): review and simplify guidelines, bulletins and forms	As of January 2022, FSRA removed 80% of outdated automobile insurance guidelines, bulletins and forms.	Completed in January 2022
21. Reduce burden (MOF): review and simplify legislation and regulations, e.g., SABS	MOF has repealed outdated and ineffective provisions/legislation.	Completed on July 1, 2022

1. The MOF informed us that due to the COVID-19 pandemic and the associated need to focus on other priorities, including working with FSRA to facilitate providing relief to automobile insurance policy holders, the government paused its work on several Blueprint initiatives, for which little or no action has been taken since.
2. In the process of prioritizing some Blueprint initiatives over others, the MOF paused action on some initiatives in 2019, with the plan to resume these once the priority initiatives have been addressed.

Appendix 13: Weaknesses of FSRA's Oversight of Insurance Brokerages and Brokers

Prepared by the Office of the Auditor General of Ontario

Weakness	Description and Findings
FSRA's review of the insurance broker industry, through the Registered Insurance Brokers of Ontario (RIBO), is limited.	• In Ontario, RIBO oversees insurance brokers (individuals who work with multiple insurance companies and can thus provide a consumer with a wide range of policies to choose from). The Financial Services Regulatory Authority of Ontario (FSRA) reviews RIBO's operations annually, provides RIBO with its recommendations, and presents its findings to the Minister of Finance, who then lays the report before the Legislative Assembly of Ontario. • In its latest review (for 2020/21) of RIBO's operations, FSRA concluded that RIBO is regulating the industry in accordance with regulations. However, we noted FSRA's level of inspection could be improved. FSRA's recommendations in its latest report focused heavily on RIBO updating its plans and policies, cybersecurity, and website. We noted that neither FSRA nor RIBO has performed a detailed analysis of the insurance broker industry overall to determine if there is systemic bias in the way brokers operate or refer clients, based on ownership and commission structures between them and insurance companies. We learned that RIBO, as part of the 2022/23 licence renewal process, is collecting more detailed data on ownership and other financial interest in brokerages and is examining how to make conflict-of-interest and commission disclosure requirements more meaningful for consumers. • RIBO conducts inspections (what it calls "spot checks") of both brokerages and individual brokers, and obtains documentation from the brokerages, such as details of the disclosure of commissions that brokers receive. RIBO sets a goal of how many of these inspections it aims to perform annually. RIBO's own data showed that between 2017/18 and 2021/22, it had not once met this goal. Its worst performance was in 2021/22, when it aimed to perform 240 inspections but only completed 112. Between 2017/18 and 2021/22, RIBO only conducted about 67% of the inspections it set out to conduct. While FSRA has identified in its review of RIBO that the regulator has made changes to its inspection regime, and that the number of inspections has been below target for multiple years, it has not recommended corrective action or highlighted what actions RIBO is taking to better achieve its target due to RIBO's budget restrictions, and expanded scope of its inspections. Going forward, RIBO plans to apply a risk-based, targeted compliance framework to its inspections which will impact the number of inspections it conducts.

Weakness	Description and Findings
Insurance brokerages fully or majority-owned by an insurance company are not required to explicitly disclose this information to consumers.	• Brokers can help consumers find the most cost-effective option among various insurance companies they work with. Insurers or their affiliates are not restricted from owning a brokerage in Canada. This is the case in Ontario (since December 2004) as well as in most other provinces (except for Quebec, which prohibits an insurer from owning more than a 20% stake in a brokerage). This means that in Ontario, insurance companies are able to own 100% of a brokerage that sells its own insurance policies. Insurance brokerages that are wholly or partly owned by insurance companies and sell the insurance products of their parent company may have a conflict of interest that puts their consumers at risk. Specifically, the parent company may influence its brokers to sell its own products, even if other insurance companies are willing to charge a lower premium to a consumer. Our review of brokerages at RIBO found that at the time of our audit, insurance companies own or have financial interest in 110 brokerages in Ontario. • The RIBO Principal Broker Handbook, which outlines regulatory requirements and guidelines for insurance brokerages, states that the broker must disclose a real or potential conflict of interest to the consumer at the time of quotation. As well, Regulation 991 of the <i>Registered Insurance Brokers Act</i> entitles consumers to receive disclosure of any real or perceived conflict of interest, which would include information about ownership of a brokerage, and specifies that this information must be disclosed in writing. As such, we found that in practice, brokerages are not required to explicitly communicate this ownership relationship to consumers prior to giving them insurance quotes or a recommendation on which to select. • As part of our audit, we obtained 10 automobile insurance quotes online representing Ontarians of different sexes, territories, and automobile make and model from a brokerage (BrokerLink) that is wholly owned by an insurance company. Of these 10 quotes, the insurance company was included in nine of them. While the brokerage posted both its ownership and commission structures online publicly, we noted that in preparing the quotes, this was not disclosed to consumers. Rather, the onus is on the consumer to search through the website to obtain this information. • Moreover, if an individual obtains an insurance quote via telephone (a common method of getting quotes), even though brokers have disclosure requirements, some consumers may not always receive these kinds of disclosures upfront or prior to deciding on which insurance policy to purchase (unless they explicitly ask for it). In a sample of 50 websites of insurance brokerages in Ontario we reviewed, 43 (86%) of them disclosed their ownership structure. However, we noted that in a sample of 10 phone calls we made to brokerages to request a quote, only one (10%) disclosed their ownership structure prior to being asked. Additionally, we reviewed the websites of 10 brokerages that insurance companies either own or have financial interest in to determine if appropriate disclosure was provided. We noted that three of these 10 brokerages did not adequately disclose this information. To this end, some brokerages are not effectively disclosing ownership disclosures to be compliant with Regulation 991.

Weakness	Description and Findings
Insurance brokerages are not following the requirement to disclose their commission structures.	• An insurance company generally pays an insurance brokerage a portion of the policy the brokerage sells to a consumer. Our review of a sample of automobile insurance brokerages that have publicly disclosed their commission structure showed that the commissions they receive from insurance companies may be as high as over 20% of a premium per client. This amount is generally paid per policy, including renewals. If an insurance brokerage receives a higher commission from one insurance company compared to another company they work with, there is a risk the brokerage may try to influence a consumer to go with the policy that earns it more money, even if the policy is more expensive than another company's quote. Inherent conflicts of interest like this are why disclosure is required. • The RIBO Principal Handbook is a guidance tool designed to help brokerages understand the requirements and standards of conduct they must meet as set out under the <i>Registered Insurance Brokers Act</i>. It states that brokerages are required to disclose the insurance companies they have commission agreements with, and the range of commission percentage they receive, to the consumer. Commission information must be made available to consumers if asked. It is also required to be available in other documents that are accessible, such as the final policy document, but consumers may not know to look for this information. Essentially, this information may not be explicit or apparent to the consumer. As part of our audit work, we reviewed the websites of a sample of 50 automobile insurance brokerages in Ontario to determine whether they disclosed their commission structures. Only 14 (or 28%) disclosed some form of information regarding the commission percentage they receive from each company they sell insurance for. Additionally, in our sample of 10 phone calls we made to brokerages to request a quote, we noted that only one disclosed their commission structure prior to being asked. • Consumers are likely unaware of the potential biases of the broker they are working with, as brokerages are not required to provide a consumer with all possible quote options and are subject to only a weak requirement to disclose the commission structure in place with each insurance company it works with (unless explicitly asked). As well, FSRA does not collect information on which companies brokerages work with, the brokerage's ownership structure, or the commissions paid by each insurance company to the broker. Thus, it is not able to determine potential conflicts of interest, and who and what to assess as part of its inspections of regulated automobile insurance entities, as well as of RIBO's operations. • RIBO representatives explained to us that although RIBO licensees are not required to disclose to FSRA the number of insurance companies they have contracted with, FSRA has the authority to request this information under Section 442.2(1) of the <i>Insurance Act</i>, but has not done so.

Appendix 14: Weaknesses of FSRA's Credit Union Inspection Process

Prepared by the Office of the Auditor General of Ontario

Weakness	Description and Findings
Governance inspections by FSRA were incomplete.	• We reviewed a sample of 20 credit union inspections conducted by the Financial Services Regulatory Authority of Ontario (FSRA) since 2019. In eight cases, we found the inspection did not collect fulsome evidence to evaluate governance processes at the credit union as these areas were not included in the scope of the inspection. Specifically, FSRA staff did not collect any evidence related to one or more of the three main governance factors that are considered when determining the governance score for the Deposit Insurance Reserve Fund (DIRF) premium (i.e., FSRA's assessment of how the credit union's board operates, how the credit union's internal audit department and its board's audit committee function, and its processes related to the issuing and monitoring of loans to credit union members). • For instance, we found that in two inspections, there was no evidence that FSRA had conducted an assessment of the effectiveness of the credit union's internal audit practices. Without a complete governance evaluation, FSRA may end up with an inaccurate risk profile for these credit unions, putting consumer deposits at risk. • Furthermore, FSRA did not always assess restricted-party transactions (such as loans to officers or directors, their spouses, or to a corporation where an officer or director has more than 10% ownership) that are regulated under the <i>Credit Unions and Caisses Populaires Act, 2020</i> and require increased due diligence by a credit union's board. These types of transactions are required to be approved by a credit union's board; however, we found that FSRA did not require supporting documentation of approvals or board reviews. We also found that in four of five sampled credit union inspections with either poor governance practices or where FSRA identified a higher risk in the lending portfolio, FSRA did not perform any analyses of material restricted-party transactions.
FSRA does not adequately ensure inspection findings are implemented by credit unions.	• Prior to the introduction of the Risk-Based Supervisory Framework in April 2022 (see Section 5.1.1), when an inspection was completed, FSRA asked each credit union's board of directors to provide a written attestation to confirm the credit union has made, or will make, the necessary changes to address the inspection's findings. However, FSRA collected no supporting documentation to confirm whether an inspection finding was actually resolved. • In four of the 20 credit union inspections we reviewed, we found that an issue identified in a previous inspection had not been resolved by the time the next inspection was conducted, even though the board had provided a written attestation in each case that the necessary change had been made. FSRA has not taken any enforcement actions (such as levying an administrative monetary penalty) in these cases. For example, in 2018, FSRA's predecessor, the Deposit Insurance Corporation of Ontario (DICO) inspected a credit union and identified that there was no evidence of sufficient board oversight of the audit committee, including unfulfilled audit committee duties such as assessing the independence and effectiveness of the internal auditor. The credit union's board provided an attestation in December 2019 that all issues were addressed. However, FSRA found the same deficiency still present in its inspection of the credit union in 2021. • Furthermore, FSRA provides recommendations to issues identified in an inspection and asks credit unions to respond to inspection findings with an "Action Plan," but we noted that the information credit unions provided to FSRA on completion of an inspection was inconsistent and often very limited. In 12 of the 20 credit union inspections we reviewed, we found that the credit unions simply noted that the issue was resolved, copying the corrective action requirement noted by the FSRA inspector, but without any supporting documentation.

Weakness	Description and Findings
Credit unions have little incentive to implement governance recommendations.	• Credit unions are required to contribute into the DIRF based on a risk assessment conducted by FSRA. We found that the existing assessment process results in a credit union's governance practices (which comprise about 36% of the risk assessment rating) having much less of an impact on what the credit union contributes into the DIRF compared to the single factor assessment of a credit union's capital relative to the riskiness of the credit union's assets (which makes up about 64% of the rating and is called the "capital score"). • For example, to pay the lowest rate (0.75%) of insured deposits into the DIRF, credit unions need a score of 90% or higher. This means that those with the highest asset assessment score (full marks, or 64% of the rate score) only need to score 72% on their governance assessment to achieve the 90% threshold. Because so much weight is given to a single financial factor, credit unions with weak governance may not have a financial incentive to improve their governance practices. As discussed in Section 5.1.2, poor governance practices contributed to PACE Savings and Credit Union Limited ultimately being placed under the administration of the then-regulator, DICO. • In one case, we identified a credit union that FSRA had assessed in 2020 as having a perfect capital score but inadequate internal audit and risk management functions (such as the internal audit function not meeting professional standards, including a lack of risk identification processes and appropriate review of work completed by department staff). This resulted in the credit union paying a higher deposit insurance rate. Correcting the issue would only have saved the credit union \$22,000 annually. FSRA said if the credit union wanted to resolve the governance issues, it would have to overhaul its internal policies, including hiring competent internal auditors and new board members. The yearly cost to the credit union for the low governance score would likely be significantly less than the costs needed to actually resolve the inspection issues.
FSRA has not performed inspections of credit unions within the frequency its policy targets.	• In a July 2021 report, FSRA's senior staff in the credit union division presented a business case to the division's Executive Vice President for additional staff. The business case outlined the specific challenges related to credit union supervision and monitoring, noting the sector has become more complex after consolidations in the industry led to requirements for more experienced staff with specialized skills. However, the business case was not presented to FSRA's Chief Executive Officer and no formal assessment was conducted to determine the optimal number of staff for the division. • We found that the lack of supervisory staff (with expertise in credit unions), along with the impact of the COVID-19 pandemic, has led to a 60% decrease in the number of inspections conducted on credit unions, from 50 in 2017 to 20 in 2021 (see Figure 20). • Prior to April 2022, FSRA's policy was to perform an inspection to assess each credit union's governance practices every 20 to 36 months, depending on the credit union's size and risk profile. FSRA produces a schedule identifying which credit unions it will review each fiscal year. Based on FSRA's schedule as of June 30, 2022, FSRA will not be able to conduct an inspection of 14 (or 21%) of the 61 credit unions in Ontario within 36 months from the most recent inspection time frame. In 2022, these 14 credit unions held a total of about \$13.4 billion of insured deposits. One of the 14 had insured deposits of over \$11 billion, which means it is supposed to be inspected every 24 months. However, given the current schedule, the gap between inspections for this credit union is expected to be at least 40 months. As of April 2022, FSRA no longer uses the 36-month target inspection policy, but it is not yet clear how the target frequency will change under the RBSF as no new policy had been established at the time of our audit. • Furthermore, although FSRA anticipates it will conduct 15 inspections in the 2022/23 fiscal year, the actual number of inspections could well be less since as of June 30, 2022, FSRA assessed staffing levels based on inspector vacancies were at about 68% of the level it believes it needs to meet these targets.

Appendix 15: Ontario Defined Benefit Multi-Employer Pension Plans (DB MEPP) Solvency Funding, as of June 30, 2022

Source of data: Financial Services Regulatory Authority of Ontario

Plan Funded Ratio (%) [*]	Plans (#)	Total Members (#)	Members as a Percentage of All DB MEPP Members (%)
40-60	23	817,105	80
61-80	29	145,303	14
81-100	13	31,531	3
>100	7	33,845	3
Total	72	1,027,784	100

Note: Data is as of June 30, 2022 based on the most current data submitted by a pension plan to the Financial Services Regulatory Authority of Ontario at that time.

* Funded ratio represents the amount of assets a plan has as a percentage of the liabilities the plan would owe if it was wound up. A funded ratio of 100% would indicate that the plan has exactly enough assets to pay all plan liabilities.

Appendix 16: Comparison of Powers between FSRA and Other Pension Plan Regulators

Prepared by the Office of the Auditor General of Ontario

Power	Use in Other Jurisdiction(s)	Status in Ontario
The sponsor must inform the regulator about potentially harmful events.	- In the US, the Pension Benefit Guaranty Corporation (PBGC) has an Early Warning Program for single-employer plans. Plan administrators and sponsors are required to notify the PBGC of certain events that may pose an increased risk to beneficiaries and the pension insurance system (such as a sponsor defaulting on a loan). - When the PBGC is notified of such an event, it can then work with the sponsor to create financial protections for participants. For example, the sponsor may grant a lien on company assets to mitigate the risks associated with the event.	Pension plan sponsors or administrators are not required to inform the Financial Services Regulatory Authority of Ontario (FSRA) of potentially detrimental events such as a sponsor defaulting on a loan, although the Pension Benefits Act includes an unproclaimed provision (s98.1) that would require certain events to be disclosed. The Ministry has indicated that a timeline for proclamation is not available at this time.
Regulators have greater access to employer/sponsor information.	- The PBGC in the US has the authority to request additional information (beyond publicly available information and that which has already been provided via statutory filings) from pension plan administrators and/or plan sponsors. This includes information such as current and projected financial information related to the sponsor. The PBGC routinely enters into confidentiality agreements with sponsors to protect private business information. - The regulator at the federal level in Canada, the Office of the Superintendent of Financial Institutions (OSFI), has the authority to obtain and review a plan sponsor's financial information, including the sponsor's financial statements.	FSRA is limited to publicly available information related to the sponsor, making a full assessment of the sponsor's financial health difficult when the sponsor is privately owned and does not release financial statements publicly.
Regulators are able to work with plan sponsors in distress on payment plans.	OSFI can approve a declaration filed by a distressed plan sponsor to initiate the negotiation of payment plans with the sponsor to best support the plan and protect members.	FSRA does not have such authority. Any such arrangements would require legislative or regulatory changes, which is a slow process hindering FSRA's ability to respond quickly in urgent situations.

Highway Planning and Management

Summary

The Ministry of Transportation (Ministry) has the authority to construct the province's highways, and the responsibility to maintain and repair them, under the *Public Transportation and Highway Improvement Act*. The Ministry manages provincial highway assets valued at \$56 billion (excluding bridges and culverts). This includes over 40,000 kilometres of highway lanes covering a distance of about 17,000 kilometres.

The Ministry works to alleviate traffic constraints and to accommodate forecasted population and economic growth by investing in new highway projects through its highway expansion program. It also invests in maintaining and repairing existing highways through its rehabilitation program. In 2021/22, the Ministry spent nearly \$2 billion on capital construction for highway expansion and rehabilitation projects. According to Statistics Canada, Ontario has some of the most well-maintained highways in Canada, ranking third after the Northwest Territories and Saskatchewan. In addition, according to Transport Canada, the rate of traffic fatalities in Ontario is the lowest in Canada.

Our audit found that Ontario does not yet have an overall long-term transportation strategy in place. However, the Ministry is taking positive steps toward developing an overall transportation strategy for Ontario, and has committed to developing four interrelated regional transportation plans. These transportation plans are intended to provide a roadmap for the Ministry's vision of a province-wide transportation system that integrates all modes of

travel (road, rail, air and marine). Although the Ministry published the first of these transportation plans for the Greater Golden Horseshoe (GGH) region in March 2022, we found that the Ministry has not set timelines to finalize plans (that are currently in draft) for the rest of the province. In addition, we found that the GGH plan does not set short-term and long-term priorities, nor does it disclose the estimated costs and a time frame to implement the plan. Currently the Ministry has not been required to follow the GGH plan. In contrast, we noted that the province of Manitoba has publicly communicated the priorities, timelines and estimated cost of implementing its 2014 transportation plan.

Our audit also found that, over the last 10 years, the Ministry has consistently proposed highly rated highway expansion projects to the provincial government, based on the Ministry's prioritization assessment of each project, using nine key indicators along with other qualitative subjective factors. These indicators are intended to help meet the Ministry's vision to be a world leader in moving people and goods safely, efficiently and sustainably, in order to support a globally competitive economy and a high quality of life.

However, we found that, in 2019, the Ministry proposed deferring six highway expansion projects that were previously approved by Treasury Board/Management Board of Cabinet (Board), and recommended funding the construction of four highway projects identified as government priorities, even though these projects were ranked as a lower priority by the Ministry's technical and engineering staff. Our audit also found that the Ministry prioritized the four

highway projects at the direction of the Minister's office. We found that the Ministry's proposal to the Board neglected to communicate that the direction from the Minister's office was inconsistent with the recommendations of the Ministry's subject-matter experts who indicated that they would not have recommended those four projects at that time, and did not have a specific time frame for when they would have recommended them. Further, our audit found that the Ministry has since been directed by the Minister's office to prioritize another four highway expansion projects, including the high-profile Greater Toronto Area West (Highway 413) and Bradford Bypass projects.

Besides measuring highway condition ratings, we found that the Ministry's key performance indicators do not provide the Ministry with sufficient information to monitor and demonstrate the effectiveness of its highway planning and management operations or to publicly communicate their effectiveness to Ontarians in a number of other areas. In particular, we found that the Ministry has not established sufficient key performance indicators and targets for assessing the mobility of people and goods, highway safety, sustainability and environmental impact, and the achievement of projects on time and within budget.

The following are some of our more significant observations about the Ministry's highway programs:

- **The absence of a Ministry tolling strategy has contributed to inconsistent tolling practices in highway planning.** We found that the Ministry has not developed a consistent framework to assess the circumstances where tolling is appropriate—for example, to help recover the costs of constructing a highway to support commerce and the effective movement of Ontarians. The Ministry's lack of tolling authority and the absence of a framework for the use of tolling have contributed to inconsistent tolling practices in the construction of provincial highways. For example, while the Ministry has been asked by the government to explore tolling opportunities to lower the costs of a proposed highway project, it was also asked by the government to build a business case to remove tolls from Highways 412 and 418 before their costs have been recovered.
- **The Ministry's business cases for toll discontinuance and licence plate sticker fee removal did not follow the Board's guidelines and requirements.** At the direction of the Minister's office, the Ministry prepared business cases for two recent high-profile decisions affecting Ontario highway users (Highway 412 and 418 toll removals, and licence plate sticker fee removal). However, we found that these business cases did not meet Board guidelines and requirements to support effective decision-making. We found that, in contrast to the Board's requirements for business cases, the Ministry's proposals for these two initiatives did not provide adequate review time for the decision-makers and their analysts; did not provide all relevant information in their analysis of the recommendation and alternative options; did not identify all key risks or their mitigation strategies; and did not present adequate monitoring and evaluation plans for the recommended option. Additionally, we noted that the Ministry did not provide a rationale in its business case for why it sought approval to expedite the removal of tolls by April 5, 2022, which was less than two months before the provincial election.
- **The Ministry continues to perform manual road assessments that are less efficient and that duplicate assessments completed using its automatic road analyzers.** In 2013, the Ministry started using vehicles equipped with automatic road analyzers (ARANs) to scan and assess the condition of pavement on the province's entire highway network at least once every two years. However, we found that four of the Ministry's five regional offices continue to also perform manual assessments of the entire highway network's pavement every one or two years, duplicating the work completed using ARANs. These same four regional offices rely on the results of the more limited manual assessments to determine their highway rehabilitation

plans. In addition, nearly 10 years after the ARANs were implemented, the Ministry has yet to determine whether there is a continued need for manual assessments of the complete highway network.

- **Engineering consultant performance is not appraised in over 40% of assignments.** Although the Ministry is required to evaluate the work of engineering consultants after each design assignment, we found that the Ministry has not done so for 41% of the 1,416 assignments in the past 10 years (2011–20). We noted that the Ministry uses these evaluations to calculate a consultant's Corporate Performance Rating (a three-year weighted average of past performance on Ministry contracts). The Corporate Performance Rating (CPR) is a key variable considered by the Ministry in awarding contracts to consultants, accounting for as much as 50% of the Ministry's decision to award a contract. Therefore, failing to evaluate consultants after each assignment increases the risk that contracts for highway design work are awarded to poorly performing consultants for which the Ministry does not have a complete performance history.

This report contains 12 recommendations, with 33 action items, to address our audit findings.

Overall Conclusion

Our audit concluded that the Ministry did not consistently plan and prioritize highway projects effectively, based on provincial infrastructure needs. We found that, at the direction of the Minister, the Ministry recommended deferring highly-ranked highway expansion projects in favour of lower-ranked projects, without communicating to Treasury Board/Management Board of Cabinet (the government's committee of Cabinet that reviews and approves funding requests from ministries) that the Ministry's subject-matter experts did not agree with the direction from the Minister's office. In addition, without a provincial tolling strategy, tolls were removed from Highways 412 and 418 before their costs had been recovered. Ministry

business cases to remove tolls on these highways and to remove licence plate sticker fees before the election were not provided to Treasury Board Secretariat (the Ministry provides advice and assistance to Treasury Board/Management Board of Cabinet) on a timely basis, and did not include all the information that the Board requires to make a decision on a business case.

Our audit also concluded that the Ministry's processes to identify and plan for the maintenance, repair and renewal of existing provincial highways were not always efficient. We found that nearly 10 years after the Ministry implemented the use of vehicles equipped with automatic road analyzers (ARANs) to scan and assess the condition of the province's entire highway network, four of the Ministry's five regional offices continue to also conduct manual assessments of their entire highway network. This duplicates the work completed by ARANs. In addition, we found that these four regional offices relied on manual assessments to determine highway rehabilitation plans instead of using ARAN-based assessments, even though the ARAN-based assessments capture far more data.

Finally, we concluded that the Ministry does not have effective processes to measure and publicly report on the performance of its highway planning and management. We found that the Ministry's existing key performance indicators do not provide the Ministry with sufficient information to monitor and demonstrate the effectiveness of its highway planning and management operations, nor to publicly communicate their effectiveness to Ontarians. In particular, we found that the Ministry has not established sufficient key performance indicators and targets related to the mobility of people and goods, highway safety, sustainability and environmental impact, and the achievement of projects on time and within budget.

OVERALL MINISTRY RESPONSE

The Ministry of Transportation (Ministry) thanks the Auditor General for her detailed review and recommendations. The Ministry recognizes the critical role it holds in the planning and management of

provincial highways. The Ministry takes its obligations very seriously and has robust processes and systems in place that use sound asset management principles to plan, prioritize, maintain, repair, and renew provincial highways. The Ministry looks forward to sharing our continued progress in implementing the recommendations with the Auditor General.

2.0 Background

2.1 Overview of Ontario's Highway Programs

The *Public Transportation and Highway Improvement Act* gives the Ministry of Transportation (Ministry) the authority to construct, and the responsibility to maintain and repair, the province's highways. The Ministry's vision is to be a worldwide leader in enabling mobility so that all people and businesses in Ontario can easily access the places, opportunities and services that help them thrive. The Ministry is responsible for the oversight and management of provincial highway assets valued at \$56 billion (excluding bridges and culverts) as of March 31, 2022. In 2021/22, the Ministry spent nearly \$2 billion on capital construction expenditures for highway expansion (\$640 million) and rehabilitation projects (\$1.333 billion).

Expansion projects involve planning, designing and constructing new highways, or expanding and extending existing highways, in response to existing traffic constraints and forecasted population and economic growth. Ontario's population is expected to increase by about 38% by 2046, and it can take up to 30 years to plan and construct a new highway expansion project, highlighting the importance of appropriate long-term highway planning and timely construction.

Rehabilitation projects involve renewal of existing highways, including repairing and repaving highways or repairing and replacing supporting structures. The average life expectancy of the vast majority of highway pavement is 15 years, and the Ministry aims

to rehabilitate a third of the entire highway network every five years. Preventative maintenance and early repairs are more efficient and cost-effective than emergency work and reconstruction, so the timing and prioritization of rehabilitation work is critical.

The Ministry's Integrated Policy and Planning Division and its Transportation Infrastructure Management Division (TIMD) hold the primary responsibilities for planning, prioritizing, designing, and managing highway expansion and rehabilitation projects. TIMD also includes staff that work in the Ministry's five regional offices in Toronto (Central), Kingston (East), London (West), Thunder Bay (Northwest), and North Bay (Northeast) who plan, prioritize, manage, and co-ordinate highway projects located within each region.

2.2 Key Statistics

2.2.1 Ontario's Highways

The Ministry manages a network of over 40,000 kilometres of highway lanes covering a distance of about 17,000 total kilometres. **Figure 1** illustrates the number of highway lane kilometres and total distance by region.

Figure 1: Highway Distance and Lane Kilometres by Region, 2020/21

Source of data: Ministry of Transportation

Region	Distance (km)	Lane km ¹	Population (2021) ²
Central	1,295	5,610	8,558,000
East	2,257	6,145	1,947,000
Northeast	6,861	14,650	657,000
Northwest	4,400	8,902	242,000
West	1,929	5,355	3,421,000
Total	16,742	40,662	14,825,000

1. Represents the length of highways in kilometres multiplied by the number of highway lanes.
2. Population data is based on the Ministry of Finance table for population projections for the 49 Census Divisions. Given that Ministry of Transportation Regions cut across some Census Divisions a simple allocation was used (i.e. if the major part of the Census Division is in one region, then the whole population for that Census Division is counted in that region). Numbers are rounded to the nearest thousand.

As shown in **Figure 2**, over the last six years (2016/17–2021/22), the Ministry has completed construction on 32 highway expansion projects and completed 859 highway rehabilitation projects across Ontario’s five regions. (**Appendix 1** lists the 32 expansion projects.)

Each year, the Ministry publicly releases the Ontario Highways Program, which lists all expansion projects (for which the Ministry has secured government funding) and planned rehabilitation projects scheduled for construction in the next four years in each of the province’s five regions (see **Figure 3**). Among the expansion projects, 25 are expected to cost more than \$80 million each.

2.2.2 Performance Indicators

The Ministry uses three key performance indicators (see **Figure 4**) to oversee its highway management and planning activities relating to highway expansion and rehabilitation (excluding bridges).

Percentage of highway pavement in good condition: Although the summarized results on this indicator are not publicly reported, the data that supports this indicator is publicly available on the Ontario Open Data Catalogue. According to Statistics Canada, based on 2020 data, Ontario ranks third in Canada with 81.3% of highways in Good or Very Good condition, behind the Northwest Territories with 93% and Saskatchewan with 83.9% of highways in Good or Very Good condition. However, direct comparisons can be misleading because jurisdictions measure these scores with different methodologies.

Fatalities per 10,000 licensed drivers: The results on this indicator are reported publicly in the Ontario Road Safety Annual Report (<https://www.ontario.ca/document/ontario-road-safety-annual-reports-orsar>). In 2020, Ontario’s provisional fatality rate was 0.51 per 10,000 drivers, which was the lowest in Canada and was below the national average of 0.65 per 10,000 drivers.

Average travel speed of commercial vehicles on 400-series highways: The results on this indicator are not reported publicly.

2.2.3 Highways Funding and Expenditures

The Ministry is funded to complete highway expansion and rehabilitation projects in Ontario across the Ministry’s five regions (Central, East, West, Northeast and Northwest). To request funding, the Ministry prepares a rolling 10-year infrastructure plan and budget that includes highway expansion and rehabilitation projects. The Ministry includes this plan in its annual business plan.

Figure 2: Number and Cost of Highway Projects Completed by Region, 2016/17–2021/22

Source of data: Ministry of Transportation

Region	# of Projects	Project Value (\$ million)
Expansion		
Central	9	1,838
East	5	313
Northeast	5	186
Northwest	2	267
West	11	414
Total	32	3,018
Rehabilitation		
Central	180	2,496
East	178	1,035
Northeast	198	1,577
Northwest	185	1,163
West	118	1,012
Total	859	7,283

Figure 3: Approved Highway Projects by Region, 2022–2025

Source of data: Ontario Highways Program, 2022

Region	Expansion	Rehabilitation	Total # of Projects
Central	11	103	114
East	3	103	106
Northeast	8	148	156
Northwest	7	136	143
West	13	76	89
Total	42	566	608

Figure 4: Key Performance Indicators for Ministry of Transportation Highway Program, 2016/17–2020/21

Source of data: Ministry of Transportation

Key Performance Indicator	Performance Results					Target 2020/21
	2016/17	2017/18	2018/19	2019/20	2020/21	
Percentage of highway pavement in good condition	69	83	82	81	81	67
Fatalities per 10,000 licensed drivers	0.58	0.61	0.58	0.55	0.51	0.63
Average travel speed of commercial vehicles on 400-series highways (km/h)	94	93	92	92	94*	90

* Data for the period from April to December 2020 was excluded because of unusually low traffic stemming from the COVID-19 pandemic. Only data from January to March 2021 was considered.

The Treasury Board/Management Board of Cabinet (Board) is the government committee of Cabinet (provincial members of parliament of the party in power) that reviews and approves annual and in-year funding requests from ministries. It is supported by the Treasury Board Secretariat (Secretariat), which is the ministry responsible for government fiscal planning and expenditure management that provides advice and assistance to the Board. The Secretariat issues guidance to ministries on the funding-request process, and reviews funding requests and business cases. The Secretariat provides its analysis to the Board, along with a recommendation of whether to approve each request. Business cases are to adhere to the Board's Business Case Guide, which describes the filing process, documentation, and analysis instructions for all business cases requiring Board approval.

The Ministry's annual capital construction expenditures on highway expansion and rehabilitation projects have averaged \$2.1 billion over the last 10 years (2012/13–2021/22), ranging from a low of \$1.9 billion in 2018/19 to a high of \$2.4 billion in 2015/16. In 2021/22, capital construction expenditures totalled \$2.0 billion.

As **Figure 5** illustrates, highway expansion project expenditures have declined over the last 10 years, from \$1.043 billion in 2012/13 to \$640 million in 2021/22, a decrease of 39%. Over this same period, highway rehabilitation project expenditures have increased from \$1.122 billion in 2012/13 to \$1.333 billion in 2021/22, an increase of 19%.

2.3 Highway Expansion Projects

Highway expansion projects are usually conceived through regional transportation planning and transportation studies that lay out the Ministry's long-term transportation vision. These projects can take decades from the time they are conceived until they are constructed. **Figure 6** shows the stages in the Ministry's process for planning, prioritizing, designing and managing each highway expansion project.

2.3.1 Highway Expansion Needs Assessment

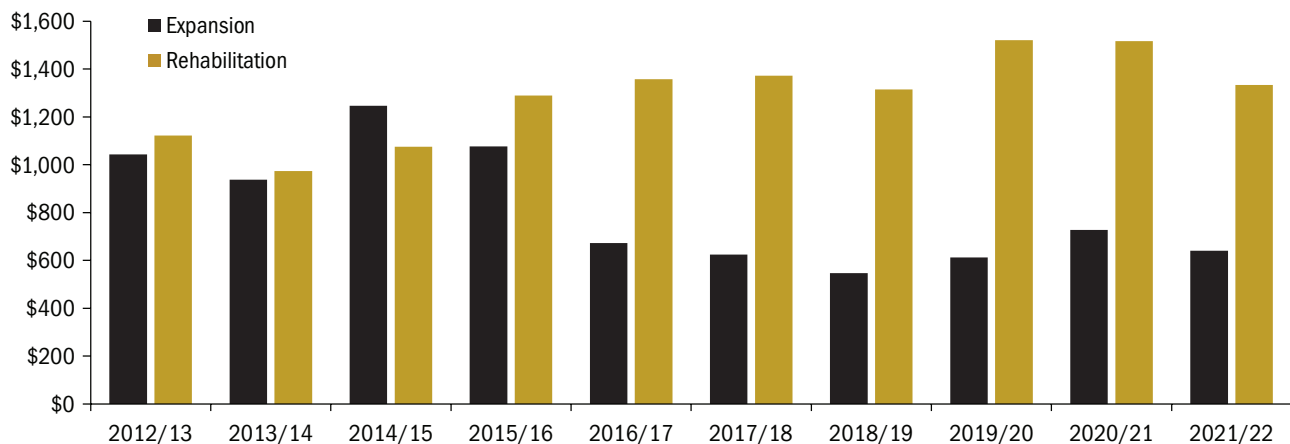
To determine existing highway needs and weaknesses, and to forecast future needs, the Ministry uses two travel demand forecasting models:

- Greater Golden Horseshoe (GGH) model, covering the local travel patterns in the GGH region (the densely populated and industrialized U-shaped region centered around the City of Toronto); and
- Transportation and Regional Economic Simulation of Ontario (TRESO) model, covering all of Ontario.

The GGH model focuses on a smaller area but at a greater level of detail than the TRESO model. The two models interact with each other to provide integrated estimates of population growth and travel demand forecasts. Both models are continuously updated using surveys and studies on the demographics and travel habits of Ontarians for the province's full highway network.

Figure 5: Capital Construction Expenditures* for Highway Projects, 2012/13–2021/22 (\$ million)

Source of data: Ministry of Transportation



* Capital construction expenditures include expansion and rehabilitation projects involving bridges.

Figure 6: Process for Planning and Managing Highway Expansion Projects

Source of data: Ministry of Transportation

Stage of Project	Description
Needs Assessment	Each potential expansion project is assessed to determine its potential impact on the highway network (see Section 2.3.1).
Prioritization	Each potential expansion project is evaluated through a prioritization framework across nine key criteria to determine a priority level of high, medium, or low to the province (see Section 2.3.2).
Design and Construction	Depending on the complexity of a highway project, this stage can include the following: • government approval prior to significant design work; • preliminary design of the major elements and route of the project, including identification and evaluation of potential alternatives; • assessment of risks related to economic, social and culture factors that affect the community and the natural environment, including consultation with Indigenous communities and interested stakeholders; • acquisition of property necessary to construct the project; • selection of the project's delivery model (i.e., who designs, finances and builds the project); • finalization of the design for construction; • government approval prior to construction; • tendering of the construction contract; and • oversight of the construction. (See Section 2.3.3 for descriptions of the listed items.)

The Ministry uses these two models to conduct a needs assessment on each highway expansion project that it has identified to be potentially beneficial to the continued mobility of people and goods in Ontario. Using these models, the Ministry assesses the potential impact of each project to determine whether it is expected to be effective at addressing existing and forecasted transportation needs.

Transportation Plans

In addition to assessing the needs of each major identified highway expansion project on an individual basis, the Ministry is transitioning to a comprehensive assessment of all identified transportation projects, including highway projects. To do so, the Ministry is using the GGH and TRESO models to assess potential projects relative to provincial needs, using various measures

of effectiveness (see **Appendix 2** for a listing of the measures). The Ministry is using these assessments to develop transportation plans that provide a roadmap for the Ministry’s vision of a complete transportation system across the province that will inform planning, policy development, and the prioritization of projects (see **Section 2.3.2**).

The plans are expected to highlight the province’s expected needs and potential solutions for transportation, including specific approved and proposed projects. They are also to consider all modes of travel (road, rail, air, and marine) as one integrated system and plan for 20–30 years into the future. The plans are being developed through a process that includes working with municipalities, Indigenous communities and organizations, transit agencies, community and business stakeholders and the public.

The Ministry is developing plans across four areas in Ontario: GGH, Northern Ontario, Southwestern Ontario, and Eastern Ontario. The GGH plan, published in March 2022, was the first of these plans to be finalized. The Ministry has also published draft plans for the other areas, which are still under development.

2.3.2 Prioritization

Each expansion project identified to benefit the province’s highway network, based on the Ministry’s needs assessment process, undergoes an evaluation to establish its priority for construction. To evaluate each expansion project and support funding decisions, the Ministry created the Expansion Prioritization Framework (EPF) in 2010, which the Ministry’s technical and engineering staff use to assess each project across the nine key criteria shown in **Figure 7**.

After determining a project’s score, the Ministry adds the project to its Long List, which contains all the highway expansion projects recommended by the needs assessment process that have not been approved for construction. The Ministry sorts this list into three priority groups based on their score: high (>550), medium (475–550) and low (<475).

Figure 7: Key Criteria for the Expansion Prioritization Framework (EPF)

Source of data: Ministry of Transportation

Key Criteria	Score
1. Change in total travel time delay	0–100
2. Change in weighted total collision frequency	0–100
3. Support for economic activity	0–100
4. Availability of alternate routes	0–100
5. Economic benefit of the project	0–100
6. Connectivity among transportation modes for goods movement	0–100
7. Value of goods movement	0–100
8. Alignment with provincial and municipal planning and policy priorities	0–100
9. Support for the use of transit	0–100
Total	0–900

In addition to a project’s EPF score, the Ministry also considers a number of subjective qualitative factors (to which it does not assign a score), to further prioritize projects on its Long List, including funding availability, alignment with government priorities and mandates, regional Ministry oversight capacity, contractor capacity for construction, and timing based on other planned construction in the project’s proximity. After considering these factors, the Ministry prepares a Short List of projects that it recommends to the Board for approval as part of the annual business planning process, as described in **Section 2.2.3**.

2.3.3 Project Design and Construction

After highway projects are prioritized, they must undergo various steps in order to design and construct them.

Beginning with the preliminary design stage of a highway project, the Ministry develops the project’s design objectives and requirements, outlines the core elements of the design, identifies the likely route of the highway, and selects the most appropriate

delivery model for the project (determining who designs, finances and builds the project). For highway expansion projects greater than or equal to \$50 million, the Board's directives require the Ministry to obtain initial approval from the Board before committing further funding to the planning and design of the project and, again, before proceeding to construction.

During the rest of the design stage, the Ministry progresses the project's design to the level of detail required for construction. Throughout this process, the Ministry also acquires all property required for the project, identifies the required utility relocations (to accommodate the highway route), and obtains all permits and approvals required for construction to proceed.

Most design work is performed by external engineering consultants and all construction work is outsourced by the Ministry to external contractors. All such contracts are required to go through an open competitive bidding process that includes an evaluation of price, capability, and past performance. The Ministry is to oversee construction to assess whether contractors complete work in accordance with contract documents, which include the project's design.

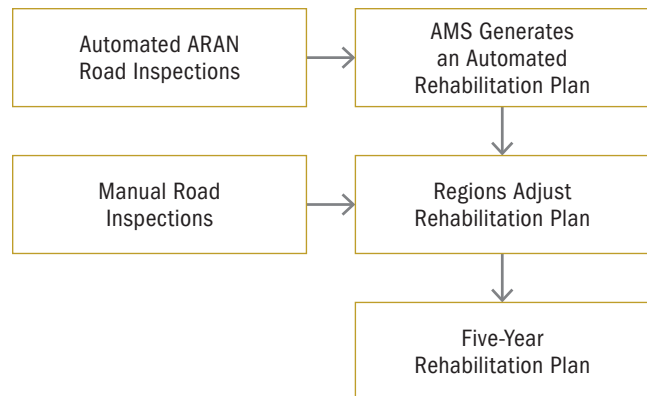
In parallel to the design stage, each highway project is required under the *Environmental Assessment Act* to undergo an environmental assessment that must be completed before construction begins. The environmental assessment is to evaluate alternatives to undertaking a project, the project's risks related to economic, social, and cultural factors that affect the community, as well as the project's potential impacts on the natural environment, in order to make recommendations to alter the project's design to mitigate those risks to an acceptable level.

2.4 Highway Rehabilitation Projects

As noted, the Ministry estimates the average life expectancy of the vast majority of highway pavement to be 15 years, and aims to rehabilitate a third of the entire highway network every five years. Rehabilitation

Figure 8: Pavement Rehabilitation Planning Process

Source: Ministry of Transportation



projects generally require less capital investment (per project) than expansion projects. Nevertheless, some rehabilitation projects can cost hundreds of millions of dollars and require similar up-front work to that of expansion projects.

The Ministry uses a needs assessment and prioritization process that is unique to rehabilitation projects (see **Figure 8** for an overview of the rehabilitation planning process). In addition, the Board's directives only require the Ministry to seek the Board's approval for rehabilitation projects greater than or equal to \$75 million in cost (instead of greater than or equal to \$50 million for expansion projects). However, in all other respects, the Ministry's process for designing and building each highway rehabilitation project includes the same steps as the process for highway expansion projects described in **Section 2.3.3**.

2.4.1 Rehabilitation Needs Assessment

To determine the rehabilitation needs of provincial highways, and to report on associated metrics, the Ministry performs annual assessments of pavement condition across its highway network using automatic road analyzers (ARANs). ARANs are installed on vehicles (as shown in **Figure 9**) driven by Ministry staff

Figure 9: Automatic Road Analyzer Vehicle

Source: Ministry of Transportation



that travel along provincial highways at high speed to analyze road texture, categorize defects, and identify excessive wear to determine the road condition for a specific section of the highway. The Ministry typically scans one lane of the highway during the assessment (while also taking video recordings of adjacent lanes) and records the condition data of the pavement for each 2.5-centimetre interval of the entire length of the highway.

ARAN scan data is used to calculate the Pavement Condition Index (PCI), which uses algorithms to categorize the condition of sections of pavement as Good, Fair, or Poor in order to determine that section's rehabilitation urgency. ARAN scan results are uploaded to the Ministry's Asset Management System (AMS), which uses them to generate its recommended rehabilitation plan (see **Section 2.4.2** and **Figure 8**) and to calculate the percentage of pavement in Good condition, which the Ministry uses as a performance indicator (see **Section 2.2.2**). In addition, ARAN scan results are used to assess the pavement quality and highway geometry of completed highway projects against the approved design, and to provide evidence of road conditions for court cases where highway condition on a particular date is relevant.

Currently, the Ministry operates three vehicles equipped with ARANs. Since 2013, the Ministry has used ARANs to assess about 80% of the province's highway network annually.

Manual Pavement Inspections

The Ministry's five regional offices are also required to conduct manual pavement condition assessments (manual inspections) for the entire highway network at least once every two years. The Ministry intends these assessments to be used to support the ARAN-based assessment of the highway network in each region. Manual inspections primarily involve physical observation and assessment of pavement condition by regional engineers across a small sample of stops along the highway section being inspected. Each regional office is also required to conduct manual assessments of the condition of non-pavement highway assets (such as traffic signs and barriers).

The Ministry maintains a Pavement Condition Assessment Manual (Manual), which provides instructions and guidelines for performing manual inspections of pavement, including a requirement to document the inspection assessment results and any deficiencies in a Pavement Condition Report. While the ARAN data is used to calculate the Pavement Condition Index (PCI), the end result of a manual inspection is the Pavement Condition Rating (PCR). PCR is a subjective rating given by the pavement inspector after driving over a pavement section and visually observing the severity and density of pavement distresses. To calculate the PCR, the inspector evaluates two parameters with guidance from the Ministry's Manual: (1) ride quality and (2) the extent and severity of distresses in the sampled locations.

2.4.2 Rehabilitation Capital Plans

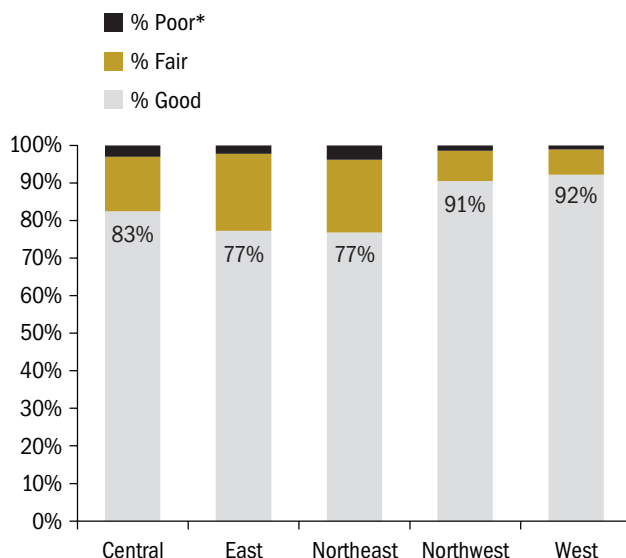
The Ministry uses its Asset Management System (AMS) to store details about its inventory of highway assets, including all highway pavement sections and their current condition as assessed by ARANs (described in

Section 2.4.1). Each year, the Ministry uses AMS to generate system-driven rehabilitation plans for each region, aimed at meeting the Ministry's target for 67% of pavement to be in Good condition over the long term. **Figure 10** shows the proportion of the Ministry's highway network in each of the Ministry's five regions rated by condition level.

The Ministry inputs its available pavement rehabilitation budget into AMS, which uses the budget as a financial constraint to prioritize pavement rehabilitation projects. The system-recommended plan and the anticipated budget are provided to each regional office. Technical and engineering staff at the regional offices review these system-recommended regional rehabilitation plans and use their expertise and local knowledge (such as information from manual inspections) to refine them. Thereafter, they are to be sent back to the Ministry's head office for final review and inclusion in the overall Ministry Rehabilitation Plan (see **Figure 8**).

Figure 10: Condition of Ontario Highway Pavement by Region, 2020/21

Source of data: Ministry of Transportation



* According to the Ministry, a condition rating of "Poor" is not a direct indication of safety concerns; instead, it indicates the relative need for rehabilitation.

2.5 Highway Tolls

Since 2017, when the Ontario government began charging tolls on three of Ontario's highways (407 East, 412, and 418), toll operations have generated about \$265 million in revenue for the Province. During this time, Highways 412 and 418 generated a combined \$64 million, or 24% of the total toll revenue (see **Figure 11**). Tolls were put in place to help cover the costs of the highway expansion. Toll revenues from provincially owned highways are provided to the Ontario treasury to be used for government priorities.

3.0 Audit Objective and Scope

The objective of our audit was to assess whether the Ministry of Transportation has effective processes and systems in place to:

Figure 11: Ministry of Transportation Toll Revenue, 2016/17–2021/22 (\$ million)

Source of data: Ministry of Transportation

Fiscal Year	Highway 407 East*	Highway 412	Highway 418	Total by Year
2016/17	4.2	1.4	Not Operational	5.6
2017/18	34.0	12.0	Not Operational	46.0
2018/19	39.6	12.0	Not Operational	51.6
2019/20	43.9	11.7	1.1	56.7
2020/21	31.1	9.3	1.3	41.7
2021/22	47.7	13.3	1.9	62.9
Total by Highway	200.5	59.7	4.3	264.5

* Revenues do not include tolls from the 407 ETR (Burlington to Pickering), which is leased to and operated by the 407 ETR Concession Company Limited. Although physically connected, this segment of the highway is a separate entity from Highway 407 East (from Pickering to Clarington), which is owned and operated by the Province.

- plan and prioritize highway projects based on provincial infrastructure needs;
- maintain, repair, and renew existing provincial highway assets in accordance with sound asset management principles; and
- measure and publicly report on the performance of highway planning and management.

In planning for our work, we identified the audit criteria (see **Appendix 3**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at the Ministry reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between January 2022 and September 2022. We obtained written representation from the Ministry's management that, effective November 24, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

Our work was conducted at the Ministry's head office in St. Catharines, and the Ministry's offices for the Central (Toronto), East (Kingston), and North-west (Thunder Bay) regions. We also spoke with representatives from the other two regions, Northeast (North Bay) and West (London), via teleconference or videoconference. In addition, we obtained and reviewed data extracts and supporting documentation from these locations.

As part of the audit, we researched other jurisdictions to identify best practices for highway planning and management. We also spoke with stakeholders, including representatives from Treasury Board Secretariat and the Ontario chapter of the Association of Consulting Engineering Companies (the largest organization in Ontario that advocates for the interests of engineering consultants that the Ministry contracts for highway design work), to hear their perspectives on potential issues related to provincial highway planning and management, and on their involvement in the process.

We conducted our work and reported on the results of our examination in accordance with the

applicable Canadian Standards on Assurance Engagements—Direct Engagements, issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Transportation Plans

4.1.1 The Ministry Has Not Developed an Implementation Strategy for Its Transportation Plans

Although the Ministry has begun to develop its transportation strategy for Ontario, and has recently finalized and published a transportation plan for one of the province's regions, it has not established timelines to finalize plans for the entire province. In addition, for the one finalized plan, it has not established short-term and long-term priorities, nor has it disclosed the estimated costs and a time frame to implement the plan.

As discussed in **Section 2.3.1**, the Ministry is transitioning from assessing the merits of individual highway expansion projects (to support decisions to expand the province's highways) to developing comprehensive transportation plans that provide a roadmap for the Ministry's vision of a complete transportation system that addresses the province's expected transportation needs. These plans are to

consider all modes of travel (road, rail, air, and marine) as one integrated system and plan for 20–30 years into the future. Once finalized, Ontario will have four regional transportation plans.

The Ministry published the first of these plans, the Greater Golden Horseshoe Transportation Plan (GGH plan), in March 2022, which identified a future transportation network and included committed highway projects for the next 30 years. However, we found that the Ministry had not established implementation timelines for the GGH plan's short-term and long-term priorities; did not provide the estimated cost of the plan to Ontarians; did not establish methods for monitoring the plan's achievement of its targets; and did not establish a frequency for periodic reviews to assess whether the plan still addresses the needs of the province. In contrast, Metrolinx (the Ministry's partner agency for building and operating major components of the rail and bus network for the GGH plan) is required to create a transportation plan and set priorities for the implementation of the plan. We also found that, at the time of our audit, the other three transportation plans remained in draft form, and the Ministry did not have a targeted date to finalize these plans.

In our research of other jurisdictions, we found that the province of Manitoba and Milton Keynes (a designed city in the United Kingdom with all its infrastructure planned since its formation in the 1960s) had comprehensive transportation plans that publicly communicated their implementation priorities, timelines, key performance indicators, and the estimated cost of implementing the plans. In addition, we noted that Milton Keynes produces periodic reports on their progress toward implementing their transportation plan. As well, the Ministry's own jurisdictional research of transportation plans identified Florida as having one of the most comprehensive monitoring and reporting processes for their transportation plan, with a publicly reported scorecard that analyzes progress against its goals and objectives.

Establishing implementation priorities and timelines for its plans would help the Ministry's highway planning functions to better align with the plans (currently, the Ministry is not required to follow the transportation plans when selecting highway expansion projects). In addition, establishing performance indicators and periodic reassessments of the plans would allow the Ministry to monitor whether the plans' priorities are met as Ontarians' needs and transportation technologies change over time. Furthermore, estimating and publicly communicating the cost of implementing the plans would enable the Ministry to demonstrate to Ontarians whether the plans are achievable based on current levels of funding.

RECOMMENDATION 1

To realize the goals of having an overall provincial transportation strategy to effectively meet the transportation needs of Ontarians, we recommend that the Ministry of Transportation (Ministry):

- establish a targeted time frame to finalize and complete transportation plans for the entire province;
- establish short-term, medium-term and long-term project priorities for each regional transportation plan;
- estimate and publicly communicate the cost and time frame to achieve the goals of each regional transportation plan;
- require the Ministry to co-ordinate its planning and implementation to align with the Greater Golden Horseshoe transportation plan;
- require the Ministry to co-ordinate its planning and implementation to align with the other regional plans, once developed and approved for implementation;
- measure and report on the Ministry's progress in achieving the goals of each transportation plan; and
- periodically reassess whether each regional plan continues to meet the emerging needs of the province and adjust the plans accordingly.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with each of the recommended action items and will work to implement them.

With respect to targeted timelines to complete long range transportation network plans for all planning regions in the province, the Ministry is undertaking technical planning studies over the next two-to-three years for Southwestern and Eastern Ontario to inform the development of network plans for these regions. Thereafter, the Ministry will take steps to complete development of a transportation plan for Northern Ontario. The plans for these regions will be co-ordinated with each other and have a 30-year implementation horizon. In addition, in March 2022, the Ministry procured the services of a multidisciplinary team to support the Ministry to develop an overarching, province-wide transportation plan. As of April 2022, with the publication of *Connecting the East*, the Ministry had released draft transportation plans covering all regions of the province. The Ministry continues to implement the actions outlined in these plans, including the establishment of task forces in Southwestern and Northern Ontario to ensure the transportation plans are informed by local needs and priorities.

Recognizing that the Ministry's regional plans are multimodal, and that each plan will include recommended improvements to a system-wide network which includes components that are owned and operated by other organizations, the Ministry will establish short-, medium- and long-term project priorities under provincial jurisdiction for each regional transportation plan, and will strive to provide the appropriate cost estimates of provincial components publicly once the short-, medium- and long-term project priorities have been determined for each regional transportation plan.

The Ministry will also take steps to measure and report on its progress in achieving the goals of each transportation plan, and periodically reassess

whether each regional transportation plan continues to meet the needs of the province.

4.1.2 Data Models Supporting Transportation Planning Are Not Independently Validated for Accuracy

The external consultants that had either developed or updated the Ministry's travel demand forecasting models also performed the periodic validation of the models' accuracy. Despite the potential conflict of interest that this arrangement poses, the Ministry did not independently review the validation work.

As described in **Section 2.3.1**, the Ministry uses two models to help objectively assess the advantages and disadvantages of different transportation alternatives by predicting travel choices and passenger/freight demands in the future. These models (one focused on the Greater Golden Horseshoe region and one on the rest of the province) were developed by external consultants in 2006 and 2014, respectively, and have since undergone revisions to update them. The two models inform transportation policy and planning. They are also used to develop transportation plans and to assess the impact of each Ministry-proposed highway expansion project on existing and forecasted transportation needs.

The Ministry validates the logic of the models (for example, the estimation of congestion relief from adding a highway lane) and their inputs (for example, current census data and population growth estimates) every five years. However, we found that the Ministry outsourced this task to the same consultants that had either developed or updated the models. In addition, the Ministry did not independently review the validation work completed by the consultants.

Having the same consultants that developed or updated the models review the completeness and accuracy of their own work creates a potential conflict of interest that would be avoided by having internal Ministry staff or an independent external party perform the validation work. Although the Ministry told us that they do not currently have sufficient

internal expertise to validate the models, we noted that multiple external consultants bid on the contracts to develop and update the models, indicating that it is possible to retain an independent party to validate the logic of the models and their inputs.

RECOMMENDATION 2

To demonstrate that the Ministry of Transportation (Ministry) effectively validates its travel demand forecasting models, we recommend that the Ministry:

- analyze the costs and benefits of hiring an independent subject-matter expert to perform the validation instead of using the same consultants that developed the models; and
- have validation work performed by internal Ministry staff on external subject matter experts.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with the recommendation and will take steps to address both action items. The Ministry recognizes that it is important to effectively validate its travel demand forecasting models.

4.2 At the Direction of the Government, the Ministry Prioritized the Construction of Lower-Ranked Highway Projects, Resulting in the Deferral of Higher-Ranked Projects

We found that, in 2019, the Ministry proposed deferring six highway expansion projects that were previously approved by the Treasury Board/Management Board of Cabinet (Board), and recommended funding the construction of four highway projects identified as government priorities, even though these projects were ranked as a lower priority by the Ministry's technical and engineering staff (see **Figure 12a**). Our audit found that the Ministry recommended prioritizing the four highway projects at the direction of the Minister's office. However, we found that the Ministry's proposals

to the Board neglected to communicate that the direction from the Minister's office was inconsistent with the recommendations of the Ministry's subject-matter experts who indicated that they would not have recommended the four highway projects selected by the Minister's office at that time, and did not have a specific time frame for when they would recommend them. Between April 2012 and March 2022, the Ministry was directed by the Minister's office to prioritize eight highway projects that were not aligned with technical and engineering staff recommendations.

Each year, the Ministry prepares a rolling 10-year infrastructure plan and budget that it submits for approval to the Board, a committee of Cabinet (described in **Section 2.2.3**). Each year, the Ministry also considers adding new highway expansion projects to the plan. The projects that the Ministry adds to its plan are typically assessed and recommended by the Ministry's technical and engineering staff using the Ministry's Expansion Prioritization Framework (EPF) score (0–900) and priority ranking (high, medium, or low), along with other relevant subjective factors (described in **Section 2.3.2**). The Ministry uses EPF scores to assess the relative benefit of each viable highway expansion project it identifies.

We reviewed the 88 approval requests for expansion projects that the Ministry's technical and engineering staff recommended to be added to the Ministry's infrastructure plan over the last 10 years (2012/13–2021/22) and found that 51 (58%) requests were for projects that had a high-priority rating, 28 (32%) were for projects that had a medium-priority rating, and just four (4%) were for projects that had a low-priority rating. A further five (6%) requests were for projects that did not have a priority rating assigned.

We found that, in 2019, in addition to the existing expansion projects already in the infrastructure plan, which were recommended by the Ministry's subject-matter experts, the Ministry added four new expansion projects to the infrastructure plan that it categorized as government priorities. We noted that the decision to prioritize and add these projects to the 2019 infrastructure plan was made by the Minister's office. We found that the Ministry's subject-matter

experts would not have added these projects to the plan at that time and did not have a specific time frame for when they would do so in the future. The combined proposals exceeded the planned 10-year budget by \$245 million. The Board directed the Ministry to re-prioritize the proposals to fit the budget.

These four highway project priorities were communicated to the Ministry by government officials primarily through meetings, rather than emails or letters. This left an incomplete record of how these decisions were made, by whom, and why. Although all expansion projects are subject to review and approval by the Minister's office before being added

to the infrastructure plan, between 2012 and 2019, according to the Ministry's records, all other expansion projects added to the infrastructure plan were recommended by the Ministry's technical and engineering staff.

To stay within the 2019 budget while accommodating the four additional projects selected by the Minister's office, the Ministry proposed deferring six expansion projects that it had previously obtained funding and approval from the Board to construct, and removed those projects from its rolling 10-year infrastructure plan. In addition, the Ministry deferred seven other expansion projects approved by the Board

Figure 12a: Expansion Prioritization Framework (EPF) Scores for Government Priority Projects and the Projects Deferred to Fund Them

Prepared by the Office of the Auditor General of Ontario

	Highway Project	EPF Score	Priority	Total Estimated Project Cost ¹ (\$ million)
Government Priority Projects	Highway 401—Tilbury to London widening	525	Medium	1,000-2,000
	Highway 17—Kenora to Manitoba widening	525	Medium	500-1,000
	Highway 17—Arnprior to Renfrew widening	425	Low	400-600
	Highway 3—Town of Essex to Leamington widening	400	Low	<200
	Average	469		
Deferred Projects Previously Approved for Construction	Highway 417—Ottawa Queensway widening from Highway 416 to Maitland Avenue ²	600	High	300-500
	Highway 401—Hespeler Road Easterly to Townline Road widening ³	600	High	<200
	Highway 7—Kitchener to Guelph new four-lane highway ⁴	550	Medium	1,000-2,000
	Highway 11/17—Highway 587 to Pearl Creek widening ⁵	525	Medium	<200
	Highway 11/17—Red Rock Road 9 to Coughlin Road widening ⁵	525	Medium	<100
	Highway 401—Highbury Interchange improvements and bridge replacement ⁶	n/a	n/a	<200
	Average	560		

1. Ministry estimates as of November 23, 2022 (unaudited). Actual costs can vary from these estimates.

2. Project remains deferred.

3. Project subsequently approved for funding as part of the 2021/22 10-Year Capital Plan.

4. Project subsequently approved for partial funding as part of the 2022/23 10-Year Capital Plan. This estimate includes the Grand River Bridges construction costs.

5. Project subsequently approved for funding as part of the 2020/21 10-Year Capital Plan.

6. Reclassified as a rehabilitation project and funding subsequently received through the 2021 Fall Economic Statement. This project does not have an EPF score because it contains a bridge component, which is not scored using the EPF.

Figure 12b: Expansion Prioritization Framework (EPF) Scores for Deferred Projects Previously Approved for Planning and Design

Prepared by the Office of the Auditor General of Ontario

	Highway Project	EPF Score	Priority	Total Estimated Project Cost ¹ (\$ million)
Deferred Projects Previously Approved for Planning/Design	Highway 6 (Hanlon Expressway)—Upgrade to freeway from Maltby Road to Speed River in Guelph ²	675	High	300-500
	Highway 6 (Morriston Bypass)—New alignment south of Highway 401 ³	650	High	500-1,000
	Highway 6 (Hanlon Expressway)—Speed River to Wellington Road 7 upgrade ²	625	High	300-500
	Highway 401/Highway 8—Full directional interchange ²	625	High	300-500
	Highway 400—Langstaff Road to Highway 11 widening ⁴	575	High	1,000-2,000
	Highway 401 Belleville—5 km east of Highway 62 to Wallbridge Loyalist Road widening ⁵	550	Medium	500-1,000
	Highway 6—Highway 5 to Highway 6 North widening, including interchange construction ⁴	500	Medium	<200
Average		600		

1. Ministry estimates as of November 23, 2022 (unaudited). Actual costs can vary from these estimates.

2. Project remains deferred.

3. Project subsequently approved for partial funding as part of the 2021/22 10-Year Capital Plan.

4. Project subsequently approved for partial or full funding as part of the 2022/23 10-Year Capital Plan.

5. Planning and design work is proceeding.

for planning and design work to focus on all projects in the infrastructure plan (which are approved for construction), including the four government priority projects (see **Figure 12b**). In their analysis of this proposal for the Board, Treasury Board Secretariat (which is described in **Section 2.2.3**) noted that “there is a risk that MTO’s proposal may lead to criticism as funding for projects with an overall higher ranking will be redirected to new projects with an overall lower ranking.” However, we found that the Ministry did not identify to the Secretariat that these changes to its infrastructure plan, which were based on direction from the Minister’s office, were inconsistent with the recommendations of the Ministry’s subject-matter experts regarding when these projects should be built. **Figure 12a** lists the four new projects selected by the Minister’s office, as well as the six projects that needed to be deferred by the Ministry to accommodate them. See **Appendix 4** and

Appendix 5 for maps illustrating the location of each project, as well as a brief description of each government priority and deferred project.

We noted that the four projects selected by the Minister’s office were on the Ministry’s list of projects previously assessed, scored, and prioritized by the Ministry’s technical and engineering staff (described in **Section 2.3.2**). We reviewed the Ministry’s prioritization scores for these four projects and found that two of them had a lower EPF score (and lower relative priority rating) than all of the projects deferred by the Ministry that had an EPF score, and the remaining two projects had a lower EPF score than all but two of the projects deferred by the Ministry that had an EPF score. See **Figure 12a** for the EPF score of each of these projects.

We also found that two of the six deferred projects approved for construction involved widening and repaving in Ontario’s Northwest Region (the two

Highway 11/17 projects described in **Figure 12a**). The deferral of these two projects resulted in \$158 million intended for Northern Ontario highway projects to be re-allocated to southern Ontario highway projects.

We noted that, since the deferral of expansion projects in 2019, Ministry staff have been able to re-incorporate five of the six deferred projects previously approved for construction into capital plans in the subsequent three years (see **Figure 12a** notes). In addition, as of August 2022, the Ministry resumed work on four of the seven deferred projects that were previously approved for planning and design work (see **Figure 12b** notes). However, it is not clear what effect the prioritization of the government's projects has had on other projects that the Ministry staff may have otherwise recommended to construct in subsequent years. By reprioritizing projects deferred to accommodate the government priorities, other projects may have been pushed back.

According to the Ministry's records, and to the best of their recollection, 2019 was the first time in the last decade (2012–22) when the timing of new expansion projects in the Ministry's infrastructure plan was not recommended by the Ministry's technical and engineer staff, but it was not the last. The Ministry's infrastructure plans submitted to the Board in 2021/22 included three additional government-priority projects that its subject-matter experts would not have recommended at that time.

As shown in **Figure 13**, two of these projects received a priority ranking of "low" from the Ministry, while the remaining project—the Bradford Bypass—received a ranking of medium. The Bradford Bypass was originally conceived by the Ministry in 1989, and is the largest of these three additional government-priority projects. The Bradford Bypass is currently undergoing a provincial environmental assessment. Its total cost is estimated to be between \$2 and \$4 billion.

In addition, we found that one additional project for the Greater Toronto Area (GTA), Highway 413 GTA West, was identified as a priority project in 2019 by the Minister's office at an estimated total cost greater than \$4 billion. This project was originally conceived by the Ministry in 2002 and was included in Ontario's 2006 Growth Plan for the Greater Golden Horseshoe. Although this project received an EPF score of 668 (high priority) from the Ministry, the Ministry, as of August 2022, had not requested funding to construct the project because the project is still being designed and it is under review by the Impact Assessment Agency of Canada to determine whether an environmental assessment by the federal government is required. No construction on the project can begin until the federal environmental assessment process has concluded and sufficient design work has been completed.

According to the Ministry's current estimates, the total cost of the eight government-priority

Figure 13: Expansion Prioritization Framework (EPF) Scores for Government Priority Projects, 2021/22

Prepared by Office of the Auditor General of Ontario

Highway Project	EPF Score	Priority	Total Estimated Project Cost ¹ (\$ million)
Bradford Bypass (formerly known as Highway 400/404 Link)—New four-lane highway ²	500	Medium	2,000-4,000
Highway 6—Highway 403 to Upper James Street widening	450	Low	300-500
Highway 40—Lambton/Sarnia widening	450	Low	<200
Average	467		

1. Ministry estimates as of November 23, 2022 (unaudited). Actual costs can vary from these estimates.

2. According to the Ministry's 2021/22 business plan, it re-allocated \$83.8 million from the Metrolinx GO Niagara Extension project to the Bradford Bypass project.

projects (which includes the Highway 413 project) is expected to be greater than the Ministry's expansion project expenditures for the past 10 years (2012/13–2021/22), which totalled approximately \$8.1 billion. We noted that unless the Board provides additional funding, the Ministry will not have sufficient funding to accommodate both the seven government priority projects that have already been approved (which do not include the Highway 413 project) and projects recommended by its subject-matter experts for the next 10 years. If approved, the Highway 413 project would become the largest highway project in the infrastructure plan. At this time, the Board has not committed to providing additional funding so that non-government-priority projects can be constructed.

We noted that Ontario has no process in place to identify and address instances where the Ministry is not in agreement with the direction provided by the Minister. In contrast, as described in our 2020 audit of Business Case Development in the Ontario Public Service, the United Kingdom has such a process. The United Kingdom HM Treasury's handbook, *Managing Public Money*, sets out four standards by which all public money must be handled: regularity (compliance with legislation or agreed-upon budgets); propriety (meeting the high standard of public conduct, including robust governance and transparency); value-for-money (achieving a good-quality outcome for the cost); and feasibility (likelihood of successful implementation). If a situation arises where a Minister decides to pursue a course of action that the accounting officer (comparable to a Deputy Minister) believes does not meet at least one of the above criteria, the accounting officer is required to write to the Minister expressing concern and requesting written direction to proceed. Upon receipt of a ministerial direction, the accounting officer is required to comply and a copy of the letter is shared with the Treasury, the Comptroller and Auditor General, Parliament's Public Accounts Committee, and the public.

RECOMMENDATION 3

To support accountable and transparent decision-making when selecting highway expansion projects, we recommend that the Ministry of Transportation (Ministry):

- request official written Ministerial direction when the provincial government's objectives do not align with the recommendations of the Ministry's subject-matter experts;
- submit business cases to Treasury Board Secretariat and Treasury Board/Management Board of Cabinet that include the Ministerial direction received; an explanation that clearly indicates why the Ministerial direction does not align with the Ministry's subject-matter experts; and the actions that the Ministry's subject-matter experts would otherwise recommend; and
- provide a copy of the written Ministerial direction to the Standing Committee on Public Accounts, the Auditor General, and the Comptroller General of Ontario; and
- make the written Ministerial direction public on its website.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees to take steps to implement the recommended action items in instances where the government's objectives do not align with the Ministry's subject matter experts.

4.3 Road Condition Assessment

4.3.1 The Ministry Continues to Perform Manual Road Assessments That Are Less Efficient and that Duplicate Assessments Completed Using Its Automatic Road Analyzers

In 2013, the Ministry implemented the use of vehicles equipped with automatic road analyzers (ARANs) to scan and assess the condition of the province's

entire highway network at least once every two years. However, we found that nearly 10 years after implementing ARANs, four of the Ministry's five regional offices continue to perform manual assessments of their entire highway network every one or two years, duplicating the work completed by ARANs.

As described in **Section 2.4.1**, the ARAN technology enables the Ministry to scan and assess the condition of each section of the province's highways; calculate the Pavement Condition Index (PCI) for each section; and categorize the section as being in good, fair or poor condition, based on the calculated PCI. In addition, as described in **Section 2.4.2**, the Ministry's information systems use ARAN assessment results to produce automated recommendations for the rehabilitation of highways to meet the Ministry's target of 67% of pavement being in good condition, within the Ministry's available rehabilitation budget for pavement.

Although Ministry management told us that ARAN-based assessments of pavement are more efficient than manual assessments, and provide results that are more complete and less subjective, we found that the Ministry's Pavement Condition Assessment Manual still requires regional staff to conduct manual assessments of the complete highway network within each region at least once every two years. This is inconsistent with the Ministry's expectations (described in **Section 2.4.1**) for manual assessments to only be used to support the ARAN-based assessments—such as to perform a spot check to confirm or follow up on deficiencies identified using ARANs. Manual assessments are also expected to be used for targeted purposes where additional or more current information is required for a project, for which recent ARAN-based data is not available.

We found that with the exception of the Northwest region, which stopped performing manual assessments in 2018, the Ministry's remaining four regions continued to perform manual assessments of their entire highway network, duplicating the work completed using ARANs. Although the Ministry does not track the time it spends on these manual assessments,

it estimated for us that about 20 of its staff have devoted about 10% of their time annually to completing them.

We also found that, in contrast to assessments completed using ARANs, which scan and assess the entire highway section inspected, manual assessments only involve a sample of points along the highway section, leaving it to the inspector's discretion to decide how many points to evaluate during an assessment. In addition, as described in **Section 4.3.3**, we found that the Ministry does not have a process to assess whether manual assessments are completed effectively and in accordance with its requirements.

The Ministry's head office had provided regional office staff with some training on utilizing ARAN-based assessments. However, Ministry management did not provide them with any direction to transition from manual assessments to ARAN-based highway network assessments by a certain date. As a result, only the Northwest region decided to switch from manual assessments to ARAN-based assessments of pavement. The Northwest region's transition towards automation was facilitated by having some of its staff trained on using ARANs (see **Section 4.3.2**)—this region now has the second-highest percentage of highways “in good condition” (see **Figure 10**). We discussed the differences in regional office pavement assessment practices with the Ministry's management who told us that it was planning to provide additional education sessions to regional office staff in the future to clarify its intent to transition to using ARAN-based assessments of the highway network's pavement instead of manual assessments.

Although continuing to conduct manual assessments after the introduction of ARANs likely helps to validate the accuracy of the automated assessments, we found the Ministry has yet to complete a province-wide comparison to determine whether there is any continued need to perform manual assessments of the complete network. We did note that three regional offices have been performing annual comparisons between a sample of ARAN-based assessments and their manual assessments for the same highway

sections, and determined that ARAN assessments produced accurate results that matched the results of manual assessments in the vast majority of cases.

4.3.2 Ministry Can Increase Effectiveness of Highway Condition Assessments Using Automatic Road Analyzers with More Trained Staff

The Ministry's staff tasked with completing highway condition assessments using ARANs have successfully assessed one lane of every section of the provincial highway network at least once every two years since the Ministry implemented vehicles equipped with ARANs in 2013. In addition, as noted in **Section 4.3.1**, the Ministry's regional offices have found that ARAN-based assessments of pavement produced accurate results. Nevertheless, we found that the accuracy and completeness of such assessments could be improved by training additional existing Ministry staff to increase the proportion of the highway network that the Ministry scans annually.

The Ministry's Pavement Evaluation Unit (PEU), which is based in Toronto, is responsible for completing assessments of the provincial highway network using vehicles equipped with ARANs. The PEU is comprised of two technicians that regularly operate the vehicles with ARANs, as well as a supervisor and a manager to oversee the unit. PEU staff receive specialized training to operate the ARANs.

We noted that the Ministry has not set a formal target for the proportion of the province's highway network that it expects the PEU to scan and assess annually. We found that, since the introduction of ARANs, the Ministry has scanned and assessed about 80% of the province's highway network annually, inspecting every section of highway at least once every two years. However, we found that the PEU generally uses ARANs to scan only one highway lane, irrespective of how many lanes a section of the highway contains. Ministry management told us that increasing the proportion of the highway network that is scanned annually would increase the accuracy

and currency of assessment results. This would help improve the quality of data used by the Ministry's information system (described in **Section 2.4.2**), which relies on highway condition assessments completed with ARANs to produce automated recommendations for the rehabilitation of the province's highway network. Similarly, regional office staff told us that annual ARAN scans of all highway lanes and the full highway network would further decrease the need for manual inspections.

While PEU staff have enough vehicles equipped with ARANs, they do not have sufficient staff to increase the proportion of the highway network that they scan annually. Although the PEU has three vehicles with ARANs, the PEU advised us that it generally operates only one vehicle at a time since two technicians are required to operate one vehicle. With help from trained regional office staff, up to three vehicles with ARANs can be operated at the same time. In addition, weather delays also pose a challenge to completing condition assessments using ARANs, since ARANs cannot accurately scan wet pavement. According to the Ministry, for the results of the road condition scan to be effective, the pavement section has to be dry. Water distorts the scanner's readings of the depth and texture of the pavement, making it seem smoother than it is (and potentially hiding potholes or cracks).

We found that, in 2016, the Ministry trained five staff who were performing manual assessments at the Northwest and Northeast regional offices to operate one of the vehicles equipped with an ARAN. Having more ARAN-trained staff gave the Ministry greater flexibility to schedule around the weather and complete condition assessments using ARANs in these two regions. We also noted that the Northwest regional office subsequently discontinued manual assessments of their highway network. However, we found that the Ministry has not yet trained additional staff at the Ministry's remaining three regional offices to increase its capacity to scan highways using ARANs and reduce regional office reliance on manual assessments.

4.3.3 Ministry Does Not Assess Whether Manual Road Condition Assessments are Completed Effectively

We found that the Ministry does not have a process to assess whether manual highway condition assessments performed by regional office staff are completed effectively and in accordance with the Ministry's requirements.

As noted in **Section 4.3.1**, although Ministry management noted that ARAN-based assessments of pavement condition are more efficient than manual assessments, and provide results that are more complete and less subjective, the Ministry still also requires regional office staff to conduct manual assessments of the whole highway network within each region at least once every two years. As described in **Section 2.4.1**, the Ministry has developed a Pavement Condition Assessment Manual (Manual) that it requires its inspectors to follow when completing manual highway condition assessments. For each assessment, the Manual requires inspectors to determine a Pavement Condition Rating (PCR) and to document their assessment of pavement condition and related deficiencies in a Pavement Condition Report.

We found that neither the Ministry's head office nor its regional offices could demonstrate that they assessed whether inspectors complete manual highway condition assessments effectively in accordance with the Ministry's Manual. In contrast, we noted that the Ministry requires the work of all its external consultants to be evaluated. We also found that, at one of the three regional offices we audited, inspectors recorded the assessment scores but did not complete the required Pavement Condition Reports that support those scores for the inspections they completed. As a result, they could not provide documentation to support the deficiencies they found in their inspections, nor could they support the PCR they had determined for the condition of the highway network in their region. The absence of Pavement Condition Reports is concerning since, as described in **Section 4.4.1**, four regional offices still base major

highway rehabilitation decisions on the results of manual assessments completed by their inspectors.

We also found that, although inspectors are required to document their assessment of pavement condition and deficiencies, the Ministry does not require them to take photographs of the pavement to support their assessment. In contrast, when the Ministry inspects provincial bridges, the inspectors are required to support their work with pictures of the portion of the bridge where deficiencies were identified. This enables the Ministry to later review the work to determine the most appropriate treatment strategies.

RECOMMENDATION 4

To efficiently and effectively assess the condition of the provincial highway network, we recommend that the Ministry of Transportation (Ministry):

- review and update the requirements of its Pavement Condition Assessment Manual to only utilize manual assessments of pavement in order to support assessments completed using vehicles equipped with automatic road analyzers (ARANs);
- set a target for the frequency and proportion of the provincial highway network it expects to assess using ARANs; and
- train additional staff at the Ministry's regional offices to be able to meet this target.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with each of the recommended action items.

The Ministry will develop a formal policy in 2023 that sets out the expectation to use automatic road analyzer (ARAN) data to assess the condition of highway network and update the Pavement Condition Assessment Manual to clarify when manual pavement condition assessments are necessary and that they are to support ARAN-based assessments. The Ministry has been transitioning to ARAN data from manual assessments to automated assessments over time.

The Ministry's specific targets for the frequency and scope of ARAN network data collection will be formalized during 2023. This will be done in consideration of the current ARAN fleet capabilities, degree of utilization, data storage and software needs, as well as staffing resources, to optimize the efficiency of the ARAN program.

The Ministry supports expanded training initiatives to elevate the knowledge and competency of regional staff to collect ARAN data and use it for network evaluations and project-specific needs.

RECOMMENDATION 5

So that manual assessments of highway pavement condition are completed effectively and contain sufficient documentation to support the assessed pavement condition rating, in cases where manual assessments are still needed, we recommend that the Ministry of Transportation (Ministry):

- establish a process to review whether manual assessments at each of its five regional offices are completed and documented in accordance with the Ministry's requirements;
- take corrective action where its review of assessments identifies deficiencies; and
- require inspectors to take photographs of pavement deficiencies to support their manual assessment.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with each of the recommended action items. The Ministry must ensure that its staff are proficient in the use of the Pavement Condition Assessment Manual and the use of pavement evaluation report templates.

To enhance the consistency and accuracy of manual pavement evaluations and the appropriate use of the manual assessments, the Ministry will develop a formal policy in 2023 that clarifies when manual pavement condition assessments are necessary. The Pavement Condition Assessment Manual and pavement report templates will be updated in

2023 to reflect these policy requirements as well as technical updates, such as the expectation for supporting information as appropriate, including photographs. In 2023, the Ministry will also develop a formal policy for the collection, storage and review of manual pavement evaluation assessments undertaken by staff. This will include a protocol for internal review to ensure consistency and quality of manual pavement reports.

4.4 Rehabilitation Capital Planning

4.4.1 Ministry Does Not Effectively Use Condition Assessment Data in Its Highway Rehabilitation Plans

The Ministry implemented information systems that use detailed pavement condition assessment data to produce automated recommendations to rehabilitate the provincial highway network. However, we found that lengthy interruptions to systems functionality and a failure to provide direction to staff to use systems data have resulted in Ministry staff largely ignoring this data. In four of five regional offices, staff instead rely on their more limited manual assessments to determine highway rehabilitation plans.

As described in **Section 2.4.2**, the Ministry uses its Asset Management System (AMS) to store and analyze key highway asset inventory, including pavement inventory and condition information. Results from annual ARAN scans are input into AMS to update pavement condition information, and AMS is then used to produce an automated recommended five-year highway pavement rehabilitation plan for each of the Ministry's five regions. These recommended rehabilitation plans are updated annually and provided to each regional office, along with anticipated regional budgets. The Ministry expects technical and engineering staff at the regional offices to review these system-generated regional rehabilitation plans and use their expertise and local knowledge to refine them. Thereafter, they are to be sent back to the Ministry's head office for final review and inclusion in the overall Ministry rehabilitation plan.

We found that none of the Ministry's five regional offices rely on the AMS-recommended rehabilitation plans for their region. Instead, four of the regional offices use the results of their manual assessments of highway pavement condition (described in **Section 4.3.3**) and their professional expertise to develop their regional rehabilitation plans. The remaining regional office (Northwest) supplements its professional expertise with ARAN-based assessment results (instead of manual assessments) to develop its regional rehabilitation plan, but still does not rely on the AMS recommendations as a basis. In the absence of direction from the Ministry's head office, four regional offices chose to use the results of manual pavement condition assessments instead of the ARAN-based assessments even though, as described in **Section 4.3.1**, the ARAN-based assessments capture data on a much larger proportion of the applicable highway section than do manual assessments.

We also found that once regional offices submitted their rehabilitation plans to the Ministry's head office, head office largely accepts the plans as-is, without reviewing them relative to the rehabilitation plan produced by AMS, as long as the expected cost of the plans was within the anticipated budget for the region.

We observed that lengthy interruption to the functionality of AMS may have contributed to the reluctance of regional staff to rely on AMS-recommended rehabilitation plans. The Ministry advised us that, following an effort to incorporate the province's bridges and large culverts into AMS rehabilitation planning, the Ministry was unable to verify the validity and accuracy of the system's calculations that formed the basis for the system's rehabilitation recommendations. As a result, between 2017 and 2019, the Ministry did not use AMS to produce highway pavement rehabilitation plans. Instead, regions were expected to use the regional rehabilitation plans produced by AMS in 2016 as a foundation, and to update them using available data (including the complete ARAN assessment results, which were unaffected by system issues and were available to each region). The

Ministry resumed providing regions with updated system-generated rehabilitation plans in 2020.

RECOMMENDATION 6

To improve the consistency and accuracy of regional highway pavement rehabilitation plans, we recommend that the Ministry of Transportation work with its technical and engineering staff in the five regional offices to develop and implement a consistent process for developing and reviewing such plans, including establishing guidelines for when it is and is not appropriate to use the results of manual assessments instead of assessments completed using the Ministry's automatic road analyzers.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with the recommendation. The Ministry will develop guidelines to support a consistent approach for the development of regional highway rehabilitation plans. The Ministry anticipates this to be completed in the next 24 months.

4.4.2 AMS is Not Used to Assess the Rehabilitation Needs of About \$2.6 Billion of Other Highway Infrastructure Assets

While AMS is used to record and analyze asset conditions and generate rehabilitation recommendations for pavements, bridges and large culverts, AMS is not used to record and analyze about \$2.6 billion of the Ministry's "other infrastructure assets" that support highway infrastructure, such as noise barriers, traffic signals, overhead signs, drainage systems, small culverts, and lighting. Instead, these assets are recorded and their condition and rehabilitation needs are tracked manually using spreadsheets at each regional office. Regional offices periodically perform manual inspections of these "other infrastructure assets" to update their condition records and determine their rehabilitation needs.

The Ministry indicated that AMS could be configured to keep a record of these “other assets” and to make rehabilitation recommendations for these items using the results of manual inspections performed by regional offices. However, the Ministry noted that the AMS vendor would first have to establish appropriate asset classes for these “other infrastructure assets” before the Ministry could use AMS to record them and input the results from their manual inspections of these assets.

RECOMMENDATION 7

So that the Ministry of Transportation’s (Ministry) information systems can generate more complete highway rehabilitation plans that incorporate all of the Ministry’s highway assets, we recommend that the Ministry:

- have its information systems configured by the AMS vendor to record and track the condition of other highway assets (such as noise barriers, traffic signals, and overhead signs);
- input inspection results for other highway assets into its information systems; and
- use its information systems to make rehabilitation recommendations that include other highway assets.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with Auditor’s recommendations.

The Ministry is in the process of procuring a new Transportation Asset Management System that will have the capability to incorporate information for other highway assets. The Ministry anticipates procuring the new system in 2023 and once implemented, using a phased approach to incorporate additional assets that are deemed beneficial to include. Thereafter, the Ministry will include relevant information for those applicable additional assets in its new information system and use the system to make rehabilitation recommendations that include those assets.

4.5 Engineering Contract Management

4.5.1 Engineering Consultant Performance Is Not Appraised in Over 40% of Assignments

Although the Ministry is required to evaluate the work of engineering consultants after each design assignment, we found that the Ministry does not do so for over 40% of assignments. This increases the risk that contracts for highway design work are awarded to poorly performing consultants for which the Ministry does not have a complete performance history.

The Ministry’s policy requires that engineering service providers must have their performance assessed after every assignment (and during the assignment, depending on the duration of work), using the Ministry’s standardized performance appraisals. Performance appraisals are used to calculate a service provider’s Corporate Performance Rating (CPR), a three-year weighted average of past performance on the Ministry’s contracts. CPR is one of the Ministry’s key considerations when it awards a contract to a consultant, representing 25–50% of the total scoring weight, with the rest allocated to the bid price and consultant’s technical ability. CPR is also used as the basis for determining performance-based penalties, including limitations on the types of work a consultant is eligible to bid on. If a service provider has no performance history with which to calculate a CPR, or has not received a performance evaluation in the three years preceding the applicable bidding process, the service provider is assigned a default CPR that is equal to the average CPR of all service providers.

We noted that the Ministry’s engineering and project delivery staff have been completing fewer than 60% of their assigned appraisals of design consultants. Specifically, we found that, from 2011–20, Ministry staff completed just 59% of their 1,416 assigned appraisals. We also found that the completion rate varied by region, as shown in **Figure 14**.

As shown in **Figure 14**, between 2011–20, the Ministry awarded 1,416 engineering contracts. We noted

Figure 14: Engineering Consultant Performance Appraisals Completed by Region, 2011–2020

Prepared by Office of the Auditor General of Ontario

Region	Appraisals Completed (#)	Contracts Awarded (#)	Completion (%)
Central	287	406	71
East	106	242	44
Northeast	233	351	66
Northwest	159	261	61
West	43	116	37
Head Office	13	40	33
Total	841	1,416	59*

* Percentage of appraisals completed in all regions and the head office.

that these contracts were awarded to 292 engineering consultants. However, we found that over this period, only 112 (38%) of these consultants received all required performance appraisals for their assignments, while 70 (24%) of the consultants received some of their performance appraisals, and 110 (38%) received none.

As a result, there is a risk that consultants with poor past performance may successfully obtain Ministry contracts because their CPR will not reflect poor performance on jobs that were not appraised. Conversely, there is a risk that consultants who have improved their work after earlier poor performance may not obtain Ministry contracts because their CPR may not reflect recent improvements to their performance. Incomplete performance appraisals also create barriers to effective data analysis of performance trends and implementation of corrective measures. Representatives from the Ontario chapter of the Association of Consulting Engineering Companies told us that a lack of timely appraisals has negatively impacted their members' ability to illustrate their past performance when bidding on Ministry contracts. (This association is the largest organization in Ontario that advocates for the interests of engineering consultants that the Ministry contracts for highway design work.) The association also noted that they had highlighted this as a significant issue during discussions with the Ministry.

We spoke to Ministry staff that support engineering and project delivery about why fewer than half

of the required performance appraisals have been completed over the past 10 years. They noted the Ministry's performance evaluation process is comprehensive and, due to limited resources, they often have to prioritize activities related to project delivery over performance management.

RECOMMENDATION 8

So that the Ministry of Transportation (Ministry) only awards contracts to engineering consultants that meet the Ministry's performance expectations, we recommend that the Ministry complete timely performance appraisals for all consultants after each assignment.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with the recommendation and that the timely completion of consultant performance appraisals is important. The Ministry plans to develop a more streamlined appraisal process in 2023 that it plans to implement in 2024. The Ministry expects that this new process will enable it to complete evaluations more objectively and efficiently. In addition, the Ministry began development of a new Contract Management System (CMS) in January 2022 that is targeted for implementation in 2023. The Ministry expects that CMS will improve its ability to track consultant performance and contribute to the improvement of appraisal completion rates.

4.5.2 The Ministry Does Not Record All of Its Contracts, Change Orders, Claims, and Project Delays in Its Contract Management System

We found that the Ministry does not record all of its highway project contracts in its contract management system, nor does it record all change orders, claims, and time delays (including a meaningful description of what caused them) for these contracts. As a result, the Ministry cannot efficiently analyze data to identify and address systemic issues and trends that can result in additional costs.

The Ministry uses a contract management system to track and manage the vast majority of highway project contracts and related project issues. Project planning and design issues are often identified during construction and can result in change orders, claims or time delays. Change orders are modifications to the scope of work that was originally tendered and awarded. Claims are disputes between the Ministry and a contractor, which are intended to be a mechanism to resolve differences in interpretations of the terms of the contract.

We found that the Ministry does not record any engineering design contracts in its contract management system, nor was its system configured to record change orders, claims, or time delays for about 6% of projects over the last six years (2016–21). Change orders, claims, and delays to projects can result in significant costs to the Ministry. However, because complete information on these matters is not captured in the Ministry's contract management system, the Ministry cannot efficiently undertake complete analysis to identify systemic issues, including issues related to project design, that require follow-up and corrective action.

Among the 94% of projects for which change orders are recorded in the contract management system, a recent Ministry analysis identified that, between 2016 and 2021, the Ministry incurred about \$343 million in change orders, relative to \$5.6 billion in contracts for projects, of which 44% or \$150 million were design-related. However, we noted that even in cases where change orders, claims, and time delays are recorded in the Ministry's contract

management system, their specific causes are not recorded in searchable fields. As a result, the Ministry cannot use its contract management system to perform data analysis to identify systemic issues or trends over time that require follow-up and corrective action. Instead, change orders, claims, and time delays have to be reviewed manually, one at a time, to understand their contents and the reason for the change.

During our audit, the Ministry completed a manual analysis of change orders categorized as design-related and noted that some of the most common types of change orders were related to unexpected underground conditions found during construction and utility relocations (for example, power and gas lines) that were either not timely or were not correctly completed.

RECOMMENDATION 9

To manage its engineering consultant contracts more effectively, we recommend that the Ministry of Transportation:

- enhance its contract management system to capture details in a format that will enable systematic analysis of change orders, claims, and project delays;
- record all engineering consultant contracts in its contract management system, as well as all change orders, claims, and project delays; and
- periodically analyze change orders, claims, and project delays to identify systemic issues and trends, and to undertake follow-up and corrective action to address them.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with each of the recommended action items.

The Ministry began the development of a new Contract Management System (CMS) in January 2022. The system is targeted for implementation in 2023. The development of the Construction Contract module in this new system includes enhancements for the categorization of change orders, claims and project delays which will allow the ministry to periodically conduct analyses to

identify systemic issues and trends and to undertake follow up and corrective action. This system will be used to record all engineering consultant contracts. These contracts, among other processes, will include change orders, claims and project delays. Once the CMS is implemented, the Ministry will periodically analyze change orders, claims, and project delays to identify systemic issues and trends, and to take corrective action where it is needed.

4.6 The Ministry Does Not Have Sufficient Performance Indicators to Monitor the Effectiveness of its Highway Initiatives

We found that the Ministry's existing performance indicators do not provide the Ministry with sufficient information to monitor the effectiveness of its highway planning and management operations or to publicly communicate their effectiveness to Ontarians. In particular, we found that the Ministry did not have any indicators to measure the efficiency and effectiveness of its highway expansion initiatives, including whether they are completed on time and on budget, and whether they meet the Ministry's transportation vision.

As noted in **Section 2.2.2**, the Ministry uses three performance indicators to assess its highway planning and management activities. (See **Figure 4** for a description and the results for these indicators over the last five years.) We reviewed these indicators and noted the following limitations to measuring the effectiveness of the Ministry's highway planning and management operations:

- **Percentage of highway pavement in good condition.** Although this indicator provides valuable information on the proportion of highway pavement that is in good condition and does not require repair for at least six more years, the Ministry does not report the summarized results of this indicator publicly. As shown in **Figure 10**, the proportion of pavement in Good condition ranges among regions, from a low of 77% in the East and Northeast regions to as high as 92% in the West region, based on 2020 data. However,

we found that the Ministry does not report the proportion of pavement in Fair or Poor condition. Reporting the proportion of pavement in both Good and Poor condition, by region, on an annual basis, would provide both government decision-makers and the public insight into how well the Ministry is prioritizing its regional rehabilitation efforts over time.

- **Fatalities per 10,000 licensed drivers.** This performance indicator provides a limited view of safety on Ontario's highways. The Secretariat echoed this view in 2021 when it recommended that the Ministry consider expanding safety-related performance measures to encompass other aspects of road safety, such as considerations related to pedestrians, cyclists, and impaired or distracted driving. We noted the Ministry captures data on collisions and injury severity that could help it to develop performance indicators and related targets to more effectively monitor and report on highway safety. As well, although the Ministry uses fatalities per 10,000 licensed drivers to assess the safety of the highway network, there are many variables that impact this performance indicator that are outside of the Ministry's direct control. These variables include, for example, the effectiveness of policing and the effects of weather. We also noted that Ontario's road fatality target has been set at a rate that may not drive performance improvement because the target has been achieved each year since a target was set in 2002. The Ministry advised us that Ontario has adopted the Canadian Road Safety Strategy 2025, whereby provinces aim to achieve continued improvements in the rates of fatalities and serious injuries. The adoption of this strategy further highlights the need to update the fatality target and implement targets related to serious injuries.
- **Average travel speed of commercial vehicles on 400-series highways.** Although the Ministry uses this indicator to measure highway capacity on Ontario's highway network, it may

not adequately reflect congestion during rush hour for all drivers, which could more accurately represent highway capacity. The Ministry indicated that reliable passenger vehicle data has now become available (that the Ministry can purchase), making it easier to establish corresponding performance indicators.

In addition to the limitations of the Ministry's existing performance indicators, the Ministry had not established key performance indicators for several aspects of their highway planning and management operations, including:

- highway safety, including assessment of non-fatal accidents and root causes (such as highway design, traffic volume, weather conditions);
- mobility of people and goods, including congestion impacts on non-commercial vehicles and connectivity to other transportation methods;
- sustainability and environmental impact, including emissions, energy considerations, and land-use planning; and
- achievement of planned expansion projects on time and within budget, and in accordance with the transportation strategy and published commitments in the Ontario Highways Program (described in **Section 2.2.1**).

RECOMMENDATION 10

So that the Ministry of Transportation (Ministry) can better measure and report on the effectiveness of its highway planning and management operations, we recommend that the Ministry:

- review its existing performance indicators to identify ways to improve their usefulness in measuring the effectiveness of the Ministry's operations and in communicating meaningful results to the public and the Board; and
- identify and implement additional performance indicators to measure and publicly report on additional areas of its highway planning and management operations, including whether projects are completed on time and within budgets, and whether they meet the Ministry's transportation goals and published commitments.

MINISTRY RESPONSE

The Ministry of Transportation (Ministry) agrees with the Auditor's recommendations.

The Ministry will review its existing performance indicators for highway planning and management operations and consider additional performance indicators to measure and report.

The Ministry anticipates completing the review of existing indicators and identifying viable additional indicators within 18-24 months and begin utilizing these indicators as new systems are implemented.

4.7 The Ministry's Business Cases for Toll and Licence Plate Sticker Removal Did Not Follow Guidelines and Requirements

Business cases for two recent high-profile Ministry proposals affecting Ontario highway users (Highway 412 and 418 toll removals, and licence plate sticker removal) did not meet guidelines set by Treasury Board/Management Board of Cabinet (described in **Section 2.2.3**) to enable effective decision-making.

The 2021 Treasury Board/Management Board of Cabinet (Board) Business Case Guide provides ministries with instructions for completing and submitting business cases that enable the Board to make financial decisions for the province. These instructions include the following:

- Draft business cases approved by the Assistant Deputy Minister should be provided to Treasury Board Secretariat (Secretariat, described in **Section 2.2.3**) no later than three weeks before the planned meeting of the Board. (High-risk or complex proposals should be flagged and shared with the Secretariat even earlier to allow for full discussions and assessments.) Submissions present a stronger business case when they provide full details on all key components, supported by verifiable and well-explained evidence.

- Option analysis should include a recommended option, two alternatives, and the status quo—with sufficient detail and analysis provided for each.
- The high risks and the mitigation strategies to address those risks should be identified for the recommended option.
- A strong monitoring and evaluation plan should be created for the recommended option.
- Initiatives related to the Ontario government's Red Tape Reduction initiative should include how the proposal links to the Ministry's reduction target and if the request will provide savings to regulated entities, reduce barriers for individuals, or generate savings within the Ministry.

At the direction of the Minister's office, the Ministry prepared business cases for the Board to remove tolls from Highways 412 and 418, and to eliminate the annual licence plate sticker and renewal fee. We found that the business cases for these proposed changes did not follow all of the Board's instructions, as we describe in the sections that follow. While it is within the purview of the Minister's office to direct the Ministry to prepare a business case for a particular course of action, the Board's Business Case Guide describes the Ministry's responsibility to present complete information, adhere to the relevant guidelines, and allow enough time for consideration in support of the Province's financial decisions.

Highway 412 and 418 Toll Removal

We found that, contrary to the Board's Business Case Guide, the Ministry did not provide its business cases for removing tolls from Highways 412 and 418 soon enough to permit the Secretariat to review them; did not provide an analysis of the option to keep the current tolls; did not identify all key risks of removing tolls and the related mitigation strategies; and did not include a monitoring and evaluation plan for the recommended option to remove tolls.

In December 2021, at the direction of the offices of the Minister and Premier of Ontario, the Ministry proposed to the Board that tolls be removed from Highways 412 and 418, targeting an implementation

date of June 1, 2023. Subsequent to the Board's approval of this proposal, the Ministry made another proposal that was approved by the Board in January 2022 to accelerate the removal of these tolls, targeting an implementation date of April 5, 2022. The Ministry estimated that, over the next 30 years, the lost toll revenue related to these proposals would be \$608 million. The Ministry also estimated that it would incur an additional \$29 million in costs for required infrastructure changes and toll operator concessions.

We found that the Ministry did not provide these proposals to the Secretariat on a timely basis. The Secretariat is responsible for pre-screening and assessing Ministry submissions before recommending a course of action for the Board's consideration. In contrast to the Board's Business Case Guide, which indicates that proposals should be provided at least three weeks before the planned meeting of the Board, the Ministry submitted the first proposal in December 2021, just five days before the planned Board meeting. In addition, the Ministry submitted the second proposal (to accelerate the removal of tolls) in January 2022 on the same day as the planned Board meeting. This second proposal included additional time pressure, noting that a decision needed to be made immediately to accommodate tolling operator contract negotiations, which were to take place the following day. The Board meets every other week, so the Ministry had opportunities to present their proposals earlier to allow enough time for review and consideration. The Secretariat indicated that, although they were aware that the Ministry would be submitting a proposal on this matter, additional time, consistent with the Board's Business Case Guide, would have been helpful for assessing the details of the business case. It noted the importance of adhering to the Business Case Guide in the future.

Although required by the Board's Business Case Guide, we also found that the Ministry's business case did not present the status quo and an analysis of the status quo as one of the options (that is, keeping the current tolls on Highways 412 and 418). This was concerning because failing to do so also excluded

relevant facts and information that would have been useful to the decision-making process. For example, in January 2021, the Ministry published a tolling analysis report for Highways 407, 412 and 418, highlighting that the rapid construction of these highways was achieved because the provincial government budgeted, funded, and accounted for the projects based on the financial understanding that they would be tolled. The report goes on to say that, had the projects been delivered through the traditional provincial highway construction program, the construction projects would have been phased over several decades.

This tolling analysis report was not included in the Ministry's submission. Since the status quo was not presented as an option in the Ministry's business case, this report's observations were also not included, nor did the business case otherwise make clear that these highways were built on an accelerated schedule with the understanding that the Durham region (where the highways are located) would enjoy the economic and logistic benefits of the highways, but share the primary cost burden of their construction through tolls, and that by removing the tolls these costs would now be borne by all Ontarians. Highways 412 and 418 cost \$1.3 billion to construct and toll operations were estimated to recover about \$850 million of those costs within 30 years. According to the Ministry's records, about 5% of that \$850 million had been recovered at the time the Ministry proposed removing the tolls.

We observed that, after assessing the Ministry's December 2021 business case to remove tolls, the Secretariat noted that the Ministry had been asked to provide details on the government's tolling strategy, including details on policy completed to date, and whether the current request in the business case signals future decisions on potential tolling options for other highway project commitments (such as the Bradford Bypass, Highway 413, and the Highway 401 expansion). However, we confirmed that the Ministry did not fulfil this request in its original December 2021 proposal, or in its January 2022 proposal to accelerate the removal of tolls. As we detail in **Section 4.8**, we observed that the Ministry does not have a tolling strategy for the planning and management of the province's highways.

We noted that the Ministry's proposal was presented as a relief for taxpayers, noting that "This proposal to remove toll rates will help taxpayers put money back where it belongs—in the pockets of hard-working Ontarians." However, we noted that removing tolls from 407 East was not considered in the analysis. We asked the Ministry why it did not consider removing tolls for all highways. The Ministry indicated that municipal representatives and MPPs seeking to eliminate tolls made no direct suggestion to remove tolls on the provincial Highway 407, and that their interest was to remove tolls from the north-south highways, noting that there was no precedent for tolling north-south highways.

We reviewed toll revenues and found that tolls from Highway 407 East account for about 80% of the Province's highway toll revenue (Highways 412 and 418 account for the remainder); therefore, their removal would result in a more significant impact on revenue. Additionally, we noted that the Ministry did not provide a rationale in its business case for why it sought approval to expedite the removal of tolls by April 5, 2022, which was estimated by the Ministry to cost Ontarians an additional \$30 million.

We also observed that, upon completing its assessment of the Ministry's December 2021 business case to remove tolls, the Secretariat identified several risks that the Ministry did not assess and for which it did not identify mitigation strategies to address the risks. This included a "high risk" related to the overall impact on the budget in the absence of a plan to offset the lost revenue, and a "medium to high risk" related to setting public expectations for similar treatment of other tolled highways in the province. Despite the significance of these risks, we found that the Ministry again did not identify them or provide mitigation strategies to address them in its January 2022 business case to accelerate the removal of tolls.

The Ministry identified that, between April 2022 and June 2023, when tolls are to be permanently removed, it would cover the costs of motorists using the highways (estimated at \$18 million) and reimburse the tolling operator directly. However, in contrast to the requirements of the Board's Business Case Guide, the Ministry did not include a monitoring

and evaluation plan in its business case for how it was going to manage the risks associated with this arrangement, including monitoring that motorists are not improperly charged tolls and that the Ministry correctly reimburses the tolling operator.

Licence Plate Sticker and Fee Removal

Before March 2022, license plate stickers were issued and required by Ontario to serve as physical proof of vehicle license plate registration with the province, and required a fee for their periodic renewal. In February 2022, at the direction of the Minister's office, the Ministry made the proposal to the Board to remove licence plate stickers and their cost to Ontarians, targeting an implementation date of March 2022. The Ministry estimated that removing the cost of licence plate stickers would result in revenue losses of \$1.8 billion for 2021/22 and \$1.1 billion every year after.

We found that the Ministry provided the signed business case to the Secretariat less than 24 hours before the Board's planned meeting to discuss it. Although the Secretariat told us it had received an earlier draft copy of the proposal six days before the Board's planned meeting, the Secretariat nevertheless had significantly less time to review the proposal than the minimum of three weeks required by the Board's Business Case Guide. The Secretariat subsequently assessed the proposal as high risk, which the Business Case Guide indicates should have been flagged and shared with the Secretariat earlier than three weeks before the meeting.

We also found that, similar to the Ministry's proposals to remove tolls from Highways 412 and 418, the Ministry's business case did not present the status quo and a related analysis as an option (that is, to keep the licence plate sticker renewal cost in place). As well, we found that the Ministry did not identify significant risks that the Secretariat subsequently identified during its review. These included the significant long-term impact on the Province's deficit; lack of stakeholder consultation (for example, policing organizations were opposed, and commercial

vehicle operators were disappointed that they would continue to be required to pay for license plate stickers); and a failure to procure the services of a call centre (to address the public's questions) on a competitive basis.

We noted that the Ministry's proposal indicated that its timing was important to coincide with the Ontario government's Spring Red Tape Reduction Bill, which was to be announced in February 2022. However, we found that the Ministry did not include all of the components for Red Tape Reduction initiatives required by the Board's Business Case Guide—specifically, how the proposal links to the Ministry's reduction target, and if the request will provide savings to regulated entities, reduce barriers for individuals, or generate savings within the Ministry.

We also observed that the Secretariat's recommendation to the Board for this proposal was "Board Judgment". According to the Board's Business Case Guide, "Board Judgment" is intended to be used "when there is not enough information or the business case is insufficient, or there was inadequate time for Secretariat staff to develop a recommendation." However, our 2020 audit of Business Case Development in the Ontario Public Service noted that, in practice, "Board Judgment" has been used where the public service has conducted due diligence, but was not comfortable recommending the approval of a particular request because of the high risk associated with the request or because it was a government-driven request. In this instance, the Secretariat told us it made a recommendation of "Board Judgment" because of the significant fiscal impact that the proposal would have on the province.

RECOMMENDATION 11

To provide the government with the necessary information to make informed decisions, we recommend that the Ministry of Transportation prepare future business cases in accordance with Treasury Board/Management Board of Cabinet's

Business Case Guide, which includes guidelines for timeliness, presenting all required options, and identifying and addressing risks.

MINISTRY RESPONSE

The Ministry of Transportation agrees with the recommendation and will take steps to ensure that all business cases it prepares in situations like those described in the auditor's report fully address Treasury Board/Management Board of Cabinet's Business Case Guide. Every effort will be made to ensure that business cases contain robust options and risk analyses and communicate if guideline requirements have not been achieved.

4.8 The Absence of a Ministry Tolling Strategy Has Contributed to Inconsistent Tolling Practices in Highway Planning

We found that the Ministry has not developed a framework for the use of tolling to be considered in the planning of each provincial highway project. This leads to the inconsistent consideration of tolls across the Ministry's portfolio of highway projects.

We noted that the Ministry does not have authority under the *Public Transportation and Highway Improvement Act* to implement tolls on provincial highways. Instead, the decision to toll or to remove tolls from a highway in Ontario is undertaken through the introduction (or amendment) of highway-specific legislation and regulations (for example, the *Highway 407 East Act*, which allowed tolling of Highways 407 East, 412 and 418). In these instances, the Ministry has been asked to provide analysis and advise on tolling to support government decision-makers. However, we found that the Ministry has not developed a consistent framework for the use of tolling to be considered in the planning of each provincial highway project, such as the circumstances where using tolling to recover the costs of constructing a highway is appropriate and beneficial to facilitate commerce and the effective movement of Ontarians.

The Ministry's lack of tolling authority under the *Public Transportation and Highway Improvement Act*, and the absence of a framework for the use of tolling, have contributed to inconsistent tolling practices in the construction of provincial highways. We noted, for example, that while the Ministry has been asked by the government to explore tolling opportunities to lower the costs of a proposed highway project, it was also asked by the government to build a business case to remove tolls from Highways 412 and 418 (described in **Section 4.7**) before their costs have been recovered. In the case of Highways 412 and 418, in the absence of a framework to support a technical analysis of the costs and benefits of removing tolls to Ontarians, the Ministry highlighted linkages to government priorities, noting that "this proposal to remove toll rates will help taxpayers put money back to where it belongs—in the pockets of hard-working Ontarians."

Our research identified a number of jurisdictions where the Ministry of Transportation (or equivalent) has the authority to make tolling decisions directly (for example, in British Columbia, the Ministry of Transportation and Infrastructure has the ability to implement tolls and set toll rates through British Columbia's *Transportation Act*, subject to the approval of the Lieutenant Governor in Council). We also found instances where independent highway tolling authorities were established to analyze and decide whether tolling is suitable for new highways. For example, the Washington State Transportation Commission (the state's tolling authority), a seven-member body of citizens appointed by the governor, is responsible for developing policies and criteria for tolling, providing recommendations to the government for where to implement tolls, and setting toll rates.

RECOMMENDATION 12

To provide consistent analysis and advice to government decision-makers on the funding of proposed provincial highways, we recommend that the Ministry of Transportation:

- review leading practices in other jurisdictions on the use of tolls and setting toll rates;

- develop an information paper that includes the circumstances where tolling may be appropriate and beneficial to facilitate commerce and the movement of Ontarians, if needed in the future; and
- provide the government with the information paper should circumstances arise where tolling could be considered.

MINISTRY RESPONSE

The government has publicly stated a commitment that road tolls will not be considered for new highway projects. The Ministry of Transportation agrees with the recommended action items and will take steps to address each of them to have information on tolling available for the government should the need arise.

Appendix 1: Completed Ontario Highway Expansion Projects, 2016/17–2021/22

Source of data: Ministry of Transportation

Ministry's Project Description	Highway Number	Capital Construction Cost (\$ million)
Central		
1. 407 East, Phase 2	407	984.33
2. Finch Avenue to Major Mackenzie Drive, Vaughan (P3 Project)	427	369.47 ¹
3. Highway 401 to Queen Street, Mississauga	410	174.65
4. Credit River Bridge to Hurontario Street, Meadowvale Creek, Mississauga	401	117.04
5. Major Mackenzie Drive to Stouffville Road, Markham, Whitchurch-Stouffville	404	70.48
6. Highway 412 to Brock Street, Whitby	401	70.19
7. Work by others on Highway 427 and Highway 407 interchange	427	31.50
8. Major Mackenzie Drive, Markham	404	10.18
9. Sixth Line to Pretty River Parkway, Clearview	26	9.74
East		
10. Eagleson Road (Ottawa) westerly to Highway 7 interchange	417	93.99
11. Credit River 29 westerly to Campbell Drive, Arnprior Phase 1	17	76.01
12. Maitland Avenue to Island Park Drive, Ottawa	417	70.29
13. Montreal Street interchange to Cataraqui River	401	37.58
14. Campbell Drive to Scheel Drive, Arnprior Phase 2	17	35.07
Northeast		
15. North of Highway 607 northerly to north of French River, 2 lanes to 4 lanes	69	73.71
16. Sundridge to South River, new four-lane	11	67.48
17. Highway realignment at Virginiatown	66	27.04
18. Burk's Falls Bypass, municipal road improvements ²	11	13.88
19. Highway 69 southerly, Shebeshekong Road	7182	3.74
Northwest		
20. Nipigon River Bridge and approaches	11	156.70
21. Stillwater Creek westerly to Red Rock Road Number 9, including Stillwater, South Trout and North Trout Creek Bridges	11	110.41
West		
22. Regional Road 8 (King Street) to Regional Road 24 (Hespeler Road), Cambridge	401	134.15
23. Fischer-Hallman Road to Courtland Avenue, Kitchener	7	110.28
24. Ojibway Parkway and Essex Terminal Railway overpass, Right Honourable Herb Gray Parkway, Windsor-Essex	401	36.20

Ministry's Project Description	Highway Number	Capital Construction Cost (\$ million)
25. Victoria Street Bridge, Kitchener	85	25.50
26. Veterans Memorial Parkway, London	401	23.19
27. Highway 8 ramp, Fountain Street, Speedsville Road	401	21.19
28. Hanlon Expressway-Laird Road interchange, Guelph	6	19.30
29. Victoria Street Underpass, utility relocations	85	14.31
30. Shirley Avenue realignment, utility relocation	85	13.52
31. Franklin Boulevard, Cambridge	401	9.48
32. Oak Park Road, Brantford	403	7.03

1. The \$369.47 million represents the capital construction cost only. The total Public-Private Partnership (P3) Project value is \$773.53 million, which includes financing, Infrastructure Ontario fees, variations, post-contract contingency, as well as the 30-year concession costs (maintenance, lifecycle and operating).
2. Municipal road improvements associated with Highway four-lane 11 Expansion.

Appendix 2: Measures of Effectiveness to Assess Potential Transportation Projects

Source of data: Ministry of Transportation

Category	Measures of Effectiveness
Connected	1. Average travel time for people
	2. Average travel time for goods
	3. Average transit travel time per trip
	4. Share of passengers using transit to travel between sub-regions
	5. Percentage of people and jobs in the region accessible by transit in under 45 minutes
	6. Percentage of residents in the region living within 10-minute walk to high-frequency transit
	7. Share of passengers using transit within the region
	8. Percentage of people and jobs in the region accessible by the road network (no transit) within 45 minutes
	9. Percentage of people and jobs accessible from goods movement centres
	10. Percentage of people and jobs accessible by transit or cycling within 45 minutes from the rural areas
Integrated	11. Average trip distance for all trips during peak times
	12. Walking and cycling trips per capita
	13. Percentage of jobs accessible in less than 45 minutes by road
	14. Percentage of jobs accessible in less than 45 minutes by public transit
	15. Percentage of jobs accessible in less than 45 minutes by walking or cycling
	16. Percentage of truck trips originating or ending at intermodal hubs, ports, airports and border crossings that are less than 45 minutes long
Equitable	17. Percentage of people and jobs accessible by public transit for low-income households within 45 minutes
	18. Percentage of people and jobs accessible by public transit for youth within 45 minutes
	19. Percentage of people accessible by public transit for seniors within 45 minutes
	20. Cost of an average trip
	21. Ratio of public transit to automobile travel time
	22. Average travel time for residents in predominantly low-income areas
	23. Percentage of low-income residents in the region living within 10-minute walk to high-frequency transit
	24. Percentage of jobs accessible in less than 45 minutes by car for low-income households
	25. Cost of an average trip for residents in predominantly low-income areas
	26. Percentage of residents that can access a major hospital in less than 45 minutes by public transportation, cycling or walking
	27. Percentage of residents that can access a post-secondary institution in less than 45 minutes by public transit, cycling or walking
	28. Percentage of low-income residents that can access a major hospital in less than 45 minutes by public transit, cycling or walking

Category	Measures of Effectiveness
Environmentally Sustainable	29. Total tonnes of greenhouse gases emitted per year per capita
	30. Greenhouse gas intensity per vehicle kilometres travelled
	31. Route-km of new transportation corridors through environmentally protected countryside (e.g., Green Belt)
	32. Number of new or expanded transportation corridors crossing major waterway
	33. Route-km of new transportation corridors crossing agricultural lands
Economically Sustainable	34. High-level cost estimate
	35. Operating and maintenance costs per trip
Active, Safe and Healthy	36. Percentage of all trips involving walking or cycling
	37. Kilometres travelled by walking or cycling multiplied by the number of persons who made those trips
	38. Total nitrogen oxides and volatile organic compounds emissions
	39. Total particulate matter emissions
	40. Exposure to nitrogen oxides and volatile organic compounds per capita within 500 metres of an expressway and highway
	41. Exposure to particulate matter (PM 2.5) per capita within 500 metres of an expressway and highway
	42. Percentage increase in number of collisions compared to collisions projected for a business-as-usual scenario
Prosperous	43. Delay in truck travel times between intermodal hubs/ports/airports/ and gateways
	44. Percentage of people and jobs within 45-minute travel time to key business airports
	45. Average travel time to major employment areas from place of residence
	46. Percentage of residents that can access major employment areas in less than 45 minutes by vehicles or public transit
	47. Number of congested kilometres travelled by personal vehicles
	48. Congestion on transit lines in kilometres travelled multiplied by the numbers of persons who made those trips
	49. Congestion for trucks in kilometres travelled multiplied by the numbers of vehicles who made those trips
	50. Average commute time from place of residence
	51. Hours lost to congestion multiplied by the number of persons who made those trips
	52. Truck travel hours lost to congestion multiplied by the number of vehicles who made those trips
	53. Average travel time of trucks from border crossings to major freight generators and major distribution centres (ports, airports, etc.)

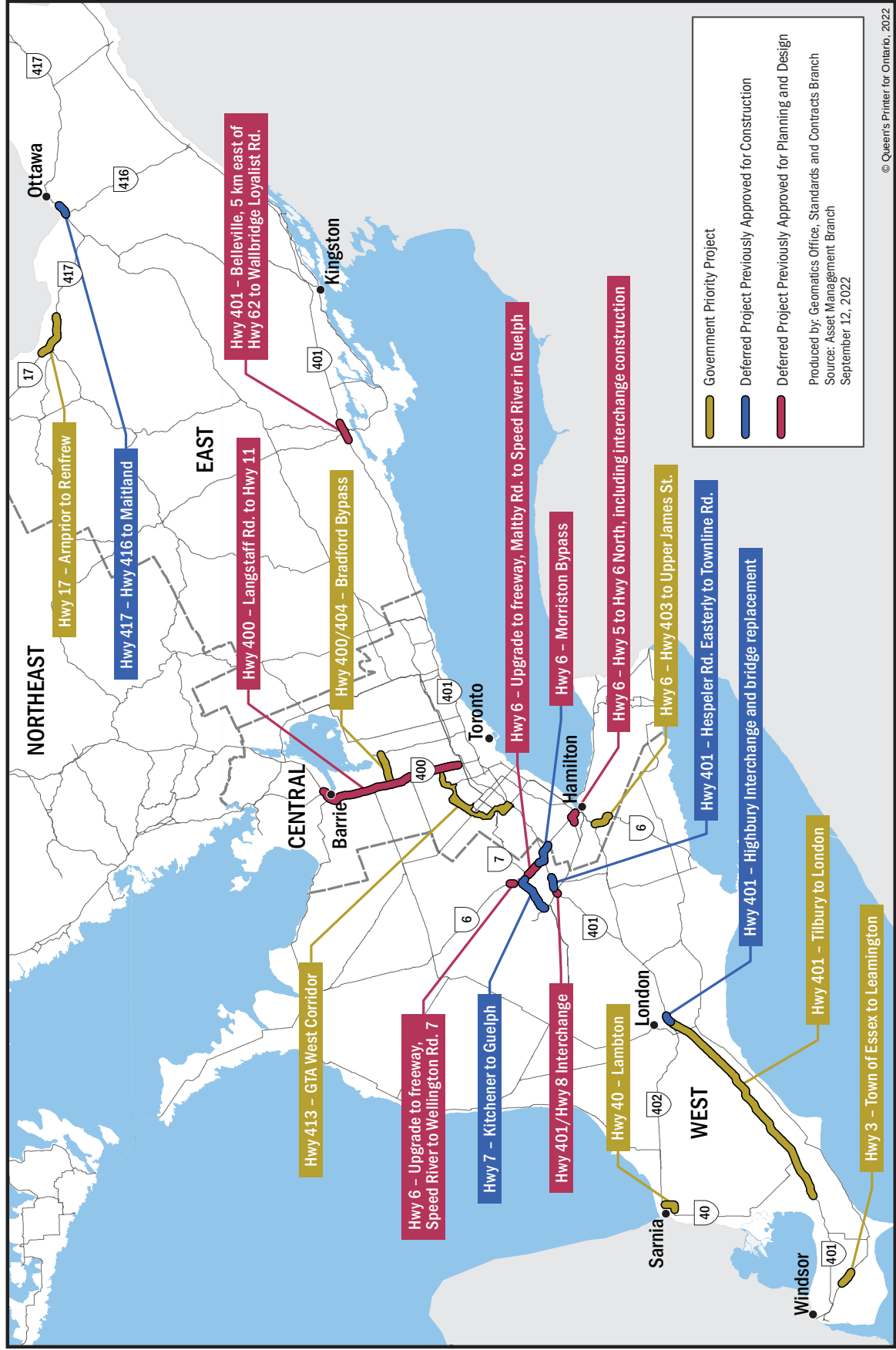
Appendix 3: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Highway expansion projects are identified and prioritized based on provincial needs and with regard to economy and public safety.
2. Highway rehabilitation needs are identified, prioritized, and addressed in a timely manner, and consider all relevant assets, public safety, economy and efficiency.
3. Highway projects are managed in accordance with applicable legislation, regulations, and policies.
4. Accurate, timely, and complete information on highway projects is regularly collected, recorded, and used by management to make informed decisions.
5. Meaningful performance indicators and targets are established for highway planning and management and are publicly reported. Results are monitored, compared against targets, and timely corrective action is taken when issues are identified.

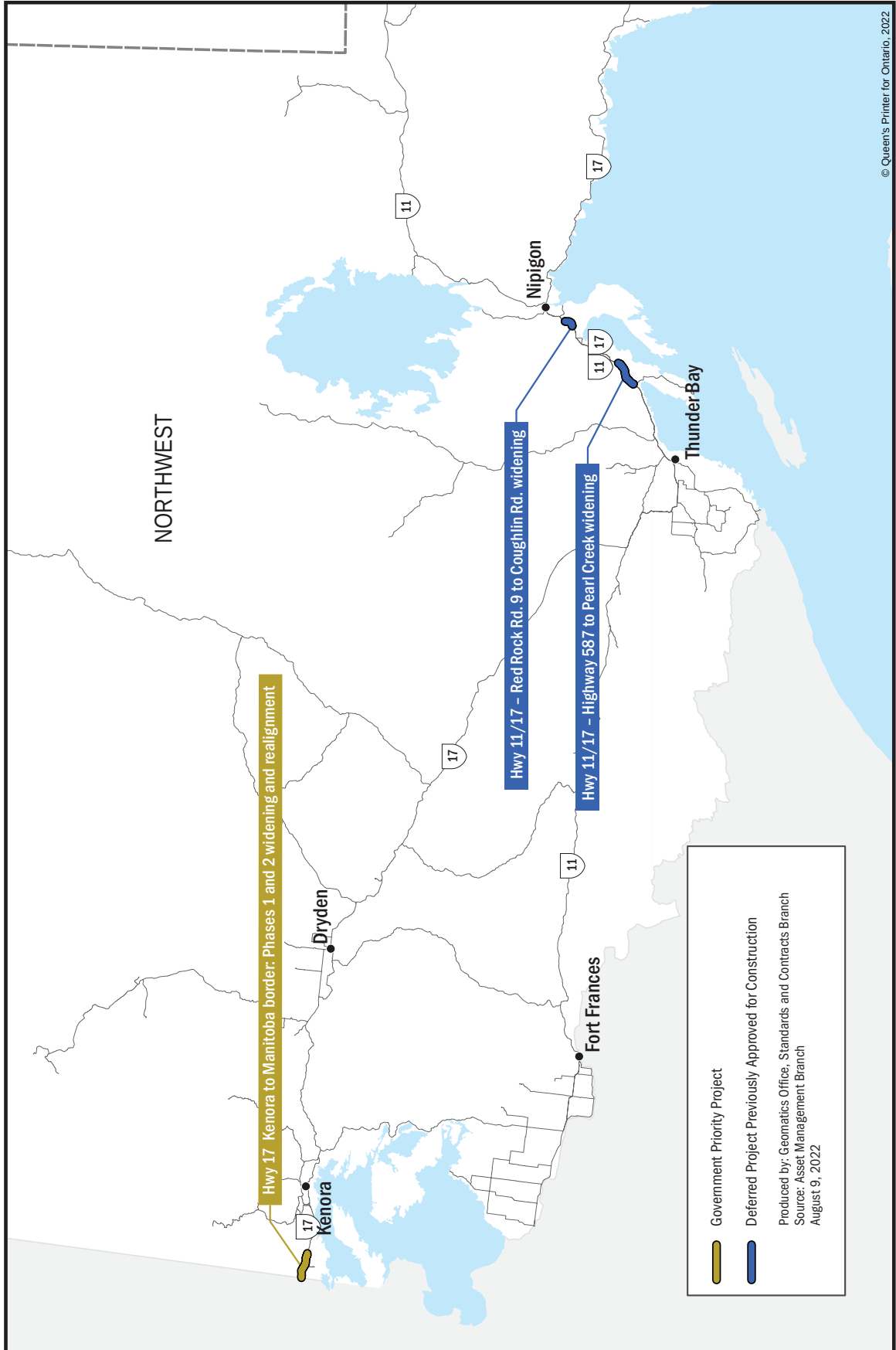
Appendix 4: Government Priority and Deferred Highway Projects in Southern Ontario, 2019/20-2021/22

Source of data: Ministry of Transportation



Appendix 5: Government Priority and Deferred Highway Projects in Northern Ontario, 2019/20–2021/22

Source: Ministry of Transportation



Liquor Control Board of Ontario: Information Technology Procurement

1.0 Summary

The most significant purchasing expense at the Liquor Control Board of Ontario (LCBO), after alcohol, is information technology (IT). Over the last seven fiscal years, the LCBO has spent a total of about \$624 million on IT expenditures. In 2021/22, annual IT procurement costs reached \$114 million, up from \$53 million in 2015/16.

As one of Ontario's largest Crown agencies, the LCBO operates a network of 680 retail stores, an e-commerce platform and special-order services, as well as wholesaling to 394 authorized independent retailers and 450 grocery stores. It is the highest financial contributor to the Province's consolidated revenue fund, and the largest retailer of alcohol in Canada.

When procuring IT-related goods and services, the LCBO is bound by its own policy, the LCBO administration manual, as well as the Ontario Public Service Procurement Directive (Directive). This Directive is designed to help ministries and government entities acquire goods and services through a fair, open and transparent process, reduce purchasing costs, and ensure consistency in how the procurement process is managed.

Our audit noted that between 2019/20 and 2021/22, the LCBO did not consistently prioritize its IT projects at the enterprise level so as to avoid duplicated or wasted effort and inconsistent decision-making. In addition, IT business units did not prepare

annual procurement planning documents, despite being required by its own policy to do so. The LCBO applied an IT prioritization process for the first time in 2022/23 to support IT expenditure prioritization.

Almost all (24 of 25) of the business cases we reviewed lacked important details around costs and benefits, information required by both LCBO's administration manual and the Directive. Our review of procurement projects showed that expected project costs were determined after the vendor had been chosen. The LCBO believes that it needed to go through a competitive process to estimate project pricing. Costs were presented to the decision-makers for approval when the final contracts were already prepared, instead of obtaining approval before procuring potential vendors.

In the case of non-competitively procured contracts, none of the business cases we sampled provided sufficient information to justify the decision to procure without a competition. For example, there was limited documented evidence that only one supplier met business requirements, as per the LCBO's internal policy.

We learned, further, that the LCBO tended to rely on contract employees to work on and sometimes even lead its IT projects. About 33% of its IT workforce were contract employees between 2019/20 and 2021/22. Contract employees were overall more expensive than permanent staff. For example, the LCBO paid an average of \$93.29 per hour for its contract IT business analysts, while it paid on average \$68.21 per hour for salary and benefits for current permanent employees in

the same position. One contract employee in an IT business analyst position was paid \$155 per hour, while the maximum rate recommended for this role by Treasury Board Secretariat is \$119.31 per hour. Although the LCBO has indicated its intent to reduce its reliance on contract employees, it has not established any target or timeline for this.

We found that two external consulting firms were in a long-term partnership with the LCBO's IT business units. Ten contracts totalling over \$60 million (14% of total IT expenditures) were awarded to them since 2017/18. Even when one of these consulting firms performed poorly and under-delivered, it continued to receive IT and other contracts with the LCBO. In part, this was because the LCBO did not actually incorporate a review of vendors' past performance when assessing new bids. Nonetheless, this firm was rehired in 2020 for another organizational-wide contract relating to human resources, and again in 2021 for an IT security consulting contract.

Furthermore, our audit found that the LCBO did not proactively or regularly report IT procurement progress and expenditures to senior management or the Board of Directors.

Some of our significant audit findings were:

- **Contract employees were recruited without competition; some were not interviewed and some held key decision-making roles.** The LCBO had increasingly used IT contract employees for ongoing operational work such as project management. The LCBO hired contract employees for periods of employment ranging from two months to 28 months, via managed service providers or firms with a roster of IT specialists. The use of contract employees in leadership positions, such as acting vice-presidents of various IT operations, disrupts business continuity, made for a higher likelihood of ever-changing strategic directions and less accountability for IT initiatives. From a sample of five contract hires, including acting Vice-Presidents of IT and Project Managers, we saw that in four cases the LCBO had hired the individual without a competition and could not provide interview

notes. LCBO management told us some of these people may have been interviewed but could not provide sufficient evidence showing interviews had occurred. The LCBO noted that its established process with the firm that provided these contract IT employees allowed it to hire them directly without competition.

- **Documentation to justify that vendor selection was fair and objective did not exist.** We found that the vendor evaluation forms were incomplete in 10 of the 13 files we reviewed. These forms were to support the selection of vendors for important projects such as a major warehouse and an e-commerce platform, and were missing information such as the rationale for scores given and documentation of a final consensus meeting. In one case, the vendor evaluation panel included business unit leaders and their subordinates but only the leaders attended the final consensus meeting to select a vendor. The vendor selected on this occasion did not deliver satisfactory service for the project.
- **Most IT procurement contracts lacked performance targets, and payments were made without verifying the deliverables were accomplished.** Although contracts and their associated statements of work set out deliverables, most of the contracts we examined had no measurable performance indicators to track consultants' and contract employees' progress in achieving those deliverables. We reviewed a sample of 25 procurement projects and noted that only five included performance indicators. Moreover, neither IT business units nor the vendor management office could demonstrate that it had verified that vendors provided satisfactory service and met project milestones before issuing payment.
- **The LCBO relinquished ownership of the planning phase of major IT projects to consulting firms that went on to implement the plans they created.** We found that the LCBO outsourced the design phases of three major IT projects from 2017/18 to 2021/22,

encompassing tasks that included project planning and procurement planning, to consulting firms without first evaluating if its internal staff can conduct the design work. The LCBO in effect relied on external parties to advise it of its business requirements and allowed the same firms that were involved in planning such projects to also conduct work for the build phase of the same projects. In two cases, the firms determined the contract ceiling price, which increased subsequent to the start of their work. Moreover, there was no evidence that work on the design phase had been evaluated prior to entering into the build phase. One of the three projects was unsuccessfully delivered, and another project's build phase cost \$12.7 million, twice the initial estimate of \$6.5 million.

Overall Conclusion

Our audit concluded that the Liquor Control Board of Ontario's (LCBO) IT procurement process did not demonstrate compliance with its internal policy. Our audit work showed that the LCBO could strengthen its process regarding procurement planning, procurement justification, vendor performance evaluations and use of contract employees.

In addition, the LCBO did not have effective systems and processes in place to adequately prioritize IT projects to avoid duplication of effort and inconsistent decision-making, or to monitor procured IT projects to determine whether they were completed on time and/or on budget. Furthermore, the LCBO did not procure two long-term partner consulting firms and did not hire contract employees in a cost-effective manner, which contributed to the LCBO not being able to achieve its business goals in a timely manner.

While the LCBO maintained a mostly fair, open and transparent decision-making process when it came to vendor selection, we found that it did not always keep adequate records of how and why decisions were made.

Lastly, we found that the LCBO had no centralized vendor management function or framework to allow timely and consistent vendor performance

management practices, resulting in a vendor who performed poorly in the past being awarded more LCBO IT and other contracts.

Correcting these weaknesses in its IT procurement practices will help ensure the LCBO consistently obtains the best value for IT goods and services purchased from its vendors. Moreover, if the agency does not maintain rigorous and consistent internal project planning and accountability mechanisms, its ongoing system-wide IT modernization project will be at risk of unexpected cost increases and project delays.

This report contains 10 recommendations, with 26 action items, to address our audit findings.

OVERALL LCBO RESPONSE

The LCBO appreciates the Auditor General's audit of its IT procurement process, as well as the audit on the LCBO's project management process.

The LCBO prides itself on running a fair, open and transparent procurement process and believes strongly in our adherence to the Ontario Public Sector Procurement Directive.

Some findings in this report, i.e., the need for a robust vendor performance management framework, had already been identified internally and are being put in place, and along with the requirement to increase the documentation for justifications for non-competitive procurements, will further strengthen the LCBO's commitment to transparent procurements and IT project governance.

The LCBO has undertaken significant work in the last year and half to establish robust project intake processes and project monitoring processes. Tracking performance on all significant projects has been in place since the start of 2022 with the addition of a Technology Committee of the Board of Directors that meets more than quarterly, and that receives reports on progress, status, and expenditure tracking. Senior management receives monthly reports on all significant projects, including IT projects.

The LCBO acknowledges and agrees with the importance of value-realization for its future IT

modernization project. This commitment is underpinned by already established project governance, with additional accountability mechanisms to be implemented as this important work progresses.

2.0 Background

2.1 About the LCBO

The Liquor Control Board of Ontario (LCBO) is a Crown agency owned and controlled by the government of Ontario. Under the *Liquor Licence and Control Act, 2019* (Act) it has the power to buy, import, distribute and sell alcoholic beverage products in Ontario. The LCBO is governed by a board consisting of no more than 11 members; they are appointed by the Lieutenant Governor in Council. The agency's stated mission is to be a "best-in-class, customer-first, responsible retailer and wholesaler supporting local communities and delivering value to Ontarians."

The LCBO describes itself as the largest alcohol retailer in the Canada. It operates a network of 680 retail stores, an e-commerce platform and special-order services, offering almost 34,000 spirits, wine and beer products to consumers and licensed establishments. The organization also distributes products to 394 LCBO Convenience Outlets (LCBO-authorized independent retailers in remote communities) and 450 grocery stores across Ontario. In the fiscal year 2021/22, the LCBO estimates it sold more than 1.1 billion litres of alcohol products, which generated gross revenue in excess of \$7.3 billion.

The LCBO funds its own operations. Its surplus net income is distributed to the Province through a dividend to the consolidated revenue fund. In 2021/22, that dividend was \$2.55 billion, making the LCBO the highest financial contributor of any Crown agency. By comparison, Ontario Lottery and Gaming Corporation and Hydro One contributed about \$1.77 billion and \$301 million, respectively, to the consolidated revenue fund in 2021/22.

2.2 IT Procurement Planning

2.2.1 Overview of IT Strategic Planning

The LCBO's corporate strategy is built on a rolling three-year cycle that is reviewed and updated annually. The current strategy cycle covers 2022 to 2025. The strategic planning team (strategy team), which reports to the organization's Chief of Staff and Vice-President of Strategy, leads the strategic planning process.

The LCBO's IT senior management told us that IT planning is part of the corporate strategic planning exercise. Annually, the Vice-President of IT Strategy and Management, as well as the Directors and Senior Managers of the IT Division, are to meet with the strategy team to discuss the annual work plan for IT. This plan is to be subsequently incorporated into the LCBO's overall corporate strategy.

During the corporate strategy process, all LCBO's C-suite executives, including the Chief Information Officer and the Chief Financial Officer, have the opportunity to review and adjust their commitments and performance measures and monitor progress against previous targets.

2.2.2 IT Systems

Over time, the LCBO has developed a complex IT architecture, in which a single system typically interfaces with more than 20 other LCBO and third-party systems, including those of suppliers or the Ministry of Finance.

As of August 2022, the LCBO has about 450 different IT systems, all of which support some facet of its operations, including supply chain, retail, warehousing and e-commerce delivery. According to a May 2021 report prepared by the consulting firm Accenture (Consulting Firm B), 70% of the LCBO's IT systems are considered to be legacy systems, that is, systems which are costly to maintain due to reasons such as no longer being supported by the product's vendor and difficulty in finding application expertise.

We conducted benchmarking with liquor control boards similar to the LCBO from other major Canadian

provinces. While the Manitoba Liquor and Lotteries Corporation has a comparable number of IT systems (about 400), its operation includes both liquor and lotteries. The British Columbia Liquor Distribution Branch and the Société des alcools du Québec each have significantly fewer IT systems (approximately 50 and 80, respectively); both organizations' operations include liquor as well as cannabis.

According to the LCBO, the complex nature of its overall IT architecture presents a challenge to change. For example, replacing its end-of-life enterprise supply chain management platform would require at least 78 primary integrations and the need to examine, redesign and integrate at least 156 software systems.

2.2.3 Plan to Modernize IT Architecture Established in 2016

The LCBO considers its aging IT infrastructure to be the root cause of rising IT procurement costs and elevated risks related to business continuity and IT security. In response to these issues, the LCBO engaged a consulting firm, Deloitte (Consulting Firm A) in 2016 to support IT strategic planning for fiscal year 2017/18 and beyond. Consulting Firm A conducted interviews and workshops with key personnel from the LCBO; analyzed the LCBO's business capabilities against its strategic goals to identify gaps; and reviewed IT applications to identify initiatives to close these gaps. In December 2016, the LCBO, using the work performed by Consulting Firm A, established a three-year roadmap of IT initiatives to advance its IT infrastructure. The final roadmap included 22 prioritized IT projects with an estimated capital requirement of \$136 million for the fiscal years 2017/18 through 2019/20. LCBO's senior management approved and implemented 11, or half, of these projects from 2016/17 to 2018/19.

LCBO IT senior management explained to us that changes to IT operations were put on hold because of competing priorities and limited resources in the fiscal years following 2017/18. For instance, in 2018/19, the government sold the land and building of the LCBO headquarters and the Toronto warehouse, which

required the LCBO to dedicate time to relocate staff and operations to the new locations.

The LCBO informed us that as a result of this 2016 project, its IT architecture review board started incorporating the consultant's work to inform its decision-making, beginning in January 2021. Part of this board's responsibility is reviewing proposed IT systems to assess their fit with the existing IT architecture so as to limit additional interface work that may be necessary to integrate all newly procured systems.

2.2.4 Future State Modernization Plan Proposed in 2021

Under new IT leadership, the LCBO began to analyze and assess its IT architecture. In February 2022, the LCBO's Chief Information Officer, who had joined the organization in December 2020, presented an IT plan titled "Future State Modernization" (modernization plan) to the LCBO's Board of Directors. Some key points from the modernization plan are:

- The LCBO views a modernized IT landscape as foundational to helping the organization prepare for marketplace changes and ultimately deliver on its mandate.
- The LCBO has determined its technology landscape has needed attention since 2016. Specifically, it acknowledged that its:
 - technology is aging, and one-third of core applications need to be replaced as soon as possible due to technology obsolescence, security exposure or lack of vendor support;
 - technology is complex and difficult to work with;
 - IT maintenance costs are on the rise—by 2027/28, cumulative legacy maintenance costs and operational costs for critical IT systems will reach an estimated \$389 million (from 2021/22 to 2027/28); and
 - processes are inefficient—for example, it determined that it takes three times longer than industry standards to verify product availability and three days to make price changes across all its retail channels.

A rigid and complex technology landscape has affected the LCBO's ability to change and respond quickly to ever-evolving customer expectations. In fact, the LCBO has estimated that it could be generating \$209 million more of revenue annually if its information technology was up to date.

Based on pre-work done for the modernization plan, the LCBO's 2022–25 Strategic Plan makes it a corporate priority to rebuild and strengthen the foundations of its IT infrastructure, systems, processes and program management.

In May 2021, the LCBO hired Consulting Firm B to develop the pre-work of this modernization plan, leveraging on the work done by Consulting Firm A that developed an IT roadmap for the LCBO in 2016, as discussed in **Section 2.2.3**. Consulting Firm B developed a new IT roadmap. Following the consulting firm's work, in fall 2021, the LCBO prepared a business case for its modernization plan. The Board approved the business case in February 2022, and in early March 2022 it was submitted to the Ministry of Finance and the Ontario Financing Authority as required under the *Liquor Control Board of Ontario Act, 2019*. The Act states that if the LCBO proposes to undertake a major capital expenditure, it shall borrow the necessary funds from the Ontario Financing Authority and obtain approval from the Minister of Finance. According to a regulation under the Act, a major capital expenditure is defined as any capital project with an aggregate amount of the budgeted or actual expenditures that exceed \$10 million.

In April 2022, the Ministry of Finance approved the LCBO's request for financing capital expenditures related to the modernization plan for IT. In May 2022, the LCBO initiated the procurement processes and created a request for proposal to seek a vendor to help with the planning stage of the modernization plan. As of October 2022, the LCBO had not yet established a scope or implementation plan.

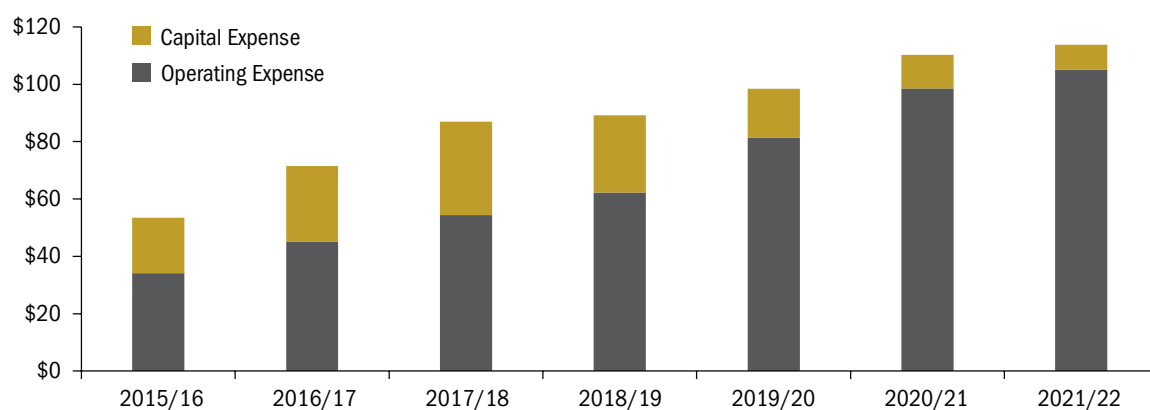
2.3 Overview of IT-Related Goods and Services Purchases

2.3.1 IT Spending

The age and large number of IT systems have contributed to high IT maintenance and integration costs. Each application requires continual lifecycle management that covers upgrades, security patching, support, maintenance, and integration, as well as contract management. Increasingly more of the LCBO's IT budget is consumed by maintenance costs for legacy systems, with an increased reliance on sole-source expertise. As shown in **Figure 1**, the LCBO's annual IT expenditures have risen steadily from \$53 million in 2015/16 to \$114 million in 2021/22, an increase of 112% over these six years. In the business case for its modernization plan (discussed in **Section 2.2.4**), the LCBO expected that it would need to spend \$360 million between 2022/23 and 2027/28, consisting of \$327 million in maintenance costs and \$33 million in operational costs, if it did not update its

Figure 1: LCBO Information Technology Spending, 2015/16–2021/22 (\$ million)

Source of data: Liquor Control Board of Ontario



IT infrastructure. **Figure 2** shows the LCBO's projected expenditures related to critical legacy systems.

As shown in **Figure 3**, between 2019/20 and 2021/22, the LCBO's IT help desk incurred the highest IT expenditures of any LCBO IT business unit, followed by two business units that are responsible for IT projects. Projects are typically created to renew and/or update existing IT systems and can lead to procurement. The other business units are predominantly responsible for operational activities. Prior to 2019/20, the LCBO did not maintain financial records in a way that would allow a breakdown of IT spending.

IT contract expenditures, totalling \$163 million, represented about 50% of total IT expenditures between 2019/20 and 2021/22. **Figure 4** shows that

operating IT contract expenditures were \$133 million in these three years, representing 82% of the total IT contract expenditures.

2.3.2 Procurement Policies and Requirements

Ontario Public Service Procurement Directive

The Ontario Public Service Procurement Directive (Directive), developed by the Management Board of Cabinet in March 2019, outlines the responsibilities of individuals and organizations throughout the procurement process. The goals of the Directive are: to ensure that goods and services are acquired through a fair, open, transparent, accessible and geographically neutral process; to contribute to a reduction in

Figure 2: Projected Expenditures Related to Critical Legacy IT Systems, 2022/23–2027/28 (\$ million)

Source of data: Liquor Control Board of Ontario

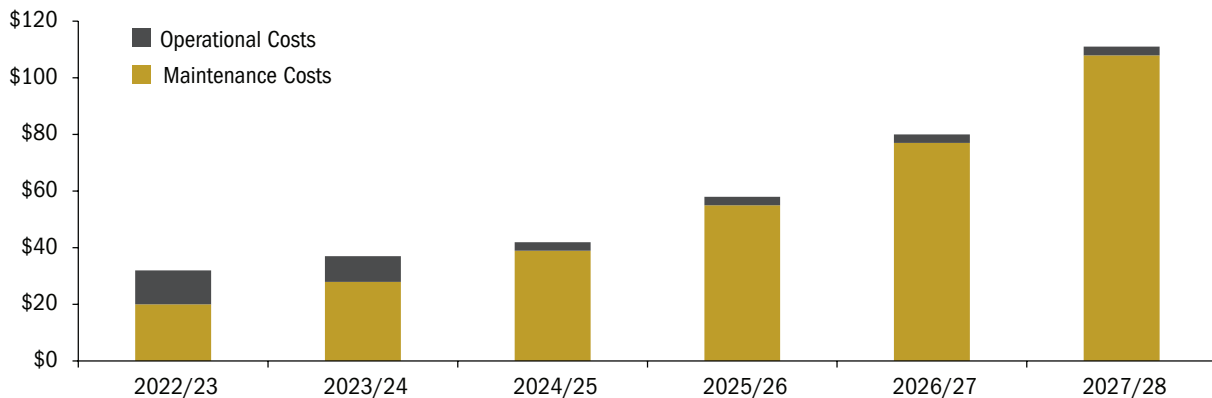


Figure 3: Three-year IT Expenditures by Business Unit, 2019/20–2021/22 (\$ million)

Source of data: Liquor Control Board of Ontario

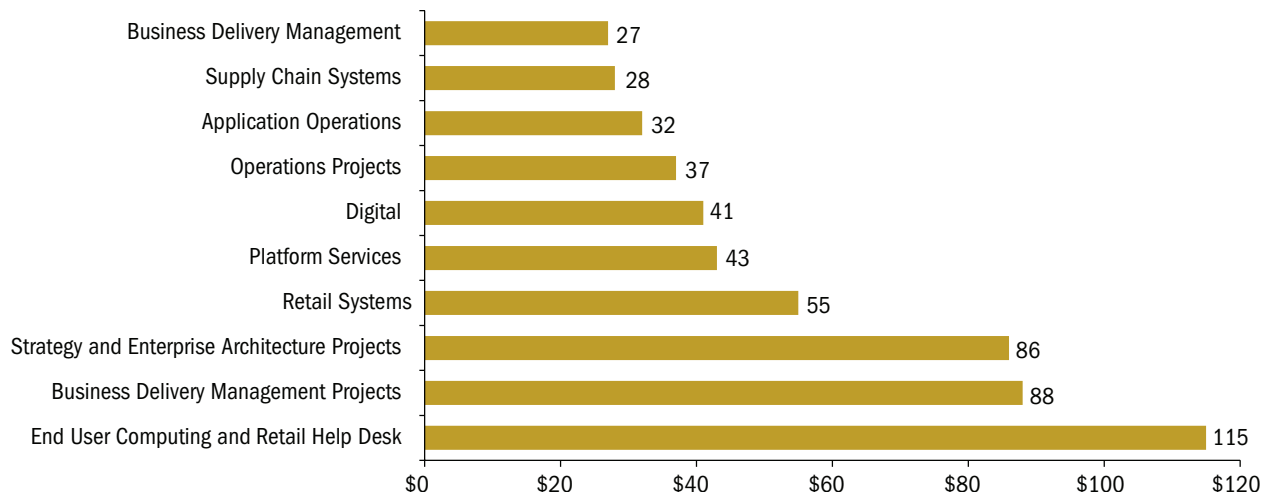
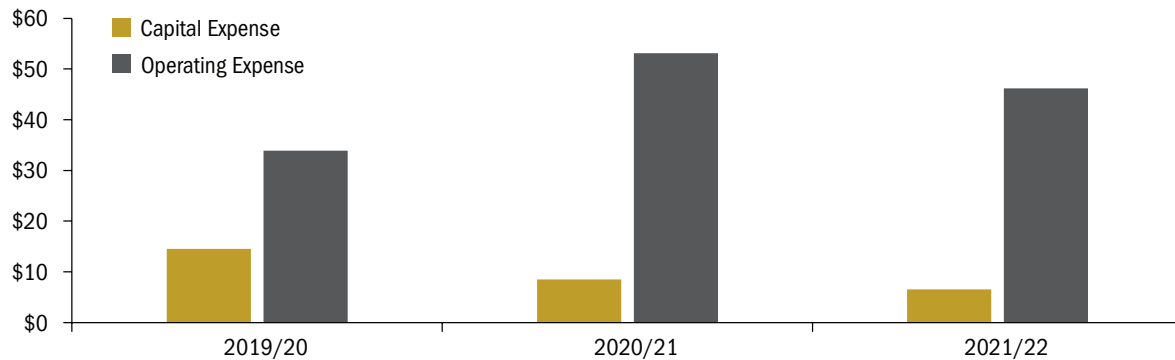


Figure 4: Capital Expenses and Operating Expenses Related to IT Procurement, 2019/20–2021/22 (\$ million)

Source of data: Liquor Control Board of Ontario



purchasing costs; and to ensure consistency in the management of procurement.

According to the Memorandum of Understanding (MOU) between the LCBO and the Minister of Finance, last reviewed and signed in 2021, the LCBO is considered an “Other Included Entity” and must therefore comply with all applicable government policies, guidelines, and directives, such as Sections 3 and 8 of the Directive, regarding procurement. Previous versions of the MOU had similar clauses. **Appendix 1** summarizes Sections 3 and 8 of the Directive, as well as provisions from Sections 4 and 5 to which LCBO is not subject, but that serve as guidance and best practices for procurement.

In September 2020, the Management Board of Cabinet updated the Directive to include interim measures because the government was moving to centralize the purchasing and supply chains in the Ontario Public Service and the broader public sector, including establishing Supply Ontario. These measures, described in **Appendix 2**, are a set of rules designed to support consistency in procurement-related decisions and for the collection of data during the transition to a centralized procurement system. The LCBO is also subject to these interim measures.

LCBO Administration Manual

The LCBO has an administration manual that contains policies and procedures on procurement and contract management of goods and services other than those that relate to alcohol inventory. The manual

outlines the LCBO’s procurement process, as shown in **Appendix 3**, and the type and value of procurements for which the LCBO must use competitive, non-competitive or informal procurement processes, as shown in **Appendix 4**. The manual was last revised in May 2019.

Use of the Vendor of Record

A Vendor of Record (VOR) is a list that has been created through an open competition of qualified suppliers that can provide a particular good or service. Depending on the particular terms of the VOR, there may be a second-stage invitational competition.

The LCBO is required to use the Ministry of Public and Business Service Delivery’s VOR for all procurement over \$250,000, including information technology. This ministry was formerly the Ministry of Government and Consumer Services. The arrangement authorizes one or more vendors to offer specific goods or services to the LCBO for a defined period with terms and conditions and pricing as set out in the particular VOR arrangement. For example, the LCBO uses a VOR to procure its IT security products and services and IT contract employees.

Procurement-Related Reporting Requirements

The LCBO, through the Chair of its Board of Directors, must provide various reports to the Minister of Finance for approval, based on reporting obligations set out by the MOU. A summary of these reporting requirements related to IT procurement is listed in **Figure 5**.

Figure 5: Summary of LCBO's Reporting Requirements to Minister of Finance

Source of data: MOU between Minister of Finance and Chair of the LCBO (June 2021)

Report Document	Description	Frequency
Annual Business Plan	Covers a minimum of three years from the current fiscal year; includes budgets and forecasts of IT expenditures that are used as business rationale for IT procurement.	Annually
Compliance Attestation	Attestation to the Minister of Finance that the organization has complied with all applicable directives, including the Ontario Public Service Procurement Directive (wherein the LCBO is considered an "Other Included Entity" and therefore must comply with sections 3 and 8). The attestation also includes reference to internal control systems. The LCBO engages a consulting company every three years to perform an independent review on the effectiveness of these internal controls.	Annually
Trade Agreement Reporting	When procuring IT goods or services, the LCBO must comply with applicable trade agreements, including the Canadian Free Trade Agreement and the Canada-European Union Comprehensive and Economic Trade Agreement.	As required

2.3.3 How IT Goods and Services Are Procured

A number of departments at the LCBO perform procurement functions, as shown in **Appendix 5**. The LCBO's IT procurement process starts when the IT business unit identifies to the procurement services team the need to purchase goods or services. The procurement services team then guides the IT business unit to plan the procurement project, establish procurement requirements and determine procurement method.

Open Competitive Procurement Process

Based on the submitted procurement requirements, the procurement services team creates a request for proposal that is posted on a Web-based bidding platform. Once bids come in from various vendors, the IT business unit assembles an evaluation team. Guided by the procurement services team, the evaluation team proceeds, through evaluation stages, to select the best vendor. The chosen vendor then negotiates contract terms such as service levels and project timelines with the IT business unit, which is supported by the LCBO's internal legal services team. Upon finalizing the contract agreement, the procurement services team supports the business unit in seeking approval from the required level of internal authority, and notifies unsuccessful bidders that participated in the bidding. After the contract award notices have been sent to the successful vendor, unsuccessful bidders can request

a review meeting with the LCBO to discuss their evaluation.

Non-competitive Procurement Process

When the LCBO directly awards a contract to a vendor, the business unit must create a justification form for the direct award. The business unit then works to obtain the required approval based on the approval requirements shown in **Appendix 6**. If the justification for direct award is approved, the legal services team helps the business unit create and finalize a contract to award to the vendor.

Contract Management

Once the contract commences, the vendor's work is monitored by the IT business unit and the vendor management office, a centralized office for contract management within the IT Division. Upon reaching pre-determined payment milestones, vendors invoice the IT business unit. The unit validates the invoice against delivery of goods or services, and sends it to the accounts payable department for payment.

2.3.4 How the LCBO Reviews Its Procurement Practices and Processes

Since 2015/16, the LCBO's internal audit team has conducted several audits and recommended steps to improve IT procurement practices, the procure-to-pay

process and vendor management practices. As well, in 2021 prior to our audit, the LCBO engaged a consulting firm (PwC) to review its procurement process for both IT and non-IT projects; the consulting firm has issued recommendations, such as creating a central database for monitoring and analyzing all procurement expenditures. The LCBO addressed recommendations that were targeted to be completed in the short term and was in the process of implementing other, longer-term, recommendations at the time we completed our audit. **Appendix 7** summarizes the implementation status of the 2021 recommendations from the consulting firm's review.

3.0 Audit Objective and Scope

Our objective was to assess whether the LCBO has effective systems and processes in place to:

- procure information-technology (IT)-related goods and services based on strategic plans and in a timely, cost-effective, fair, open and transparent manner in compliance with legislation, government directives and applicable procurement policies;
- monitor the performance of IT vendors in a timely and regular manner; and
- evaluate the effectiveness of its own performance in managing IT procurements.

We identified the audit criteria (see **Appendix 8**) we would use to address our objective, based on a review of applicable legislation, policies and procedures; internal and external studies and best practices. Senior management at the LCBO agreed with the suitability of our objective and associated criteria.

Most of our work was focused on procurement and IT planning activities that occurred in the three-year period ending March 31, 2022, and in some cases over the six-year period ending on that date. We obtained written representation from the LCBO senior management that, effective November 18, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

We conducted the following work between February and August 2022, primarily at the LCBO head office location. We:

- reviewed documents including applicable legislation, reports, directives, policies and Board meeting minutes;
- analyzed IT spending and procurement data over seven years, where possible;
- interviewed relevant staff working in procurement, finance, IT, strategic planning, vendor management and project management;
- examined procurement-related documents such as requests for proposal, vendor selection forms, business cases and contracts related to 25 procurement projects that were active during 2019/20 and 2021/22; these projects were procured using a mix of procurement processes including competitive, invitational competitive, direct award and purchase orders; and
- met with representatives from similar agencies such as the Manitoba Liquor and Lotteries Corporation, the Société des alcools du Québec and the British Columbia Liquor Distribution Branch to understand their procurement processes to identify different practices used.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Better IT Expenditure Planning and Monitoring Needed

4.1.1 IT Procurement Not Planned or Prioritized

IT Projects Not Consistently Prioritized Prior to Entering Procurement Between 2019/20 and 2021/22

The LCBO incurred significant IT procurement expenditures between 2019/20 and 2021/22. As shown in **Figure 3**, two business units that are responsible for IT projects at the LCBO incurred the second and third highest IT expenditures in the three-year period ending 2021/22, with combined expenditures of \$174 million. These expenditures exceeded day-to-day operational expenditures incurred by the IT help desk by \$59 million.

IT projects are typically created to renew and/or update existing IT systems and can lead to procurement. The LCBO's IT project management office informed us that, as of April 1, 2022, there were 63 IT projects that required funding for the fiscal year 2022/2023. At this volume, it is important for IT procurements, whether for projects or for everyday operations, to be assessed and prioritized at the enterprise level, so as to avoid duplicated or wasted effort, and inconsistent decision-making.

As noted in **Section 2.3.2**, the Memorandum of Understanding (MOU) between the LCBO and the Minister of Finance does not subject the LCBO to Section 4 of the Ontario Public Service Procurement Directive (Directive), though that section provides guidance and best practices regarding procurement practices. Section 4 of the Directive notes that procurement planning for large projects must align with the key business objectives of the project and provide sufficient detail of all required procurements to successfully meet the key business objectives.

The LCBO had developed a process to govern the status of its IT projects as early as May 2019, and that process evolved to also include project prioritization in September 2021. By April 2022, the LCBO had applied

the IT prioritization process for the first time to support IT expenditure prioritization for the full fiscal year.

In April 2022, the LCBO began reviewing its IT projects. Senior corporate executives looked at all IT-related projects for the fiscal year 2022/23 and prioritized certain ones. As well, this new project list was still incomplete as it excluded six “keep-the-lights-on” projects, namely, (1) the e-commerce business-as-usual project, (2) the IT service certificate management project, (3) the merchandise annual hierarchy update project, (4) the retail cheque automation report project, (5) the retail point-of-sales enhancement project, and (6) the supply chain order management system project. Management told us that these “keep-the-lights-on” projects were essential to LCBO's IT infrastructures and therefore did not need to be included in prioritization planning and would enter the procurement process directly. However, it would still be prudent for the LCBO to include these projects to ensure the completeness of the LCBO's assessment of its IT capital needs.

IT Procurement Planning Not Performed at the LCBO

The LCBO's administration manual requires each business unit to complete an “annual procurement calendar” that identifies any procurement needs for the upcoming year. According to the manual, the business unit's procurement planning process should take into consideration estimated cost and time required for each project, evaluation plan, pricing structure, funding source and procurement method. Furthermore, Section 4 of the Directive states that procurement planning considerations should include identification of business needs, justification for the acquisition and clear definition of specifications. For IT-specific procurements, the Directive requires the assessment of delivery, testing and acceptance requirements, applicable technical architecture and design and interface requirements.

The LCBO could not provide any evidence to support the completion of IT procurement plans for any of the years reviewed. The LCBO's IT procurement services team also told us that IT business units did not prepare annual procurement calendars, despite

the requirement to do so in the LCBO's administration manual and the best practices noted in the Directive.

RECOMMENDATION 1

To improve the completeness and effectiveness of its IT strategic and expenditure planning process, we recommend that the LCBO:

- develop a process to monitor that all IT projects, including associated planned expenditures, are considered in its periodic prioritization exercise; and
- require IT business units to prepare annual IT procurement plans and provide the plans to IT procurement service team, as per LCBO's internal policy.

LCBO RESPONSE

The LCBO accepts the Auditor General's observation. The LCBO began prioritizing IT projects in 2022/23 and will develop a process that includes all IT projects.

The LCBO will reinforce with the IT business units the requirement to prepare annual IT procurement plans and calendars. The plans and calendars are a tool to support resource planning within the Procurement Services Department. As part of its continuous improvement to IT project governance, the LCBO has integrated its Procurement Services team into the existing project intake process to participate in the review and planning of proposed and approved IT projects.

4.1.2 Cost and Benefit Details Missing from All Approved Business Cases Sampled

Based on a sample of projects, we found that the LCBO properly approves procurements according to the Ontario Public Service Procurement Directive (Directive) and its own administration manual. However, 24 of 25 business cases for procurement projects we sampled lacked important details around costs and benefits that were required by both the LCBO's administration manual and Section 8 of the Directive. In

addition, for all 24 business cases, expected project costs were determined only after the vendor had been chosen, and were presented to decision-makers after the final contracts had been prepared instead of earlier, to obtain approval to proceed with procurement.

The LCBO's administration manual requires business units to determine the total procurement cost by considering all costs associated with the procurement project, including but not limited to acquisition, installation, training delivery, maintenance, and options to renew. Section 8 of the Directive requires similar cost information to be gathered upfront to determine the appropriate procurement approval authority and procurement method. In addition, it requires consideration of benefits associated with entering a contractual relationship with a third party, and the proactive analysis and comparison of alternative or in-house options based on their costs and benefits to the organization.

Our audit found that, in 24 of the 25 procurement projects reviewed, the IT business units used the pricing information provided by the chosen vendor's bid as their cost estimate rather than independently conducting research to determine an estimate of reasonable cost prior to bid process. In addition, these contracts, including their costs, received approval from senior management and the Board of Directors only at the contract awarding stage rather than earlier, during the project approval stage. The LCBO believes that it needed to go through a competitive process to estimate project pricing.

In October 2021, the LCBO's project management office implemented a revised intake process—a process that precedes the procurement process—which requires those who initiate IT procurement projects to submit a business case with a cost/benefit analysis, a feasibility assessment and a risk assessment. These business cases were to be presented to senior management for approval before the project can proceed to procurement stage. The LCBO informed us that 25 new IT project requests for the 2022/23 fiscal year had gone through the business case phase of this augmented project review process as of August 2022.

However, when reviewing the March 2022 business case prepared to obtain the Ministry of Finance's

approval for funding for the LCBO's Future State Modernization Plan (discussed in **Section 2.2.4**), we found that the business case stated that the cost estimate was an assumption and a detailed cost breakdown was not available. This indicates that the LCBO still had not fully implemented its revised intake process. The business case stated that: "a competitive procurement process must be initiated to select the vendor(s) and solutions; depending on the solution, costs will be determined and allocated as capital or operating expenses."

The LCBO did not have a process to monitor that all Directive requirements are followed.

RECOMMENDATION 2

So that procurement needs are appropriately assessed and documented prior to contracting to procure IT goods and services, we recommend that the LCBO:

- require business cases to be presented to the appropriate approval body, as per the LCBO's internal policies, prior to commencing the procurement process; and
- require the procurement services team to review these business cases prior to presenting them to senior management to ensure that appropriate procurement planning and strategy have been considered.

LCBO RESPONSE

The LCBO agrees with the Auditor General that it is important that business cases have sufficiently detailed cost and benefit details. As part of its continuous improvement to IT project governance, the LCBO has integrated its Procurement Services team into the existing project intake process to participate in the review and planning of proposed and approved IT projects.

For all procurements related to IT projects that require approval of its Board of Directors, the LCBO will explore whether there is an opportunity to revise its governance framework to include

approval of the business case for proposed procurement projects prior to issuance to market.

4.1.3 Weak Governance and Oversight of IT Procurement by Senior Management and Board of Directors

Our audit found no evidence that the LCBO had a process to support proactive and regular IT procurement reporting to senior management or the Board of Directors (Board). Although the LCBO's administration manual requires all vendor contracts over \$3 million to be approved by its Board, this policy does not stipulate who needs to evaluate and approve procurement projects before the procurement process begins. Our audit found that in our sample of 25 procurements, senior management and the Board approved business cases at the same time as they approved the final vendor contracts. We found no documented evidence that any business cases had been presented to senior management and/or the Board prior to seeking approval of the final vendor contract agreement.

In addition, the LCBO informed us that it did not have a process to collect data and assemble monitoring reports that track vendor contract expenditures, progress and major issues with IT procurement projects. In 2019, the LCBO established a Strategic Project Oversight Council to periodically review the status of its IT projects. However, when reviewing meeting minutes, we could find status updates related to only nine of the 25 vendor contracts we reviewed. The LCBO noted that some contracts did not require status updates because they supported day-to-day operational needs, but we found that at least five contracts not presented to the Council were IT projects. The work of this Council was discontinued in 2021. This impaired senior management and the Board's ability to assess the progress of ongoing IT projects and their outcomes, and to hold IT business units who requested the procurement accountable for their decisions.

As well, the LCBO's Chief Information Officer did not have a mandate to regularly report IT expenditures or major projects' progress to the Board prior

to December 2021. As a result, the Board could not see how major IT expenditures were likely to impact the ongoing operations or overall expenditures of the LCBO. In January 2022, the Board formed an Information Technology Sub-committee. However, neither the Board nor this Sub-committee had requested regular reporting from management to demonstrate transparency and accountability for IT procurement spending. The Chief Information Officer reports to this Sub-committee according to the governance structure.

We also examined the proposed governance structure for the Future State Modernization Plan (see **Sections 2.2.4 and 4.1.2**) as noted in its business case. We found that the LCBO established a program governance office in September 2022 to steer program delivery for this project; however, the LCBO had not yet established an accountability mechanism that would allow senior management, the Board of Directors or the Ministry of Finance to hold the LCBO's IT Division accountable to regularly report on the project progress. Given the significant scope—to rebuild and strengthen the foundations of LCBO's IT infrastructure, sound project governance is critical for the project's success. When this was not in place, as in the earlier 2016 IT roadmap, the LCBO allowed itself to depart from that plan.

RECOMMENDATION 3

To improve governance and oversight of IT expenditures and procurement, we recommend that the LCBO:

- develop information reports that provide key insights on IT procurement and expenditures, such as an overview of planned and in-progress IT procurement projects, project progress, and actual versus budgeted project expenditure; and
- establish a process to present these reports to LCBO senior management and its Information Technology Sub-committee of the Board of Directors at least quarterly.

LCBO RESPONSE

The LCBO agrees and is committed to ensuring that governance and oversight of IT procurement is strong. The LCBO has already taken steps over the last several years to strengthen procurement governance and oversight. Project oversight has benefitted from the enhanced IT project intake process. The LCBO continues to track estimates and expenditures related to its proposed and approved IT projects throughout the project lifecycle and will provide better reporting to the LCBO senior management and the Technology Committee of the Board of Directors. The LCBO has recently established accountability mechanisms to formulate reporting relationship and frequency among senior management, the IT Sub-committee, the Board and the Ministry of Finance.

RECOMMENDATION 4

To better realize the value from expenditures for the preparation of its IT Future State Modernization Plan, we recommend that the LCBO:

- examine the estimated costs for the Future State Modernization Plan;
- establish a step-by-step project plan that specifies the deliverables and milestones and a project accountability mechanism with corresponding ownership; and
- report project progress and expenditures to the Information Technology Sub-committee of the Board of Directors and the Ministry of Finance at least quarterly.

LCBO RESPONSE

The LCBO acknowledges the importance of realizing value from the implementation of its Future State Modernization project. The LCBO continues to update the detailed project plan, including deliverables, milestones and costs. As the project

progressed, the Technology Committee of the Board of Directors began receiving more regular updates on the project, including progress, spend to date, and progress on value realization at each of its meetings. Subsequent to the completion of the audit, the LCBO's senior management has provided updates to the Ministry of Finance on a more regular basis about the Future State Modernization project.

4.2 Non-competitive Procurements Not Sufficiently Justified

The LCBO's procurement policy sets a threshold of \$25,000 for goods and \$100,000 for services, above which the contracts awarded must go through a public and competitive procurement process, including a request for proposal. Using a competitive procurement process helps to achieve value for money because it can give an organization a range of options when choosing a supplier to provide the highest quality goods or services at the lowest price. Like other Crown agencies, the LCBO has an obligation to ensure that taxpayers receive good value from its purchasing decisions, which is stipulated by Section 3 of the Ontario Public Service Procurement Directive (Directive).

The LCBO can also use non-competitive procurement methods, direct awards, for contracts above these dollar thresholds if there is sufficient reason to do so, such as urgency, or if only one supplier could deliver services. The LCBO's administration manual is aligned with Section 4 of the Directive, which requires non-competitive procurement to be supported by a business

case that identifies business requirements, the proposed non-competitive procurement process, as well as the rationale for using a non-competitive procurement process including the circumstances that prevent the use of a competitive procurement process. **Appendix 1** provides a complete list of allowable exceptions. One allowable exception occurs when only one vendor can meet the business requirements, and documentary evidence must be included to show this is the case. As mentioned in **Section 2.3.2**, the LCBO is not subject to Section 4 of the Directive but the section serves as best practices to guide procurement practices in the public sector.

Our data analysis showed that from 2019/20–2020/21 the LCBO directly awarded 65 out of 104 IT contracts above the threshold of \$25,000, as shown in **Figure 6**. These 65 contracts totalled \$108 million, representing 42% of the total value of all IT contracts over these three years, as shown in **Figure 7**. The LCBO explained that non-competitive contracts were more common for IT procurement due to existing legacy systems and because of proprietary rights in software.

We reviewed a sample of 12 of the 65 directly awarded contracts and found that all 12 had approved business cases attached to them. However, none of these business cases provided sufficient information to justify an exception to the competitive procurement process. Specifically, we found there was limited documented evidence to support the idea that only one vendor met the business requirements. There was also no documentation to demonstrate that the LCBO had considered alternatives to non-competitive procurement.

Figure 6: Breakdown of Number of IT Contracts by Procurement Methods Used, 2019/20–2021/22

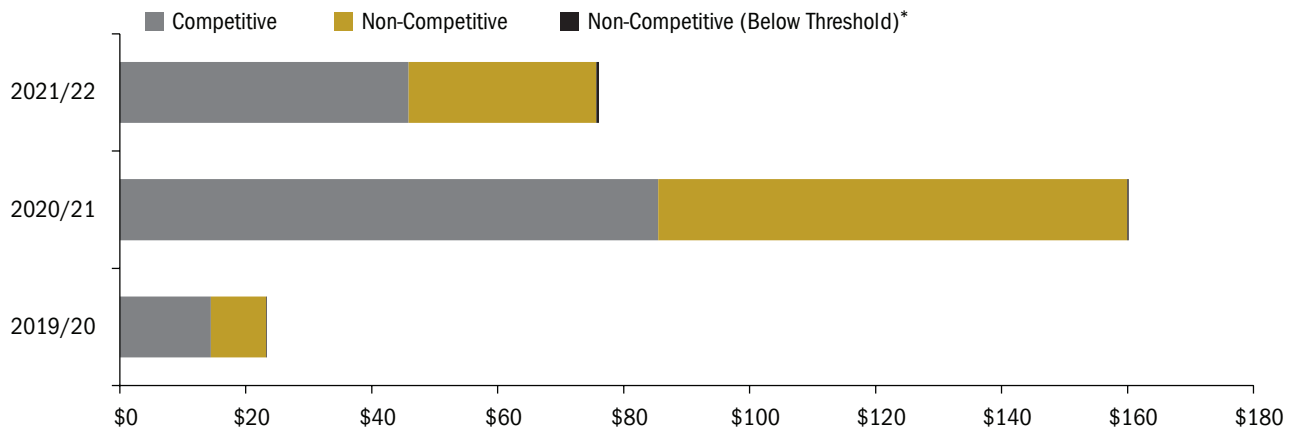
Source of data: Liquor Control Board of Ontario

Fiscal Year	Competitive	Non-Competitive	Non-Competitive (Below Thresholds)*	Total
2019/20	12	8	1	21
2020/21	9	29	3	41
2021/22	18	28	5	51
Total	39	65	9	113

* Contracts with values below the dollar thresholds outlined in LCBO's internal procurement policies can be directly awarded without competition. Over the last three years, 104 contracts were above the \$25,000 threshold.

Figure 7: Breakdown of Procurement Methods Used in IT Contracts, 2019/20–2021/22 (\$ million)

Source of data: Liquor Control Board of Ontario



* Contracts with values below the dollar thresholds as outlined in LCBO's internal procurement policies can be directly awarded without competition. Over the last three years, on average, contracts with dollar values totaling \$245,000 per year were directly awarded in this manner.

RECOMMENDATION 5

To better comply with the Ontario Public Service Procurement Directive requirement to conduct procurements in a fair and transparent manner, we recommend that the LCBO thoroughly document the reason for each non-competitive procurement.

LCBO RESPONSE

The LCBO agrees with the Auditor General's recommendation and will revise its Administration Manual and instructions for completing its direct award approval form to require more details from business units on each business case to use the direct award approval method.

4.3 Continuous Reliance on Consultants and Contract Employees

The LCBO engaged consulting firms and IT consultants to work on IT projects. It also hired individual contract employees to provide technical expertise and labour to supplement its IT workforce.

We found that two consulting firms were in a long-term partnership with the LCBO's IT business units; between 2017/18 and 2021/22, the LCBO engaged

these firms for 10 different contracts totalling over \$60 million, which represents 12% of total IT expenditures over these years. All of these 10 contracts were for multi-phased IT projects where the consulting firms were engaged to perform a design phase plus one or more build phases in order to complete the project and/or the contract.

As well, increasingly up to 2021, the LCBO had been using contract employees to work on day-to-day IT operations on a full-time basis, similar to full-time employees. These contract employees were recruited via managed service providers that were preferred vendors on the Vendor of Record list, as explained in **Section 2.3.2**. We found that the length of their contracts ranged from two months to 28 months, and their positions ranged from IT business analysts to acting vice-president of IT operations. Management attributed the increased use of IT contract employees to major projects, such as those regarding its data centre migration, and diminishing internal expertise to serve its aged IT systems itself, partly caused by salary being too low, which caused staff turnover. They also indicated that contract employees helped provide specialized skills to meet business demands during this period due to a surge in work required and insufficient internal staff levels. Both of these contract IT vice-presidents subsequently became full-time employees.

Beginning in 2021/22, the LCBO began relying less on IT contract employees and began increasing its staffing complement, by enhancing its employee engagement and retention strategy. The LCBO informed us that it had reduced its use of IT contract employees from over 100 in March 2021 to about 27 by November 2022.

4.3.1 The LCBO Relinquished Ownership of IT Projects to Consulting Firms

Consulting Firm Led Procurement Planning and Business Case Development for Major IT Projects

We reviewed all 10 contracts with the two consulting firms that had formed a long-term partnership with the LCBO in the past six years. We found that six of the 10 contracts were related to three major IT projects between 2017/18 and 2021/22, as shown in **Figure 8**, totalling over \$43 million in estimated costs. For all three projects, the same firms performed both the design and build phases of the project. These firms won the respective design contracts competitively, and either won the competition or were directly awarded the contract for the build phase.

For all three major IT projects, the LCBO's IT business units outsourced the design phases of the projects, encompassing tasks for both project planning and procurement planning, to the two consulting firms without first evaluating if the design can be performed by internal staff. These early-stage tasks included evaluating the LCBO's needs and business requirements, conducting market research, and selecting the best possible solution for the LCBO's IT operation. Once the solutions were recommended by the consulting firms, the LCBO followed the recommendations and awarded build phase contracts to the same consulting firms

to implement their own recommendations. LCBO's IT senior management explained that the consulting firms needed to conduct their own detailed planning to establish the scope and size of a project and they were best positioned to understand the resource costs prior to beginning any work to build, which are often the largest part of an IT project. The LCBO also believes that having interconnected design and build phases is common in IT projects, and it is best to have the consulting firms themselves assess the scope of the build phase.

This issue was also present in the LCBO's Future State Modernization Plan, which we discussed in **Section 2.2.4**. One of the two long-term partner consulting firms was involved in providing recommendations to the LCBO. We compared the consultant's work and the LCBO's final business case, which the LCBO said was internally developed. However, we found that parts of the business case, including project benefits, business requirement assessments, cost estimations, project timelines and project governance, were identical to the consultant's work. In effect, the consultant's work once again formed the foundation of the LCBO's business case, particularly in the area of the cost estimates. Given the significant scope and cost estimate of this project, leading the project and internally planning the procurement are critical for the project's success.

Commencement of Build Phases Occurred Without Confirming Consultants Provided Satisfactory Services in Design Phases

The LCBO's administration manual is silent on procurement requirements of multi-phased projects. Section 4 of the Ontario Public Service Procurement Directive (Directive), however, provides specific guidance on the

Figure 8: Multi-phase IT Projects with Contract Costs at the Design Phase and Build Phase, 2017/18–2021/22

Source of data: Liquor Control Board of Ontario

Vendor	Total Contract Costs of Design Phase (\$)	Total Contract Costs of Build Phase (\$)	Cost of All Contracts (\$)
Project A (Consulting Firm A)	1,100,000	5,868,341	6,968,341
Project B (Consulting Firm A)	1,250,000	18,647,000	19,897,000
Project C (Consulting Firm B)	1,420,000	14,900,108	16,320,108

separation of design and build phases. The Directive states that design and build phases can be procured through separate procurement processes or one procurement process. However, the satisfactory completion of the design phase must be validated before proceeding with the build phase, and the criteria by which satisfactory completion will be measured must be clearly outlined in the contract agreements.

In all three projects with two consulting firms we examined, there was no evidence that the LCBO conducted any evaluation on the consulting firms' work during the design phase or prior to engaging them for the build phase.

In one project, to create an order management system, an assessment of the work performed during the design phase could have prevented a significant problem that occurred. In this case, Consulting Firm A was not able to properly interface the new system it had selected for the LCBO with the LCBO's existing systems. A compatibility assessment that should have been conducted during the design phase had not been performed. The systems' incompatibility resulted in major issues during their implementation in 2019.

In another major project in 2019, Consulting Firm B determined that the cost for the project needed to be doubled, from \$6.5 million to \$12.7 million, after completing the design phase. The LCBO has directly awarded the follow-up contract with the increased cost to build without a reasonability assessment.

Overall, we found the LCBO did not have a "stop and assess" mechanism in place to evaluate the consulting firm's design work, including but not limited to the adequacy of the scope of work, the compatibility of the proposed solution for build, and the cost for the build phase prior to its commencement. While allowing the same consulting firm to complete both design and build phases would promote continuity, doing so without first evaluating the quality of work in the design phase prior to engaging the same consulting firm for the build phase can expose the LCBO to several risks, including diminished bargaining power with the service provider for the build phase and potential unsatisfactory deliverables that will result in project delays.

4.3.2 Consulting Firms, Not the LCBO, Established Contract Ceiling Price

Section 4.1 of the Ontario Public Service Procurement Directive (Directive) states that a ceiling price for both initial and follow-on agreements for consulting services should be established prior to the final contract agreement, and that increases of ceiling price should be avoided through appropriate procurement planning.

We reviewed 10 contracts between the LCBO and two consulting firms in a longstanding relationship with the agency, as described in **Section 4.3.1**. In all 10 cases, the consulting firms rather than the LCBO came up with the ceiling price. As well, in two of the 10 cases, the ceiling price was increased either during the course of the contract or in effect added as part of a follow-up contract. There was no documented evidence of the assessment of the reasonableness of the proposed increases by the LCBO.

For these two projects combined, final project costs totalled \$29 million, which was 64% more than the original total ceiling price of \$18 million. The LCBO's position is that the resource costs were unknown to the consulting firms until detailed planning was conducted during the design phase.

For the other eight cases, we saw no evidence that the LCBO had performed an independent analysis or market research to arrive at a contract ceiling price. The LCBO did not have any policy about the ceiling price of contracts.

Whatever the rationale, when the design and build phases are not procured for separately, there is a risk that vendors underbid on requests for proposals, knowing that there will not be another competition to procure for the build phase, and subsequently increase the scope of the work and request a higher contract price. When the scope of work or the contract price changes, other potential vendors may become interested to bid, or would have bid differently on the design phase had they known the enhanced scope to the build phase at the outset.

In these cases, the LCBO could not demonstrate that its procurement practices are consistent with the

principles set out by Section 3 of the Directive, which requires goods and services to be procured considering value for money, fairness and transparency.

4.3.3 Variable Pricing Structure Used for Consulting Contracts Transferred Financial Risk to the LCBO

All 10 consulting contracts that we examined used a “time and materials” pricing structure, which means the LCBO guaranteed payment for the consultant’s project costs plus pays a percentage mark-up. Unlike in a traditional fixed-cost structure, in time-and-materials pricing, payment is not associated with the percentage of tasks completed or pre-determined milestones. This type of contract does not motivate consultants to meet milestones efficiently because the LCBO bears the risks associated with cost overrun and project delays; the consultant is paid for their work regardless of their efficiency. Indeed, contracts with a time-and-materials pricing structure can incentivize consulting firms to increase the scope and workload, for as the volume of work on a project grows, the consultant’s profit increases.

We found that, although a ceiling price was in place for all 10 contracts we examined, the LCBO relied fully on the consulting firms’ pricing estimates for the cost estimates of the build phase. However, these estimates were unreliable, as discussed in **Section 4.3.2**. The consulting firms were given the flexibility to change the ceiling prices for build while they were performing the design phase, and the LCBO did not go to market again on these renewed, higher project costs.

We recognize the need for flexibility in IT development projects. However, the use of time-and-materials contracts combined with a flexible ceiling price significantly increases the LCBO’s risk of unfavourable and rising costs.

Further, without the LCBO establishing for itself a clearly defined project scope prior to the build phase, the ultimate cost of a project will be unpredictable. The Manitoba Liquor and Lotteries Corporation (Corporation) informed us that it has limited the use of time-and-materials contracts to mostly design phase

work but would use fixed-price contracts for implementation work. Corporation representatives also emphasized the importance of internal IT executives taking an active role in prioritizing and scoping IT projects. According to the Corporation, relinquishing control to consultants during the project discovery phase effectively transfers the decision-making power from the organization to its consultants.

RECOMMENDATION 6

To retain a stronger control over IT projects and to mitigate the risks of inefficient spending and project delays, we recommend that the LCBO:

- use qualified internal staff to lead the planning and design phase of IT projects, with defined scope prior to outsourcing to an implementation partner;
- employ separate procurement processes for design and build, if external expertise is required for the design phase;
- establish contract ceiling prices through independent market research and analysis; and
- supplement all time-and-materials contract pricing with a fixed-cost ceiling price as well as milestones and deliverables.

LCBO RESPONSE

The LCBO acknowledges the importance of retaining control over IT projects, both from a planning, design, and cost perspective. The LCBO’s internal employees are responsible for the planning and design phase of IT projects. In some situations, LCBO engages contractors to support these phases; however, internal stakeholders are involved in a variety of roles to guide these projects to completion. The use of external contractors is a result of the specific technical insights and expertise, and niche skills, they may have, as well as the flexible project model it enables whereby you can flex resources up to support delivery and then flex down when the work is complete which ensures the LCBO is not overstaffed. Finally, IT skills are in high demand and government compensation structure

is not competitive for attracting full-time talent for specific roles, in which case engaging contractors is the only option. The LCBO will, going forward, use internal staff where possible, employ separate procurement processes for discovery and for design and build, establish contract ceiling prices through independent market research and analysis, and supplement all time-and-materials contract pricing with fixed-cost ceiling prices as well as milestones and deliverables.

4.3.4 Expensive Contract Employees Were Recruited without Consistently Conducting Interviews and Some Held Key Decision-making Roles in the LCBO

We examined a sample of contracts for external IT contract employees and found that the LCBO selected them from managed service providers (firms that have a roster of IT contract employees). These firms were part of a list of vendors of record prepared by the Ministry of Public and Business Service Delivery. **Appendix 9** shows a complete list of managed service providers used by the LCBO. We identified several problems with the manner and the prevalence of external consultant hiring at the LCBO, as discussed below.

Using Contract Employees Generally Cost More than Using Permanent Employees

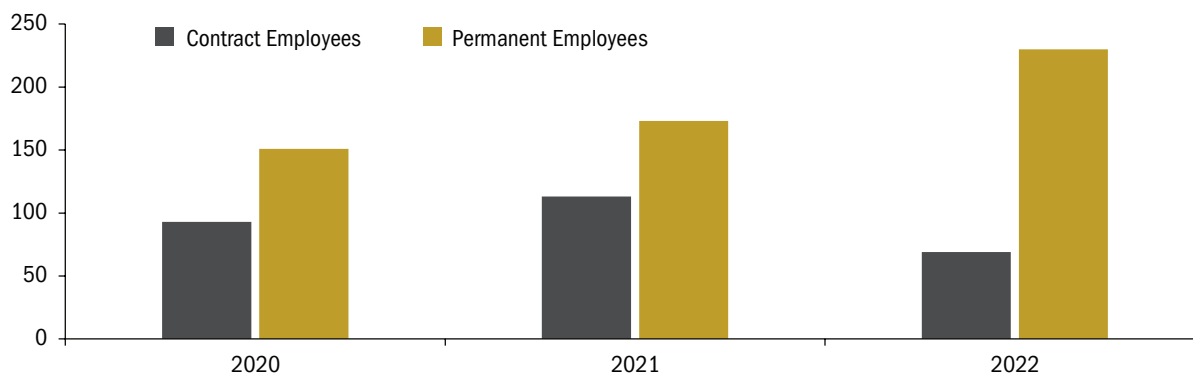
Between 2019/20 and 2020/21 (the LCBO started tracking the number of contract employees it employed in 2019), the agency increased its use of IT contract employees. As shown in **Figure 9**, from 2019/20–21/22, approximately 275 of the IT staff were contract employees, representing 33% of all IT employees over these years. In April 2022, LCBO management indicated that it was actively working on reducing the number of contract employees; however, it had not yet set a target for the optimal temporary-to-permanent-staff ratio. As of May 2022, the LCBO's IT Division had total of 299 employees, 23% of whom were employed on contract, down from 40% in the year prior.

The LCBO spent on average \$24 million annually from 2019/20–21/22 for IT contract employees, and approximately \$194,000 per position per annum. These expenditures are shown in **Figure 10**.

Hiring IT contract employees generally costs more than paying permanent employees a salary for the same job. In 2016, the Treasury Board Secretariat compared the cost of IT contract employees to similar full-time staff. It determined that contract employees cost \$40,000 more per year, or about 30% more, than similar full-time staff, after benefits were factored in.

Figure 9: Number of Contract and Permanent Employees in the LCBO's IT Division as of March 31, 2020–2022

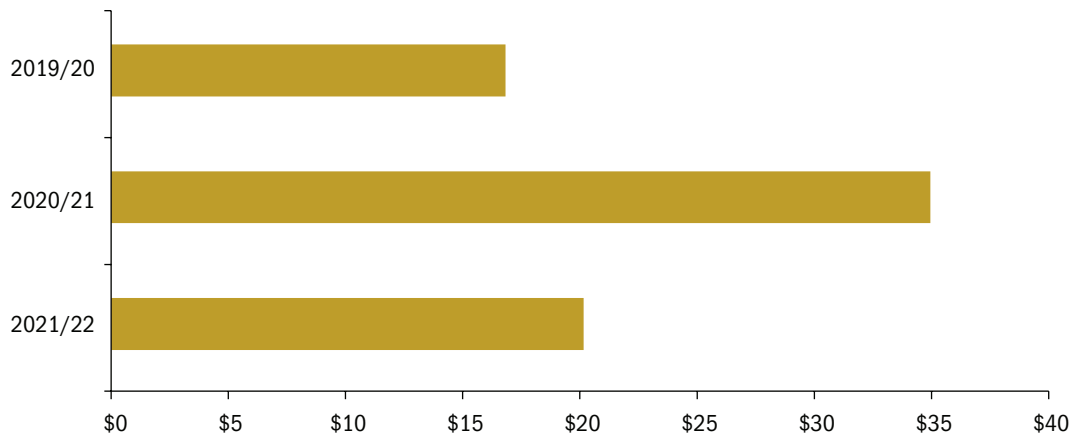
Source of data: Liquor Control Board of Ontario



Note: 2019/20 was the first year the LCBO started tracking the number of contract employees it hired in IT. Numbers shown represent head count, not full-time equivalents.

Figure 10: Annual Expenditures (\$ million) on Contract Employees, 2019/20–2021/22

Source of data: Liquor Control Board of Ontario



We examined the payroll records for five sample IT positions at the LCBO and found that the cost of hiring external IT contract employees was more expensive than hiring permanent employees. For example, for the position of IT business analyst, the LCBO paid contract employees an average of \$93.29 per hour since 2019/20, while it paid on average \$68.21 per hour for salary and benefits for all permanent employees in the same position. One contract employee in an IT business analyst position was paid \$155 per hour, while the maximum pay rate recommended for this position by Treasury Board Secretariat is \$119.31 per hour between 2019/20 and 2021/22. **Figure 11** compares the hourly pay rate for several positions depending on whether an employee is hired as permanent versus contract staff.

We delved deeper in the work history of the contract employee who was paid \$155 per hour and found that:

- the contract employee was employed in another company between 2000 and 2005 with a former LCBO IT Vice-President; the former Vice-President began working at the LCBO in July 2016, about a year before this consultant began providing consulting services at the LCBO; and the contract employee reported to this Vice-President since their first contract with the LCBO until the time this Vice-President departed in 2019;

- the contract employee had provided consulting services at the LCBO between November 2017 and November 2019 as an independent contract employee, billing the LCBO a total of about \$389,000, at an hourly rate of \$150; and
- the contract employee's firm became a sub-contractor of a vendor of record managed service provider (Quantum) between November 2019 and March 2022, and had billed the LCBO \$150 to \$155 per hour.

All of the IT contract employee positions were in regular operating positions, with lengths of service ranging from two to 28 months. The LCBO explained that some contract employees had unique experience and capabilities that commanded a higher hourly rate. The human resource needs were continuous, which supports the hiring of permanent rather than temporary staff.

External IT Contract Employees Not Always Selected Through Competition

We examined a sample of five IT contract employees who were hired, including two acting vice-presidents of IT and two project managers, and found that there was no documented evidence that the LCBO selected any of the individuals through competitions. LCBO management indicated that some of these individuals may have been interviewed, and provided a record of interview notes for one consultant; however, they could

Figure 11: LCBO Contract Employee and Permanent Staff Pay Rates Compared to Treasury Board Secretariat (TBS) Recommended Rates, Cost per Hour (\$) for Five Selected IT Positions

Source of data: Liquor Control Board of Ontario

Positions	LCBO Employee Avg Payband for Position ¹	TBS Recommended Rate Range ²	LCBO Contract Employee Avg	LCBO Contract Employee Maximum	Length of Contract Position (Months) Avg	Length of Contract Position (Months) Maximum
Business Analyst	68.21	89.66–119.31	93.29	155.00	15	28
Director, Business Delivery Management	121.15	n/a	155.00	155.00	2	2
Project Manager	87.46	86.21–135.59	115.64	140.00	13	27
System Analyst	72.23	80.00–108.83	78.75	95.00	4	8
Vice-President, IT Operations (Acting)	148.67	n/a	200.00	250.00	7	13

1. Includes 22% for employee benefits costs, such as employer portion of CPP, EI and health benefits, in addition to base salary. Estimated percentage of employee benefits is calculated based on an average of the LCBO's financial statements for fiscal years 2019/20–2021/22.

2. As per Treasury Board Secretariat Recommended Fee-for-Services Rates, effective April 1, 2021.

not provide any notes for the remaining four sampled contract employees.

A review of one managed service provider's (Flex-track Inc.) user manual for the LCBO indicates that LCBO IT management can choose to hire competitively or non-competitively. The competitive process involves LCBO IT management interviewing potential candidates shortlisted by the managed service provider. The non-competitive process gives LCBO IT management the ability to directly award a contract to a candidate from the provider-sourced candidate pool, based simply on review of resumé.

During our 2022 value-for-money audit, COVID-19 Contracts and Procurement, we learned that the Ministry of Health uses this same managed service provider (Flextrack Inc.) to find temporary IT employees. The Ministry of Health's general selection guideline for contract employees requires the use of a competitive approach unless otherwise approved. A panel of two to three full-time employees reviews and scores resumé shortlisted by the provider, and those candidates with a resumé scoring over 70% must be interviewed. The winning candidate is selected based on a combination of interview scores (70%) and cost (30%). Non-competitive hiring is reserved for urgent situations.

While it may be beneficial to use contract employees for distinct projects or in exceptional situations where

full-time talent is difficult to find, regularly relying on IT contract employees without a proper selection process could adversely impact the LCBO's operational effectiveness. Besides creating questions about transparency, the LCBO's IT Division could potentially be hiring candidates who are not the best available candidates for the work required.

IT Contract Employees Placed in Key Decision-Making Roles

Our review of the five sample contract employee files revealed that two of the five roles had key decision-making authority; they worked as acting Vice-Presidents in IT. Audit inquiries showed that the two vice-presidents were involved in supervising consulting firms, other contract employees and full-time staff, as well as hiring other contract employees. Similarly, one of the project managers in our sample was involved in overseeing other contract employees for contract deliverables.

These individuals in management positions we reviewed made critical decisions about hiring other consulting firms or contract employees, deciding on procurement requests, assessing consultant performance and reviewing contract milestones. These key decision-making roles are more suitable for permanent employees as they have a vested interest in the

organization, can maintain business continuity and can be held accountable for the major decisions they make.

Section 4 of the Ontario Public Service Procurement Directive (Directive) recognizes that contract employees should not perform functions normally assumed by management, including supervising and hiring staff and other contract employees. As discussed in **Section 2.3.2**, although the LCBO is not required to adhere to Section 4 of the Directive, the Directive provides best practices for public sector organizations to follow for procurement.

RECOMMENDATION 7

To improve the cost-effectiveness of IT resources and to enhance business continuity, we recommend that the LCBO:

- develop and implement a plan with timelines to increase the proportion of permanent staff versus contract employees working in IT, focusing on reducing the use of long-term contract employees for positions that are more suitably held by permanent employees;
- establish a consistent process for competitively selecting IT contract employees; and
- require those positions that are accountable for key project outcomes in major projects, such as project managers, be LCBO permanent staff.

LCBO RESPONSE

The LCBO accepts the Auditor General's recommendation and will develop a plan with corresponding timelines to support the continued reduction and, where applicable, conversion of contractors. Contractor usage is primarily driven by (1) the need to leverage specialized capabilities that in many cases cannot be hired for given the limitations imposed by the LCBO's below market pay-bands for specific roles—consequently challenging our ability to attract FTEs; and (2) responding to and delivering on a surge in work. Despite these limiting factors, the IT Division has successfully decreased the number of contractors by 42% in the past year, including contractor conversions. As can be seen

in **Figure 9**, the use of contractors has been reduced significantly in 2022. The LCBO IT uses contractors as required and while we do have a target maximum of between 20% and 25%, the factors can temporarily affect this balance. LCBO's priority remains delivering value for Ontario taxpayers first and foremost.

The LCBO's IT Division's contract with Flextrack, a Managed Service Provider of contingent labour, leverages the Ministry of Public and Business Service Delivery's Vendor of Records. Flextrack's workforce management solution enables the LCBO to competitively source resources while reducing our total cost of ownership and maximizing the return to the people of Ontario. The LCBO's IT management can choose to hire an IT contractor directly or through a multi-candidate selection process, as noted by the Auditor General. The LCBO will establish a consistent process to select IT contractors competitively.

As of October 2022, contract project managers represented 25% of the total project manager headcount, with one additional contractor who is backfilling for a resource on leave. In some instances, a specialized project manager is required given the technical nature, scope and unique requirements of a project, and given talent shortages, the contractor pool is tapped.

4.4 Vendor Selection Mostly Defendable but Does Not Consider Past Experience

4.4.1 Conflicts of Interest Declared but Evaluation Process Not Always Objective

The LCBO's administration manual requires the evaluation process to be fair, defensible and transparent. Any individuals participating in the evaluation or negotiation of bids are required to declare all actual, potential or perceived conflicts of interest by completing the LCBO procurement evaluation process acknowledgment and declaration form prior to participating in the evaluation or negotiation of a procurement project.

Out of the 25 sampled contracts we selected for this audit, 13 were procured using either an open competitive or an invitational competitive method, which requires the LCBO to evaluate multiple bidders. We reviewed the documentation for all 13 evaluation processes, and found that all LCBO personnel who participated in these evaluation processes had completed and submitted their declaration forms to the procurement services team noting no actual, potential or perceived conflicts of interest.

In addition to the declaration forms, LCBO staff who work in IT procurement informed us that it was very important for each member of the evaluation panel to complete their evaluation independently to ensure the panel was free from bias and subjectivity, and to preserve the fairness and transparency of LCBO's procurement process as required by the LCBO administrative manual. A procurement lead who worked in the LCBO's procurement services team supported each evaluation panel and instructs panel members to not influence each other.

We examined all 13 evaluation processes for their decision-making process, and found that 12 followed the instructions for independent scoring. The evaluation panel of the remaining project (Order Management System Implementation Services), however, had been split into three sub-groups based on participants' current role and subject matter expertise. Each sub-group was assigned to evaluate at least one of the following areas separately: technical criteria, rated criteria and presentation and reference checks. The sub-groups contained those in management positions and below and only one score was reached per each sub-group on consensus. Yet only those in management positions attended the final consensus meeting in which the final scores were determined. The LCBO could not provide further information or documentation to demonstrate whether the sub-groups reached the consensus scores independently, as the people who led this evaluation were no longer with the organization when we started this audit. This project began in 2017; the majority of the remaining 12 projects that we examined were more recent and had followed evaluation processes.

We noted this particular contract was for the build phase of the order management system project discussed in **Section 4.3.1**. The winning vendor turned out to be the same consulting firm that performed the design phase of the same project, and the firm was unable to integrate the project with existing LCBO systems. The vendor was subsequently terminated. More generally, this anomaly indicates that the LCBO IT business units were not always following the IT procurement services team's advice. Departures like this from the evaluation process can compromise the fairness and defensibility of the selection decision.

4.4.2 Past Performance of Vendors Never Considered Before Hiring Them

Staff in the LCBO IT procurement services team informed us that the LCBO did not consider vendors' prior performance when evaluating and selecting a candidate for a project. Bidders may provide references and cite past performance on similar projects with other organizations, which the LCBO took into consideration in the evaluation process. However, the LCBO did not specifically consider the vendor's performance on past LCBO contracts.

As per the LCBO's administration manual, business units can recommend that a vendor be disqualified from participating in future procurement opportunities for a period of up to three years. The manual requires the decision to disqualify to be supported by evidence. Staff in the LCBO's IT procurement services team informed us that recommending disqualification is the only way that a vendor's past performance can be taken into consideration during the evaluation process.

We attempted to examine the disqualification process, and found that the LCBO had no record of any disqualified vendor for IT goods and services. Moreover, as discussed in **Section 4.5.1**, LCBO's IT business units did not document any vendor performance issues. Therefore, even if there were repeated performance issues, they would likely not be taken into consideration during subsequent vendor evaluation and selection. Our audit reviewed 13 contracts for vendor evaluation, and found that none considered

vendors' past performance issues. However, discussions with both the IT procurement services team and management at IT business units revealed that several of these vendors with multiple contracts at the LCBO had performed below expectations in the past and were rehired. Some were repeatedly not providing the level of service they had agreed to, per the contract, and some were late on deliverables. Vendors that provided unsatisfactory services to the LCBO or increased contract costs had gone on to be rewarded with new contracts as long as they won the request for proposal. For example, Consulting Firm A failed to deliver on the order management system build phase in 2019 (discussed in **Section 4.3.1**) but was subsequently awarded two executive coaching contracts in 2020, valued at \$400,000 in total, and one IT security consulting service contract in 2021, valued at \$198,000. Similarly, Consulting Firm B increased the contract cost from the initial bid of \$6.5 million to \$12.7 million in 2018, but this had no bearing on the evaluation of this firm's bids on subsequent IT projects.

4.4.3 Evaluation Processes Missing Documentation

Section 5 of the Ontario Public Service Procurement Directive (Directive) requires all procurement decisions and decision-making processes to be recorded so as to account for and support the reconstruction of facts related to a procurement. The LCBO requires each evaluation panel member to complete an individual evaluation sheet during the evaluation process.

We examined the vendor selection process for 13 contracts. In 10 of the 13 cases, we found that the vendor evaluation forms were incomplete. The following were the kinds of items missing:

- the rationale for scores given, on at least one panel member's sheet for each of the three projects;
- documentation to support the evaluation given of the technical requirements, in one contract; and

- documentation of a final consensus meeting for one project.

The missing information was critical evidence supporting the rationale that led to the selection of the successful vendor. Without such supporting documents the LCBO is less able to defend its vendor selection decisions, should any unsuccessful bidders request a review of the evaluation process.

RECOMMENDATION 8

To clearly justify and document the selection of vendors and improve transparency in doing so, we recommend that the LCBO:

- develop and implement a process that promotes independent and transparent scoring by all panel members when evaluating IT projects;
- update vendor evaluation scoring sheets to incorporate a bidders' past performance with the LCBO; and
- make it mandatory for important information, such as rationale for scores given and meeting minutes for final consensus meetings, to be included in all vendor selection documentation packages.

LCBO RESPONSE

The LCBO acknowledges the importance of a robust vendor selection process. The LCBO is implementing an enterprise-wide vendor management framework to ensure that there is a consistent approach to managing vendor performance across the organization. The framework includes consideration of past performance in subsequent procurement processes as well as ensuring that each evaluation package contains all required details to support the selection of a vendor.

The LCBO has made significant improvements its procurement operations since 2017 and will continue to ensure that its existing procurement practices are objective and transparent and are applied consistently to all IT projects.

4.5 Performance of IT Vendors Not Centrally Monitored

4.5.1 Contracts Not Managed Centrally by the Established Vendor Management Office

The LCBO's administration manual, last revised in 2019, requires IT business units to manage their own IT contracts. IT business units handle day-to-day communications with the IT vendors, which include IT contract employees and/or consulting firms, to oversee their performance. According to the LCBO's administration manual, business units must monitor and maintain written records of all instances of poor vendor performance to help ensure that performance problems are addressed quickly and effectively.

In practice, because business units were led by operational managers responsible for a particular area of the LCBO business, these managers often did not have special expertise in contract management. The LCBO's administration manual does not provide guidance for business units to help them review and assess the performance of IT vendors. Although the LCBO has a vendor management office that was established in May 2019, whose role is to oversee third-party IT vendors of goods and services and manage IT vendor relationships, this office's role was not recognized in LCBO's administration manual.

We found that the vendor management office did not establish a process to manage vendor relationships centrally, in order to proactively and systematically address vendor issues or gather best practices for future procurements. For instance, despite being required by its own administration manual, the LCBO did not maintain a list of vendors who performed poorly in the past. Poor performers such as Consulting Firm A continued to receive more contracts from the LCBO, as discussed in **Section 4.4.2**.

Vendor management office staff informed us they were made aware of issues by the business units on an ad-hoc basis, but that to date no business units have raised issues relating to goods or services provided by IT vendors who were hired as consultants.

The LCBO internal audit function conducted an audit on contract management across the organization

in 2022 and issued its final audit report in August 2022. This internal audit also recognized the lack of an operational, centralized contract management function, and recommended that the procurement services team create and implement a contract management framework, vendor performance management framework and a central repository for all contracts at the LCBO.

4.5.2 Vendor Progress Not Measured or Monitored, Even with Large Multi-phase Contracts

According to the LCBO's administration manual, IT business units are required to monitor all suppliers' performance in accordance with contract terms, including deliverables, timelines and other performance standards. Similarly, Section 4 of the Ontario Public Service Procurement Directive (Directive) requires the establishment of performance standards when planning a procurement project; Section 5 of the Directive requires the documentation and retention of information regarding how vendors' performance was monitored and managed. As discussed in **Section 2.3.2**, although the LCBO is not subject to these sections of the Directive, they do serve as best procurement practices.

Our audit found that the LCBO did not establish performance measures and targets to measure IT vendors' progress on projects and/or IT vendors' performance. Although project contracts and their associated statements of work set out a list of deliverables, 20 of the 25 contract agreements we examined had no measurable performance standards to enable the monitoring of IT vendors when completing and meeting the deliverables.

The lack of milestone indicators was especially prevalent in multi-phased contracts, described in **Section 4.3.1**, which exist between the LCBO and two long-term partner consulting firms (Consulting Firms A and B) that were engaged to design and build various IT solutions. For these contracts, we found that although the LCBO's request for proposal identified the required functionality of the system once completed,

the LCBO did not specify incremental, measurable performance indicators to hold these consulting firms accountable, or otherwise measure their effectiveness and efficiency in completing the projects. As a result, the LCBO could not easily monitor whether these consulting firms were on time and on budget for the project, or if the work done by the consulting firms satisfied LCBO business requirements.

To illustrate, in the order management system example discussed in **Section 4.3**, the LCBO's IT business units did not determine the satisfactory completion of the design phase prior to implementation phase, which meant the poor compatibility of the systems went unnoticed at first. Ultimately, the LCBO terminated the order management system contract with the consulting firm in 2019 and hired 10 additional full-time staff to successfully complete the order management system project in-house. The consulting firm was paid over \$12 million at the time of termination, which is more than 60% of the \$19 million contract price. However, the consulting firm completed only the design phase before termination, which had a contract price of only \$2.5 million (12%).

4.5.3 Vendors Are Paid Without Sufficient Verification of Delivery of Goods and Services

Before paying vendors for project work, the LCBO could not consistently demonstrate that vendors had provided deliverables and met milestones for payments set out in the contracts. For all 25 contracts reviewed, the LCBO could not provide any documentation demonstrating that either the vendor management office or the business units confirmed that goods and services received by the LCBO were up to agreed specifications. Confirmation of goods or services received prior to releasing payment can significantly reduce the risk of unauthorized payment to vendors.

As well, subsequent to IT managers recording the invoices in the LCBO's financial information system, payments were approved and released by the LCBO's finance department without a review of the actual invoices, as the business units were not required to provide copies of invoices to the finance department

when requesting payments to be processed. The LCBO explained that it had other system controls and therefore considered the risk of incorrect payments relatively low.

In four of the 25 sample contracts we examined, we found no evidence that either the IT business unit or the finance department verified invoice amounts from vendors against contract terms prior to releasing payments. Without performing such verification, the LCBO is at risk of paying vendors for work that did not meet contract terms, or paying invoices for goods or services not rendered. The overall lack of verification jeopardized the LCBO's and taxpayers' financial interest, as payments made to vendors in error would not be easily detected.

RECOMMENDATION 9

To better hold IT vendors, including all IT contract employees, consulting firms and IT hardware or software suppliers accountable for their performance and to protect the financial interest of the LCBO, we recommend that the LCBO:

- require invoices and an indication that goods and services have been delivered to be included in the payment system prior to payment processing;
- verify vendor progress and/or performance documentation as part of the approval for contract payments;
- create centralized contract management and vendor management functions;
- update its internal policy to recognize the vendor management office's role in monitoring and managing vendor performance and clearly define the office's roles vis-à-vis the IT business units' roles in contract management; and
- develop processes to consistently establish contractual performance measures, assess vendor performance and record vendor issues.

LCBO RESPONSE

The LCBO agrees with the recommendation and is in the process of implementing a centralized

contract management vendor management framework. The implementation of the framework includes defining roles and responsibilities and updating related policies and procedures. The framework includes standard performance measurements and related tracking to be used with all third-party vendors that support LCBO's operations.

Within the existing payment process, controls are in place to protect the taxpayer's best interest by aligning payments with goods and services provided and within contract limits. As part of the Future State Modernization project, the LCBO will explore further opportunities to strengthen its procure-to-pay process, including adding invoices to the payment system.

4.6 LCBO's Administration Manual Does Not Fully Reflect Ontario Public Service Procurement Directive Requirements

We compared the LCBO's administration manual to the Ontario Public Service Procurement Directive, including the interim measures discussed in **Section 2.3.2**. We found that the manual was not updated to reflect the interim measures, which came into effect in September 2020. The Ministry of Public and Business Service Delivery's website states the new interim measures were to support opportunities for collaborative purchasing, while protecting continuity of business and services during the building of a centralized procurement system for the Ontario public sector. The measures also support the collection of data that is necessary for building the centralized procurement system. These measures include, for example, not having contract terms exceeding two years for any new contract and providing a cost for each deliverable in any consulting service contract.

LCBO RESPONSE

The LCBO recognizes that continued compliance with the Ontario Public Sector Directives requires that internal policies are updated to reflect any changes in said Directives. The LCBO has processes in place to ensure practices and processes are adapted when changes are made in a Directive.

The LCBO will ensure that its existing practices with respect to compliance with the Interim Measures are reflected in an updated version of its administration manual.

RECOMMENDATION 10

To properly guide its internal procurement practices, we recommend that the LCBO include any new measures introduced in the Ontario Public Service Procurement Directive in its administration manual.

Appendix 1: Excerpts of Sections of the Ontario Public Service Procurement Directive

Source of data: Ontario Public Service Procurement Directive, March 2019

SECTION 3—PRINCIPLES*

The Ministries and Other Included Entities must acquire goods and services through a procurement process that conforms to four principles:

- **Value-for-money:** Goods and services must be procured only after consideration of entity business requirements, alternatives, timing, supply strategy and procurement method.
- **Vendor access, transparency and fairness:** Access for qualified vendors to compete for government business must be open and the procurement process must be conducted in a fair and transparent manner, providing equal treatment to vendors. Conflicts of interest must be avoided during the procurement process and the ensuing contract. Relationships that result in continuous reliance on a particular vendor for a particular kind of work must not be created.
- **Responsible management:** The procurement of goods and services must be responsibly and effectively managed through appropriate organizational structures, systems, policies, processes and procedures.
- **Geographic neutrality and reciprocal non-discrimination:** Ministries and Other Included Entities that are subject to Ontario's Trade Agreements must also ensure that access for vendors to compete for government business is geographically neutral with respect to other jurisdictions that practice reciprocal non-discrimination with Ontario.

SECTION 4—PROCUREMENT PLANNING AND APPROVALS

4.1 Procurement Planning

- Ministries are encouraged to develop an annual procurement plan, as appropriate, that lists all known procurements to be conducted to support current, ongoing, and future business requirements, including goods and services being procured under existing contracts. An annual procurement plan may help Ministries identify opportunities to aggregate procurement spending in their Ministry as well as streamline the procurement process.
- Ministries must assess the following planning considerations when making procurement-related decisions:
 - a) early identification of business needs;
 - b) justification for the acquisition taking into consideration supply source requirements;
 - c) clear definition of specifications and evaluation requirements;
 - d) compatibility of procurement needs with policy, program, and/or legislative and regulatory requirements;
 - e) adequate timelines for procurement approval, tender period and evaluation;
 - f) vendor capacity to deliver requirements in the proposed timelines;
 - g) accessibility requirements;
 - h) roles and responsibilities of the successful vendor(s) and any other public sector participants;

- i) privacy, security and confidentiality requirements;
 - j) business continuity requirements;
 - k) performance standards and service levels; and
 - l) performance management including remedies for non-performance.
- For information technology (IT) procurements, Ministries must also consider, as appropriate:
 - a) delivery, testing and acceptance requirements;
 - b) any applicable technical architecture;
 - c) design requirements and standards; and
 - d) interface requirements.

4.1.1 Procurement Planning for Consulting Services

4.1.1.3 Ceiling Price Increases

- For consulting services agreements, a ceiling price must be established in the agreement with a successful vendor(s). The agreement ceiling price must reflect the total value of the agreement, including potential follow-on agreements. The agreement ceiling price cannot exceed the procurement value identified in the procurement approval. Once established, Ministries are not permitted to make changes to the agreement ceiling price unless allowed by contractual provisions.
- While agreement ceiling price increases may be required over the term of an agreement, Ministries are encouraged to avoid such increases through appropriate procurement planning.
- Where Ministries have established that an agreement ceiling price increase is required, they must seek prior written approval from the appropriate delegated authority.
- In seeking written approval, Ministries must identify the framework used to confirm that the increased vendor costs are justified and that the government continues to obtain value for money. Prior to implementing a ceiling price increase, Ministries must determine whether the increase causes the total procurement value to exceed the original procurement approval. If so, changes to the agreement ceiling price must not be made until the Ministry has sought new procurement approval authority as appropriate.

4.1.2 Procurement Planning for Large Projects

- The procurement plan for large projects must be appropriate to, and aligned with, the key business objectives of the project and provide sufficient detail about all required procurements to successfully meet the key business objectives.

4.1.3 Separation of Design and Build in Procurement Process

- For procurements that involve design and build phases, Ministries must separate these phases in the procurement process. This can be accomplished by conducting a single procurement with the build phase being subject to the successful completion of the design phase, or by conducting separate procurements.
- Where Ministries determine it is appropriate to conduct a single procurement, whereby the same vendor would provide both design and build services, Ministries must validate the satisfactory completion of the design phase before proceeding with the build phase. Ministries must also ensure that the procurement documents, especially the agreement, clearly outline the criteria by which satisfactory completion will be measured. Ministries must consult with, and provide direction to, ministry legal counsel regarding the appropriate completion and approval criteria for the procurement.

4.4.4 Non-Competitive Procurements

- Certain allowable exceptions exist whereby Ministries, subject to appropriate procurement approval authority, can use a non-competitive procurement process. These allowable exceptions are:
 - a) Where an unforeseen situation of urgency exists and the goods, consulting services, services or construction cannot be obtained by means of a competitive procurement process.
 - b) Where goods, consulting or non-consulting services regarding matters of a confidential or privileged nature are to be purchased and the disclosure of those matters through a competitive procurement process could reasonably be expected to compromise government confidentiality, cause economic disruption or otherwise be contrary to the public interest.
 - c) Where a competitive process could interfere with the government's ability to maintain security or order or to protect human, animal or plant life or health.
 - d) Where there is an absence of any qualified bids in response to a competitive procurement process that has been conducted in compliance with this Directive.
 - e) Where the procurement is in support of Aboriginal peoples.
 - f) Where the procurement is with a public body.
 - g) Where only one supplier is able to meet the requirements of a procurement in the following circumstances:
 - i. To ensure compatibility with existing products and services. Compatibility with existing products or services may not be allowable if the reason for compatibility is the result of one or more previous non-competitive procurements.
 - ii. To recognize exclusive rights, such as exclusive licenses, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representatives.
 - iii. For the procurement of goods and services the supply of which is controlled by a supplier that has a statutory monopoly.

4.4.5 Non-Competitive Procurement Business Case Requirements

- Except for unforeseen situations of urgency that cannot wait for appropriate procurement approvals, Ministries must develop a business case and secure the appropriate procurement approvals, in writing and prior to conducting a non-competitive procurement. Ministries must identify whether the non-competitive procurement is an allowable exception or an exemption.
 - a) A description of the business requirements.
 - b) A description of the proposed non-competitive procurement process including the approximate value and the estimated agreement start and end dates.
 - c) The allowable exception which has been identified to support the non-competitive procurement. For allowable exceptions where only one vendor is able to meet the requirements, Ministries must include documentary evidence supporting this exception.
 - d) The results of the Advance Contract Award Notice (ACAN) process where applicable.
 - e) Where no allowable exception exists, it must be noted in the business case that the procurement is an exemption from the Directive and the business case must identify the requirement(s) from which it seeks to be exempted.
 - f) The rationale for using a non-competitive procurement process including the circumstances that prevent the use of a competitive procurement process. The rationale must support the allowable exception or exemption being requested.

- g) Identifying if the selected vendor has previously been awarded a contract with the Ministry within the past five years for the same or closely related requirements, and the type of procurement process(es) used.
- h) A description of the potential pool of vendors that might have responded to a competitive procurement, where appropriate, and an assessment of all potential vendor complaints and how the Ministry would respond and manage these complaints.
- i) A description of how the Ministry will ensure it will comply with the principles of this Directive, particularly value for money.
- j) Any alternatives considered.
- k) The impact on the business requirements if the non-competitive procurement is not approved.

SECTION 5—PROCUREMENT PROCESS

5.6 Evaluation Process

- Ministries must evaluate the bid responses received consistently and in accordance with the evaluation criteria, rating and methodology set out in the procurement document.
- Ministries must require individuals participating in the evaluation of bid responses to immediately declare any potential conflict of interest and immediately address any declarations.

5.11 Documentation and Record Retention

- Ministries must ensure that all procurement decisions and decision-making processes are recorded to account for and support the reconstruction of facts related to a procurement.
- Procurement process documentation includes, but is not limited to, the following:
 - a copy of the procurement justification or business case;
 - information regarding all vendor consultations, including any requests for information, undertaken in the development of the procurement business case and/or procurement documents;
 - copies of all procurement documents used to qualify and select the vendor; and
 - information regarding the management of the vendor, including how the vendor's performance was monitored and managed and, where applicable, mechanisms used to transfer knowledge from the vendor to staff.

SECTION 8—OTHER INCLUDED ENTITIES*

- Other Included Entities must establish and follow their own procurement procedures, processes and policies provided that they do not conflict with the mandatory sections. This must include a procurement approval authority framework and conflict of interest.
- Bid responses must be evaluated in accordance with the evaluation criteria, rating and methodology set out in the procurement document.
- Individuals who are participating in the evaluation of bid responses must declare any potential conflict of interest.

- Other Included Entities are encouraged to use at least the minimum bid response times recommended for Ministries. For example, Ministries must allow at least 15 calendar days for a procurement value of \$100,000 up to \$548,699.
- Other Included Entities must determine the procurement value by considering all costs and benefits of a contract to determine appropriate procurement approval authority and procurement method. They must also comply with the terms of use concerning vendor of record (VOR) arrangements prior to using them.
- Other Included Entities are encouraged to adopt the information requirements for procurement documents. Procurement documents must be in writing and include sufficient details about submission requirements to ensure fair vendor submissions.
- A sole source or direct award procurement requires approval of the Procurement Services department and may only be employed where the value of the purchase is low-cost (under \$25,000 except for consulting services), or where specific or unforeseen situations of these procedures exist. For urgent situations that cannot wait appropriate procurement approvals, Other Included Entities must develop a business case and secure the appropriate procurement approvals prior to conducting the procurement.

* The LCBO is subject to these two sections according to the Memorandum of Understanding between the LCBO Board Chair and the Minister of Finance.

Appendix 2: Interim Measures, Ontario Public Service Procurement Directive, September 2020

Source of data: Ontario Public Service Procurement Directive

Measure Area	Rule
Vendor of record (VOR) arrangements	Government entities must use existing VOR arrangements whenever possible and appropriate, regardless of the value of the procurement.
Contract term	Any new contract, including any extensions, must not exceed two years.
Operational flexibility	If government entities find it not possible or appropriate to comply with the two requirements (using VOR and/or restricting to contract duration to two years), then the government entities must complete a Procurement Rationale Report and submit it to the Ministry of Public and Business Service Delivery (Ministry) at least 45 calendar days before the procurement is released to the vendor community.
Regular reporting	Government entities must prepare and submit reports to the Ministry. For reports from provincial agencies and either Ontario Power Generation or Independent Electricity System Operator, the ministries are not required to review the information submitted by the organizations for which they are responsible. Required reporting includes: • Planned Procurement Report: planned procurements for 2019–2021 to the extent that this information is available. • Activity Update Report: procurement activity over the past six months, highlighting any variance from the planned procurement report; include a rationale for any variances. Submit every six months following the initial submission of the planned procurement report. • Procurement Rationale Report: submit at least 45 days before the procurement is released to the vendor community; can proceed with procurement once the report is submitted.
Procurement-related data	When requested by the Ministry, government entities must provide procurement data and other information including any current and past procurement, with spend and contract information; and/or resources currently assigned to procurement-related work.
Consulting services	The Interim Measures, Ontario Public Service Procurement Directive must be followed for all consulting services regardless of contract value. Government entities must provide a cost for each deliverable in any consulting service contract.
Exemptions	Limited exemptions can be made for emergency procurements.

Appendix 3: Overview of LCBO Procurement Process, Derived from the LCBO Administration Manual

Source of data: Liquor Control Board of Ontario

Key Steps	Details
1. Identifying purchase needs	Business unit determines what goods or services are needed to be purchased.
2. Procurement planning	Business unit completes the procurement planning calendar, which lists the planned procurement projects, considering general principles such as vendor of record arrangements and appropriate procurement methods.
3. Establishing procurement requirements	Procurement services team defines and establishes requirements and/or specifications, such as procurement value, time required to complete projects, where to get goods or services, and funding sources/approvals. Procurement services team issues Request for Proposal on Biddingo.com.
4. Receiving bids	Procurement services team receives bids centrally and returns bids ineligible for consideration to the bidder unopened.
5. Evaluating and selecting vendor	Business unit works with procurement services team to evaluate bids, based on pre-established selection criteria.
6. Negotiations	Business unit contacts procurement services team if negotiation is required.
7. Finalizing contract agreement	Business unit works with procurement services team to complete the "Award Recommendation and Procurement Approval" form and submits it, along with the finalized contract, for approval.
8. Award notification	Procurement services team engages legal services to finalize contractual agreement with the vendor. Procurement services team posts the notice of award on Biddingo.com.
9. Debriefing	Unsuccessful bidders may request a debriefing. A representative from the procurement services team should attend all debriefings and keep detailed records.
10. Contract management and monitoring	Business unit ensures contract is finalized and signed prior to commencement of delivery of goods or services; documentation related to the procurement is recorded and contract is properly managed.
11. Payments	Business unit reviews and approves supplier invoices and ensures payments are made in accordance with the contract and follows the procure-to-pay process.
12. Contract amendment/disputes	Legal services reviews any substantial changes to a contract and/or potential disputes.
13. Assessing vendor performance	Business units monitor and record vendor performance, including performance issues, and maintain related written records.
14. Terminating contracts	A contract or purchase order can only be terminated prior to its expiry date with legal services' involvement.

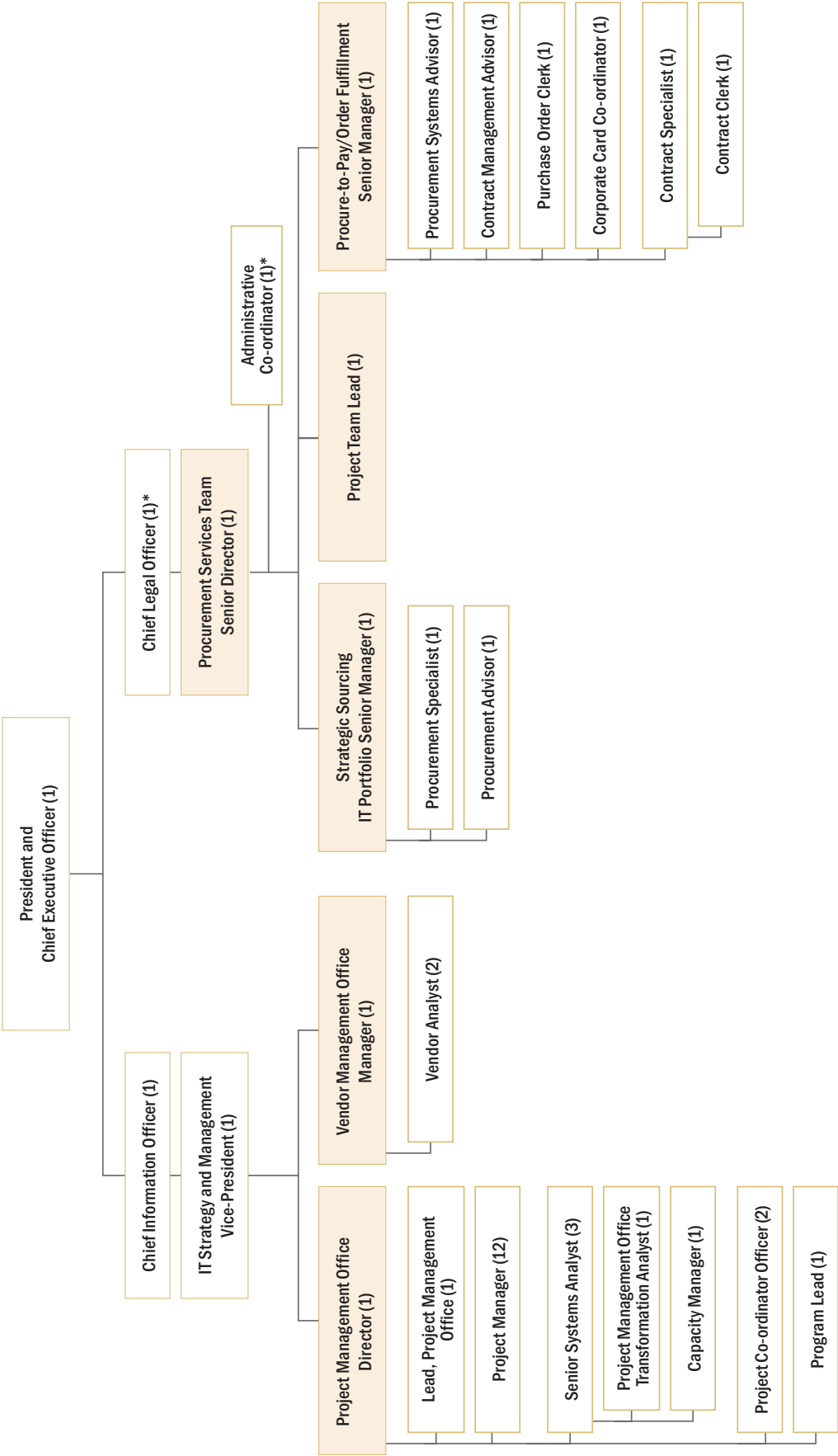
Appendix 4: Criteria to Use Different Procurement Processes at the LCBO

Source of data: Liquor Control Board of Ontario

Procurement Process	Situation Where Procurement Process is Appropriate
Competitive	
Procurement planning	• Non-consulting services valued between \$25,000 and \$100,000. • Request a minimum of three qualified vendors to submit a written proposal in response to LCBO's requirements.
Establishing procurement requirements	• All goods over \$25,000 and all services over \$100,000.
Non-competitive	
Low cost procurement	• Goods and non-consulting services of less than \$25,000. • Although a non-competitive selection process may be used, business units are encouraged to seek three informal quotes for these procurement opportunities.
Direct award (single or sole source)	• Specific circumstances such as when procurements need to be done urgently or related to public safety issues or confidential matters. • Except for situations of urgency that cannot wait for appropriate procurement approvals, a business case must be developed and the appropriate approvals must be secured prior to conducting a non-competitive procurement. • May acquire goods or services from a specific supplier using single-source direct award or sole-source direct award: • Single-source: even though there may be more than one supplier capable of delivering the same goods or services. • Sole-source: because there are no other suppliers available or able to provide the required goods or services.

Appendix 5: Key Procurement, Vendor and Project Management Teams for IT-Related Goods and Services at the LCBO, August 2022*

Source of data: Liquor Control Board of Ontario



Key departments that support procurement of IT goods and services

* Prior to July 2022, the department reported into the Chief Financial Officer.

Appendix 6: Incremental Approval Required for Procurement Projects¹

Source of data: Liquor Control Board of Ontario

Procurement Value (\$)	
Open/Invitational Competitions	
<= 25,000	Manager or delegate ²
25,001 to 50,000	Director or delegate ²
50,001 to 100,000	Director/Vice-President ³
100,001 to 250,000	Senior/Executive Vice-President
250,001 to 2,999,999	President and CEO or Board Chair; Senior Vice-President, Finance and Administration
>=3,000,000	Board of directors
Direct Award—Non-consulting Services	
<= 25,000	Manager or delegate ²
25,001 to 50,000	Director or delegate ² and Director, Procurement Services
50,001 to 100,000	Executive Director/Vice-President ³ , Procurement Services and Senior Vice-President, Finance and Administration
100,001 to 250,000	Senior/Executive Vice-President, Procurement Services
250,001 to 2,999,999	President & CEO or Board Chair
>=3,000,000	Board of directors
Direct Award⁴ (Single/Sole Source)—Consulting Services	
<= 100,000	Senior/Executive Vice-President, Director, Procurement Services and Senior Vice-President, Finance and Administration Division
100,001 to 999,999	President & CEO and Deputy/Minister of Finance
>=1,000,000	President & CEO and Minister of Finance Treasury Board & Management Board of Cabinet Approval ⁵

1. Positions listed for each range of contract values are in addition to the positions listed above.
2. A delegate must be a permanent full-time employee, acting in the role of Manager or Director, Executive Director/Vice-President, Senior/Executive Vice-President or President and CEO. Formal notice of delegation is required.
3. If no Divisional Executive Director/Vice-President, proceed to the next level of approval authority.
4. All approved direct awards >\$25,000 are tracked and presented to the Board's Audit Committee.
5. Submission approval must be received from Deputy Head/Minister.

Appendix 7: LCBO's Implementation Status on the 2021 PwC Procurement Review Recommendations as of March 2022

Source of data: Liquor Control Board of Ontario

Stage	Recommendation	Status
1. Spend Assessment	1.1 Data Collection and Validation	Completed
	1.2 Develop Category Taxonomy Structure (L1-L3)	Completed
	1.3 Build Spend Dashboard/Cube	Completed
	1.4 Develop High-Level Category Opportunity/Prioritization	Completed
	1.5 Continuous Development of Category Savings Strategies and Benefits	Ongoing
	1.6 Continuous Dashboard Maintenance/Development/Spend Updates	Ongoing
2. Policy Review	2.1 Current Policy Assessment and Identification of Risk Tolerances	Completed
	2.2 Benchmark with Comparable Organizations to Identify Alternatives and Gaps	Completed
	2.3 Develop Risk Framework and Workload Assessment (Impact of Updates)	Completed
	2.4 Communication and Executing Change Management Plan	Not Started
	2.5 Update Procurement Policy 1: Approval Authority Requirements	Not Started
	2.6 Update Procurement Policy 2: Competitive Requirements by Value Threshold	Not Started
	2.7 Update Procurement Policy 3: Risk-Based Approach to Decision Making	Not Started
	2.8 Update Procurement Policy 4: Contract Management and Vendor Management	Not Started
	2.9 Update Procurement Policy 5: Inclusion of Environmental, Social and Governance Criteria in Procurements	Not Started
3. Process Redesign	3.1 Identify Current Process Gaps/Assessment Across Four Priority Areas	Completed
	3.2 Redesign and Propose Future State Process for Four Priority Areas	Completed
	3.3 High-Level Identification of Technology Enhancements	Completed
	3.4 Implementation of Future State Process 1: Demand Planning and Intake Triaging	Not Started
	3.5 Implementation of Future State Process 2: Category Set Up (Strategic Sourcing)	Not Started
	3.6 Implementation of Future State Process 3: Transactional Requests (Procure-to-Pay or P2P)	Not Started
	3.7 Implementation of Future State Process 4: Contract Management	Not Started
4. Organization Design	4.1 Develop Future State Organization Chart	Completed
	4.2 Develop Reporting Structures and Job Descriptions	Completed
	4.3 Implementation Plan and Transition Approach	Completed
	4.4 Discussion, Classification and Finalization with Human Resources	Not Started
	4.5 Initial Mobilization, Socialization and Realignment	Not Started
	4.6 Establishing Purchasing and Enablement Term (including Buyers)	Not Started
	4.7 Pilot Category Initiative Opportunities	Not Started
	4.8 Iterative Category Transition based on Wave Plans	Not Started
	4.9 Change Management and Stakeholder Engagement, Communication, Sustainment	Not Started

Appendix 8: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Procurement of IT goods and services is properly planned and justified, and the justification is documented.
2. Procurement decision-making aligns with LCBO strategic goals and is properly governed.
3. IT goods and services needed are competitively procured in an open, fair and transparent procurement process; exceptions to the process meet specifically established criteria and are properly approved.
4. Vendors are chosen based on a sound assessment of well-defined qualification and business requirements.
5. Increases to contract ceiling prices, scopes and durations are made and authorized after consideration of relevant information on vendor progress and results.
6. Contracts have provisions that comply with government requirements and allow for evaluation of vendor performance.
7. Processes are in place to monitor vendor performance and make payments only upon receipt of satisfactory goods or services as specified in contract terms.
8. Appropriate and reasonable performance measures and targets are established, monitored and compared against actual results to evaluate whether IT goods and services were procured efficiently and effectively. Corrective actions are taken on a timely basis when issues are identified.

Appendix 9: Managed Service Providers for Contract Employees Used by the LCB0, 2017/18–2021/22

Source of data: Liquor Control Board of Ontario

Vendor Name	Contract Effective Date	Contract End Date	Maximum Contract Price (\$000)	Contract Payments as of March 31, 2022 (\$000)
Altis Human Resources	2017	2023	3,632	1,615
Bevertec Cst Inc.	2017	2023	909	427
CM Inc.	2017	2023	1,810	1,129
Computacenter Teramach Inc.	• 2017	• 2023	• 850	• 0
Drake International	2017	2023	2,724	1,129
Eagle Professional Resources Inc.	2017	2023	3,632	1,544
Flextrack Inc.	2020	2025	75,000	11,051
Fuuze Inc.	2017	2019	330	280
Green Light Consulting Solutions Inc.	2017	2023	9,100	3,733
GSI International Consulting Group	2018	2018	46	44
Pacific First Systems Inc.	2017	2018	240	229
PrecisionERP Incorporated	2017	2023	2,724	1,439
Proex Inc.	2017	2018	330	280
Quantum Technology Recruiting Inc.	2017	2023	6,350	2,208
Randstad Interim Inc.	2018	2018	47	43
Teramach Technologies Inc.	2017	2023	1,816	857
Wilson Contingent Talent Solutions Inc.	2017	2023	6,350	2,898
Total			115,890	28,906

Ministry of Mines

Ministry of Natural Resources and Forestry

Management of Hazards and Emergencies in the Environment

1.0 Summary

As the impacts of climate change intensify and population density rises in Ontario, emergency management programs will only become more critical. Effective emergency management can save lives and protect property and the environment in the event of a natural hazard such as a forest fire or flood. The Province needs to be able to respond quickly and efficiently to emergencies while ensuring the continuity of government operations and critical assets.

Several provincial ministries are assigned responsibility for preparing for and responding to emergencies. Our audit looked at two of those ministries. The Ministry of Natural Resources and Forestry (Natural Resources Ministry) is responsible for seven types of emergencies—forest fires; floods; drought/low water; dam failure; incidents involving oil and gas wells; erosion; and soil and bedrock instability. The Ministry of Mines (Mines Ministry) has responsibility for abandoned mine hazards.

Emergency management programs themselves involve five components: prevention, mitigation, preparedness, response and recovery. We focused primarily on the mitigation and preparedness initiatives that exist for each hazard assigned to the Natural Resources Ministry and the Mines Ministry, and on the ministries' response to emergency events.

Overall, our audit found that although both ministries have measures in place to prepare for and manage

emergencies, there are weaknesses in the programs, making Ontario vulnerable in the event of a large-scale emergency situation. For example, the Province lacks some of the resources and tools needed to prepare for such an emergency, and some mitigation and preparedness activities are not being carried out effectively. More also needs to be done in terms of reviewing and updating hazard risk assessments; updating technical guides and bulletins; conducting practice tests of the emergency response plans; and conducting after-action reviews. Improvements to emergency management programs should be based on lessons learned from past events as well as practice tests.

Our significant audit findings include:

Floods

- **The current location of some First Nations communities exposes them to recurring floods and evacuations.** Kashechewan First Nation, a community of roughly 2,000 residents located on the northern shores of the Albany River near James Bay, experiences significant flooding almost on an annual basis—four times between 2017 and 2021. The Natural Resources Ministry assisted with evacuation efforts in three of those years in which an evacuation was needed. The cost of just the flights used for the evacuations totalled \$3.6 million. Other costs for related accommodations and other supports incurred by communities to host evacuees of the Kashechewan First Nation was unknown.

Emergency Management Ontario told us that prior to 2021 these costs were incurred by municipalities who requested reimbursement directly from the federal government. In 2019, Kashechewan reached an agreement with the federal and provincial governments to permanently relocate the community within eight to 10 years. We noted that other nearby First Nations communities experienced significant flooding in spring 2022, including the Fort Albany and Attawapiskat First Nations.

- **Ontario’s level of flood preparedness is lagging, in part because of gaps in flood maps.** A 2020 report by the Intact Centre on Climate Change Adaptation found that Ontario significantly lagged in its flood mapping initiatives, which identify at-risk areas. Being prepared is especially crucial because the frequency of flooding has increased. According to the Canadian Disaster Database, the average annual number of floods in Ontario has increased by 55% over the past 20 years.
- **After-action reports to assess how responses were conducted are not being completed, as required by the Ministry Emergency Response Plan.** The Ministry responded to seven of the 53 significant flood emergencies that occurred from 2017 to 2021, but prepared after-action reports for only three of those events. Based on our review of seven after-action reports completed covering three significant flood events, we noted that they were prepared in an inconsistent format, and were vague with general statements that did not fully explain the issues.
- **After-action reports cite the need for a clearer delineation of roles and responsibilities amongst parties responding to emergencies, more host communities and more community support services.** One recurring issue raised in the Ministry’s after-action reports was the need to better define roles and responsibilities of the Ministry, Emergency Management Ontario and local governments/communities in emergency flood response. The Ministry noted it tends to be

a “go to” ministry during emergencies, providing support outside of its mandate, training and experience. For example, it was noted that fire crews deployed to support flood response and working under municipal officials, were often asked to work in flood waters and build sandbag berms, areas where they did not have sufficient experience or training in. After-action reports prepared by Emergency Management Ontario in relation to evacuations noted issues with an insufficient number of host communities; a lack of mental health supports and other services; and social problems arising in host communities. First Nations confirmed some of the issues noted by EMO and emphasized the need for Indigenous-led host communities and Indigenous mental health providers.

- **The Ministry does not have standing contracts with air carriers to secure pricing for flights needed in emergency evacuations.** Most evacuations requiring Ministry support occur in Northern Ontario, especially at First Nations reserves located on or near floodplains or close to forests. We noted that the Ministry does not have standing agreements with air carriers to secure a fixed competitive price. Between 2017 and 2021, \$14.4 million was spent on charter flights for flood and fire evacuations in Northern Ontario. While carrier pricing depends on the type of aircraft operated, we noted instances of variability in the per-mile rate for the same aircraft across vendors, such as \$12.39 to \$39.53 per mile for Boeing 737-300.

Fires

- **Ministry response times to forest fires was often longer than four hours.** The Aviation, Forest Fire, and Emergency Services Branch employs an alert system for initial response to forest fires, with all fire crews required to dispatch within four hours of the reported time, regardless of alert level. The Ministry did not track the average time taken by districts to dispatch a crew to a fire or to extinguish a fire. Tracking of such information could help identify

performance issues and/or resource shortages. Based on our work, we noted that it took longer than four hours to dispatch fire crews to 15% of fires from 2017–2021. In addition, we found that in 2021, five of 25 districts took more than four hours on average to dispatch a fire crew to a forest fire that required a full response. Dryden and Cochrane took the longest time on average to dispatch a fire crew in 2021, at 13.6 hours and 11.0 hours, respectively. The Ministry does track the initial attack success rate, defined as the percent of times it contained a forest fire by noon the following day or put it out before it grew to more than four hectares. However, the Ministry did not attain its target rate of 96% in any of the last five years and has not evaluated the rationale for its shortcomings. The initial attack rate achieved in 2020/21, the last fiscal year for which we have information, was 90%.

- **Lessons learned from past responses to forest fire emergencies and practice exercises are not incorporated into the Ministry Emergency Response Plan.** According to the Plan, Ministry staff are to conduct an after-action review following significant incidents and all exercises to identify opportunities for improvement and corrective actions. For the 11 declared emergencies for forest fires from 2017–2021, we found the Ministry had completed after-action reviews for only two fires. The Ministry had also completed several after-action reviews for non-declared emergencies, however, they were often brief in nature with little detail as to what went well and what could be improved. Ministry staff told us that informal reviews are performed verbally by fire crews. Without an effective strategy of incorporating lessons learned from past events or practice tests into emergency plans, recurring issues could continue to arise during future emergencies, such as delays in dispatching a crew, and poor communication of expectations and priorities upon arrival to a fire.
- **A key fire prevention strategy has not been used to its full potential.** FireSmart, one of

the Ministry's key fire prevention strategies, is designed to reduce the likelihood of large uncontrollable wildfires near communities and infrastructure. We noted that over the last three fiscal years (2019/20–2021/22), the Ministry spent less than half of the \$1 million it budgeted for the FireSmart program. One component of the FireSmart strategy is to create Wildfire Protection Plans. These plans are intended to help communities assess their wildfire risk and make recommendations to lessen the threat and impact from forest fires. As of August 2022, only 15 out of 144 municipalities in Northern Ontario had a Wildfire Protection Plan in place. The Ministry did not know how many communities required a plan, but we noted 63% of districts with a rating of extreme or very high risk of fire had no communities with Wildfire Protection Plans. Funding was not targeted to those districts assessed as having an extreme or high risk of fire. In addition, no funding was allocated to unorganized communities (geographic areas without a local municipal organization), including those in high-risk districts.

Erosion

- **The Ministry has not taken steps to proactively reduce the risks to residents and properties located in areas susceptible to land erosion.** It has not identified land exposed to erosion risk, particularly around Lake Erie where there is significant coastal erosion and wave action. Shoreline protection structures have been erected in some areas, however this is largely a reactive measure that is not expected to address the problem in the long-term. We also noted that there are no provincial hazard maps for shoreline erosion. The Ministry told us it had no plans to provide education and awareness programs targeted at local residents, homeowners and real estate agents, or to undertake property buy-back programs for existing at-risk properties. According to the Ministry, conservation authorities may provide this service to speculative buyers

and real estate agents, and that homebuyers and agents should take reasonable steps to complete their own due diligence.

Soil and Bedrock Instability

- **The Ministry has no plans to address the increasing occurrence of sinkholes.** Sinkholes can happen when bedrock—the rocky material found under soil, sand and gravel—is unstable. Some sinkholes are the result of natural causes such as water erosion, while others are caused by human activities, such as broken water-mains, collapsing sewers, or abandoned mines. Sinkholes have been more common in Ontario in recent years, as demonstrated by recent incidents in such cities as Thunder Bay (2016), Ottawa (2019), Toronto (2021) and Timmins (2022). The Ministry does not consider “soil and bedrock instability” under Order in Council (1039/2022) to include sinkholes, and therefore regards them to be outside its scope of responsibility. Consequently, the Ministry has no plans to conduct land-subsidence and sinkhole risk assessments, or to identify mitigation measures.

Drought/Low Water

- **The Ministry has not updated the Ontario Low Water Response Strategy since 2010.** The strategy was created to support preparedness for droughts and low-water events, to provide strategies for managing water supply and demand, and to support local response efforts in the event of a drought/low-water situation. We found that some components of the Ontario Low Water Response Strategy are outdated or no longer relevant, which could potentially lead to confusion around roles and responsibilities for local authorities in the event of an emergency. At the time of our audit, the Ministry had no formal plans to review and update the Ontario Low Water Response strategy.

Mines

- **Little progress has been made on the rehabilitation of hazardous abandoned mines.** We found that only 111 of the 3,942

abandoned mine sites with hazards had been partially rehabilitated, while 2,335 sites had not been rehabilitated at all. The rehabilitation status of the remaining sites was marked “unknown” by the Mines Ministry.

- **The Mines Ministry does not have a public awareness program in place to educate Ontarians on the dangers of abandoned mines.** It has also not taken any steps to counter potentially dangerous information available online that promotes exploring abandoned mines in Ontario.

Oil and Gas Wells

- **Few oil and gas wells are being inspected annually.** The Ministry has not assessed the risk of all 27,000 oil and gas wells in the province, and is therefore unable to determine whether it is focusing its proactive inspection efforts on the highest risk wells. Furthermore, based on our analysis of inspection data in the Ministry’s database for oil and gas wells, we found that only 19% of oil and gas wells in the province have been inspected since 2005. Of those, 38% of inspections occurred more than a decade ago. The low rate of inspections could lead to a risk of complacency by well operators.
- **Unreliable information on how many high-risk wells have been plugged.** Wells that are poorly maintained and improperly plugged can lead to contaminants getting into the province’s groundwater or rising to the land surface around the well. Based on our own analysis, we noted that 6% or 1,625 wells are not in use and have not been plugged. A further 30% or 8,011 were plugged prior to 1970 when materials used to plug them included logs, gravel and lead which can lose their integrity over time. As a result, at least 36% of wells could pose a danger. Further, we found that three high-risk wells have been leaking since at least 2018, but only one is scheduled to be plugged during 2022/23. We were told that the gas explosion that took place in Wheatley, Ontario in August 2021, was in part due to a well that had been plugged in the

1960s, where the materials used to plug the well had deteriorated over time.

Dams

- **An assessment of the replacement value for dams owned by the Ministry is incomplete.** Only 31% of 316 Ministry-owned dams that will reach the end of their serviceable life within 20 years have been assessed and their cost of replacement is estimated at \$321 million. We reviewed information contained in the Ministry's IT system used to prioritize rehabilitation, reconstruction and/or other capital projects for the 316 dams it owns, and noted that important information needed to prioritize dams for maintenance and construction was missing, such as the age and condition of the dam, the likelihood of the dam failing, and the impact of a dam failure.
- **Privately owned dams are not inspected by the Ministry.** Although the Ministry has been assigned responsibility under the Order in Council for hazards resulting from dam failures, it does not conduct periodic inspections or reviews of about 1,050 privately owned dams, even though it has broad regulatory authority to do so under the *Lakes and Rivers Improvement Act* and its regulations.

Risk Assessments and Technical Guides

- **Hazard identification and risk assessment processes are outdated, incomplete and not co-ordinated across the province.** Each of the Natural Resources Ministry's 25 districts is expected to maintain a current district risk assessment for all hazards it is assigned to monitor. Although districts are required to revisit their risk assessments annually, we found that 16 of the 25 districts had not updated their risk assessments since 2018. Contrary to best practices, hazard experts, municipalities, First Nations, and local stakeholders were not involved in the risk assessment process. Also, districts in Northern Ontario used four levels of risk ratings while the Southern region used six levels of risk

ratings. Further, we noted differences between the Ministry's provincial risk assessment ratings for districts and the districts' own self-assessed ratings.

- **Many technical guides and bulletins to support local authorities in implementing policies for assigned hazards are outdated.** In some cases, components of technical guides are not available online for the public. This leaves local planning authorities such as municipalities, conservation authorities and First Nations without guidance and direction on best practices in preparing for potential emergencies.

Overall Conclusion

Our audit concluded that both the Natural Resources Ministry and the Mines Ministry should improve their operational systems and procedures to be better prepared to protect the public, the environment and infrastructure against hazards for which they are responsible.

The Natural Resources Ministry needs to conduct timely and robust risk assessments for hazards it is assigned to manage—forest fires; floods; drought/low water; dam failures; emergencies involving crude oil and natural gas exploration and production, natural gas and hydrocarbon underground storage, and salt solution mining; erosion; and soil and bedrock instability. As well, the Ministry needs to take immediate action to eliminate known high-risk hazards, such as leaking wells. The Ministry also needs to update its technical guides and bulletins for specific hazards to ensure they reflect current technologies and the impacts of climate change. It also needs to implement a formal and disciplined approach to reviewing its performance during actual and simulated emergencies in order to identify lessons learned and take corrective actions to avoid recurring issues in future emergency response efforts.

There is also no clear delineation of roles and responsibilities for emergency response between the Natural Resources Ministry, the Provincial Emergency Management Office, local governments and

communities. The provincial government should determine whether existing regulations, policies and plans contain gaps that need to be addressed to improve clarity, accountability and future cooperation.

Some emergency management activities at the Natural Resources Ministry are not carried out efficiently or economically. For example, the Ministry has not investigated options to secure standing contracts with air carriers at competitive prices to avoid incurring excessive and unplanned costs for emergency evacuations during the forest fire and flood season.

Regarding abandoned mine hazards, the Mines Ministry has not rehabilitated the majority of known abandoned mines in the province and does not know the rehabilitation status of another quarter of them. In addition, almost three-quarters of abandoned mines have not been inspected in over a decade.

This report contains 30 recommendations, with 70 action items, to address our audit findings.

OVERALL MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry thanks the Auditor General for her recommendations. The Ministry recognizes the critical leadership and support role it holds protecting the people of Ontario from natural hazards and natural hazard-based emergencies. The Ministry has a proud and long-standing history of helping to keep people and property safe from natural resource hazards such as forest fires, floods, erosion and oil and gas emergencies.

The Ministry is committed to working collaboratively with federal, provincial, First Nations and Indigenous communities, municipalities, conservation authorities and other partners to ensure that the guidance and services supporting community and public safety, infrastructure/property and natural resources are delivered safely, effectively, and efficiently.

The Ministry is currently undertaking a natural resource disaster management review to ensure the effectiveness of our prevention, mitigation, preparedness, response and recovery programs,

services, and guidance—for the well-being of Ontarians as well as the province's economic prosperity. The Ministry recognizes the contributions that the Auditor General's recommendations will have in guiding the evolution of its emergency management program and looks forward to sharing its continued progress in the coming years.

OVERALL MINISTRY OF MINES RESPONSE

The Ministry has recently adopted a risk-based process to regularly monitor and inspect abandoned mines and will continue to conduct planned inspections of high-risk abandoned and operational mines under its jurisdiction, based on the available resources and Ministry priorities.

The Ministry recognizes that the majority of the high-risk abandoned mine sites are complex and require multi-year efforts to plan and develop appropriate rehabilitation strategies to mitigate potential financial and environmental risks.

In the last five fiscal years, the Ministry of Mines has incurred about \$63 million for abandoned mine rehabilitation.

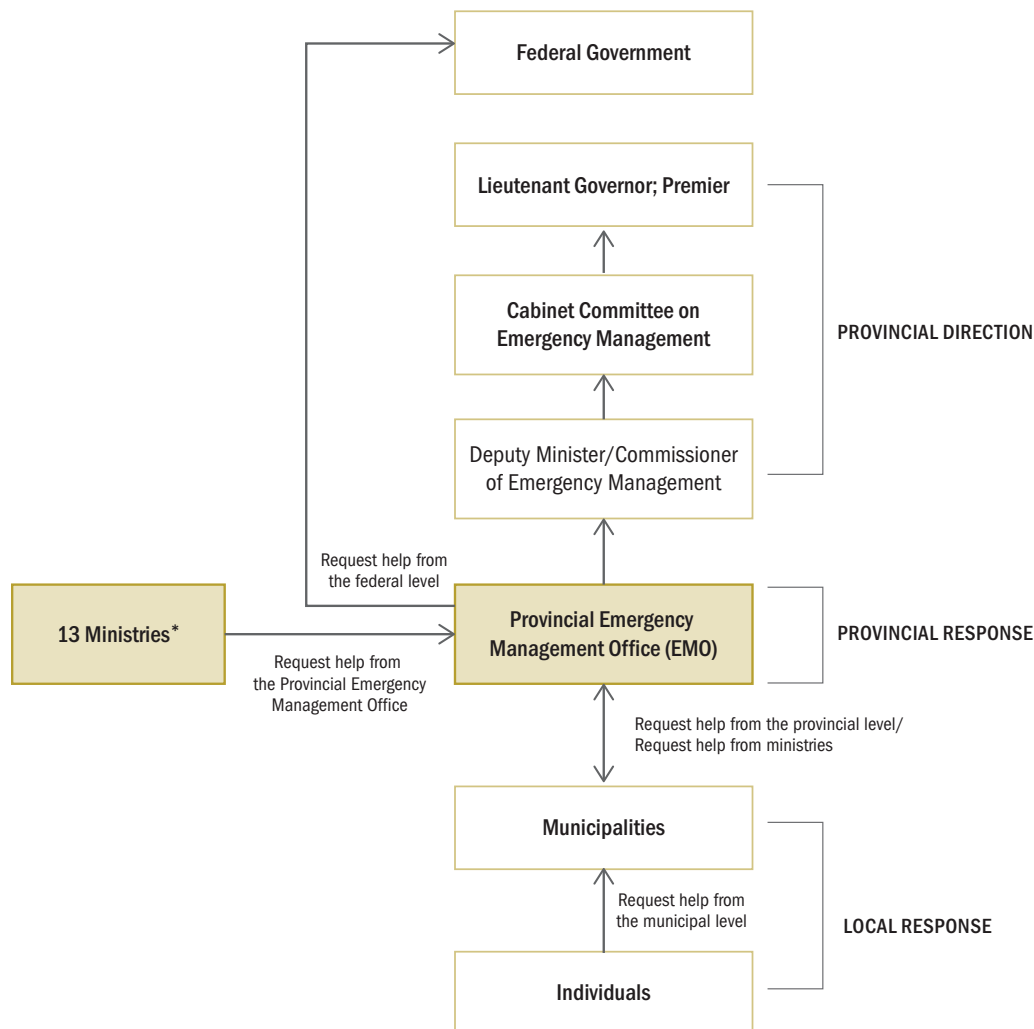
2.0 Background

2.1 Emergency Management in Ontario

Emergency management in Ontario is designed to save lives, protect property and the environment, and ensure the continuity of government services and critical infrastructure. Through an Order in Council 1157/2009 (which was replaced with OIC 1039/2022 after the start of our audit), the government assigned 13 ministries responsibility for preparing emergency management programs for specific types of emergencies and related functions. Ontario uses a bottom-up approach to emergency response—as outlined in the Emergency Management Doctrine for Ontario—that is consistent with

Figure 1: Roles and Responsibilities in Emergency Management for Ontario

Prepared by the Office of the Auditor General of Ontario



* This audit focuses only on the emergency management efforts of the Ministry of Natural Resources and Forestry and the Ministry of Mines in relation to hazards assigned under Order in Council.

the approach used by the federal government and other provinces. Municipalities are responsible for managing most local emergencies, although they can request resources and assistance from the Province when needed. (Refer to **Figure 1** for the roles and responsibilities of the parties involved in emergency management in Ontario.)

The emergency management programs in Ontario are based on five components: prevention, mitigation, preparedness, response and recovery (see **Figure 2**).

2.2 Hazards Assigned to the Ministry of Natural Resources and Forestry and the Ministry of Mines

As part of the 2009 Order in Council, the then Ministry of Natural Resources and Forestry was assigned responsibility for managing emergencies resulting from seven types of hazards: forest fires; floods; drought/low water; dam failures; emergencies involving crude oil and natural gas exploration and production, natural gas and hydrocarbon underground storage, and salt

Figure 2: Five Components of Emergency Management in Ontario

Source of data: Ministry of the Solicitor General

PREVENTION	Actions taken to prevent an emergency or disaster. This may include structural or non-structural improvements to buildings and infrastructure, or land-use planning.
MITIGATION	Actions taken to reduce the effects of an emergency or disaster. This may include structural or non-structural improvements to buildings and infrastructure, such as the use of sandbags as temporary flood barriers. Mitigation reduces both property and human losses, financial and emotional suffering and government response and recovery costs.
PREPAREDNESS	Actions taken prior to an emergency or disaster to ensure an effective response. This may include implementation of standards and plans, testing of plans, public education, public alerts, and identification and assessment of hazard risks.
RESPONSE	Actions taken to respond to an emergency or disaster. This includes ensuring that a controlled, coordinated and effective response is undertaken quickly.
RECOVERY	Actions taken to recover from an emergency or disaster. The aim of these measures is to assist individuals, businesses and communities to return to a state of normalcy. This may include environmental clean-up, return of evacuees and emergency financial assistance.

solution mining; erosion; and soil and bedrock instability. The then Ministry of Northern Development and Mines was assigned responsibility for managing emergencies from abandoned mine failures and any emergency that required the support of provincial emergency management in Northern Ontario.

In June 2021, these two ministries were combined to form the Ministry of Northern Development, Mines, Natural Resources and Forestry, and a revised Order in Council was issued giving this newly formed Ministry responsibility for managing all nine hazards. However, in June 2022 the Ministry of Northern Development, Mines, Natural Resources and Forestry was split into three ministries—the Ministry of Mines (Mines Ministry), the Ministry of Natural Resources and Forestry (Natural Resources Ministry) and the Ministry of Northern Development (Northern Development Ministry). The responsibility for most of the hazards assigned under the Order in Council remains with the Natural Resources Ministry. For a brief description of each type of hazard see **Figure 3**.

Under the *Emergency Management and Civil Protection Act* (Act), an “emergency” means a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature, a disease or other health risk, an accident or an act whether intentional or otherwise.”

An emergency is declared by the local government authority where the emergency occurs, such as a municipal council or a First Nation Chief. During large-scale emergencies or emergencies on Crown land, the premier and Cabinet may declare a provincial emergency. With respect to the hazards assigned to the Natural Resources Ministry and the Mines Ministry, responsibility to respond to emergencies varies based on where a hazardous event occurs. **Figure 4** shows who is responsible for emergency events, by jurisdiction impacted.

Figure 5 shows the number of significant events, including declared emergencies, that have resulted

Figure 3: Hazards Assigned to the Ministry of Natural Resources and Forestry¹

Prepared by the Office of the Auditor General of Ontario

Hazard	Description
1. Floods	An overflow or inundation of water from a river or other body of water, or over land, that causes or threatens damage.
2. Forest fires	Any fire in forests, shrub lands or grasslands.
3. Abandoned mine hazards¹	A mine that has been permanently closed or is not operating, whether it is privately owned or has a filed closure plan. The site contains hazards such as unprotected and concealed shafts or pits, deteriorating structures, derelict mining-related equipment, destabilized and collapsing underground mine workings, contaminated mill tailings, stockpiled waste rock and surface/ground water, discarded tanks or drums of chemicals, toxic gases, unstable explosives, dust, uncontrolled surface drainage causing sedimentation damages.
4. Dam failure	The uncontrolled release of stored water due to the breaching or destruction of a dam or barrier intended to hold back water or other fluids.
5. Oil/natural gas	The uncontrolled release of oil, natural gas, or both. The release could be from a pipeline or distribution system, a vehicle, a well, a storage facility, or a combination of these.
6. Drought/low water	An extended period, with one or more of the following: • three or more consecutive months with below-average precipitation which may be combined with high rates of evaporation; • conditions in which the water levels in streams are at the minimum required for the survival of aquatic life; • water must be rationed only for high-priority uses since many wells are becoming dry; and • conditions that have socioeconomic impacts that are felt over a much larger area than the individual properties where the drought/low-water conditions have been reported.
7. Erosion	The gradual wearing away and removal of soil or rock particles by water, ice, snow, air, plants, animals, humans or an abnormal, sudden rise of sea or lake level associated with a storm event.
8. Soil and bedrock instability, land subsidence	Landslides – any type of slope failure or downward movement of rock and/or sediment. Land subsidence – the gradual settling or sudden sinking of the earth's surface owing to subsurface movement of earth materials.
9. Support to the North^{1,2}	Any emergency that requires the support of provincial emergency management in Northern Ontario.

1. As of June 2022, the newly formed Ministry of Natural Resources and Forestry is responsible for managing and responding to all hazards assigned under Order in Council, except for mines, which are the responsibility of the newly formed Ministry of Mines, and support to the North, which is the responsibility of the newly formed Ministry of Northern Development.

2. This is not in the scope of this audit.

Figure 4: Summary of Responsibilities for Emergency Events by Jurisdiction Impacted

Prepared by the Office of the Auditor General of Ontario

Location of Emergency	First Respondent or Party with Primary Responsibility
On Crown land	Ministry ¹
Within a municipality	Municipality, with support from the Ministry if required
In a First Nation community	First Nation community, with support from the Ministry as directed by Emergency Management Ontario (Treasury Board Secretariat) ²
On Federal lands including parks	Federal government, unless there is an agreement in place with the province ²
In unorganized territories	In this case, it is unclear who has the legal responsibility to respond; often the Ministry responds. For further discussion see Section 4.9.1

1. Ministry of Natural Resources and Forestry is responsible, except where the hazard involves mines, in which case the Ministry of Mines is responsible.

2. The Ministry of Natural Resources and Forestry has agreements with First Nations communities and Indigenous Services Canada (federal government) for forest fire suppression. Costs incurred by the Ministry to fight forest fires in First Nations communities and on federal lands are recoverable from Indigenous Services Canada under the Department of Indian Affairs and Northern Development Agreement (1991).

Figure 5: Significant Events¹ and Declared Emergencies² by Hazard Type in Ontario over the Last Five Calendar Years

Source: Emergency Management Office, Treasury Board Secretariat

Hazard	Significant Events					5-yr Total		Declared Emergencies		Non-Declared Emergencies	
	2017	2018	2019	2020	2021	#	%	#	%	#	%
Floods ³	12	5	31	3	2	53	63	43	78	10	33
Forest fires	1	6	4	3	8	22	26	11	20	11	37
Abandoned mine hazard	0	0	1	5	2	8	9	0	0	8	27
Dam failures	0	0	1	0	0	1	1	0	0	1	3
Petroleum industry Activities	0	0	0	0	1	1	1	1	2	0	0
Drought/low water	0	0	0	0	0	0	0	0	0	0	0
Erosion, soil and bedrock instability ⁴	0	0	0	0	0	0	0	0	0	0	0
Total	13	11	37	11	13	85	100	55	100	30	100

1. Events that have a significant amount of response activity from local governments and potentially require provincial resources.

2. A significant event that is declared as an “emergency” by a municipality or First Nation community. This declaration happens when a municipality or First Nation community determines they have exceeded their capabilities to respond locally.

3. An event when a river’s water level rises to the point where it overruns the banks.

4. In **Figure 4**, this is presented as two separate hazard types. However for tracking purposes, Emergency Management Ontario combines these events into a single category.

from each type of hazard over the last five calendar years.

In 2021/22, the Ministry of Natural Resources and Forestry incurred \$276 million for emergency responses, of which 90% was for emergency firefighting.

2.3 Hazard Identification and Risk Assessment

The hazard identification and risk assessment process (risk assessment) is key to the development of an emergency management program. The Act requires each ministry and municipality, in developing their emergency management program, to conduct a risk assessment to identify hazards and assess the various risks to public safety that could give rise to emergencies. The Act also requires them to identify the risks to facilities and other infrastructure for which they are responsible.

Risk assessment is meant to be ongoing as new hazards are identified and risk levels change. The

primary purpose is to identify and implement measures to reduce high-priority risks to public safety through mitigation, prevention and preparedness. The Natural Resources Ministry has conducted a provincial risk assessment which has assessed the risk levels for each type of hazard for each of its districts (see **Appendix 1**). All of the natural hazards assigned to the Natural Resources Ministry are expected to be affected or exacerbated by climate change.

2.4 Floods

Flooding in Ontario is often the result of heavy or prolonged rainfall, rapid snowmelt, ice jams formed in rivers and streams, and lake/stream surges.

Under the Order in Council 1039/2022, the Natural Resources Ministry is the provincial lead for emergency management and response for floods in Ontario. Although the Natural Resources Ministry has primary responsibility for flood hazards, it works with other ministries, municipalities, agencies and partners to deliver emergency management and respond to flood

emergencies. Additional provincial direction is provided by other ministries including the Ministry of the Solicitor General, the Ministry of Municipal Affairs and Housing, the Ministry of Transportation, the Ministry of Agriculture, Food and Rural Affairs and the Ministry of the Environment, Conservation and Parks, based on established roles and responsibilities.

Flood forecasting and monitoring services are delivered through the Natural Resources Ministry's Surface Water Monitoring Centre (Centre), in co-operation with local districts and conservation authorities that provide local expertise and information on water conditions in their respective jurisdictions. The Centre collects, monitors and analyzes real-time surface water data (precipitation, snow depth, temperature, water levels and water flow) on a provincial scale through a network of 600 water monitoring stations that are jointly funded and operated by the federal and provincial governments. The Centre issues flood-warning and flood-watch messages to districts, conservation authorities and other partners responsible for responding to flood events. For a listing of flood-related mitigation/preparedness activities, see **Appendix 2**.

The Natural Resources Ministry also owns and operates 126 weather stations across Northern Ontario (63 in the Northwest region and 63 in the Northeast). All stations measure and report on the temperature, humidity, wind and precipitation, and some stations also measure and report barometric pressure and snow depth. This information is used to model and forecast weather conditions, as well as predict forest fires.

From 2017–2021, there were 53 significant flood events, of which 43 were emergencies declared by a municipality or First Nation community. Half of the significant events occurred during record-breaking floods in the spring of 2019. For a listing of significant flood events that have occurred over the last five years and related details, see **Appendix 3**.

In response to these floods, the Natural Resources Ministry developed the Protecting People and Property: Ontario's Flooding Strategy in 2020. This strategy is intended to strengthen Ontario's resiliency to flooding through a series of actions designed to better prepare the Province for future flood events, reduce their

impacts, and equip the Province to respond to and recover from floods quickly. Some of the key activities identified in the document include: enhancing flood mapping to help understand flood risk; enhancing flood forecasting and early warning to improve flood preparedness; enhancing emergency response; and reviewing disaster recovery programs and assistance for Ontarians and municipalities.

2.5 Forest Fires

The Natural Resources Ministry has primary responsibility for emergency management and response to forest fire emergencies on Crown lands and unorganized territories (areas not governed by a municipality) under the *Forest Fires Prevention Act*. Not all fires require emergency response actions; some are beneficial and renew and maintain healthy forests. However, a forest fire that poses a threat to people, infrastructure and/or the ecosystem (such as loss of biodiversity or loss of trees for harvesting) requires an organized and co-ordinated response.

The Natural Resources Ministry's Aviation, Forest Fire and Emergency Services Branch of the Provincial Services Division is responsible for program delivery for the protection of people, property and communities threatened by forest fires. At the local level, fire response is delivered from 14 Fire Management Headquarters located across the province: seven in the Northwest and seven in the Northeast region. Fire crew staff are hired on a seasonal basis by the respective Fire Management Headquarters to work through the fire season (April to October). In the 2021 fire season, there were 769 fire crew staff employed across all regions.

There were almost 4,500 fires in Ontario from 2017–2021 involving 1.44 million hectares of land, of which 91% occurred in the Northwest region of the province. According to data from Emergency Management Ontario, from 2017 to 2021 there were 22 significant events due to forest fires, of which 11 were emergencies declared by municipalities or First Nations communities. Based on our analysis of Ministry forest fire data, 68% of the fires the Ministry responded to

from 2017 to 2021 were caused by lightning, and 32% were human caused.

For a list of all significant forest fire events that have occurred over the last five years, see **Appendix 4**. Although Ontario has avoided disastrous fires in recent history, the province is not immune to the destructive fires that devastated parts of British Columbia in 2021, Alberta in 2016 and California in 2020. For the number of forest fires and hectares burned over the last 20 years, see **Figure 6**.

One form of mitigation used by the Ministry is prescribed burns, which are fires deliberately set to maintain the health of the forest. These burns are performed at a time when they pose the least threat to the public. Between 2017 and 2021, there were 16 prescribed burns that covered 884 hectares in total, or less than 0.1% of the total hectares that burned during that time period. For a list of mitigation/preparedness activities related to forest fires, see **Appendix 2**.

2.6 Abandoned Mines

An abandoned mine is one that has been permanently closed or is not operating, irrespective of whether it is owned privately or by the Crown, or whether it has a closure plan in place. Under Ontario's *Mining Act*, mining companies are required to prepare and submit a closure plan to the Mines Ministry for approval that

outlines how the site will be rehabilitated after it ceases to operate to mitigate mine hazards. Hazards related to abandoned mines are noted in **Figure 3**.

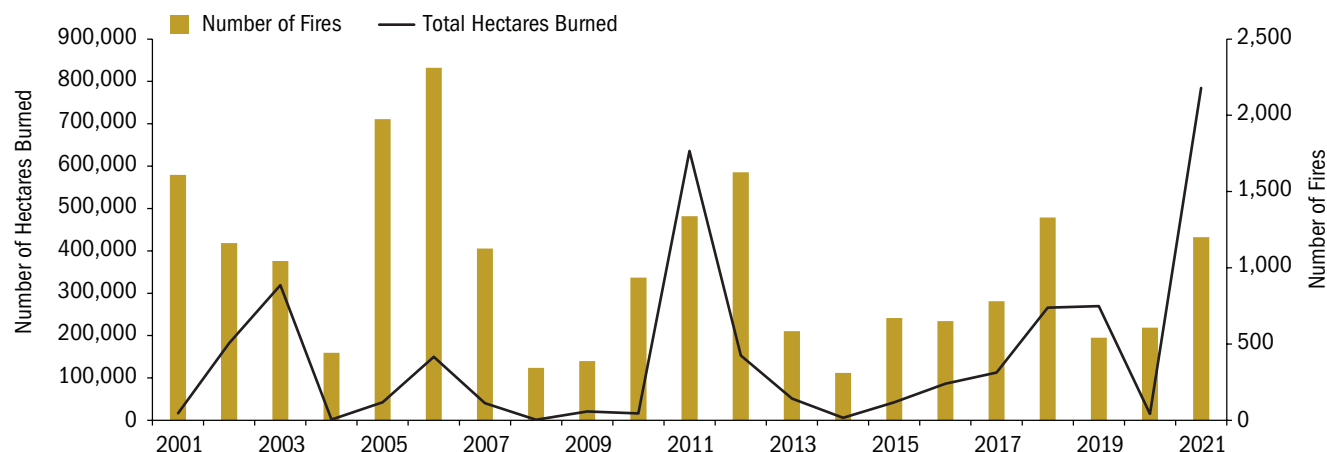
As of April 2022, the Mines Ministry had knowledge of 5,746 abandoned mine sites in Ontario, of which 57% are on privately held land, 40% on Crown land and 3% straddling both Crown and private lands. All but one (Faraday Mine) of the 5,746 abandoned mines are regulated by the Ministry.

The Mines Ministry has the primary responsibility to rehabilitate mine hazards in Crown-held abandoned mines that can have an impact on public health, safety or the environment. The Ministry is also responsible for ensuring that privately owned mines comply with the *Mining Act*, including the rehabilitation of mine hazards. Privately owned mines revert to the Crown if, for example, the mining company has unpaid rent or taxes, the company is dissolved, or the owner dies. Between 2016 and 2021, 37 privately held abandoned mine sites reverted to the Crown. In such cases, the Province becomes responsible for the rehabilitation costs related to the mine hazards.

As of March 31, 2022, contaminated mine sites that have been assessed made up \$1.3 billion of the Province's \$1.8 billion contaminated sites liability. The mine site posing the largest liability—\$730 million—is Steep Rock Mines, an open-pit iron ore mine near Atikokan, Ontario which was mined from the 1940s to the 1970s.

Figure 6: Number of Forest Fires and Area Burned in Ontario, 2001–2021

Source: Ministry of Natural Resources and Forestry



As stated in the Order in Council, the Mines Ministry is responsible for the formulation of emergency plans for any potential hazard related to an abandoned mine. These include spills, or a discharge into the environment, from a structure, vehicle or container that is abnormal in quality or quantity; a mine tailings dam (which is used to store waste products from the mining process); and other containment structures such as a dyke. Since 1989, the Mines Ministry has been maintaining information on all mine sites in Ontario, whether abandoned, active or inactive, in a centralized database called the Abandoned Mines Information System (mines database).

Between 2017 and 2021, there have been eight significant hazardous events in Ontario involving abandoned mines. The events did not result in any injuries or deaths, but cost the Province \$3.8 million in rehabilitation costs. For details including the cause of the events see **Appendix 5**.

For a listing of mitigation/preparedness activities related to abandoned mine hazards, see **Appendix 2**.

2.7 Dam Failures

There are about 3,500 dams in the province. The government of Ontario owns and operates 398, or 11%, of them. Other owners include:

- Ducks Unlimited Canada, a not-for-profit organization, with 970 dams for wetland conservation;
- municipalities and conservation authorities, with about 320 dams;
- Ontario Power Generation, with 241 dams;
- Parks Canada, which is responsible for about 150 dams used to manage water levels for the Trent-Severn Waterway;
- other private owners of about 400 mine tailings dams; and
- other private owners with about 1,050 dams.

As part of its Dam Management program, the Natural Resources Ministry is responsible for about 316 water control structures (dams) owned by the Crown, with an estimated replacement value of about \$800 million. These structures are located across

the province, with about half in Southern Ontario, a quarter in the Northeast and a quarter in the Northwest.

Many of the Ministry dams were constructed or reconstructed in the 1950s and 1960s. Many of them date back to the turn of the century and were originally built to facilitate timber runs and milling. Once these privately owned dams were no longer needed or the original owners went out of business, the ownership, responsibility and liability for these dams often reverted to the Crown.

The Ministry is also responsible for regulating the design, construction, operation, maintenance and safety of all dams in Ontario. In general, major causes of dam failures occur due to:

- extreme water inflow from prolonged rainfall and flooding, which can put pressure on the dam and cause the structure to collapse;
- use of substandard construction materials;
- poor maintenance; and
- design flaws, such as no proper system to gauge the water level in reservoirs.

For a listing of mitigation/preparedness activities related to dams, see **Appendix 2**.

2.8 Oil/Natural Gas

The Natural Resources Ministry regulates the following under the *Oil, Gas and Salt Resources Act* and Ontario Regulation 245/97:

- exploration and production of oil and gas, and salt-solution mining (pumping water into buried salt deposits, dissolving the salts and pumping the salt solution to the surface for drying and further use);
- underground geological storage of hydrocarbons (for example, natural gas, propane); compressed air energy storage (which when needed, can be retrieved to produce power);
- disposal of oil field fluid in an underground geological formation; and
- geological evaluation or testing of rocks.

The Ministry has documented information on about 27,000 oil and gas wells. As of May 2022, more

than 3,400 oil and gas wells were active in Ontario, while over 15,300 wells were considered abandoned. In response to our audit, the Ministry said it lacked information on an additional 7,300 wells. The remaining 1,000 were comprised of wells in various states of inactivity. **Appendix 6** provides further details on the oil and gas wells in Ontario.

The Ministry provides governance, licensing, inspection and enforcement activities for Ontario's oil, gas, salt and underground storage industries prior to being transferred to the end user. It also operates the Abandoned Works Program, which takes care of plugging the highest-risk abandoned oil and gas wells that pose a threat to public and environmental safety. Since the beginning of the program in 2005, the Ministry has spent about \$23 million to plug about 380 wells.

The Ministry also is responsible for inspecting oil and gas wells and associated works related to the production of oil and natural gas, while the Technical Standards and Safety Authority (a regulatory authority established by the Province) is responsible for inspecting all oil and gas transmission pipelines and gas distribution pipelines.

As per Order in Council 1039/2022, the Ministry is responsible for the formulation of emergency plans where the Crown is expected to respond for any emergency pertaining to crude oil and natural gas exploration and production, natural gas and hydrocarbon underground storage, salt solution mining and compressed energy storage. The Ministry also provides technical advice and support to municipalities for oil and gas wells on private land and participates in any community's Emergency Operations Centre during a municipality-led emergency.

Between 2017 and 2021, there was one significant petroleum operations emergency in Wheatley, located in southwestern Ontario. In August 2021, gas leaking through an underground well caused an explosion that flattened two buildings, badly damaged other buildings, injured 20 people and forced the evacuation of 100 people. In November 2022, a lawsuit was filed against the Municipality of Chatham-Kent and an external service provider that the municipality retained to do monitoring for gas. The Statement of Claim alleged that the parties "failed to trace the source of the

gas leak and cap, or otherwise remediate, the source of the gas." The Ministry received a written notice of claim in September 2021 but was not named in the recently-filed lawsuit.

For a listing of mitigation/preparedness activities related to oil and natural gas wells, see **Appendix 2**.

2.9 Drought/Low Water

Long periods of dry weather leading to drought and low-water levels have historically been relatively uncommon in Ontario, occurring about once every 10–15 years. However, in the late 1990s, Southern Ontario experienced extended periods of high temperatures and low rainfall, resulting in some of the lowest surface water levels and driest soils recorded in decades. The issue was of particular significance to the Grand River Basin in Southern Ontario, which supplies water to more than 800,000 people. This heightened concerns over the Provincial management of regional water resources.

The Ministry provides Provincial drought/low-water monitoring, early warning and notification through the Surface Water Monitoring Centre. The multi-year drought conditions of 1997–1999 led in March 2000 to the development of the Ontario Low Water Response program and related strategy document, the Province's first drought/low-water program. The strategy document is intended to ensure the Province is prepared in case of drought/low-water conditions and to assist local agencies in mitigating its effects.

In addition to the Natural Resources Ministry, management of drought/low water in Ontario involves various other provincial ministries and agencies, including the Ministry of Municipal Affairs and Housing; the Ministry of Agriculture, Food and Rural Affairs; and the Ministry of the Environment, Conservation and Parks.

While there were no significant events related to drought/low water in Ontario between 2017 and 2021, studies indicate that drought/low-water levels may become more frequent, compounded by climate change and the province's steadily increasing demands for water, as noted in the Ministry's Ontario Low Water Response Plan.

2.10 Erosion, Soil and Bedrock Instability

Erosion is a natural process that happens along shorelines, valley slopes, embankments and rock formations when runoff from heavy rain carries away the top layers of soil. It becomes a hazard when it poses a threat to human life, property or the environment. Factors that can accelerate the effects of erosion include:

- heavy rainfall that carries topsoil down slopes, embankments and valley walls causing slope instability or failure;
- human activity such as digging, deforestation and removing natural vegetation; and
- development in vulnerable areas such as lake-fronts, river lots and ravines.

Soil and bedrock instability can trigger landslides and sinkholes, which can damage property and pose serious risks to public safety. According to the Natural Resources Ministry, areas of the province known to have unstable soils and bedrock include the Niagara Escarpment, Bruce Peninsula, Manitoulin Island and parts of eastern Ontario.

The combination of a changing climate, settlement patterns along waterways, and an increase in seasonal property investments is exposing more properties and assets to shoreline erosion. A 2012 study found that prior to 2000, the average rate of coastal erosion was 0.01 metres to 0.50 metres per year, but from 2014 to 2018 some parts of Great Lake shorelines experienced average annual erosion rates of 0.49 metres to 1.19 metres. More recent research published by the Institute for Catastrophic Loss Reduction suggests that the problem has increased because the combination of high-water levels, more frequent storms, and less ice cover is exacerbating lake edge erosion.

Under Order in Council 1039/2022, the Natural Resources Ministry is the provincial lead for emergency management and response of hazards resulting from erosion and soil/bedrock instability. Conservation authorities and municipalities are charged with regulating development on private land on behalf of the Province for public safety and prevention.

Municipalities are required to implement land-use planning policies to direct land development away from hazardous areas. Where conservation authorities do not exist, the Ministry manages those hazards through its regional district offices.

There were no declared emergencies related to erosion or soil/bedrock instability from 2017 to 2021. There was, however, one significant event involving a massive landslide in Horton Township (eastern Ontario) in March 2016, damaging several properties including the Renfrew County hydroelectric plant and local sewage plant. The landslide involved 10 hectares of land.

For a listing of mitigation/preparedness activities related to erosion or soil/bedrock instability, see **Appendix 2**.

3.0 Audit Objective and Scope

3.1 Audit Objectives

Our audit objective was to assess whether the Ministry of Natural Resources and Forestry (Natural Resources Ministry) and the Ministry of Mines (Mines Ministry) have systems and processes in place to ensure that:

- effective emergency management programs are in place to protect the public, the environment and infrastructure against hazards for which the Ministries have been assigned responsibility by Order in Council;
- emergency management operations are carried out with due regard for economy and efficiency and in compliance with relevant legislation, regulations, policies and best practices; and
- emergency management program objectives are appropriately measured, evaluated for effectiveness and publicly reported.

3.2 Audit Scope

Before starting our work, we identified the audit criteria we would use to address our audit objectives. These criteria were established based on a review of

applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at the Natural Resources Ministry and the Mines Ministry reviewed and agreed with the suitability of our audit objectives and related criteria, as listed in **Appendix 7**.

We conducted our audit from January to August 2022, and obtained written representation from the Natural Resources Ministry and the Mines Ministry that effective November 25, 2022, they have provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

We assessed the Ministries' emergency management processes to ensure the adequacy of their efforts in mitigating, preparing and responding to eight specific hazards/emergency types assigned to it through Order in Council. These eight hazards were forest fires; floods; drought/low water; abandoned mines; dam failures; crude oil and natural gas exploration and production, natural gas and hydrocarbon underground storage, and salt solution mining emergencies; erosion; and soil and bedrock instability.

We examined the activities of the Aviation, Forest Fires and Emergency Services Branch of the Provincial Services Division, the Regional Operations Division within the Natural Resources Ministry, and of the Mines and Minerals Division within the Mines Ministry, as they have direct emergency management responsibilities.

We visited the Natural Resources Ministry's Emergency Operations Centre in Sault Ste. Marie, including the weather office that monitors weather conditions and provides regular briefings to the Surface Water Monitoring Centre, with respect to potential floods; the district offices, with respect to potential fires; and the Aviation Service Centre, which has or requisitions aircraft to conduct reconnaissance, put out forest fires, evacuate people from disaster areas and return them home at the end of a disaster. We also visited the Surface Water Monitoring Centre in Peterborough,

which determines and communicates potential low-water and drought conditions across the province.

We also reviewed reports on audits completed by the Ontario Internal Audit Division and legislative audit offices in other provinces, at the federal level and in other countries, along with reports on best practices.

We also met with staff from Emergency Management Services of the Mushkegowuk Tribal Council to obtain their perspective on the Province's emergency response efforts related to the repeat flooding events at Kashechewan First Nations.

We engaged an independent consultant with expertise in the field of emergency management to assist us on this audit and conduct jurisdictional scans on select aspects of emergency management.

We did not look at recovery efforts, as those activities are handled by the Ministry of Municipal Affairs and Housing and were examined during our 2017 audit of Emergency Management in Ontario. Furthermore, funding for recoveries is provided by the federal government.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standard on Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Floods

4.1.1 First Nation Community Exposed to Recurring Floods and Evacuations

Of the 53 significant flood events that occurred between 2017 and 2021, we noted that Kashechewan First Nation, a community of approximately 2,000 residents in northeastern Ontario, had declared a flood emergency in four consecutive years (2017–2020). The Natural Resources Ministry assisted with evacuation efforts in the three years in which an evacuation was needed, at a total cost of \$3.6 million. The costs of accommodations and other supports incurred by communities to host evacuees from Kashechewan was unknown to the Province, as Emergency Management Ontario told us that prior to 2021 these costs were incurred by municipalities who requested reimbursement directly from the federal government.

Kashechewan First Nation is located on a flood-plain on the northern shores of the Albany River which flows into James Bay, making it susceptible to spring flooding (see the map in **Figure 7**). The Albany River

is the second largest river in Ontario and frequently gets jammed by the breakup of the ice in the spring. Ice jams are a common cause of spring flooding faced by riverside communities, particularly in northern Canada. Ice jams cause the river water to rise, which can also cause the river to overflow its banks.

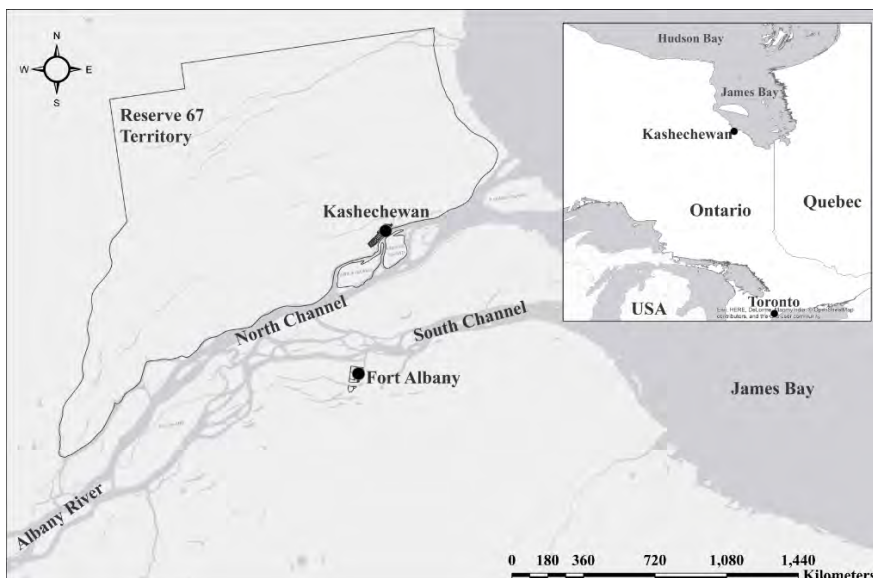
Although Kashechewan has a dyke built around it (5.0 kilometres long and 3.5 metres high), the community continues to experience flooding almost annually. Community representatives told us that the dyke has been deteriorating.

In 2019, Kashechewan reached an agreement with the federal and provincial governments to relocate the entire community within eight to 10 years. Based on our conversation with a community representative, the community does want to be relocated. Media articles note similar relocation commitments by the federal government as far back as 2005, indicating delays in relocating the community.

At the time of our audit, we noted that several other nearby First Nations communities also experienced significant flooding in spring 2022, including Fort Albany First Nation, located on the opposite side of Kashechewan on the southern shores of the Albany River, and

Figure 7: Kashechewan First Nation Location Map

Source: Frequent Spring Flooding Impacts, Evacuation Experiences, and Perceived Adaptive Capacity of Kashechewan First Nation, Northern Ontario, University of Alberta, 2020



Attawapiskat First Nation, located north of Kashechewan at the mouth of the Attawapiskat River on James Bay. Both of these communities, in addition to Kashechewan, were evacuated in spring 2022.

RECOMMENDATION 1

To prevent high-risk First Nations communities from repeatedly flooding and needing to be evacuated on a frequent basis, we recommend the provincial government (Treasury Board Secretariat/Emergency Management Ontario):

- work with the federal government to permanently relocate the Kashechewan First Nation community to higher, drier ground as soon as possible; and
- evaluate whether other First Nations communities at risk of recurrent flooding and evacuations, such as Fort Albany and Attawapiskat, also need to be relocated or whether any dykes or floodways should be built.

EMERGENCY MANAGEMENT ONTARIO RESPONSE

In consultation with the Ministry of Indigenous Affairs, Emergency Management Ontario (EMO) has been informed that the Government of Ontario, led by the Ministry of Indigenous Affairs and supported by the Ministry of Natural Resources and Forestry, continues to work with Kashechewan First Nation, Fort Albany First Nation, and Indigenous Services Canada, to provide whatever assistance it can to support the relocation of Kashechewan First Nation due to the threat of annual spring flooding.

While the federal government has ultimate responsibility for the relocation, Ontario manages the provincial Crown lands that may be transferred to Canada to support the relocation. Ontario has committed to move quickly on the provincial actions necessary to transfer the land.

The choice to relocate is community-driven. Kashechewan First Nation is exploring multiple options for community relocation and/or redevelopment, on and off of the current reserve. Any

option requires engagement with Fort Albany First Nation, which, together with Kashechewan First Nation, are legally recognized as one Band (the Albany Band) under the *Indian Act*. Each community has its own custom elections and a separate Chief and Council. Therefore, the relocation decision requires agreement between Kacheshewan and Fort Albany First Nations.

The Government of Ontario reaffirms its commitment to supporting critical emergency management supports to First Nation leaders and community members upon their request, and their right to self-determine any desire to explore relocations and/or new infrastructure.

4.1.2 Post-Mortem Reports Highlight Important Issues with the Province's Emergency Response Efforts

During our audit we requested and reviewed any after-action reports involving hazards assigned to the Natural Resources Ministry, whether prepared by the Ministry itself or another entity.

Ministry of Natural Resources and Forestry

According to the Natural Resources Ministry's Emergency Response Plan, following significant incidents, Ministry staff are responsible for conducting a post-mortem and completing a written after-action report to identify opportunities for improvement and corrective actions. Although the Ministry responded to seven of the 53 significant flood emergencies that occurred from 2017 to 2021, as shown in **Appendix 3**, we found that it had prepared a total of seven after-action reports covering only three of the seven significant flood incidents it responded to. Moreover, we noted that the Ministry did not prepare an after-action report for any of the three Kashechewan flood emergencies it responded to between 2017 and 2021.

Further, in the after-action reports that were completed, there was no evidence that the Ministry sought feedback from the communities it provided emergency response services to. This can lead to internal bias or "blind spots" when conducting post-mortems, and key

problems being overlooked and uncorrected. As well, the Ministry was unaware whether the federal government had completed any after-action reports.

Based on our review of after-action reports prepared by the Ministry, we noted that they were prepared in an inconsistent format, and were vague with general statements that did not elaborate to fully explain the issues. However, one recurring issue raised in the Ministry's after-action reports related to floods was the need to better define roles and responsibilities of the Ministry, Emergency Management Ontario (EMO) and local governments/communities in emergency flood response. The Ministry noted it tends to be a "go to" ministry during emergencies, providing support outside of its mandate, training and experience. For example, it was noted that fire crews deployed to support flood response and working under municipal officials, were often asked to work in flood waters and build sandbag berms, areas in which they did not have sufficient experience or training.

First Nations (Mushkegowuk Tribal Council)

Some First Nations communities collectively produced an after-action report in June 2022, which we obtained from the Ministry and reviewed. The Mushkegowuk Council Emergency Management Services Group held a lessons-learned discussion in May 2022 to identify the problems their communities experienced following the spring 2022 floods and evacuations. Participants included leaders of the First Nations communities of Kashechewan, Fort Albany and Attawapiskat, as well as input from Indigenous Services Canada and Emergency Management Ontario. Some of the key issues expressed in the report dealt with the evacuation process and host communities, such as:

- a need to develop capacity within Indigenous communities and give them priority in hosting evacuees from other First Nations communities who are impacted by natural hazard emergencies. (The report stated that Indigenous host sites would allow First Nation residents to maintain cultural awareness and enable the leadership to enforce Band Council Resolutions, which are otherwise unenforceable in a municipality. Indigenous host sites were also expected

to be better able to mitigate some of the incidents faced in non-Indigenous host communities involving drugs and alcohol.);

- a need for municipal host communities to choose safe locations as accommodation for evacuees, such as being a reasonable distance from bars and liquor stores to limit disruptions and safety incidents;
- a need to ensure youth are not given accommodation without a guardian present;
- a desire for better transportation options to enable evacuees (especially the elderly) to access essential services and to dine at banquet halls or community centres instead of old, rundown diners/bars; and
- a need for Indigenous mental health providers.

Based on our review of government documents, we noted that the Province is aware of First Nations peoples' preference for the use of First Nations-led host communities and service providers. The Province's plan is to continue to advocate to the federal government to build First Nations capacity to host other First Nations impacted by natural hazard emergencies.

Emergency Management Ontario

We noted that Emergency Management Ontario (EMO) had completed only one after-action report in 2019 covering flood and forest fire evacuation events that occurred from April–June 2019. The report noted that approximately 2,450 people were evacuated in that period to Northern communities, such as Cochrane and Kenora. Some of the key issues EMO noted included an insufficient number of host communities, in part because some municipalities will not act as host communities; a lack of available bed spaces for evacuees in existing host communities; insufficient mental health supports, such as stress and trauma checks, and access to other mental health resources; inadequate catering and food services, such as a lack of balanced meal options; and social problems arising in host communities, in part due to delays in bringing evacuees home sooner. The report also noted that the Natural Resources Ministry's weather reports were too detailed and long, and recommended they be truncated.

We noted from our review of government documents that the current capacity in existing host municipalities is 2,000 evacuees. In 2021, almost 3,000 people had to be evacuated at the same time from various communities for a period of at least 30 days due to fire and smoke threats. Based on data from EMO, over the last five years the average length of time that a First Nation community was evacuated for was 23.5 days, to a maximum of 45 days.

In anticipation of future evacuations, EMO has sought to implement a contingency plan that would allow it to build and maintain capacity to support up to 5,000 evacuees, should the number of evacuees in future emergency evacuations exceed the amount that can be supported through existing municipal/ First Nations host communities. Recognizing the current capacity is 2,000 evacuees, EMO has sought additional funding to enter into contracts with vendors such as the Canadian Red Cross, and other profit and not-for-profit entities, for the provision of emergency management services, particularly within host communities. This includes establishing additional hosting capacity in Sudbury and two communities in Southern Ontario. EMO's request to enter into contracts with vendors to provide emergency management services was approved in March 2022.

RECOMMENDATION 2

So that lessons learned from past flooding events are incorporated into emergency response plans to improve future emergency response efforts, we recommend that the Ministry of Natural Resources and Forestry:

- document after-action reviews related to flooding incidents in a formal and standardized report in a timely manner;
- take timely action to address areas needing improvement and ensure that progress is tracked, followed-up and reported on until fully implemented; and

We also recommend that Emergency Management Ontario:

- continue to strive to put in place contingency arrangements to deal with the future potential that additional capacity will be needed in host communities.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry of Natural Resources and Forestry agrees with this recommendation and will work with its Federal, Provincial, Municipal and First Nation partners to develop a protocol for after-action reviews based on the incident type/severity and to conduct timely after-action reviews, in accordance with that protocol, within a reasonable period. To support this work, the Ministry will update and enhance its after-action review processes and policies and guidance documents for staff and management.

The Ministry will also document, track, and report on the implementation of corrective actions to areas identified as needing improvement.

EMERGENCY MANAGEMENT ONTARIO RESPONSE

Treasury Board Secretariat, through Emergency Management Ontario, sees the contingency host community model as the foundation in helping to encourage future potential additional capacity in host communities. In collaboration with the federal government, municipalities, Indigenous organizations, non-governmental organizations and host communities, Emergency Management Ontario will continue regular engagements to identify host communities and additional supports that could be provided to host communities.

The government annually forms planning working groups months in advance of each flood and wildland fire season to ensure regular engagement with municipalities, key ministry partners and First Nations organizations including the First Nations Emergency Response Association.

4.1.3 Ontario's Flood Preparedness Has Gaps Because Floodplain Mapping Is Incomplete

According to the Canadian Disaster Database, there were 31 significant floods in Ontario in the 40 years from 1960 to 1999. (In this context, “significant” means that 10 or more people were killed, or 100 or more were injured, evacuated, left homeless or otherwise impacted). In the 20 years that followed, there were 24 significant floods. Comparing the 40-year period to the 20-year period reveals that the average annual number of floods has increased by 55%.

A 2020 report by the Intact Centre on Climate Change Adaptation found Ontario to be below average in some of its flood preparedness efforts, specifically relating to risk assessments. The report indicated that the Province does not always make assessments on flood preparedness publicly available, and frequently passed the responsibility for developing these assessments to local governments. Accurate flood-risk assessments are dependent upon up-to-date floodplain (flood-prone areas near rivers and streams) mapping, an area where the report said Ontario significantly lagged.

During the course of the audit, we were informed that the Natural Resources Ministry provided funding to municipalities and conservation authorities for floodplain mapping up until 1993. Between 1994 and 2015 there was no funding provided to municipalities and conservation authorities for floodplain mapping by either the provincial or the federal government. Any floodplain mapping performed during that period would have been self-funded by municipalities and conservation authorities. Since 2016, federal funding has been made available to municipalities and conservation authorities for floodplain mapping through the National Disaster Mitigation Program. The Natural Resources Ministry, along with the Ministry of Municipal Affairs and Housing, screens applications from municipalities and conservation authorities for the federal funding. Between 2016 and 2022, a total of 103 provincial floodplain mapping projects were federally funded by Public Safety Canada, which included 83 conservation authority projects, 19 municipal projects in Ontario, and one First Nations project. At the time

of our audit, the Ministry maintained that municipalities and conservation authorities were responsible for applying for funding for floodplain mapping.

The average age of the 64 floodplain maps that the Ministry funded prior to 1993, was 36 years old. Of the 103 municipalities and conservation authorities and one First Nation that have done floodplain mapping under federal funding, the oldest map is six years old and the average is 2.7 years old. Making floodplain mapping a priority would align with Ontario's Flooding Strategy to “understand flood risks.”

First Nations communities have had access to federal funding through the whole period for floodplain mapping. However, no mechanism has been in place for unincorporated territories (discussed in **Section 4.9**) to obtain funding for floodplain mapping. It is critical to have such information because building or living in a floodplain increases the risk to people and structures if flooding occurs.

We noted that the Natural Resources Ministry does not maintain a repository of all floodplain maps that exist in the province. Without current and accurate flood maps, districts cannot effectively identify at-risk areas or conduct effective flood-risk assessments.

In 2019, a special advisor was appointed by the Minister of Natural Resources and Forestry to review the Province's flood management framework. The report, completed in October 2019, focused primarily on river and lake flooding, and resulted in the Ministry releasing a new strategy in 2020 entitled, *Protecting People and Property: Ontario's Flooding Strategy*. This strategy focuses on five key priorities: understanding flood risks; strengthening governance of flood risks; enhancing flood preparedness; enhancing flood response and recovery; and investing in flood risk reduction (mitigation).

A key element of the strategy is to establish a multi-agency, flood-risk mapping technical team and develop a multi-year approach to updating flood maps so as to better understand flood risk. The Ministry informed us that the technical team is expected to finalize its project-specific terms of reference by March 2023.

Apart from information on floodplains, municipalities also need accurate data on wetland boundaries.

Wetlands allow water to percolate into the underlying soil, which reduces runoff and mitigates the impacts of flooding. The Natural Resources Ministry is responsible for maintaining wetland mapping data that shows the location and boundaries of all identified wetlands. These boundaries can change over time, yet 91% of data on unevaluated wetlands was collected from 28–40 years ago. For further information on issues related to wetland preservation and restoration, refer to our other 2022 report *Climate Change Adaptation: Reducing Urban Flood Risk*.

RECOMMENDATION 3

To protect Ontarians and critical infrastructure, and better understand flood risks across the province, we recommend that the Ministry of Natural Resource and Forestry increase floodplain mapping efforts to better support municipalities, conservation authorities, First Nations and unorganized territories.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry will address this recommendation by investing in local floodplain mapping efforts under the Flood Hazard Identification and Mapping Program.

4.1.4 Some Ministry-Operated Weather Reporting Stations Are Not Inspected in a Timely Manner

The Natural Resources Ministry's Provincial Weather Office, based in Sault Ste. Marie, provides daily weather briefings on current and forecasted weather conditions to the Surface Water Monitoring Centre, the Ministry Emergency Operations Centre, and the Ministry's regional offices. Key information communicated includes forecasted rainfall, temperature, wind activity, and thunderstorms—weather events that can contribute to fires, floods and drought/low-water conditions.

These updates support situational awareness and emergency planning efforts. For example, intelligence obtained from the Weather Office is used to warn fire crews fighting wildfires of any threatening or changing conditions, such as drastic wind shifts.

The Weather Office obtains data and information from internal and external sources, including the 126 Ministry-owned and operated weather stations in Northern Ontario.

We noted that the Ministry does not have a policy on how often weather stations should be inspected. The Ministry told us that it is best practice for weather stations to be inspected annually to ensure they are operating as intended. During inspection, the technician checks calibration issues, battery voltage levels, wind sensors and rain gauges.

We noted that the Ministry was not tracking inspection dates for all their weather stations. As a result, we asked the Ministry to pull inspection records for a sample of weather stations to determine when each was last inspected as of June 2022. We identified that 10% of the weather stations we sampled were overdue by at least eight months, including one in Manitowadge that was overdue by 22 months, as it was last inspected in 2019. Ministry staff told us that travel restrictions due to COVID-19 contributed to delays in some station site visits.

RECOMMENDATION 4

To confirm that weather stations are in good working order and operating as intended, we recommend that the Ministry of Natural Resources and Forestry:

- establish a formal policy clarifying how often weather stations should be inspected;
- conduct inspections in accordance with policy; and
- track inspection dates and results of inspections for all weather stations using a database that flags upcoming inspections.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry accepts this recommendation and will review its current guidance and manufacturer recommendations related to weather station inspections, and amend its processes and related documentation accordingly.

The Ministry will conduct inspections of weather stations in accordance with the updated policy.

The Ministry will also develop a process and/or system to track upcoming inspection dates and the results of inspections.

4.1.5 No Standing Contracts to Secure Availability and Pricing for Air Carriers in Emergency Evacuations

Most evacuations due to floods or forest fires involve First Nations communities. The Province of Ontario provides emergency preparedness and response assistance to First Nations, pursuant to its contractual arrangement with the Government of Canada. When an emergency exists within a First Nation that compels a partial or full evacuation of the residents from that community, Emergency Management Ontario, in partnership with the Natural Resources Ministry (and other relevant federal/provincial departments) is responsible for co-ordinating and conducting the evacuation, if requested by the Provincial Emergency Operations Centre. The Natural Resources Ministry will assist with the evacuation of Northern communities by arranging for air transportation of the evacuees from the First Nation community to the relevant host communities, and the return of those residents to their home communities when it has been declared safe to do so.

Most evacuations requiring Ministry support occur in Northern Ontario with First Nations communities located on/near floodplains or wildland. In a flood or fire emergency, First Nations leadership (Chief and Council) in each community determine if/when residents will evacuate.

Private air carriers available to the Ministry normally have seating capacity of nine to 37 persons depending on the type of aircraft operated by the carrier. Some

communities have as many as 2,000 members, and lack the infrastructure and runways for large planes. Therefore, the Ministry arranges for many smaller planes to evacuate the residents.

During our audit we noted that the Ministry does not have standing contracts with the air carriers guaranteeing availability at a competitive price. Instead, the Ministry maintains a list of eligible air carriers who, annually, provide their estimated rates in effect for the fiscal year. When planes are needed, the Ministry goes down its list of eligible vendors to find planes that are available.

Between 2017 and 2021, \$14.4 million was spent on charter flights for flood or fire evacuations in Northern Ontario. Based on our testing and analysis of air carrier invoices for the same period, the overall average cost for flights equated to roughly \$18 per standard mile, where rates ranged from as low as about \$7 per mile to as high as about \$40 per mile, depending on the vendor and/or aircraft. While the rate depends on the type of aircraft operated (e.g., smaller aircraft with 7–9 seat capacity are cheaper than planes with 27–36 seat capacity), we noted variability in the per mile rate for the same model/type of aircraft across vendors. Refer to **Figure 8** for examples of variability in rates across carriers.

The Ministry advised us that while the rates should be similar across vendors, there are times when noticeable cost differences occur in an emergent situation when only one aircraft is available. We also noted some instances when the actual rate charged by the air carrier exceeded the annual quote submitted to the Ministry, demonstrating that the annual estimated rates provided by eligible air carriers to the Ministry are informal estimates only and do not necessarily protect the Ministry against price gouging.

All costs incurred by the Ministry for the evacuation of First Nations communities between 2017 and 2021 were recovered by the Ministry from Indigenous Services Canada.

RECOMMENDATION 5

In order to be prudent with taxpayers' funds and to ensure timely access to air carriers at competitive

Figure 8: Comparison of Average Per Mile Rates Charged by Air Carriers for 2020/21 and 2021/22

Source: Ministry of Natural Resources and Forestry

Air Carrier	Rate Per Mile (\$)		
	DASH 8 100	DASH 8 300	BOEING 737-300
Carrier #1	10.23	12.88	12.39
Carrier #2	14.00	16.00	39.53
Carrier #3	21.00	21.68	n/a

rates in the event of an emergency evacuation, we recommend that the Ministry of Natural Resources and Forestry conduct a competitive tender and enter into fixed price contracts with air carriers.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with the importance of an effective value-for-money procurement process and contractual arrangements which maximize the availability of aircraft and provide the best value (e.g., minimize price) during an emergency event.

The Ministry will consult its internal procurement experts to determine the best procurement solution—one that maximizes the availability of aircraft and mitigates pricing variability, and is in accordance with the Ontario Public Service Procurement Directive and relevant inter-provincial and international trade agreements to which the Province of Ontario is a party. The Ministry will assess the availability of aircraft, the aviation market and pricing, and assess the best types of procurements and contractual arrangements to meet expected demands for the season and for emergent events.

4.1.6 Outdated Technical Guidance Leaves Local Governments and Communities Less Equipped to Manage Water-Related Natural Hazards

A series of natural hazard technical guides were developed and approved by the Natural Resources Ministry between 1996 and 2009 to support municipalities, First Nations and conservation authorities in the

implementation of policies for floods, drought, erosion and soil/bedrock instability. Refer to **Appendix 8** for a list of technical guides and bulletins issued by the Ministry for its assigned Order in Council hazards (that is, for water-related hazards and dam failures).

We noted that components of some current technical guides and associated standards are outdated, and in some cases, not publicly available online. This leaves local governments, First Nations and conservation authorities without direction and guidance on managing flood-susceptible land, meeting provincial standards in defining flood hazards through mapping, and conducting land-use planning and management that addresses shoreline flooding, erosion and other water-hazard problems—all of which can potentially lead to increased risk of flooding.

An example of an outdated guide is the Technical Guide – River and Stream Systems: Flooding Hazard Limit, which provides guidance on managing flood-susceptible land. This guide does not consider current technologies in climate and/or hydrological/hydraulic modelling, which aids in understanding and predicting flood flows and levels, and does not consider the effects of climate change on flood hazards.

According to the Ministry, to compensate for the lack of current guidelines, some conservation authorities have developed their own policies and technical guides.

RECOMMENDATION 6

So that local governments and conservation authorities have technical guides and bulletins that reflect current provincial standards and best practices with respect to flooding, erosion, soil and bedrock

instability (discussed in **Section 4.7.3**), and dam failures (discussed in **Section 4.4.4**), we recommend that the Ministry of Natural Resources and Forestry review and update its technical guides and bulletins regularly, as needed, and make all guides publicly available.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry will review and update its natural hazard technical guides and bulletins related to flooding, erosion, and soil and bedrock instability as needed, and will make all updated guides available to the public once the updates are complete.

4.2 Forest Fires

4.2.1 Ministry's Response Time to Fires between 2017 and 2021 Took Longer than the Maximum Target Time

The Aviation, Forest Fires and Emergency Services Branch (a branch of the Natural Resources Ministry) employs an alert system for the Province's initial response to forest fires. This sets a standard level of readiness for fire crews to respond to a fire. There are three levels: Red alert (immediate dispatch of fire crews required as soon as a fire is reported); Yellow alert (fire crews must dispatch within 30 minutes of reported time); Blue alert (fire crews must dispatch within four hours of reported time).

Fire indices and weather conditions are used to develop the alert status each day. For example, if there are already several fires in a district and the weather conditions indicate there is an increased risk of lightning storms, fire crews may be required to be on Red alert. The region communicates its updated alert status daily to fire crews so they are aware of their required dispatch times (the time from when the fire is reported to the Ministry to the time a fire crew leaves the station/current location to attend to the fire).

From our review of the 11 declared forest-fire emergencies in 2017–2021, seven were declared as a Red alert and required an immediate full response.

A full response involves an aggressive initial attack and sustained action until the fire is fully contained or extinguished. We noted that the Ministry has not defined the minimum time required for an immediate response under a Red alert. For our purposes, we defined “immediate” as dispatch efforts within 15 minutes of notification.

As seen in **Figure 9**, the median actual time taken to respond to a fire on a day with a Red-alert status was nine minutes. However, two fires took longer than the required “immediate” time frame for dispatch; it took seven hours to dispatch a crew to one of the fires and 15 hours to dispatch a crew to the other. The fire with the longest response time (at Wabaseemoong First Nation) had impacted 192 hectares of land by the time fire crews arrived on site. The Ministry had not fully documented the reason for the delays in its response efforts. The Ministry told us that the seven-hour delay happened on a day when there was only one crew available at fire headquarters; that crew had already been dispatched to another fire, and there were over 20 other new fires that day. Regarding the fire with the response time of 15 hours (at Bearskin Lake First Nation), the Ministry told us that it chose not to attempt to put out the fire on the same day because it was burning aggressively and would be unsafe to attack, the Ministry was short on fire fighters, and the location was far away from headquarters.

We further noted that in our review of the 11 declared emergencies, more of the forest was impacted by fire when the decision was made to initially just monitor the fire rather than send a crew. As seen in **Figure 9**, the three fires that the Ministry chose to monitor (which occurred at Red Lake, Wabaseemoong First Nation and Deer Lake First Nation in the summer of 2021) resulted in 281,400 hectares being burned. According to Ministry staff, forest fires are initially monitored based on a combination of factors, such as whether there is a low risk of loss of ecological, social and economic resources, anticipated suppression costs are high, or work conditions for staff are particularly hazardous.

Of the 3,873 fires from 2017–2021 that required a full response, it took longer than the maximum amount

Figure 9: Time Taken to Dispatch a Fire Crew and Extinguish Fires for all Declared Forest Fire Emergencies (2017 to 2021) and Related After-Action Reviews

Source: Ministry of Natural Resources and Forestry

Fire Location	District	Date	Alert Status	Full Response Required?	Required Dispatch Time	Actual Time to Dispatch Fire Crew (Hours and Minutes) ²	Time Taken to Get to Fire Site and Begin Fighting the Fire (Hours and Minutes) ³	Time Taken to Put Out Fire (in Days) ⁴	Hectares Impacted
Henvey Inlet First Nation	Parry Sound	Jul 18, 2018	Red	Yes	Immediate ¹	0:09	0:56	105.19	11,363
Ginoogaming First Nation	Nipigon	Jul 10, 2020	Red	Yes	Immediate	0:09	1:14	1.03	0.1
Fort Hope First Nation (Eabametoong)	Nipigon	Aug 9, 2020	Red	Yes	Immediate	0:15	1:37	37.89	6,678
Red Lake ⁵	Red Lake	Aug 10, 2020	Red	Yes	Immediate	0:03	0:07	24.89	552
Red Lake	Red Lake	Jun 8, 2021	Red	No – monitor	n/a ⁶	n/a ⁶	n/a ⁶	91.89	36,038
Wabaseemoong First Nation ⁵	Kenora	Jun 30, 2021	Red	No – monitor	n/a ⁶	n/a ⁶	n/a ⁶	144.90	191,811
Deer Lake First Nation	Red Lake	Jul 5, 2021	Red	No – monitor	n/a ⁶	n/a ⁶	n/a ⁶	97.11	53,522
Bearskin Lake First Nation	Sioux Lookout	Jul 7, 2021	Red	Yes	Immediate	14:57	22:17	18.89	257
Pikangikum First Nation	Red Lake	Jul 12, 2021	Red	Yes	Immediate	0:02	0:09	0.39	0.1
North Spirit Lake First Nation	Red Lake	Jul 17, 2021	Blue	Yes	Up to 4 Hours	0:10	0:55	0.92	0.7
Cat Lake First Nation	Sioux Lookout	Jul 20, 2021	Red	Yes	Immediate	7:07	19:47	2:15	1.3
Median actual response times for “Red alert” events						0:09	1:14	24:89	

1. “Immediate” response time is not defined, but we have defined it as 15 minutes.
2. Time from fire detection to when fire crew leaves Fire Management Headquarters.
3. Time from fire detection to arrival at the site to begin firefighting operations.
4. Time from fire detection to fire extinction.
5. After-action report prepared (discussed in [Section 4.2.7](#)).
6. This information was not recorded by the Ministry because the initial response was only to monitor the fire.

of response time of four hours to dispatch fire crews to 15% of the fires. For forest fires in 2021 that required a full response, the average time to dispatch a fire crew was greater than four hours in 20% of districts: namely, Dryden (13.6 hours), Cochrane (11.0 hours), Fort Frances (10.4 hours), Sioux Lookout (8.2 hours), and Thunder Bay (6.4 hours). In comparison, the average time to dispatch a crew was greater than four hours in 16% of districts in 2020 and 2019, and 20% of districts in 2018.

We noted that the Ministry does not track and fully document the reasons for the delays in dispatch time, nor does it calculate and track the average time it takes to dispatch a crew or to extinguish a fire. According to the Ministry, it does not track the average time it takes to dispatch a crew because of variables such as the availability of fire crews; alert status; and mode of transportation. The Ministry also does not track the amount of time to extinguish a fire because of variables such as, the size, location, and behaviour of the fire; the time of year; resource availability; and response objective. However, tracking of such information would help identify operational issues that need to be addressed in order to meet the response times set for forest fires.

We noted that the Ministry does track the results of the initial attack success rate in the case where the Ministry is the first responder. The success rate is measured by the percentage of forest fires that require a full response and whether the fire met one of two criteria: (1) the size of the fire was less than four hectares; or (2) the fire was contained by noon the next day. The Ministry's target success rate is 96%. British Columbia has a similar metric, but it measures fires that are contained by 10 a.m. the following day and has a target of 94%. We noted that the Ministry did not attain its target of 96% in the past five years, and has not performed any assessments to understand the rationale for the times it underperformed. The initial attack rate achieved in 2020/21, the last fiscal years for which we have information, was 90%. Further information regarding key performance indicators is discussed in **Section 4.10**.

RECOMMENDATION 7

So that forest fires are responded to under the maximum target times, we recommend that the Ministry of Natural Resources and Forestry:

- track whether required response times are met based on alert levels;
- where response times are not met, identify and fully document the reasons for delays; and
- take corrective actions to improve future response times.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry will track response times against established Alert Levels. The Ministry will also identify and fully document the factors affecting response times. As well, the Ministry will review those findings to determine and take corrective actions as appropriate. Response times are dependent upon a number of factors in addition to Alert Levels.

The Ministry will review the information technology and business intelligence system enhancements that may be required to support the identification of aggregate trends in response times and any associated corrective actions.

4.2.2 Lessons Learned from Past Responses to Forest Fires and Practice Exercises Are Not Fully Identified or Incorporated into Ministry Emergency Response Plans

As noted in **Section 4.1.2**, Ministry staff are responsible for conducting a post-mortem and completing an after-action report following significant incidents and all exercises to identify opportunities for improvement and corrective actions. A significant fire incident is not defined in the Ministry's Emergency Response Plan; however, for the purposes of our audit we treated all fires that were declared an emergency to be a significant incident.

For the 11 declared emergencies for forest fires from 2017–2021, we found that the Ministry had prepared after-action reports for only two. One of the post-mortems was done almost seven-and-a-half months after the incident. The Ministry was unable to provide us with after-action reports for the remaining nine emergencies. According to the Ministry, the declaration of an emergency is not considered a trigger for a post-mortem. The Ministry told us a review could be triggered in cases where a fire being fought gets out of control, results in significant damage or results in high costs to control. While the Ministry did not have a list of fires that met these criteria, we received and reviewed several after-action reports of non-declared emergencies, and found that they were often brief in nature, with little detail as to what went well and what could be improved. According to the Ministry, informal reviews are also performed verbally by fire crews. However, because these are not documented, we could not confirm if this was the case, what problems were noted and whether corrective action was taken.

From the after-action reports we reviewed, we found the following concerns noted by participants:

- expectations and priorities could be better communicated upon arrival to a fire;
- dispatch times were delayed;
- truck fleets required more maintenance; and
- there were issues with mobile communication infrastructure and technology, especially in the far north.

However, in the reports there were no details on how the concerns would be addressed for the future.

The Ministry also completed an end-of year after-action report for the 2018 fire season in November 2018. We were told that this end-of-year review was a one-off, as the Ministry responded to more than the average number of fires that year (1,300 versus the annual 20-year average of 1,000 fires) that impacted 266,000 hectares. We noted that more recent post-mortem was not timely. For example, while the 2021 fire season included 1,200 fires that impacted 785,000 hectares, the Ministry was still working on completing the after-action report one year after the end of the fire season which was October 2021.

Provincial regulation mandates that an annual exercise for a simulated emergency incident should be conducted by the Ministry Action Group to evaluate the Ministry's emergency plans. In the 2017–2021 period, one practice exercise related to forest fires was completed by the Ministry Action Group in 2017. This was only a table-top exercise rather than a simulated emergency. An after-action report was completed for this practice exercise; however, the recommended improvements were not assigned to specific individuals and instead attributed to the entire Emergency Management Unit. In addition, the Ministry told us it does not formally track the completion and status of the recommendations. Without an effective strategy of incorporating lessons learned from past events and practice exercises, recurring issues may continue to arise during future emergencies.

RECOMMENDATION 8

To improve future response to forest fires, we recommend that the Ministry of Natural Resources and Forestry:

- develop criteria to identify which forest fires are considered “significant” for the purpose of performing an after-action review;
- conduct after-action reviews for “significant” forest fires and formally document the findings in a standardized and timely manner;
- conduct practice exercises with fire crews and emergency management staff on an annual basis, and complete an after-action review after each exercise; and
- take timely action to address areas needing improvement from past forest fires and practice exercises, and ensure that progress is tracked, followed-up and reported on until fully implemented.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees to develop a protocol for after-action reviews for wildland fires based on the incident type/severity. The Ministry will also

conduct timely after-action reviews for wildland fires and practice exercises in accordance with that protocol. The Ministry will identify areas needing improvement in these reviews, and ensure that progress is tracked, followed up and reported on until fully implemented.

The Ministry will also undertake a multi-year review to modernize natural resource disaster management within the Ministry. This review may establish new policy and program frameworks that may impact the process of after-action reviews.

4.2.3 FireSmart Planning and Implementation Does Not Align with Best Practices

FireSmart, a planning tool designed to reduce the likelihood of uncontrollable wildfires near communities and infrastructure, is one of the Natural Resources Ministry's key fire prevention strategies. The national program is built on partnerships between government, industry and homeowners across Canada.

We noted that over the last three fiscal years (2019/20–2021/22), the Ministry budgeted \$1 million for the FireSmart Program, but only spent \$452,500. The Ministry told us that this was primarily due to the impact of COVID-19. As a result, we noted that few communities were receiving provincial funding to help them reduce the risk of wildfires.

Between 2019/20 and 2021/22, funding was allocated to wildfire protection plans (\$195,000), marketing for prevention and mitigation (\$168,000), French-language services (\$61,000), advisory/out-reach services for FireSmart (\$2,000), FireSmart Community Preparedness Day Grants (\$8,500) and publishing FireSmart manuals and prevention materials (\$18,000). However, funding was not targeted to districts that were assessed as having an extreme or high risk of fires. In addition, no funding was allocated to unorganized territories, including those in high-risk districts.

Wildfire Protection Plans are intended to help communities assess their wildfire risk and make recommendations to lessen the threat and impact from

forest fires. We noted that as of August 2022, only 15 municipalities in Northern Ontario had a Wildfire Protection Plan in place. This represents about 10% of 144 municipalities in Northern Ontario. The Ministry did not know how many would benefit from Wildfire Protection Plans. In comparison, 22% (23 of 106) First Nations communities in Northern Ontario had a Wildfire Protection Plan in place as of August 2022. Further, we noted 63% of districts with a rating of extreme or very high risk of fire had no municipalities with Wildfire Protection Plans.

We noted that Ministry staff have not followed up with municipalities to see if they are following the recommendations included in their Wildfire Protection Plans. In contrast, British Columbia fire-mitigation staff told us that they follow-up with and support all of the communities that complete wildfire plans.

We also noted that there has been little focus on the FireSmart Recognition program in Ontario. This program is designed to encourage neighbourhoods to implement solutions for wildfire safety. FireSmart recognition status is earned when communities meet criteria including creating a Neighbourhood Plan to mitigate the risk of fire, conducting FireSmart events annually, and submitting an annual report to FireSmart Canada that documents compliance with the program. At the time of our audit, only one community in Ontario had ever been granted FireSmart recognition status (the Elliot Lake Lakeshore FireSmart Committee in 2016). In comparison, British Columbia has over 150 recognized communities.

RECOMMENDATION 9

To align its fire prevention activities with best practices, we recommend that the Ministry of Natural Resources and Forestry:

- broaden the scope, awareness and adoption of FireSmart initiatives at the local community level;
- engage communities, especially unorganized territories, in FireSmart programs such as the FireSmart Neighbourhood Recognition; and

- prioritize and target funding to communities and unorganized territories in districts that are assessed as having an extreme or high risk of fires.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry accepts this recommendation and will work with federal, provincial, and territorial partners to develop a national prevention and mitigation strategy that includes the development of a whole-of-society approach to prevention and mitigation. This work will raise awareness nationally and within Ontario to promote prevention including the promotion of FireSmart.

The Ministry is also in the early stages of a natural resource disaster management program review where a complete analysis of its wildland fire prevention and mitigation program (such as FireSmart) is planned with the aim of establishing future program strategic direction, updated implementation strategies and enhanced support requirements.

4.2.4 Key Prevention and Mitigation Strategy Documents Have Not Been Updated in Many Years

We reviewed the Ministry's key prevention and mitigation strategy documents, including the Ontario Wildland Fire Management Strategy and the FireSmart Strategy and Implementation Plan, and noted that the documents had not been updated in several years and may not meet emerging needs.

The Ontario Wildland Fire Management Strategy (2014) provides strategic direction for the Ministry's management of wildland fires within the province with a focus on prevention, mitigation, response, awareness and gaining the support of Ontarians regarding the ecological role of wildland fire. The strategy has not been updated in eight years. While the strategy emphasizes a mitigation approach based on the promotion and implementation of FireSmart initiatives, it was

written before the Province started to provide funding to communities for the FireSmart program. In addition, although climate change is mentioned in two sentences, it has not been built into the strategy.

The FireSmart Strategy and Implementation Plan (2015–2020) was established at the beginning of the FireSmart program in Ontario, but the plan has not been updated since.

The drafting of an updated prevention and mitigation strategy is currently on hold, although the Ministry reported that it is in the midst of reviewing the program. Yet, unlike other jurisdictions such as Alberta and British Columbia, there has not been any widespread community and homeowner survey or consultation toward the development of a strategic plan. In British Columbia, for example, a comprehensive research program was established to inform the British Columbia FireSmart Committee's long-term strategy; this included a survey of 1,000 British Columbians and interviews with 40 informed stakeholders and partners.

We also noted that the British Columbia FireSmart Committee initiated an examination of the lethal June 2021 Lytton wildland-urban fire disaster. Many of the recommendations are applicable to Ontario. Of particular importance is the need to: focus on proactive mitigation activities to directly reduce the susceptibility of homes, businesses and critical infrastructure to fire; engage residents and local/provincial emergency management personnel in a long-term partnership to raise awareness of fire hazards; develop a functional framework for action, and promote fire-risk reduction activities.

RECOMMENDATION 10

So that the Ministry of Natural Resources and Forestry's prevention and mitigation strategy for forest fires reflects and meets emerging needs, we recommend that the Ministry update its Wildland Fire Management Strategy and FireSmart Strategy and Implementation Plan with input from experts, community stakeholders, and best practices employed by other provinces.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry accepts this recommendation, and is in the early stages of a natural resource disaster management program review where a complete analysis of its wildland fire policies (e.g., Wildland Fire Management Strategy), and prevention and mitigation strategic policies and programs (such as FireSmart) are planned, with the aim of establishing future program strategic direction, updated implementation strategies and enhanced support requirements. During this process the Ministry plans to consult with experts and community stakeholders, and identify best practices employed by other provinces.

4.2.5 Not All Firefighters Have Completed Required Training

The Natural Resources Ministry has established physical performance standards and minimum training requirements for fire crew members involved in battling forest fires. Depending on the position, required training can include up to nine courses, such as Forest Fire Fighter Training; Ontario Fire Ranger Crew Proficiency; Bear Encounter Safety; and Standard First Aid. Certain courses also need to be re-taken periodically, generally every three years, to maintain proficiency.

We tested whether a sample of fire crew members from 10 Fire Management Headquarters across the province were up to date on their required training as of May 2022. During the course of our audit, we found that the Ministry's Personnel Information Management System, which is used to store training records electronically, was not up to date. We found that electronic training records were not up to date for 20% of the fire crew members we sampled. Overall, as of May 2022, 10% of the fire crew members sampled had not completed all required training.

We further noted that the Ministry's Personnel Information Management System does not automatically alert the firefighters or their supervisors when a firefighter's training is about to expire. Without looking

at everyone's individual record, supervisors at the local office would have difficulty identifying which fire crew members have completed all required training.

RECOMMENDATION 11

So that firefighters are compliant with required training, we recommend that the Ministry of Natural Resources and Forestry:

- track all required training courses taken by wildland firefighters within the Personnel Information Management System; and
- have the IT system alert firefighters and their supervisors when a firefighter's training is approaching expiry.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with the recommendation to track all required training courses taken by wildland firefighters within an appropriate human resource/training management system. The Ministry has identified the application system responsible for tracking training information for renewal within its multi-year information technology (IT) modernization plan, and will include features that will alert firefighters and their supervisors, when a firefighter's training is approaching expiry.

4.2.6 Evacuation Figures Misrepresented to Treasury Board Secretariat

In March 2022, Emergency Management Ontario (EMO) submitted an application to the Treasury Board Secretariat to enter into three non-competitive agreements for an estimated \$91.7 million to plan and implement two emergency models for First Nations evacuees from floods and forest fires. To support its request, EMO included an appendix that summarized the number of First Nations evacuees from floods and forest fires over the past 10 years.

However, we noted discrepancies between the figures reported in the Treasury Board Secretariat

submission and the detailed breakdown we later obtained from EMO. For example, the submission said there had been 4,120 evacuees in 2018. When we requested additional details to support this figure, we learned that only 1,799 individuals were evacuated, while the remaining individuals were on alert but never evacuated.

When we asked about the apparent discrepancy, EMO responded that the intent of including these numbers in the Treasury Board Secretariat submission was to demonstrate the potential scale of evacuation and that, in retrospect, a note should have been included explaining that the numbers represented were a combination of actual and potential evacuees.

Of additional concern was the lack of information gathered by EMO with respect to evacuations. We noted that it does not maintain statistics on the method of evacuation (e.g., aircraft, road, self-evacuation) which would be useful information to better understand costs and prepare for future evacuations.

RECOMMENDATION 12

To improve the decision-making process for future evacuations during emergency situations, we recommend that Emergency Management Ontario:

- collect additional data on evacuees, including the method of evacuation and related costs; and
- review data in submissions to senior management and the Treasury Board Secretariat to ensure that factually accurate and complete information is submitted.

EMERGENCY MANAGEMENT ONTARIO RESPONSE

The Treasury Board Secretariat, through Emergency Management Ontario, will continue to support decisions by First Nations communities to evacuate and will plan for and report on evacuations using actual and projected data on a contingency basis.

Emergency Management Ontario remains committed to continuous improvement in data collection with relevant partners that support

emergency management and response. This includes collecting data on the methods of provincially coordinated evacuation and related costs, and disaggregating actual and projected data in Treasury Board submissions to better assist in contingency planning.

4.3 Abandoned Mines

4.3.1 Most Abandoned Mine Sites Have Not Been Rehabilitated

Based on our analysis of the mines database, Abandoned Mines Information System, 3,942, or 69%, of the 5,746 abandoned mine sites in Ontario are known to have mine features that were considered a hazard as of April 2022. The majority of these mines are owned by the private sector, as shown in **Figure 10**.

At the time of our audit, only 111 (or 3%) of sites had been partially rehabilitated, 2,335 (59%) sites had not been rehabilitated, and the rehabilitation status of the remaining 1,496 sites was unknown.

For the 2,335 sites that have not been rehabilitated, closure plans were in place for only 41 of these sites. Mines Ministry staff told us this could be due to owners of privately held mine sites undertaking rehabilitation of the mine hazards through “progressive rehabilitation” and not notifying the Ministry so that the database could be updated. The *Mining Act* defines progressive rehabilitation as “rehabilitation done continually and sequentially during the entire period that a project or mine hazard exists.” The *Mining Act* allows the mine owner to progressively rehabilitate a mine hazard or site with or without a closure plan having first been filed. In addition, if the hazards are on, in and/or under mine sites on Crown lands, according to the Ministry, it does not prepare a closure plan because the entire Act is not binding on the Crown.

According to Ministry staff, the “unknown” rehabilitation status of the 1,496 abandoned mine sites could be due to inaccurate or insufficient information on a mine feature that prevented the Ministry from determining the hazard status for the mine. A mine feature may be man-made (such as a mine shaft) or natural (such as a trench) and can have an impact on public

Figure 10: Type of Ownership of Abandoned Mine Sites in Ontario and Their Rehabilitation Status

Source: Ministry of Mines

Ownership	Total Abandoned Mines		Mines with Hazards							
	#	%	Partially Rehabilitated		Not Rehabilitated		Unknown Rehab Status		Total	
	#	%	#	%	#	%	#	%	#	%
Private	3,247	57	66	60	1,311	56	990	66	2,367	60
Crown	2,324	40	37	33	940	40	448	30	1,425	36
Mixed	175	3	8	7	84	4	58	4	150	4
Total	5,746	100	111	100	2,335	100	1,496	100	3,942	100
Breakdown of Rehabilitation Status (%)			3		59		38		100	

health, safety and/or environment. We were told mine features with an “unknown” rehabilitation status in the database either stem from historic records that did not contain the information required to determine the rehabilitation status or a site assessment that could not locate the feature in the field because it had already been rehabilitated without record.

According to Ministry data, between 2011/12 and 2021/22, \$103 million was spent to rehabilitate 47 abandoned mine sites.

RECOMMENDATION 13

To protect public health, safety and the environment from abandoned mine hazards that have not been rehabilitated, we recommend that the Ministry of Mines:

- determine the status of all abandoned mines;
- prioritize and rehabilitate abandoned mines with hazards; and
- take steps to ensure mine owners notify the Ministry when owners have fully rehabilitated their abandoned mines.

MINISTRY OF MINES RESPONSE

The Ministry of Mines will continue to update information and the status of all abandoned mines in the Abandoned Mines Information System database (AMIS) as new information becomes available.

The Ministry will accelerate the prioritization and rehabilitation of high-risk abandoned mine sites based on available resources.

The Ministry will review the current reporting process and will consider education and outreach improvements and other tools for rehabilitation reporting.

4.3.2 The Process for Selecting Mines for Inspections Is Not Documented

The first step toward rehabilitating hazards in abandoned mines is to conduct an inspection at the mine site. Both operating and abandoned mines on Crown and private lands are inspected by the Mines Ministry to ensure compliance with mining regulations and to minimize the impact of mine hazards on public health, safety and the environment. Ministry inspections are generally conducted from mid-May to mid-October, depending on the weather particularly in the Far North.

We analyzed the mines database to determine the number of inspections planned for and conducted from 2016/17 to 2021/22. As seen in **Figure 11**, for fiscal years 2016/17–2021/22, the Ministry planned to inspect 125 of the 3,942 (or 3%) of the abandoned mine sites with known hazards. However, only 70 of these mine sites ended up being inspected.

Figure 11: Number of Abandoned Mine Site Inspections Planned and Completed, 2016/17–2020/21

Source: Ministry of Mines

Fiscal Year	Planned	Completed	% Completed
2016/17	18	9	50
2017/18	17	13	76
2018/19	24	14	58
2019/20	27	15	56
2020/21	29	14	48
2021/22	10	5	50
Total	125	70	
Annual Average	21	12	56

We also analyzed inspection data recorded in the Ministry's mines database and found that 72% of the abandoned mines were last inspected more than 10 years ago (before 2011), and another 25% of the abandoned mines had no known inspection date. We also found that 44% of operational mines were last inspected more than 10 years ago (before 2011), and another 25% of operational mines had no known inspection date (see **Figure 12**).

At the time of our audit, the Ministry did not have a documented process for selecting mines for inspection. We were told that abandoned mine sites were selected for inspection based on complaints, prior knowledge of the hazards on site, or other factors, such as whether an inspector was conducting an inspection of another mine site in the same area.

In 2020/21, the Ministry developed a risk-based methodology for selecting for inspection operating mine sites with closure plans. Sites were assigned a score based on risk factors such as an outdated closure plan, insufficiency of financial assurance to cover rehabilitation costs, or an unfavourable compliance history on the part of the operator. A mine site that scored 120 and above was targeted for inspection every five years, while sites scoring below 120 were to be inspected every 10 years.

Prior to 2022, the Ministry was not using a risk-based approach to select abandoned mines for inspection. Starting in the 2022/23 fiscal year, the

Ministry adopted a risk-based methodology in which abandoned mine sites are scored every year based on certain risk factors. These factors include unprotected mine openings, derelict and deteriorating buildings on-site, waste rock piles on-site, or proximity to a community or a body of water. The Ministry expects to obtain information on these risk factors from previous site inspections.

RECOMMENDATION 14

To enable inspectors to carry out their duties and responsibilities efficiently and effectively, we recommend the Ministry of Mines:

- follow a risk-based approach to selecting both abandoned and operational mines for inspection;
- properly document the result of the selection process; and
- conduct planned inspections on a timely basis.

MINISTRY OF MINES RESPONSE

The Ministry of Mines will develop guidance on the selection of abandoned mine inspections for a risk-based approach comparable to the approach currently in use for operational mines.

The Ministry will develop a procedure that documents the results of the inspection selection process for both operational and abandoned mines. The Ministry has recently adopted a Digital Compliance Platform that will improve efficiencies for tracking, documenting and reporting outcomes of inspections.

The Ministry will strive to conduct all planned inspections of high-risk abandoned and operational mines under its jurisdiction. The Ministry has recently adopted a digital tool for inspectors to take on-site and record inspection results in real time. This is expected to improve efficiencies for tracking, documenting and reporting outcomes of inspections, as well as allow for the completion of more planned inspections. The Ministry will review resources and the scope of inspections in efforts to increase planned inspections.

Figure 12: Last Known Year of Inspection for All Mines

Source: Ministry of Mines

Year of Last Inspection	# of Mines		Total
	Abandoned	Operational ¹	
2021	0	7	7
2020	5	5	10
2019	8	9	17
2018	4	7	11
2017	6	19	25
2011–2016	149	115	264
2000–2010 ²	2,335	128	2,463
1999–1970 ²	1,603	58	1,661
Prior to 1970 ²	217	5	222
Unknown ³	1419	82	1,501
Total Mines	5,746	435	6,181

1. Includes advanced exploration projects; producing mines; operations being closed (in the final stages of closure with all requirements of a filed closure plan complied with); mines in a state of inactivity (indefinite suspension of a project in accordance with a filed closure plan and the site is not continuously being monitored); and temporary suspension (planned or unplanned suspension of a project in accordance with a filed closure plan, with the site being monitored continuously by the owner).

2. 72% of abandoned mines were inspected prior to 2011.

3. 25% of abandoned mines have no known inspection date.

4.3.3 Public Awareness Program to Alert People to the Hazards of Abandoned Mines Offers Little Protection

Mining activity is governed by the *Mining Act*, which makes the Mines Ministry responsible for minimizing the impact of mining activities on public health, safety and the environment. One way the Ministry has attempted to do this is by creating public awareness of the hazards of abandoned mines through its Stay Out! Stay Alive! public education program. This initiative, which began in 2012, consists of a one-page bulletin that briefly touches on the dangers of abandoned mines in Ontario and offers the public general tips, such as paying attention to mine hazard warning signs.

At the time of our audit, this bulletin was not posted on the Ministry's website nor was it available on any other social media outlet. The Mines Ministry has no other public education programs on abandoned mines.

We were informed by senior ministry management that the effectiveness of the program is not being measured, and that statistics are not maintained regarding

abandoned mine incidents involving the public because there is no legislative requirement to do so.

We also noted that the Mines Ministry has not taken steps to counter potentially dangerous information available online regarding abandoned mines. We were able to access several videos online that instead promoted the adventure and thrill of exploring abandoned mines in Ontario.

RECOMMENDATION 15

To protect and better educate the public on the dangers of abandoned mines, we recommend the Ministry of Mines:

- review and update the Stay Out! Stay Alive! program for current relevance and ways to publicly communicate the dangers of abandoned mines;
- review online videos that encourage exploring abandoned mines in Ontario and take steps to have them removed from online access; and

- measure and report on the effectiveness of the Stay Out! Stay Alive! program.

MINISTRY OF MINES RESPONSE

The Ministry of Mines will review current practices to publicly communicate the dangers of abandoned mines and will develop a communications strategy and strengthen its Stay Out! Stay Alive! program as a key educational/outreach tool.

The Ministry will consider the appropriate action when it becomes aware (e.g., via online videos) that trespassing may have occurred or have been encouraged on an abandoned mine site. Currently there are no legislative tools that provide the ability for the Ministry to legally request the removal of online content that encourages exploration of abandoned mines or to prevent access to public Crown lands with abandoned mines. Through its Stay Out! Stay Alive! program, the Ministry will develop educational materials to distribute online and also explore encouraging online platforms to consider the dangers and request removal of online videos.

The Ministry will develop performance measures and report on the effectiveness of the Stay Out! Stay Alive! program.

4.4 Dam Hazards

4.4.1 Half of Ministry Dams Will Reach End of Useful Life Within 20 Years

As dams age and deteriorate, the likelihood of dam failure increases. According to Ministry documents, the serviceable life expectancy of the existing dam infrastructure in Ontario is 75 years, while the life expectancy of a new dam is 100 years. Almost half, or 146 of 316, of the Natural Resources Ministry's dams will reach the end of their serviceable life within 20 years and will either need to be replaced, require major rehabilitation, or need to be decommissioned (see **Figure 13**). This number may be higher as the age of an additional 59 dams is unknown. However, the Ministry has assessed the replacement value of only 64, or 31%,

of those dams and valued the cost of replacement to be \$321 million. Therefore, actual replacement costs may be three times that amount.

RECOMMENDATION 16

In order to prevent and address the risk of dam failure proactively, we recommend that the Ministry of Natural Resources and Forestry:

- complete the assessment of dams that will reach the end of their serviceable life within 20 years to determine the amount that will be needed to rehabilitate, reconstruct or decommission these dams; and
- prioritize and rehabilitate, reconstruct or decommission dams approaching the end of their serviceable life.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with this recommendation. A new inventory tracking tool is in development that will help support this recommendation. The Ministry will assess 20% of its dams annually to complete the inventory over the next five years. The Ministry will use the assessment to prioritize the rehabilitation, reconstruction or decommissioning of dams.

4.4.2 Ministry Missing Key Information Needed to Properly Monitor Dams

The Natural Resources Ministry has developed a Long-Term Infrastructure Plan to undertake capital projects with respect to its dams. This is a 10-year plan which is updated annually. The following are types of capital projects undertaken on dams:

- Major rehabilitation—repairs that can extend the useful life of a dam by an estimated 40–50 years.
- Replacement or reconstruction of a dam.
- Dam divestment—transferring the ownership or operation to another party. In such cases, the

Figure 13: Age of Dams and the Current Replacement Value for those Assessed

Source: Ministry of Natural Resources and Forestry

Age of Dams (years)	# of Dams in Total	# of Dams with Assessment Replacement Costs	Value of Current Assessed Replacement Costs (\$ million)
0–25	8	6	39.8
26–55	103	45	121.5
56–75	120*	54	257.3
76–100	22*	4	59.7
> 100	4*	0	0
Unknown	59*	6	3.8
Total	316	115	482.1

* 146 dams (or 46% of the total) are over the age of 55 and will reach the end of their serviceable life within 20 years. An additional 59 dams (or 19%) may also be over the age of 55. The Ministry has assessed the replacement value for only 64 (31%) of those 205 dams, estimating that value at \$321 million.

Ministry must often update, upgrade or repair the asset before it is accepted by the receiving party.

- Dam decommissioning—full or partial removal of a dam.

According to the Ministry, its long-term infrastructure plan is developed with input from ministry engineers and takes into consideration the Ministry's constrained resources. As such, it prioritizes capital projects using information regarding the state of each dam and the possible impact should a specific dam fail. Inspections conducted by a professional engineer provide the Ministry with the data needed to prioritize construction projects.

We reviewed information in the Ministry's IT system used to prioritize the 316 dams it owns for rehabilitation, reconstruction and/or other capital projects, and noted that important information was missing. For example:

- For 205 of the 316 dams (or 65%), the Ministry did not have sufficient information to assign a Facility Condition Index, which is used to determine the condition of the dam. This index compares the estimated cost to rehabilitate a dam to its estimated current replacement value.
- The Ministry had not calculated the Total Failure Index for 142 of the 316 dams (or 45%). This index is used to measure the likelihood of a dam failure and is a key consideration when

determining which dam should be prioritized for rehabilitation.

- The year of construction was missing for 59 of the 316 dams (or 19%), which meant the age of the dam was unknown.
- 101 of the 316 dams (or 32%) had an unknown Hazard Potential Classification Score. This score is used to measure the impact of a dam failure and to determine the type and frequency of inspections (see **Figure 14**).
- 167 of the 316 dams (or 53%) did not have an assigned priority marker to prioritize which dams should undergo rehabilitation. Any dams missing either a Total Failure Index Score or a Hazard Potential Classification Score would also be missing a priority marker.

We also noted that the Ministry was not tracking the type of capital projects undertaken, that is, whether the dams were rehabilitated or replaced, or whether they were divested or decommissioned. Between 2017 and 2021, the Ministry undertook 15 capital projects on average each year, and spent \$30 million in total, with annual capital costs ranging from \$2.4 million in 2018 to \$10.75 million in 2019.

RECOMMENDATION 17

In order to better plan for, prioritize and manage the capital spent on rehabilitation, reconstruction

Figure 14: Type and Frequency of Dam Inspections

Source: Ministry of Natural Resources and Forestry

Type of Inspection	Description	Frequency
Dam Safety Reviews	Carried out by external qualified engineers	Every 10 years, for dams whose Hazard Potential Classification category is high to very high
Engineering Inspection	Carried out by Ministry engineers or external qualified engineers	Every 5–10 years, depending on each dam's Hazard Potential Classification Score
Visual Inspections	Carried out by Ministry staff	Frequency not specified in Ministry documents

and/or other capital projects for all of its dams, we recommend that the Ministry of Natural Resources and Forestry, on a regular basis:

- evaluate the condition of each dam, or as per industry best practices;
- determine and update the Facility Condition Index, Total Failure Index and Hazard Potential Classification Score for each dam;
- update the Long-Term Infrastructure Plan based on the new information; and
- track the status of each dam, that is, whether the dam has been rehabilitated, replaced, divested or decommissioned.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with this recommendation and will use the assessment to prioritize the rehabilitation, reconstruction or decommissioning of dams. The Ministry will also determine and update the missing key dam information. The Long-Term Infrastructure Plan will be updated based on the key information obtained and the Ministry will track the rehabilitation status of each dam.

A new inventory tracking tool is in development that will help support this recommendation.

are owned by the Ministry of the Environment, Conservation and Parks, Ontario Power Generation, the federal government and private operators. The Ministry indicated to us that, although it is assigned responsibility for hazards resulting from dam failures, it does not know the exact number of dams in the province.

The Ministry is also responsible for administering the *Lakes and Rivers Improvement Act* and its associated regulations. Under this Act, its responsibilities include conducting periodic compliance monitoring and enforcement (including Minister's Orders) with respect to dams. However, the Ministry does not conduct periodic inspections or reviews of dams, except for those that it owns. The Ministry argues that its role as a regulator of privately owned dams under the Act is limited to providing approvals for construction of new dams and changes to dams.

We obtained a legal opinion on whether the Ministry can conduct ongoing inspections of privately owned dams and were informed that the Ministry has broad regulatory authority and enforcement powers under the *Lakes and Rivers Improvement Act* that allow it to inspect privately owned dams, and to audit dam owners and review their records. The Ministry also has powers to issue binding orders to ensure that dam owners are complying with all applicable laws, approvals, plans, and agreements, not only during the design and construction phases, but also on an ongoing basis after a dam has been built.

Not inspecting privately owned dams increases the risk of a dam failure. It is also contrary to the roles and responsibilities of the Natural Resources Ministry as laid out in the Administrative Guide to the *Lakes and*

4.4.3 Ministry Not Regulating/Inspecting Dams Owned by Other Parties

The Natural Resources Ministry estimates that there are about 3,500 dams located in Ontario, and only about 10% are Ministry-owned. The remaining dams

Rivers Improvement Act, which states that the Ministry is responsible for “conducting periodic compliance monitoring (e.g., inspections, selective reviews and investigations) and enforcement (including Minister’s Orders) to ensure the intent of the (Act) is being met.” As a point of comparison, the Mines Ministry inspects mine tailings dams even when they are privately owned.

RECOMMENDATION 18

To reduce the risk of unexpected dam failure and to better warn the public about potential dam failures, and prevent dam-related emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- develop and maintain a registry of all dams, both public and privately owned; and
- develop a program to identify all high-risk dams and conduct timely inspections accordingly.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

Dam owners are responsible for the safe operation and maintenance of their structures and for ensuring they remain in compliance with the *Lakes and Rivers Improvement Act*, and any approvals issued thereunder.

The Ministry assists dam owners in carrying out their responsibilities by providing them with guidance on conducting Dam Safety Reviews and encouraging them to follow industry standards for ongoing inspection and maintenance produced by the Canadian Dam Association. The Ministry will review and update the current Dam Safety Review Best Management Practices to ensure that it aligns with industry best practices.

OFFICE OF THE AUDITOR GENERAL OF ONTARIO RESPONSE

The Ministry of Natural Resources and Forestry has not committed to develop and maintain a registry of all dams in the province that includes privately

owned dams, and to identify high-risk dams and ensure they are inspected on a timely basis. As noted above, the Ministry has broad regulatory authority and enforcement powers under the *Lakes and Rivers Improvement Act* that allow it to inspect privately owned dams, and to audit dam owners and review their records.

4.4.4 Ministry Has Not Updated Most Technical Bulletins for Dams Since 2011

The Natural Resources Ministry is responsible for issuing Technical Bulletins that specify the requirements for dams. While it has done so, two-thirds of applicable Technical Bulletins were issued or updated more than 10 years ago, as seen in **Appendix 8**, and may be outdated due to changes to risk assessments and construction standards. These Technical Bulletins are in place to support the administration of the *Lakes and Rivers Improvement Act* and are intended to cover mandatory requirements as well as technical guidance and best practices to inform application reviews and approvals for new dams and changes to existing dams. They also are meant to encourage dam owners to adopt industry best practices for dam safety.

We also noted that none of the Technical Bulletins reference the impact of climate change and increased precipitation and flooding on requirements for new dams. As well, only four bulletins (Maintaining Water Management Plans; Dam Decommissioning and Removal; Location Approval for Dams; and Alterations, Improvements and Repairs to Existing Dams) refer to consultations with First Nations and Indigenous peoples. This is an important step that should also be included in the Classification and Inflow Design Flood Criteria bulletin, which addresses issues pertaining to cultural heritage sites.

RECOMMENDATION 19

So that the Ministry’s guidance for dam owners reflects best practices, we recommend that the Ministry of Natural Resources and Forestry regularly review the Technical Bulletins that support

the construction, operation, safety and removal of dams, and if required, update them to reflect new changes in industry standards and best practices.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

On an as needed basis, the Ministry will review and if required, update the policies, technical bulletins and best management practices and make all updated documents available to dam owners and the public.

4.5 Petroleum Industry Activities

4.5.1 Few Oil and Gas Wells Are Being Inspected Annually

Proactive inspections of oil and gas wells prevent and mitigate the potential for spills and damage to the environment. Staff at the Natural Resources Ministry's Petroleum Operations Section (Petroleum Group) are responsible for conducting inspections of oil and gas wells, under the *Oil, Gas and Salt Resources Act*.

With more than 27,000 petroleum wells and associated works recorded in Ontario's petroleum wells database, and only five inspectors to carry out inspections, the Natural Resources Ministry has not been able to assess the condition of all recorded wells on a regular basis. The Ministry told us that it annually plans to conduct 400 inspections through a combination of proactive inspections of active wells, selected through a risk-based approach, and reactive inspections of all types of wells, including active and inactive commercial wells, and abandoned wells. The active wells selected for proactive inspections are chosen on the basis of the age of the well, time since last inspection, and the operators' compliance history.

During the period from 2016/17–2020/21, we noted that the Ministry inspected fewer than 400 oil and gas wells in two of those five years. The Ministry told us that the majority of inspections were reactive in nature. We could not confirm the number of proactive and reactive inspections as the Ministry did not document the nature of inspections in its IT system.

We analyzed inspection data recorded in the Ministry's database for all 27,000 oil and gas wells and found that only 19% of the oil and gas wells in the province had been inspected by the Petroleum Group since 2005. Of those, 38% were last inspected more than a decade ago (before 2011). See **Figure 15** for the years when oil and gas wells were last inspected.

RECOMMENDATION 20

To prevent oil and gas well emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- establish a policy on how often high-risk oil and gas wells should be inspected;
- review inspection capacity to ensure high-risk wells are inspected on a timely basis, according to plan; and
- conduct more inspections.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry acknowledges the concerns related to the Ministry's Oil and Gas well inspection program. Our current regulatory framework avoids and mitigates potential hazards through measures like minimum design requirements and, in addition to inspections carried out by the Ministry, ongoing requirements for commercial operators to have wells inspected on a weekly and annual basis.

Over the next three years, the Ministry will review its inspection framework as part of a comprehensive long-term action plan to address the complex challenges associated with legacy oil and gas wells.

4.5.2 High-Risk and Leaking Wells Have Not Been Plugged

Improperly constructed, maintained or abandoned wells present a safety risk to people and a potential risk to groundwater resources. Wells, especially poorly maintained and improperly plugged wells, are some of

Figure 15: Year of Last Inspection for Each Oil and Gas Well in the Province

Source: Ministry of Natural Resources and Forestry

Year of Last Inspection	# of Oil and Gas Wells Inspected		Total	%
	Commercial ¹	Private ²		
2022 (January–April)	123	15	138	3
2021	209	12	221	4
2020	175	11	186	4
2019	201	8	209	4
2018	145	30	175	3
2017	245	51	296	6
2011–2016	1,752	230	1,982	38
2005–2010	1,108	858	1,966	38
Total Wells Inspected	3,958	1,215	5,173	100

1. Wells that have been licenced by the Ministry and are actively producing.

2. Wells that have not been licenced by the Ministry and may be producing for private use.

the most likely pathways for contaminants to enter the groundwater or to rise from a well to the land surface.

We noted that, for the wells the Ministry has information on, 6% (or 1,625 wells) are not in use and have not been plugged. A further 30% (or 8,011) were plugged prior to 1970 when materials used to plug them included logs, gravel and lead which can lose their integrity over time. As a result, almost 36% of wells could pose a danger. We were informed that the gas explosion that took place in Wheatley, Ontario in August 2021, was in part due to a well that had been plugged in the 1960s, where the materials used to plug the well had deteriorated over time.

We asked the Natural Resources Ministry to indicate the number of wells considered high-risk that have been plugged, and high-risk wells that still need to be plugged. This information was not available. Based on our review of Ministry inspection reports we found one well in Southern Ontario has been leaking oil since at least 2018 and is scheduled to be plugged in 2022/23. Two other wells, also in Southern Ontario, are at a high risk of leaking gas. At the time of our audit, the Ministry did not have a timeline for plugging these wells. See **Figure 16** for the identity, details and status of these wells.

RECOMMENDATION 21

To minimize the risk to public safety and the environment from leaking oil and gas wells, we recommend that the Ministry of Natural Resources and Forestry:

- proactively identify high-risk wells, including previously plugged wells;
- establish an up-to-date registry of high-risk wells;
- immediately plug leaking wells; and
- plug other wells in a timely manner in order of their risk rating, or take other mitigative measures.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry will assess the risk of documented gas wells across the province and will use funding through the Abandoned Works Program to plug eligible high-risk wells. The Ministry will also report annually on its inspection activities and plugging program, including:

- the number of high-risk wells that were identified and inspected and criteria used in the assessment;

Figure 16: Details on High-Risk Unplugged Wells

Source: Ministry of Natural Resources and Forestry

Last Inspection Date	County	Township	Original Risk Rating Score*	Status
August 20, 2017	Haldimand	Sherbrooke	255	No plan to plug because of lack of land access; well is located in Lake Erie
May 17, 2018	Kent	Tilbury East	195	No plan to plug because no longer leaking; re-evaluation needed
July 6, 2018	Norfolk	Middleton	195	Plan to plug 2022/23

* A score equal to or greater than 190 is high risk.

- changes to the list of active and legacy high-risk wells that were identified through proactive and reactive inspections;
- the number of high-risk wells that were plugged; and
- an outlook for next fiscal year's inspection activities.

4.5.3 The Ontario Petroleum Data System Has a Limited Ability to Process Data and Produce Reports

The Ontario Petroleum Data System (wells database) was developed in 2001 by the Natural Resources Ministry and is the primary database used to manage petroleum operations in the province. The wells database contains technical data pertaining to wells regulated under the *Oil, Gas and Salt Resources Act*. It is considered a business-critical application because it is used to enter, edit, view and process data and produce reports and approvals, including licences for petroleum wells.

We found that the database has a limited ability to perform complex queries on data or produce reports. During our audit, we requested information on the number of well inspections conducted and their outcomes; the number of complaints, leaks, and follow-up visits to wells to ensure compliance; and other pertinent data. But the Ministry was unable to generate accurate reports from the wells database to respond to our queries. Further the Ministry told us not all

information is tracked in the database; some information is tracked manually on a separate spreadsheet.

The Ministry has been looking to transition to another application, and has submitted three business cases since 2019 to the Land Resources IT Cluster. We requested copies of the business cases from both the Ministry and the Land resources IT Cluster, but both were unable to locate the documents. The new application has since been incorporated into a larger plan to develop the Natural Resources Information Portal, a new online cloud-based service on the Ministry's website where people and businesses can access natural-resource management activities, including those related to the petroleum industry. Work on integrating the wells database into the information portal is expected to begin in September 2022.

4.5.4 Geographical Data on Wells Is Missing and the Ministry Does Not Share Risk Assessments of Oil Wells with Its Districts

While staff of the Ministry's Petroleum Operations Section (Group) are responsible for licensing, conducting inspections of wells and associated works regulated under the *Oil, Gas and Salt Resources Act*, and rehabilitating abandoned wells through the Ministry's Abandoned Works Program, district staff are responsible for completing the risk assessments for all hazards in their area of responsibility, including oil and gas wells. As part of our audit, we asked the Natural Resources Ministry to identify where wells were

located by district and reviewed Ministry and district risk assessments for oil wells.

The Group said it had determined that 12 of its 25 districts in Ontario do not have any wells regulated under the Act. However, of the 27,695 wells the Group had data on, it did not know exactly where 1,049 of these wells were located. The Group also acknowledged that there may be thousands of additional wells for which it did not have any information. Of the remaining wells for which the Group had geographical data, the districts with the most wells were Aylmer, with 9,508 abandoned wells and 3,259 active wells, and Guelph, with 5,233 abandoned wells and 1,071 active wells.

When we requested an overall risk assessment from Aylmer district about its active and inactive wells, we noted the district assessed the overall risk as low, while the Ministry had assessed it as moderate. When we inquired as to how the district rating was made, we were told by Ministry staff that the individuals who had completed the assessment at the district were no longer with the Ministry due to staff turnover and retirement and that the district staff had not been involved or collaborated with the Group on assessing the risk.

We also noted that of the 13 districts that had wells, six of them reported that they were unaware there were any wells in their area even though, for example, Cochrane had 178 wells according to the Group. This raises a concern that potentially high-risk wells are not being inspected. In our audit, we found no evidence that any inspections had been carried out in any districts other than Aylmer, Aurora and Guelph.

RECOMMENDATION 22

To address oil well risks both provincially and by district, we recommend that the Ministry of Natural Resources and Forestry:

- arrange for inspectors from its Petroleum Operations Section to meet annually with district office staff to assess the risk of oil wells in each district, collaboratively assign risk ratings and maintain documentation that supports each rating;

- educate district staff on the signs of abandoned wells and potential leaks, and have them contribute to enhancing an up-to-date inventory of oil wells; and
- based on the assessed risk, establish timely mitigation strategies that can be carried out provincially and at the district-level, such as targeted public safety messaging and local response plans.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry commits to have the Petroleum Operations Section meet annually with district office staff to assess and document the risk of active oil and gas wells in each district.

District staff will be educated on how to recognize petroleum wells that they may encounter while in the field. The information and accurate location can be established to allow for a petroleum inspector to follow up with a comprehensive evaluation and the proper personal protective equipment.

4.6 Drought

4.6.1 Outdated Low Water Response Strategy Leaves Ontario Without a Current Strategy for Mitigating Drought and Low-Water Conditions

The Ontario Low Water Response strategy was last updated in 2010. Its intent is to ensure provincial preparedness for drought/low-water conditions, to provide long- and short-term strategies to manage water supply and demand, and to support local response efforts in case of a drought/low-water event.

The Natural Resources Ministry is responsible for ensuring that conservation authorities collect, analyze and interpret data on water levels in their jurisdictions, and develop appropriate water resource management strategies to deal with drought/low-water conditions. The Ministry is also required to provide policy and direction to assist local authorities with managing water issues on a local level.

The Ontario Low Water Response strategy provides guidance on the measurement and reporting of low-water results to the Ministry, as well as recommended mitigation measures for severity levels. Three low-water condition levels and their corresponding recommended mitigation measures are described in the strategy:

- Low Water Level I – Early indication of a potential drought (conservation needed)
- Low Water Level II – Increased likelihood of drought (conservation and restrictions needed)
- Low Water Level III – High likelihood of drought (conservation, restrictions and regulation needed)

The low-water condition levels are determined by information collected from the Ministry's Surface Water Monitoring Centre and water monitoring stations operated by the conservation authorities. Emergencies with respect to low-water conditions are declared by municipalities and/or First Nations communities.

The Ontario Low Water Response strategy has not been updated since 2010. We found that some components of the strategy are outdated or no longer relevant, which could potentially lead to unclear roles and responsibilities. For example, the current strategy references the Ontario Water Directors' Committee, comprised of representatives from the ministries of Natural Resources and Forestry; Environment, Conservation and Parks; Agriculture, Food and Rural Affairs; and Municipal Affairs and Housing, as well as conservation authorities. The Committee was responsible for overseeing implementation of low-water mitigation and response strategies, and facilitating the sharing of information and best practices. However, it was disbanded in 2011, after only one year, and the responsibility for overseeing the implementation of low-water mitigation and response strategies has since been delegated to conservation authorities and municipalities. At the time of our audit, the Ministry had no timetable for the review and update of the strategy.

RECOMMENDATION 23

In order to strengthen the province's preparedness in case of drought or low-water conditions, we recommend that the Ministry of Natural Resources and Forestry review and update the current Ontario Low Water Response strategy to reflect current objectives and best practices.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry will continue to monitor watershed conditions through the Surface Water Monitoring Centre. Recent changes in 2021 to the Permit to Take Water Program, administered through the Ministry of Environment, Conservation and Parks (MECP), allows MECP to put restrictions on Permit to Take Water holders when needed to mitigate drought and low water conditions.

The Ministry will also review and update the current Ontario Low Water Response plan to ensure it is relevant and reflects current objectives and best practices. The Ministry will communicate the updated plan to municipalities, conservation authorities and First Nations.

4.6.2 Some District Risk Assessments Do Not Reflect Actual Low Water Conditions in Ontario

Natural Resources Ministry districts are required to complete district risk assessments for drought and low-water conditions, as well as update the assessments at least annually or as additional information becomes available.

When we reviewed the Ministry's district risk profiles, we found that some district risk assessments did not reflect current and changing conditions such as recent low-water activity within their watersheds.

A 2014 study published by the Water Policy and Governance Group at the University of Waterloo, in partnership with Conservation Ontario and the Ontario Ministry of Agriculture, Food and Rural Affairs, examined the frequency and duration of low-water

conditions tracked by conservation authorities over the 13-year period of 2001 to 2013. The study encompassed a review of the average number of weeks per year that each conservation authority experienced low-water conditions consistent with the Ministry's criteria for Level I, II or III severity levels. The study found that 23 of Ontario's 36 conservation authorities experienced at least some fluctuations in the average yearly duration of low-water conditions in the period.

To determine whether there were any changes in low-water conditions within Ontario watersheds in the seven years since the 2014 study, we compared the total number of weeks that conservation authorities experienced low-water levels in 2021, using data from the Ministry's Surface Water Monitoring Centre, with historical data from the 2014 study. Based on our comparative analysis, we found that some conservation authorities experienced a significant shift in the duration of low-water conditions in their watersheds in 2021, as compared to the average annual duration from 2001 to 2013.

Specifically, we found that 52% (12/23) of conservation authorities had a higher number of weeks of low-water conditions in 2021 as compared to the prior period studied (2001–2013). Of those 12, we found that nine conservation authorities were located in districts where the Ministry decreased the risk rating for drought/low water between 2014 and 2021. Refer to **Figure 17** for a summary of the results. This suggests district risk assessments may not reflect actual low-water conditions.

RECOMMENDATION 24

So that measures are developed to prepare for and mitigate drought/low-water emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- work with District Offices to review district risk assessments on an annual basis, taking into consideration drought and low-water conditions experienced in recent years; and
- leverage risk assessments to set priorities and implement best practice mitigation strategies.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with this recommendation and will use all available data and best scientific practices to assess the risk of drought and low water, including the use of existing mitigation strategies as it reviews its Provincial Low Water/Drought Strategy.

Further, the Ministry, as part of its review of the hazard identification and risk assessment process, will review the processes for communicating hazard-related information to stakeholders, including conservation authorities, municipalities, unorganized territory residents and First Nation partners.

4.7 Erosion and Soil/Bedrock Instability

4.7.1 Ministry Has Taken Little Action to Mitigate the Risk to Properties in Areas Susceptible to Erosion

The combination of a changing climate, settlement patterns along waterways, and an increase in seasonal property investments is exposing more properties and assets to shoreline erosion. This has affected parts of Ontario, including the Lake Erie coast, where there is significant coastal/shoreline erosion and wave action. Locations on Lake Ontario and Lake Huron have also experienced significant erosion. A 2020 study by an environmental consulting firm hired by the Municipality of Chatham-Kent found that without proper intervention, a 58-square kilometre area around Chatham-Kent on Lake Erie is at risk of potential damage to 478 buildings and financial losses of up to \$66 million due to erosion. Our audit found that the Natural Resources Ministry has not taken steps to proactively reduce the risks to residents and properties located in areas that are susceptible to erosion.

The Special Advisor's Report on the 2019 flood events points out that shoreline protection structures such as stone break walls have been erected in some areas along the Lake Erie shoreline to slow erosion rates. However, these structures do not stop erosion of

Figure 17: Change in Total Weeks of Low-Water Conditions in Select Conservation Authorities

Prepared by the Office of the Auditor General of Ontario

Conservation Authority	District	Total Weeks of Low-Water Levels in 2021	Change ^{1,2}	Ministry Risk Rating by District (2014) ³	Ministry Risk Rating by District (2021) ³	Change in Ministry Risk Rating by District ²
Credit Valley	Aurora	16	↑	Low	Low	n.c.
Halton	Aurora	4	↓	Low	Low	n.c.
Lake Simcoe Region	Aurora	20	↑	Low	Low	n.c.
Toronto and Region	Aurora	8	n.c.	Low	Low	n.c.
Central Lake Ontario ⁴	Aurora	8	n.c.	Low	Low	n.c.
Lower Thames Valley	Aylmer	12	↑	High	Very Low	↓
St. Clair Region	Aylmer	16	↑	High	Very Low	↓
Upper Thames Valley ⁴	Aylmer	12	↓	High	Very Low	↓
Hamilton	Guelph	20	↑	High	Very Low	↓
Ausable Bayfield	Guelph	8	↓	High	Very Low	↓
Grand River	Guelph	16	n.c.	High	Very Low	↓
Mississippi Valley	Kemptville	4	↓	Extreme	Very Low	↓
Raisin Region	Kemptville	8	↑	Extreme	Very Low	↓
Rideau Valley	Kemptville	12	↑	Extreme	Very Low	↓
South Nation	Kemptville	8	↑	Extreme	Very Low	↓
Saugeen Valley	Midhurst	4	n.c.	Moderate	Low	↓
Northbay-Mattawa	North Bay	8	↑	Low	Low	n.c.
Ganaraska Region	Peterborough	8	↓	High	Moderate	↓
Otonabee	Peterborough	8	n.c.	High	Moderate	↓
Cataraqui Region	Peterborough	24	↑	High	Moderate	↓
Lower Trent	Peterborough	12	↑	High	Moderate	↓
Quinte	Peterborough	20	↑	High	Moderate	↓
Lakehead	Thunder Bay	12	n.c.	Moderate	Moderate	n.c.

1. Compared to the average number of weeks of low-water conditions reported from 2001 to 2013, as determined by a 2014 study published by the Water Policy and Governance Group at the University of Waterloo, in partnership with Conservation Ontario and the Ontario Ministry of Agriculture, Food and Rural Affairs.
2. n.c. indicates there was no change.
3. Based on the risk rating recorded for districts in the relevant Hazard Identification Risk Assessment prepared by the Ministry's Head Office.
4. Total weeks shown includes four weeks of Level II low-water levels. The rest experienced Level I low-water levels only. Level I low-water indicates conditions that meet one or more of the following criteria: precipitation is less than 80% of the three-month or 18-month monthly averages; and stream flow is less than 70% of the average spring or summer flow. Level II indicates low-water conditions that meet one or more of the following criteria: precipitation is less than 60% of the one-month, three-month, or 18-month monthly averages; more than one week with less than 7.6 mm of precipitation; and stream flow is 50%–70% of the average spring or summer flow.

the lake bottom in front of the structures, which results in a deeper nearshore, lake-bottom slope that impacts the shoreline.

In any case, these short-term structures are a reactive measure for dealing with shoreline erosion that will not address the problem in the long-term. Some jurisdictions with a high risk of erosion, such as the US states of New Jersey, Florida and Minnesota, have implemented property buy-back programs. When we asked the Ministry whether it has considered this option for high-risk properties in Ontario, the Ministry told us it had not considered implementing a buy-back program as a means of reducing harm to people and property resulting from erosion, and that it had not conducted any studies to identify high-risk properties.

The Ministry informed us that municipalities and conservation authorities have been updating shoreline management plans on Lake Ontario, Lake Erie and Lake Huron, as well as the St. Lawrence River in recent years. However, the Ministry does not track or compile provincial hazard mapping created by municipalities or conservation authorities for shoreline erosion.

Municipalities and conservation authorities also regulate development in and around erosion hazard limits. Beyond giving conservation authorities the power to regulate development in areas susceptible to erosion hazards and to maintain shoreline management plans, no other short- or long-term mitigation strategies are in place in the province.

Public awareness is key to implementing mitigative strategies for emerging hazards such as erosion. For example, in the United States, members of a coastwide environmental group monitor the progress of shoreline changes at “erosion hot spots.” Such projects can improve public understanding of coastal processes, and lead to greater buy-in and ownership of erosion-management strategies. In contrast, the Ministry’s only public outreach on erosion was a short video campaign in March 2021 posted on the Ministry’s website.

We asked the Ministry whether it had considered programs to educate residents or had developed programs requiring notices to be included with real estate transactions so that new or potential property owners

were made aware of identified erosion risks. The Ministry told us it had no plans to engage in these types of initiatives. The Ministry further told us that conservation authorities may provide this service to speculative buyers and real estate agents, and that homebuyers and agents should take reasonable steps to complete their own due diligence.

RECOMMENDATION 25

To mitigate the risk to properties located in areas susceptible to erosion, we recommend that the Ministry of Natural Resources and Forestry:

- work collaboratively with other government ministries, agencies and environmental experts to identify and map properties located in areas susceptible to erosion, and develop a provincial map to assist in developing priorities and strategies; and
- identify and implement community-based erosion-awareness and education programs, especially for residents in high-risk areas.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry does not collect information about areas at potential high risk for erosion, and municipalities are not required to share erosion risk information with the Province, provincial agencies or the public. Conservation authorities identify and map areas susceptible to erosion as part of administering their development, interference with wetland and alterations to shorelines and watercourses. The Ministry will work with conservation authorities and municipalities to provide the public with any information or maps that they have, identifying areas that may be at high risk for erosion. The Ministry will review and update its erosions hazard technical guides and will make all updated guides available to the public once the updates are complete.

4.7.2 Inadequate Risk Assessment and Preparation for Sinkholes

Sinkholes can happen when bedrock—the rocky material found under soil, sand and gravel—is unstable. Some sinkholes are the result of natural causes such as water erosion, while others are caused by human activities, such as broken watermain, collapsing sewers, or abandoned mines. Naturally occurring sinkholes may also be as a result of geo-features such as a karst (a form of soluble rock such as limestone) or marine clay (a form of soft soil due to its high moisture content).

Natural Resources Ministry staff told us that it does not consider “soil and bedrock instability” under Order in Council (1039/2022) to include sinkholes, and therefore regards them as outside the Ministry’s scope of responsibility. Consequently, at the time of our audit the Ministry had no plans to undertake land-subsidence and sinkhole risk assessments or to revisit its existing risk assessments. Yet we noted that the Ministry’s website specifically covers discussion of landslide and sinkhole emergencies. Additionally, its 2021 media campaign included coverage of sinkholes among other hazards under its purview of responsibility.

Sinkholes have occurred in Ontario in recent years, for example, in Toronto (most recently in 2021), Ottawa (2016, 2017, 2018 and 2019), Thunder Bay (2013 and 2016), and Timmins in June and July 2022. However, the Ministry does not track sinkhole events or their cause, whether it be human activity or a naturally occurring event. This has been the case even in instances where the cause was a leaking gas well for which the Ministry is assigned responsibility under Order in Council. This was the case in Norfolk County.

We contacted the Ministry of Forests in British Columbia and were informed that they respond to potential or actual landslides, erosion, sinkholes and land-subsidence threats on Crown land, and to threats to public safety on private land, municipalities and regional districts. As well, we were told that one of British Columbia’s main research activities is to gain a better understanding of the increased risk of landslides and erosion after wildfires.

Given Ontario’s increasing number of floods and wildland fires, its recent sinkhole occurrences, the impacts of climate change, increases in population and the existence of almost 27,000 oil and gas wells and 6,000 abandoned mines in the province, it is important for the Ministry to clarify its mandate. It should undertake targeted risk assessments in conjunction with municipalities and conservation authorities to identify potential land-subsidence hazards and sinkholes.

RECOMMENDATION 26

To reduce the risks associated with sinkholes and other land-subsidence incidents, we recommend that the Ministry of Natural Resources and Forests, in conjunction with Treasury Board Secretariat/Emergency Management Ontario:

- clarify the Ministry’s responsibilities under the Order in Council (1039/2022) as it relates to sinkholes;
- collect the data needed to properly assess the risk for soil and bedrock instability, including sinkholes and other land-subsidence incidents, across all districts; and
- develop prevention and mitigation measures to prioritize and address at-risk areas for sinkholes, in conjunction with foresters and other experts.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry considers naturally occurring sinkholes to be a component of its Soil Erosion and Bedrock Instability Order in Council and will consider this within its consultations with Emergency Management Ontario on defining sinkholes within its existing Order in Council Definitions. Further the Ministry will assess the risk of sinkholes where there is known risk of occurrence in consultation with subject matter experts while undertaking its Hazard Identification Risk Assessment process. The Ministry will review and update its natural hazard technical guides and bulletins related to hazardous sites, including soil and bedrock instability, as

needed, and will make all updated guides available to the public once the updates are complete.

4.7.3 Ministry Technical Guides for Erosion Prevention and Mitigation Require Updating

In 2020, the Professional Geoscientists of Ontario submitted a letter to the Ministry recommending that technical guidelines for erosion be updated “to reflect current science and technology advancements,” specific technical issues, and guidelines for policy application. More specifically, it recommended that the Ministry revisit and update two erosion hazard assessment technical guidelines:

- Understanding Natural Hazards: Great Lakes – St. Lawrence River System and Large Inland Lakes, River and Stream Systems and Hazardous Sites (2001)
- Technical Guide – River & Stream Systems: Erosion Hazard Limit (2002)

The Ministry told us that in 2021 it engaged an external environmental consultant to conduct a comprehensive review of the first technical guide listed above, and expects the review to be complete by March 2023. At the time of our audit, the Ministry did not have plans to update the second guide.

For further information on other outdated technical guides and our related recommendation, see **Section 4.1.6**.

4.8 Hazard Identification and Risk Assessments

4.8.1 The Hazard Identification and Risk Assessment Process Is Not Always Timely or Co-ordinated Across the Province

According to the Natural Resource Ministry’s Emergency Response Plan, each of the Ministry’s 25 districts is expected to maintain a current district assessment for all hazards it is assigned to monitor. The risk assessments provide context for districts to respond to hazards in their geographic areas of responsibility. During our review of district risk assessments,

we found that 16 districts had not updated their assessments since 2018. According to the Ministry’s Emergency Response Plan, districts are required to revisit their assessments each year in order to maintain a current assessment.

We identified issues with the approach used by districts to conduct risk assessments. For example, we found that districts in the Northeast and Northwest regions of Ontario used four levels of risk rankings when completing their risk assessments, while the Southern region used six levels of risk rankings. Using different approaches does not allow for a comparison or consistent assessment of risks for similar hazards across the province.

Further, contrary to best practices, we found that districts were not consulting with hazard experts (including those within the Ministry such as the Aviation, Fire and Forest Emergency Services group), municipalities, First Nations communities and local stakeholders during the risk assessment process to ensure the districts were appropriately informed. Additionally, there was no documentation showing who completed the risk assessment, and at least two districts reported that, as a result of retirements and staff turnover, they could not identify who had participated in the assessment or explain why certain ratings were assigned.

In addition to district risk assessments, a provincial hazard risk assessment was completed by the Natural Resources Ministry’s Aviation, Fire and Forest Emergency Services Branch in 2018. We were told that the provincial assessment is used to prioritize programs and resources for emergency management and response. We noted differences between the Ministry’s provincial risk assessment ratings for districts and the districts’ own self-assessed ratings. For example, the provincial risk assessment listed the risk for floods in Bancroft as “extreme” and fire risk “very high”, while the district rated the risk of floods as “moderate” and fire risk as “low.” We also noted that, where the provincial risk assessment used maps of historical fires updated as of 2018, only seven districts used those same maps; two districts used 2011 maps and seven used 2003 maps to assess fire risk. Having both

the district offices and the Aviation, Fire and Forest Emergency Services Branch complete risk assessments independently for each type of hazard assigned to the Ministry, is a duplication of effort.

RECOMMENDATION 27

So that risk assessments for assigned hazards are updated periodically and are consistently completed at all levels using a co-ordinated approach, we recommend the Ministry of Natural Resources and Forestry:

- update district risk assessments at least every three years in consultation with hazard experts, First Nations communities, conservation authorities and local stakeholders. These assessments should consider impacts of climate change and population growth, and include documenting progress on mitigation strategies, developing new mitigation strategies, and revising ratings as appropriate;
- provide training to district staff, local stakeholders and First Nations communities on how to complete a standardized risk assessment according to the Ontario Hazard Identification and Risk Assessment process and how to develop specific, measurable mitigation strategies; and
- revise current practices so that provincial risk assessments are compiled from district risk assessments in a bottom-up approach with local input.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry accepts this recommendation and will leverage all available data, best practices, and provincial program direction to assess current hazards and their associated current risks, with appropriate consideration for risk mitigation opportunities.

The Ministry will conduct an internal review using a dedicated team, to assess and improve its hazard identification and risk assessment methodologies and ensure they are updated periodically.

The Ministry will also work with partners and stakeholders to complete all applicable risk assessments with local input to develop risk mitigation strategies, as appropriate.

4.9 Unorganized Territories

4.9.1 Ministry Mandate Is Unclear Regarding Emergency Response for Unorganized Territories

Based on the Statistics Canada 2021 census, about 35,000 Ontarians live in unorganized territories (an increase of 5% from 2016). Under the *Municipal Act, S.O. 2001*, an unorganized territory is a geographic area without municipal organization. The legislative requirements under the *Emergency Management and Civil Protection Act* do not apply to unorganized areas and they are not required to establish emergency plans to govern emergency response activities. As a result, when residents within unorganized territories are unable to look after their own emergency needs, the Province may be called upon for emergency response support.

The Natural Resources Ministry was not called to assist with any emergency response efforts in unorganized areas during the period 2017 to 2021. Nevertheless, Ministry staff told us that its mandate regarding emergency response and evacuations in unorganized areas is ambiguous and unclear to both the Ministry and Emergency Management Ontario (EMO). The Ministry told us that based on references in legislation and various emergency response and support plans, it recognizes that it has a leadership role in responding to hazards in unorganized territories where its Order in Council mandate applies. What is less clear to the Ministry is who is legally required to assume the lead in all other aspects of emergency response such as, arranging for evacuations and securing host communities and related supports. In cases of emergencies impacting First Nations communities, EMO typically leads and co-ordinates evacuations and services with host communities.

We further noted that the *Emergency Management and Civil Protection Act* addresses municipal emergency

planning and response, as well as the Ontario Public Service's planning and response, but does not consider the "in-betweens" such as unorganized territories.

RECOMMENDATION 28

In order to provide an effective and co-ordinated response to emergencies and evacuations in unorganized territories, we recommend that the Ministry of Natural Resources and Forestry, in conjunction with Emergency Management Ontario:

- clarify and formalize legal roles and responsibilities for emergency response and evacuations in unorganized territories; and
- determine whether existing regulation, policies and plans (for example, the Ministry's Emergency Response Plan) contain gaps that should be addressed for improved clarity and understanding of respective roles and responsibilities for emergency response and evacuations in unorganized territories.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry agrees with this recommendation and will actively work to improve its emergency planning and preparedness in support of unorganized territories. This work will build upon identified lessons learned and the needs of partners and the public, as well as entail a review of existing regulations, policies, and processes to clarify roles and responsibilities. This work will also endeavour to enhance emergency preparedness and response, such as reviewing local evacuation capacity.

Further, Emergency Management Ontario is committed to reviewing roles and responsibilities related to supporting unorganized territories, and intends to implement internal working groups that will address gaps in policy and regulatory frameworks, in order to improve understanding of the respective roles and responsibilities for emergency response and evacuations in unorganized territories.

4.10 Performance Indicators

4.10.1 Natural Resources Ministry and Mines Ministry Have Few Key Performance Indicators to Measure Success of Emergency Management Program

The Natural Resources Ministry only has four key performance indicators in place to assess its emergency management program. While there is one indicator to measure success for each of floods, forest fires, and petroleum operations, there are no other indicators to evaluate the other hazards that the Ministry is responsible for addressing, namely: drought/low water, erosion and soil and bedrock instability, and dam failures. Further, while the Ministry's annual report outlines its key program objectives and initiatives, including initiatives such as continuing to promote its FireSmart program, providing active emergency management training, and implementing Ontario's Flooding Strategy, there are no associated measures and targets in place to evaluate the progress of these initiatives. Measuring and reporting on performance can inform management and other stakeholders on the progress of the emergency management program and whether program objectives are being met sufficiently.

Figure 18 summarizes the indicators, intended outcomes, target, and the results for the past five years.

We also identified gaps in the existing measures. For example, while the intended outcome for flood response is the timely and effective notifications of potential flooding, the indicator only measures the number of flood messages issued and does not examine whether they were issued in a timely manner. In addition, while the measure for fire response is comparable to that of other jurisdictions (British Columbia measures the percentages of fires contained by 10 am the following day; Ontario measures the percentage of fires that are either smaller than four hectares in size or contained by noon the following day), the metric was not attained in the last five years. The Ministry has not evaluated the rationale for the shortcomings and what actions could be taken to improve its metrics.

We also found that although the Ministry has met its target for the completion of the Emergency

Figure 18: Key Performance Indicators Used by Ministry of Natural Resources and Forestry, 2016/17–2020/21

Source: Ministry of Natural Resources and Forestry

Indicator	Outcome	Target	Results ¹
Number of flood messages issued when required ²	Timely and effective notifications for potential flooding and response to wildland fires	116 flood messages (2020/21) ³	97 (2020/21) 110 (2019/20) 102 (2018/19) 85 (2017/18) 84 (2016/17)
Percentage of initial attack success for wildland fires response ⁴		96% initial attack success rate (2020/21) ³	90% (2020/21) 95% (2019/20) 92% (2018/19) 92% (2017/18) 94% (2016/17)
Satisfactory inspections of petroleum operations	Increased environmental and public safety	400 inspections (2016/17–2020/21)	339 (2020/21) 455 (2019/20) 444 (2018/19) 385 (2017/18) 429 (2016/17)
Completion of emergency management program legislative requirements (Emergency Management Ontario compliance review)	Ontario is prepared for emergencies and provision of critical government services	100% compliance (2016/17–2020/21)	100% (2020/21) 100% (2019/20) 100% (2018/19) 100% (2017/18) 100% (2016/17)

1. The years when the target was met are in **bold**. In years when there was no target set, the results were compared against the 2020/21 target.

2. This measures how often the Surface Water Monitoring Centre issues flood messages when certain thresholds are breached. There are numerous reporting thresholds, such as when 50 millimetres of rainfall is forecast to fall in less than 24 hours.

3. This indicator was a new Key Performance Indicator for 2020/21; the Ministry does not have target information available for previous years.

4. Initial attack success is defined as fires that meet the following conditions: the Ministry was the initial response agency, the fire was deemed to require a Full Response, and it was either put out before it grew to more than four hectares, or it was contained by noon the day after the first report. The number of fires meeting these criteria is divided by the total number of Full Response fires where the Ministry was the first responder, for an annual percentage.

Management Ontario compliance review for the last five years, the measure does not examine the quality of the Ministry's emergency management program. The Ministry simply indicates if they have met certain requirements with a brief explanation of how the requirement was met, such as having an emergency response plan and having performed practice tests for these response plans. This type of self-evaluation does not assess whether these plans and tests will help ensure that an organization is prepared to respond to a real-life emergency. Further, Emergency Management Ontario does not assess whether the Ministry's plans contain all the critical components they should have, or if the practice tests focused on high-risk areas and included all relevant parties. This issue was also noted in our 2017 audit report on Emergency Management in

Ontario and in our 2020 Special Report on Emergency Management in Ontario—Pandemic Response.

With regards to abandoned mine hazards, we noted that the Mines Ministry had not developed performance measures to evaluate and report on its efforts in managing this hazard.

RECOMMENDATION 29

So that management and other stakeholders are informed on the progress of the emergency management program, and whether program objectives are being achieved, we recommend that the Ministry of Natural Resources and Forestry and the Ministry of Mines:

- establish appropriate key performance indicators and targets for all hazards for which it is responsible, as well as its key programs and initiatives; and
- compile indicator results annually to assess whether the targets have been met and, in the case where a target was not met, implement actions for improvement.

MINISTRY OF NATURAL RESOURCES AND FORESTRY RESPONSE

The Ministry accepts this recommendation and will review and enhance its performance measurement framework, including the design of key performance indicators, to support the reporting of program effectiveness and take actions as required to support continuous improvement.

MINISTRY OF MINES RESPONSE

In addition to the Ministry continuing to track a key KPI that 100% of all Emergency Management Program legislative requirements are addressed, the Ministry will clarify overall program objectives and establish further KPIs and targets for the rehabilitation of abandoned mine hazards, aligned with the site prioritization assessments.

For the fiscal 2022/23 year-end, the Ministry will complete an assessment of key indicators that helps inform progress toward achieving targets identified above.

RECOMMENDATION 30

So that the emergency management programs in place at Ontario's ministries include all delegated responsibilities and are sufficiently preparing ministries to respond to emergencies, we recommend that Emergency Management Ontario implement an oversight process that routinely assesses the quality and sufficiency of the emergency management programs in place.

EMERGENCY MANAGEMENT ONTARIO RESPONSE

Treasury Board Secretariat, through Emergency Management Ontario, is committed to the continued implementation of the recommendations made in the Auditor General's 2017 and 2020 reports, and reiterated in this report, relating to an oversight process for assessing the quality and sufficiency of emergency management programs.

Appendix 1: Hazard Risk Rating by Type of Hazard and District

Source: Ministry of Natural Resources and Forestry

District Name	Ministry of Natural Resources and Forestry (Ministry) ¹						
	Wildland Fire	Flooding	Drought/ Low Water	Dam Failure	Erosion	Soil and Bedrock Instability	Crude Oil and Natural Gas Exploration
1. Red Lake	Extreme	Low	Low	Low	Low	Low	n/a
2. Kenora	Extreme	High	Moderate	Moderate	Low	Low	n/a
3. Sioux Lookout	Extreme	Moderate	Moderate	Low	Low	Low	n/a
4. Dryden	High	High	High	Moderate	Moderate	Low	n/a
5. Fort Frances	Moderate	Extreme	Moderate	Moderate	Moderate	Low	n/a
6. Thunder Bay	High	Extreme	Moderate	Moderate	Extreme	Low	n/a
7. Nipigon	Extreme	Moderate	Low	Moderate	Moderate	Low	n/a
8. Wawa	Extreme	Extreme	Moderate	Low	Moderate	Low	n/a
9. Hearst	High	Low	Low	Moderate	Moderate	Low	n/a
10. Cochrane	High	Extreme	Moderate	Low	Low	Low	n/a
11. Chapleau	Extreme	Moderate	Low	Moderate	Low	Not Known ²	n/a
12. Timmins	High	High	Low	High	Moderate	Low	n/a
13. Kirkland	High	Low	Low	High	Moderate	Moderate	Low
14. Sault Ste. Marie	High	Extreme	Not Completed ²	High	Extreme	Not Completed ²	n/a
15. Sudbury	High	Low	Low	Low	Low	Not Completed ²	n/a
16. North Bay	Extreme	Moderate	Low	Moderate	Low	Not Completed ²	n/a
17. Parry Sound*	High	High	Low	Moderate	Low	Low	n/a
18. Pembroke*	Low	Low	Very Low	Very Low	Moderate	Low	Very Low
19. Bancroft*	Very High	Extreme	Very Low	Low	Very Low	Very Low	Very Low
20. Midhurst*	Very Low	Moderate	Low	Very Low	Very Low	Very Low	Very Low
21. Guelph*	Very Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low
22. Aurora*	Moderate	High	Low	Moderate	Low	Low	n/a
23. Peterborough*	Low	Very High	Moderate	Low	Very Low	Very Low	Very Low
24. Kemptville*	Very Low	Low	Very Low	Very Low	Very Low	Very Low	Very Low
25. Aylmer *	Very Low	Very Low	Very Low	Very Low	Very Low	Very Low	Moderate

1. The Ministry's district offices are grouped into three regions. The two districts in the North use a four-level risk rating scale (Extreme, High, Moderate and Low), while the districts in the Southern region (*) use a six-level risk rating scale (Extreme, Very High, High, Moderate, Low and Very Low).

2. According to the Ministry, efforts are under way by districts to determine the extent of hazards identified as "Not Known" or "Not Completed."

Appendix 2: Mitigation and Preparedness Activities Related to Assigned Hazard

Source: Adapted from the Ministry of Natural Resources and Forestry and Ministry of Mines

	Mitigation Activity	Preparedness Activity
Floods	- Directing habitable areas and structures away from high-risk areas through technical guidance with floodplain mapping - Maintaining existing legacy structural measures (such as flood-proofing structures, dams) and non-structural measures (such as monitoring stream flows)	- Sandbagging operations to protect Ministry infrastructure and to supply municipalities when needed - The Surface Water Monitoring Centre evaluates flood potential daily through the Province's network of more than 600 water-monitoring stations and issues water-condition reports to Ministry districts and conservation authorities - The Ministry Emergency Operations Centre provides daily weather briefings
Forest Fires	- Wildfire protection planning programs; these include FireSmart, which is intended for homes, cottages and subdivisions that are built within the forest landscape and provides access to tools to assess their risk of fire and identify activities they can take to mitigate risk - Conducting prescribed burns—which involves setting planned fires at a time when the fire will not pose a threat to the public—to maintain the health of the forest	- Performing daily weather briefings and fire behaviour analysis - Developing an emergency response plan - Facilitating and managing 168 forest fire suppression agreements in place with municipalities, the federal government, First Nations, etc. to help assist with or receive assistance in putting out fires
Abandoned Mine Hazards	- Inspecting mine sites, including both active and abandoned mines, whether Ministry-held or private - Rehabilitating abandoned mine sites held by the Province - Reviewing and approving mine closure plans - Delivering public education programs to keep people away from dangerous sites	- Maintaining the Abandoned Mine Information System used to store information on all known active and abandoned mine sites, whether held by the Province or privately - Development of an emergency response plan
Dam Failures	- A risk assessment strategy to identify dams representing the highest risks in order to address these sites on a priority basis as resources are available - Guiding legislation, policies and standards: <i>The Lakes and Rivers Improvement Act</i>—Gives the Ministry the legislative authority to govern the design, construction, operation, maintenance and safety of dams in Ontario. Ontario Regulation 454/96 (Construction) outlines circumstances in which Ministry approval is required to construct a new dam or alter an existing dam. - Ontario Dam Safety Guidelines, 1999 (updated in 2011)—Defines requirements and outlines guidelines so that the safety of existing dams can be evaluated in a consistent and adequate manner across Ontario, and new dams can be designed and constructed to be safe.	

Mitigation Activity		Preparedness Activity
	• Bulletins and Best Management Practices—Produced by the Ministry to support the administration of the <i>Lakes and Rivers Improvement Act</i>, the bulletins specify requirements for such things as dam structural design and factors of safety; and dam decommissioning and removal. • The Ministry's Structural Design and Factors of Safety Technical Bulletin—Outlines the minimum structural standards a dam should meet after repairs. It provides direction and guidance to dam owners in meeting standards for structural design and factors of safety for concrete gravity dams and is to be used when considering dam applications for approval under the <i>Lakes and Rivers Improvement Act</i>. Repairs to the concrete extends the useful life of the dam by an estimated 40–50 years, whereas complete reconstruction has a life expectancy of 100 years due to improved quality control, standards and advances in material quality.	
Oil/Natural Gas	• Inspecting petroleum wells and works on both Crown and private land • Development of technical standards for the safe design, construction, operation, maintenance and decommissioning of wells • Administering the Abandoned Works Program • Taking compliance action to address issues at wells of concern	• Managing exploration and production records for internal compliance and enforcement activity and emergency management purposes. Certain information is also publicly accessible to stakeholders for land use and resource management
Erosion and Soil/Bedrock Instability	• Constructing erosion control structures • Directing properties and developments away from high-risk areas through technical guidance on erosion and dynamic beaches and land-use planning • Constructing shoreline protection structures (such as sheet pile walls and stone break walls)	• Risk assessments supplemented with maps to identify potential at-risk areas for erosion or soil/bedrock instability • Development of a district-level emergency response plan
Drought/Low Water	• Responding to low-water conditions by activating water restrictions and/or conservation under the Ontario Low Water Response Plan	• The Surface Water Monitoring Centre evaluates drought potential daily and provides water condition reports to Ministry districts and conservation authorities

Appendix 3: Listing of Significant Flood Events from 2017 to 2021 and Related Details, Sorted by District

Sources: Emergency Management Ontario and the Ministry of Natural Resources and Forestry

Location ¹	Year of Event	District ²	Jurisdiction Type	Date of Event	First Nation/ Municipality Declared an Emergency	Ministry of Natural Resources and Forestry Assisted with Response Efforts	Nature of Assistance Provided by Ministry			Costs Associated with the Ministry's Response ^{3,4} (\$ million)
							Evacuation Flights	Repatriation Flights	Sandbag Operations	
1. Municipality of Clarington	2017	Aurora	Municipality	May 8, 2017	✓					
2. Middlesex County	2021	Aylmer	Municipality	Sep 22, 2021	✓					
3. City of Brantford	2018	Aylmer	Municipality	Feb 21, 2018	✓					
4. City of Windsor	2017	Aylmer	Municipality	Aug 29, 2017						
5. Municipality of Chatham-Kent	2020	Aylmer	Municipality	Feb 28, 2020	✓					
6. Municipality of Chatham-Kent	2019	Aylmer	Municipality	Feb 8, 2019	✓					
7. Municipality of Chatham-Kent	2018	Aylmer	Municipality	Feb 23, 2018	✓					
8. Municipality of Chatham-Kent	2018	Aylmer	Municipality	Sep 27, 2018						
9. Municipality of Leamington	2019	Aylmer	Municipality	Oct 3, 2019						
10. Township of Mapleton	2017	Aylmer	Municipality	Jun 23, 2017	✓					
11. Township of St Clair	2021	Aylmer	Municipality	Mar 4, 2021	✓					
12. Hastings County	2019	Bancroft	Municipality	May 2, 2019						
13. Township of Minden Hills	2019	Bancroft	Municipality	Apr 24, 2019	✓					
14. Township of Minden Hills	2017	Bancroft	Municipality	May 6, 2017	✓					
15. Kashechewan First Nation	2020	Cochrane	First Nation	May 1, 2020	✓					
16. Kashechewan First Nation	2019	Cochrane	First Nation	Apr 29, 2019	✓	✓	✓	✓		1.3
17. Kashechewan First Nation	2018	Cochrane	First Nation	May 7, 2018	✓	✓	✓	✓		1.4
18. Kashechewan First Nation	2017	Cochrane	First Nation	Apr 14, 2017	✓	✓	✓	✓		0.9
19. Six Nations of the Grand River	2018	Guelph	First Nation	Feb 21, 2018	✓					
20. City of Clarence-Rockland	2019	Kemptville	Municipality	Apr 26, 2019	✓					
21. City of Clarence-Rockland	2017	Kemptville	Municipality	May 4, 2017	✓					

Location ¹	Year of Event	District ²	Jurisdiction Type	Date of Event	First Nation/ Municipality Declared an Emergency	Ministry of Natural Resources and Forestry Assisted with Response Efforts	Nature of Assistance Provided by Ministry			Costs Associated with the Ministry's Response ^{3,4} (\$ million)
							Evacuation Flights	Repatriation Flights	Sandbag Operations	
22. City of Ottawa	2019	Kemptville	Municipality	Apr 25, 2019	✓	✓			✓	
23. Township of Alfred and Plantagenet	2019	Kemptville	Municipality	Apr 27, 2019	✓					
24. Township of Champlain	2017	Kemptville	Municipality	May 7, 2017	✓					
25. Township of Greater Madawaska	2019	Kemptville	Municipality	Apr 28, 2019	✓					
26. Township of Horton	2019	Kemptville	Municipality	Apr 26, 2019	✓					
27. Township of McNab-Braeside	2019	Kemptville	Municipality	Apr 26, 2019	✓					
28. Township of Machin	2019	Kenora	Municipality	Jul 10, 2019	✓					
29. Wabaseemoong First Nation	2019	Kenora	First Nation	Oct 22, 2019						
30. Municipality of Meaford	2019	Midhurst	Municipality	Nov 1, 2019						
31. Town of Minto	2017	Midhurst	Municipality	Jun 23, 2017	✓					
32. City of Temiskaming Shores	2019	North Bay	Municipality	May 9, 2019	✓					
33. Municipality of West Nipissing	2019	North Bay	Municipality	May 9, 2019	✓					
34. Municipality of West Nipissing	2017	North Bay	Municipality	Jan 19, 2017						
35. District of Muskoka	2019	Parry Sound	Municipality	Apr 28, 2019	✓					
36. Town of Bracebridge	2019	Parry Sound	Municipality	Apr 23, 2019	✓					
37. Town of Huntsville	2019	Parry Sound	Municipality	Apr 25, 2019	✓					
38. Township of Muskoka Lakes	2019	Parry Sound	Municipality	Apr 28, 2019	✓					
39. City of Pembroke	2019	Pembroke	Municipality	May 9, 2019	✓					
40. Renfrew County	2019	Pembroke	Municipality	Apr 28, 2019	✓					
41. Town of Mattawa	2019	Pembroke	Municipality	May 6, 2019	✓					
42. Town of Petawawa	2019	Pembroke	Municipality	Apr 28, 2019	✓					
43. Township of Killaloe, Hagarty and Richards	2019	Pembroke	Municipality	Apr 29, 2019	✓					
44. Township of Laurentian Valley	2019	Pembroke	Municipality	Apr 27, 2019	✓					
45. Township of Whitewater Region	2019	Pembroke	Municipality	Apr 25, 2019	✓					

Location ¹	Year of Event	District ²	Jurisdiction Type	Date of Event	First Nation/ Municipality Declared an Emergency	Ministry of Natural Resources and Forestry Assisted with Response Efforts	Nature of Assistance Provided by Ministry			Costs Associated with the Ministry's Response (\$ million) ^{3,4}
							Evacuation Flights	Reparation Flights	Sandbag Operations	
46. Mohawks of the Bay of Quinte First Nation	2017	Peterborough	First Nation	May 11, 2017	✓					
47. Prince Edward County	2017	Peterborough	Municipality	May 9, 2017	✓	✓			✓	
48. Township of Frontenac Islands	2017	Peterborough	Municipality	May 16, 2017	✓					
49. Township of Macdonald Meredith and Aberdeen	2019	Sault Ste Marie	Municipality	Jun 10, 2019						
50. Bearskin Lake First Nation	2019	Sioux Lookout	First Nation	Nov 10, 2019	✓	✓	✓	✓		0.8
51. Kasabonika Lake First Nation	2020	Sioux Lookout	First Nation	Jun 23, 2020						
52. Municipality of French River	2019	Sudbury	Municipality	May 26, 2019	✓	✓			✓	
53. Township of Nolalu	2019	Thunder Bay	Municipality	Jun 4, 2019						
Total					43	7	4	4	3	4.4

Note: The Ministry also responded to declared flood emergencies and assisted with evacuations in the Kashechewan, Fort Albany and Attawapiskat First Nations in April/May 2022.

1. According to Emergency Management Ontario and the Ministry of Natural Resources and Forestry, none of the significant events, including declared emergencies, resulted in any fatalities or injuries to local residents or Ministry emergency response staff.
2. District boundaries as designated by the Ministry of Natural Resources and Forestry.
3. The Ministry only tracks costs incurred to evacuate/repatriate residents, which are reimbursed by Indigenous Services Canada. The costs incurred for sandbagging are unknown.
4. The Province does not track the cost of damage to the impacted communities.

Appendix 4: List of Significant Fire Events from 2017 to 2021 and Related Details, Sorted by District

Sources: Emergency Management Ontario and Ministry of Natural Resources and Forestry

Location	District	Jurisdiction Type	Fire Start Date	Duration (days) ¹	Cause	First Nation/ Municipality Declared an Emergency	Hectares Impacted ²	Nature of Assistance Provided by the Ministry of Natural Resources and Forestry			Costs Incurred by the Ministry for Flights (\$ million)	Costs Incurred by EMO for Host Communities (\$ million)
								Fighting Fires ³	Evacuation Flights	Repatriation Flights		
1. Weenusk First Nation	Cochrane	First Nation	Jun 11, 2018	23	Human		122.0	✓				
2. Wabaseemoong First Nation	Kenora	First Nation	Jun 8, 2021	146	Lightning	✓	191,810.6	✓				0.8 ⁴
3. Fort Hope First Nation (Eabametoong)	Nipigon	First Nation	Aug 9, 2020	39	Lightning	✓	6,678.0	✓	✓	✓	0.5	
4. Ginoogaming First Nation	Nipigon	First Nation	Jul 10, 2020	2	Lightning	✓	0.1	✓				
5. Nibinamik (Summer Beaver) First Nation	Nipigon	First Nation	Jul 27, 2017	62	Lightning		6,999.4	✓				
6. Temagami First Nation	North Bay	First Nation	Jul 5, 2018	41	Lightning		221.0	✓				
7. Henvey Inlet First Nation	Parry Sound	First Nation	Jul 18, 2018	106	Human	✓	11,362.5	✓				
8. Deer Lake First Nation	Red Lake	First Nation	Jun 30, 2021	98	Lightning	✓	53,521.9	✓	✓	✓	* ⁵	** ⁴
9. Keewaywin/North Spirit Lake First Nation	Red Lake	First Nation	Jun 15, 2019	102	Lightning		96,535.9	✓				
10. North Spirit Lake First Nation	Red Lake	First Nation	Jul 17, 2021	2	Lightning	✓	0.7	✓	✓	✓	* ⁵	** ⁴
11. Pikangikum First Nation	Red Lake	First Nation	Jul 12, 2021	1	Lightning	✓	0.1	✓	✓	✓	* ⁵	3.3 ⁴
12. Pikangikum First Nation	Red Lake	First Nation	Jun 30, 2019	67	Lightning		43,308.3	✓				
13. Pikangikum First Nation	Red Lake	First Nation	Jul 13, 2018	62	Lightning		5,477.8	✓				
14. Poplar Hill First Nation	Red Lake	First Nation	May 6, 2018	7	Human		16.5	✓				
15. Red Lake	Red Lake	Municipality	Jul 5, 2021	93	Lightning	✓	36,037.8	✓				
16. Red Lake	Red Lake	Municipality	Aug 10, 2020	25	Human	✓	552.0	✓				

Location	District	Jurisdiction Type	Fire Start Date	Duration (days) ¹	Cause	First Nation/ Municipality Declared an Emergency	Hectares Impacted ²	Nature of Assistance Provided by the Ministry of Natural Resources and Forestry			Costs Incurred by the Ministry for Flights (\$ million)	Costs Incurred by EMO for Host Communities (\$ million)
								Fighting Fires ³	Evacuation Flights	Repatriation Flights		
17. Bearskin Lake First Nation	Sioux Lookout	First Nation	Jul 7, 2021	20	Lightning	✓	256.5	✓	✓	✓	* ⁵	** ⁴
18. Cat Lake First Nation	Sioux Lookout	First Nation	Jul 20, 2021	3	Lightning	✓	1.3	✓	✓	✓	* ⁵	2.1 ⁴
19. Pickle Lake	Sioux Lookout	Municipality	Jun 6, 2019	19	Human		824.2	✓				
20. Gogama/Mattagami First Nations	Timmins	Municipality/ First Nation	Jun 6, 2019	54	Human		4,645.0	✓				
Total⁶						11		20	6	6	8.6	6.2

1. Number of days lapsed from the date the fire is detected to the date the fire is extinguished.

2. There were no reported injuries or fatalities in the impacted communities.

3. There were no reported fatalities of firefighters involved in the response efforts.

4. EMO started to incur costs for host communities and related supports in 2021. However, it only provided us with cost information for three of the six evacuations which occurred in 2021. Costs noted with an ** were not provided.

5. Costs incurred by the Ministry to evacuate communities (noted with an *) totaled \$8.1 million.

6. EMO listed nine additional fires from 2017 to 2021 without providing specific details. These events do not relate to one specific forest fire, and could include events reported in this list.

Appendix 5: Significant Incidents Involving Abandoned Mines, 2017–2021

Prepared by the Office of the Auditor General of Ontario

Mine Site	Year	District	Region	Nature of Event	Rehabilitation Cost to Ministry	Rehabilitation Measure
1. Capitol	2019	Kirkland Lake	Northeast	Ministry inspection noted a significant deterioration of shaft cap, snow fencing and signs around shaft posing a threat to public safety (i.e., potential for an individual to fall into an open shaft)	\$124,238	Long-term secure fencing was placed around mine hazards
2. Clavos	2019	Timmins	Northeast	Mine owner went into receivership in July 2018, with owner abandoning site in early January 2019, leaving unrehabilitated hazards (such as mine openings to surface, used fuel, and chemicals) unsecured and posing a threat to public safety	NIL	In late January 2019, third party was appointed by a court to provide site security to secure hazards until sale to new owner was finalized
3. Howey Mine	2019	Red Lake	Northwest	Ministry inspection noted a slumping of rock layer between ground surface and underground mine and breaching of fence around open hole, posing a threat to public safety (i.e., potential for a cave-in or for an individual to fall into open hole). The mine owner was not accepting responsibility for rehabilitation	NIL	Minister ordered mine owner to rehabilitate the mine hazards
4. Crown Point	2018	Thunder Bay	Northwest	Two local persons entered the mine and discovered old and unstable explosives estimated to be between 60–90 years old	\$106,480	Access to the mine openings was blocked
5. Eagle River	2019	Thunder Bay	Northwest	Ministry inspection noted an instability of the tailings facility that posed a significant risk of dam failure, which would be detrimental to the environment	NIL	Minister ordered mine owner to stabilize the dam
6. Silver Mountain East	2019	Thunder Bay	Northwest	Several individuals entered the mines, exposing themselves to the hazard of an unstable rock layer between the ground surface and the underground mine that could lead to a potential cave-in	\$1,062,372	Mine openings were backfilled and fencing and bat gates were installed
7. Silver Mountain West	2019	Thunder Bay	Northwest	Contains additional hazards such as shafts, failed rock layer between the ground surface and the underground mine, pits and open stopes to surface that are likely to pose a threat to public safety	Included in above	Mine openings were backfilled
8. Kearney Graphite	2020	Parry Sound	Southern	Mine owner went into creditor protection leaving hazards at the site such as waste rock pile, tailings area, and polishing pond that have resulted in chemicals leaching into groundwater and impacting local waterbodies	\$2,542,250	Ongoing mine water management and treatment at tailings facility and polishing pond
Total					\$3,835,340	

Note: There were no deaths or injuries resulting from any of the abandoned mine incidents.

Appendix 6: Breakdown of Oil and Gas Wells, as of May 2022

Prepared by the Office of the Auditor General of Ontario

Well Mode	Definition	Number of Wells
Abandoned	A well that is officially plugged and abandoned	15,187
Abandoned and whipstocked	A well drilled and plugged back with another hole that has been drilled out of the same well bore (using a curved steel wedge, i.e., a whipstock, to start off the drilling of the new hole)	26
Abandoned and junked (lost)	A well abandoned because of mechanical difficulties in the hole	111
Active	A well that is in operation in accordance with the purpose for which it is licensed	3,417
Capped	A well capable of producing that has not yet been put into production	6
Not drilled	A location for which a well licence has been issued but the well has not been drilled	54
Potential	A newly drilled or recompleted well in which suitability for production, injection or storage is assumed but not proven	6
Suspended	A well that failed to achieve, or is no longer being used for, its licensed purpose, and the well has not been plugged	931
No well found	A well that could not be located in the field by a petroleum inspector	817
Unknown	A well for which there is no available information on mode in Ministry records	6,465
Total		27,020

Appendix 7: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

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1. **Mitigation:** Processes are in place to mitigate the effects of an emergency or disaster involving an assigned hazard.
 2. **Preparedness:** A plan is in place prior to an emergency or disaster involving an assigned hazard that would ensure an effective response.
 3. **Response:** The response to an emergency involving an assigned hazard is effective, rapid, controlled and co-ordinated.
 4. **Recovery:** Activities following an emergency or disaster involving an assigned hazard are effective in helping individuals, businesses and communities return to a state of normalcy.
 5. **Oversight, Governance and Coordination:** Effective governance and accountability structures are in place to oversee the Ministry's emergency management and response to assigned hazards. There also is effective co-ordination between partners, stakeholders and the Ministry during emergency management and emergency response activities.
 6. **Measurement and Reporting of Performance:** Meaningful performance measures exist for the Ministry's emergency management program to evaluate and report on its response efforts and, where necessary, corrective action is taken on a timely basis.
 7. **Staffing:** Emergency management and emergency response activities are adequately staffed with qualified, well-trained individuals.
 8. **Procurement:** Adequate processes are in place to ensure that goods and services utilized by the Ministry in its management of emergencies (including information technology, consultant services, employee expenses and contractors) are acquired in accordance with government guidelines and directives.
 9. **Information Systems:** Emergency-management information systems should provide timely, accurate, relevant and complete information to assist with emergency management and performance measurement and reporting.
-

Appendix 8: List of Technical Guides and Bulletins for Assigned Hazards¹

Source: Ministry of Natural Resources and Forestry

Title of Document	Last Updated	Floods	Drought / Low Water	Erosion	Soil/Bedrock Instability	Dam Failure ²
Technical Guide – Hazardous Sites	1996				✓	
Technical Guide – Large Inland Lakes and Shorelines: Flooding, Erosion and Dynamic Beaches	1996	✓		✓		
Great Lakes-St. Lawrence River System and Large Inland Lakes [Technical Guides for Flooding, Erosion, and Dynamic Beaches in Support of Natural Hazards Policies 3.1 of the Provincial Policy Statement (1997) of the <i>Planning Act</i>]	2001	✓		✓		
Technical Guide – Understanding Natural Hazards	2001	✓		✓	✓	
Technical Guide – River and Stream Systems: Erosion Hazard Limit	2002			✓		
Technical Guide – River and Stream Systems: Flooding Hazard Limit	2002	✓				
Technical Guide – Special Policy Areas (Updated Appendix 5) [Procedures for Approval of New Special Policy Areas (SPAs) and Modifications to Existing SPAs Under the Provincial Policy Statement, 2005]	2009	✓				
Technical Bulletin – Classification and Inflow Design Flood Criteria	2011					✓
Technical Bulletin – Dam Decommissioning and Removal	2011					✓
Technical Bulletin – Geotechnical Design and Factors of Safety	2011					✓
Technical Bulletin – Seismic Hazard Criteria, Assessment and Considerations	2011					✓
Technical Bulletin – Spillways and Flood Control Structures	2011					✓
Technical Bulletin – Structural Design and Factors of Safety	2011					✓
Technical Bulletin – Location Approval for Dams	2015					✓
Technical Bulletin – Maintaining Water Management Plans	2016					✓
Technical Guide – Alterations, Improvements and Repairs to Existing Dams	2016					✓

1. There are no technical guides or bulletins related to forest fires.

2. The Ministry has also produced two guides on best management practices regarding dams: Public Safety Around Dams (2011) and Dam Safety Reviews (2011).

Office of the Corporate Chief Information Officer

1.0 Summary

The Ontario Public Service (OPS) uses a vast array of information technology (IT) systems to deliver government programs and services, from issuing health cards and drivers' licences to providing family support programs and COVID-19 grants. IT systems have become crucial for Ontarians. In 1998, the Government of Ontario established the Office of the Corporate Chief Information Officer (CCIO) to provide IT support to all its provincial ministries as well as to Cabinet Office and the Premier's Office.

The CCIO is directly responsible for IT needs that exist across the OPS. For instance, the CCIO establishes and maintains IT strategic planning, policies, standards and best practices such as the information security, application development, and database management standards. On behalf of the ministries, it also procures and maintains hardware such as laptops and mobile phones for all OPS employees, and is responsible for securing the overall OPS' IT network from cyberattacks. As well, the CCIO manages two data centres, located in Guelph and Kingston, that house the servers and host the databases associated with 1,200 IT systems storing Ontarians' data.

Ministry-specific IT needs are directly addressed by eight IT service "clusters", so called because they are responsible for providing IT services and support unique to a specified cluster, or group, of ministries. For example, one IT cluster is the Health Services Cluster, which groups together the Ministry of Health and Ministry of Long-Term Care and operates many IT systems unique to the health-care sector, like the

Client Registration System for storing patient data and contact information. The eight IT clusters are managed by the ministries and report to deputy ministers. The CCIO provides services and consultation to these cluster employees, who in turn manage and make decisions about the IT systems used by the Ontario public. The CCIO reports into the Ministry of Public and Business Service Delivery (Ministry) with a mandate to ensure the provincial government's IT services are effectively and efficiently delivered. Our audit found that a consequence of the reporting structure—whereby IT clusters report to their respective deputy ministers and not the CCIO—is that the CCIO does not have oversight, accountability, and authority for day-to-day IT operations and decision-making at the eight IT clusters. Without such oversight, the CCIO is unable to fulfill its mandate and ensure that IT services such as procurement, vendor performance, and cybersecurity are in fact delivered effectively and with due regard for economy.

We determined that cybersecurity practices at the OPS need improvement. Ontarians' personal and sensitive data stored within IT systems that we reviewed were not protected using cybersecurity controls such as encryption. We reviewed controls related to cybersecurity assessments. Due to the nature of cybersecurity, and so as to minimize the risk of exposure for the OPS, we provided relevant details of our findings and recommendations directly to the CCIO. The CCIO agreed with the recommendation and committed to safeguarding the data entrusted to the government by the people and businesses of Ontario. We also found that half of the IT systems that are critical for continuous and reliable operations of government programs do not have a

disaster recovery plan in case of a significant outage or a disaster.

We also found that Ontario's highest-rated data centre, used by the CCIO to host servers and databases for all 1,200 OPS IT systems, has been significantly underutilized since it opened 10 years ago, and that usage has even declined over the last five years. Although the data centre was built in March 2011 with the intention of servicing the OPS, a business case was submitted to the Treasury Board Secretariat in 2012 to leverage the data centre for use by the broader public sector outside of the OPS. Despite having the capacity, there is currently minimal use from the broader public sector and Crown agencies. As a result of the limited utilization of the centre, the CCIO who is the custodian of the data centre has incurred approximately \$31 million in additional operating expenses (in the past five years) for power, cooling, maintenance and physical security for the unoccupied space. This cost could have been offset by filling the unutilized space with other government entities, such as Crown agencies and the broader public sector that would share in the costs.

The following are some of our significant audit findings:

Governance

- **The CCIO has weak IT oversight of operations at the eight IT clusters.** The CCIO is unable to meet its mandate of ensuring that government's IT services are managed and delivered effectively since it does not have oversight and accountability for IT operations performed by the eight IT clusters. Clusters report to their respective deputy ministers, not to the CCIO. As a result, the CCIO is not always aware of key IT decisions about procurement under \$2 million or the safeguarding of Ontarians' data as collected by the clusters, nor can it measure performance outcomes for cluster IT systems.
- **The CCIO has not identified the Enterprise IT risks and mitigating strategies impacting OPS operations.** Currently, IT risks are not being identified within the CCIO and the CCIO does

not have an overarching strategy for the OPS to identify IT risks and implement mitigating and remediation strategies. We noted that the CCIO relied on ministries and clusters to identify elements of IT risk which impact a specific ministry or cluster. Upon our review of these identified risks, we noted that the CCIO has not identified major IT risks that would impact the OPS, or any risks commonly identified by industry best practice.

- **Ontario's primary data centre is significantly underutilized.** The data centre has been awarded a Tier IV rating, the highest rating available for a data centre to indicate that IT systems are able to withstand any type of failure. At the time of our audit, Guelph Data Centre was being utilized at 30% of its capacity with a total annual cost of \$9 million. Two main factors in the low utilization are:
 - the standard charge rate for using the data centre is \$75 per square foot (converted to power drawn for comparison is \$1.33 kWh) which is more than double compared to other private Tier IV data centre operators that charge \$0.59 kWh in other countries such as the United States, the United Kingdom, and Australia; and
 - the lack of an outreach marketing strategy to promote the data centre outside of the OPS to Crown agencies and the broader public sector.

Disaster Recovery

- **Almost half of all critical IT systems within the OPS do not have a disaster recovery plan.** We found that almost half (44%) of all critical IT systems, those crucial for continuity of government services such as health, education, and drivers' licensing, do not have a disaster recovery plan. Disaster recovery plans outline detailed procedures for recovering and restoring an IT system from a disaster such as a prolonged Internet outage or a major cyberattack. In particular, we noted that the CCIO does not have

a redundant secondary network provider for some of its critical operations, such as 44 contact centres, that it could rely on during an outage to maintain functionality for its critical IT systems. As a result, the nation-wide Rogers Communications outage on July 8, 2022 impacted the OPS such that it was unable to provide Ontarians services through contact centres such as Service Ontario, COVID-19 Vaccination Patient, and social assistance payments websites.

Cybersecurity

- **Personal and sensitive data is not consistently secured through encryption in accordance with the CCIO's security standard.** In a sample selection of five key IT systems used by the Ministry of Health, Ministry of the Solicitor General, Ministry of Community Safety and Correctional Services, and the Ministry of Public and Business Service Delivery, we discovered that sensitive and personal information was not being encrypted in any of them as required by the security standard.
- **There is no cybersecurity oversight over Ontarians' data when stored by IT vendors.** The CCIO does not oversee cybersecurity-related risks for 140 OPS IT systems that are managed by external vendors to the OPS, as the CCIO does not obtain or review third-party assurance reports.
- **Cybersecurity awareness training in the OPS can be strengthened.** The CCIO is responsible for developing and implementing cybersecurity-related training for OPS staff. We noted that only 11,000 of 40,000 OPS staff completed the mandatory cybersecurity awareness course in 2021. Although employees' managers are responsible for ensuring this training is completed, the CCIO does not track or ensure that the course is attended by all staff. In addition, the cybersecurity awareness training is not required for about 7,000 contract employees, nor is it provided annually to all OPS employees even though it is regarded as a best practice.

Procurement of Consultants

- **There is insufficient due diligence when hiring IT consultants.** Prior to hiring contract staff, the CCIO does not assess whether it already has the internal resources to complete the work, or whether it should hire a full-time permanent employee or hire a consultant. From our analysis, the CCIO paid double the amount of salary to consultants as it would have spent hiring full-time staff for the same positions. In addition, from April 1, 2021 to May 31, 2022, 25 consultants from a total of 244 were paid an average of \$86 above the daily rate recommended by the Treasury Board Secretariat. The highest overpayment was \$232 above the daily rate as set without any justification provided.

IT Incident Resolution

- **IT incident resolution targets missed.** In 2016, the CCIO established a compliance target of 90% for the resolution of IT incidents as per the established service level agreements. This target has not been re-evaluated since. CCIO data indicated an average compliance of 95% for all IT incidents in the past five years. When we recalculated the resolution compliance rate we found that the average resolution rate was 85%. This 10% discrepancy is due to the fact that CCIO calculates the compliance rate using the elapsed time, which is the time spent by the technician to resolve the incident ticket, whereas for our calculation, we compared the time when the incident ticket was created against the time when it was closed. Further, we noted that the compliance rate for IT incidents with the most significant impact ("critical") was 66%.

Overall Conclusion

Our audit concluded that the Office of the Corporate Chief Information Officer (CCIO) does not exercise thorough oversight of information technology (IT) operations and the delivery of IT services across the Ontario Public Service (OPS). Due to the current

reporting structure—in which “cluster” ministries report to their respective deputy ministers rather than to the CCIO—the CCIO is often unaware of key decisions on IT procurement and data security and cannot monitor or measure performance outcomes of most of the critical IT systems in use by the OPS. Although the CCIO bears overall responsibility for these IT systems as per its mandate, the current reporting structure presents a significant obstacle to the CCIO achieving its mandate, namely, to deliver value-for-money on the technology infrastructure that powers all of government and to ensure the privacy, security, availability, and integrity of critical government information, operations, networks, and systems.

Further, we found that OPS’ Guelph Data Centre, which has the world’s highest data centre rating and is used by ministries and several other government agencies to host their IT systems, has been significantly underutilized since it became operational 10 years ago. Although the data centre was built in March 2011 with the intention of servicing the OPS, a business case was submitted to the Treasury Board Secretariat in 2012 to leverage the data centre for use by the broader public sector outside of the OPS. Despite having the capacity, there is currently minimal use from the broader public sector and Crown agencies. Usage has even declined over the past five years, during which time an additional \$31 million, a direct loss in operating costs was spent on power, cooling, maintenance and physical security for the unoccupied space. One reason for low utilization of the data centre is its high cost to clients, which is more than double the amount charged by other Tier IV data centres. As well, the CCIO does not have an outreach strategy to onboard other government entities.

We also noted that the CCIO does not have disaster recovery plans for almost half of the critical IT systems in the OPS. Disaster recovery plans support the continuous and reliable operation of government programs should an unexpected event affect its IT systems. In addition, the CCIO has not developed an overarching disaster recovery strategy and has not performed comprehensive disaster recovery testing for all the critical IT systems in the OPS.

With respect to Ontarians’ personal and sensitive information, we found that this information is not being fully protected in accordance with the security standard (e.g., through data encryption). We reviewed controls related to cybersecurity assessments. Due to the nature of cybersecurity, and so as to minimize the risk of exposure for the OPS, we provided relevant details of our findings and recommendations directly to the CCIO. The CCIO agreed with the recommendation and committed to safeguarding the data entrusted to the government by the people and businesses of Ontario.

This report contains 13 recommendations, with 40 action items, to address our audit findings.

OVERALL MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General and her team for this value-for-money report on the Office of the Chief Corporate Information Office (CCIO).

The CCIO within the Ministry is committed to safeguarding the data entrusted to the government by the people and businesses of Ontario. The Ministry utilizes a defense in depth approach to cybersecurity, which includes multiple layers of security controls, to identify inherent cybersecurity weaknesses within OPS IT systems. The Ministry recognizes there is room for improvement and is committed to continuously evolving and enhancing current cyber practices. This includes strengthening the management of vendor performance by centralizing the management of key IT vendors along with ensuring effective performance management and monitoring. Over the past several years, the Ministry has made advances in cybersecurity maturity practices and as the Ministry embarks on the next iteration of the cybersecurity strategy (2023–26), the focus will be on strengthening the OPS’ cybersecurity posture, while empowering the broader public sector (BPS) and extending support to key sectors (health, education).

To support the government’s digital journey, over the past decade the Ministry has consolidated 22 regional data centres into two data centres at

Guelph and Kingston, reducing the government's data centre footprint, in addition to work underway to decommission the Kingston Data Centre over the next two years. As the government continues to reduce its footprint, it is adopting innovative technologies to increase operational efficiency, reliability, availability, and value-for-money. As the government continues to adopt innovative technologies, the Ministry is committed to adhering to key principles to ensure the ongoing protection, security, and privacy of Ontarians' personal information. Working with ministry and cluster partners, the Ministry will embed cybersecurity by design into all applications to strengthen reliability and efficiency, and enable more strategic and effective use of IT assets and resources.

The Ministry also recognizes that more can be done to address enterprise IT risk. In addition to identifying enterprise IT risks, the Ministry is committed to continue working with the Office of the Chief Risk Officer to mature practices in risk management, to better monitor and manage risks at an enterprise level.

The Ministry commits to taking all the necessary steps and using the recommendations in this report to continuously improve the service delivery of the government's IT systems.

2.0 Background

2.1 Overview

The mandate of the Office of the Corporate Chief Information Officer (CCIO) is to ensure that the Ontario government's IT systems are managed and delivered efficiently and effectively. It needs to do this by supporting all provincial ministries in their IT initiatives and investments. The CCIO is directly responsible for OPS-wide IT needs such as procuring assets, maintaining cybersecurity, developing IT policies and standards such as the information security, application development, and database management standards, and overseeing the day-to-day operations of the OPS's

two data centres located in Guelph and Kingston. Ministry-specific IT needs are separately addressed by eight service "clusters" who are responsible for providing IT services unique to a specified group of ministries (as discussed in **Section 2.2**).

The CCIO is part of the Ministry of Public and Business Service Delivery (Ministry) and is comprised of four divisions, namely: Infrastructure Technology Services (ITS), Cyber Security Division (CSD), Enterprise Technology Delivery (ETD) and Enterprise Technology Strategy (ETS). **Figure 1** summarizes the roles and responsibilities of each enterprise division. In total, the CCIO has about 1,250 IT employees. Over 1,000 of these staff work within the ITS division. Refer to **Appendix 1** for a glossary of acronyms used in this report.

2.1.1 CCIO's Four Enterprise Divisions

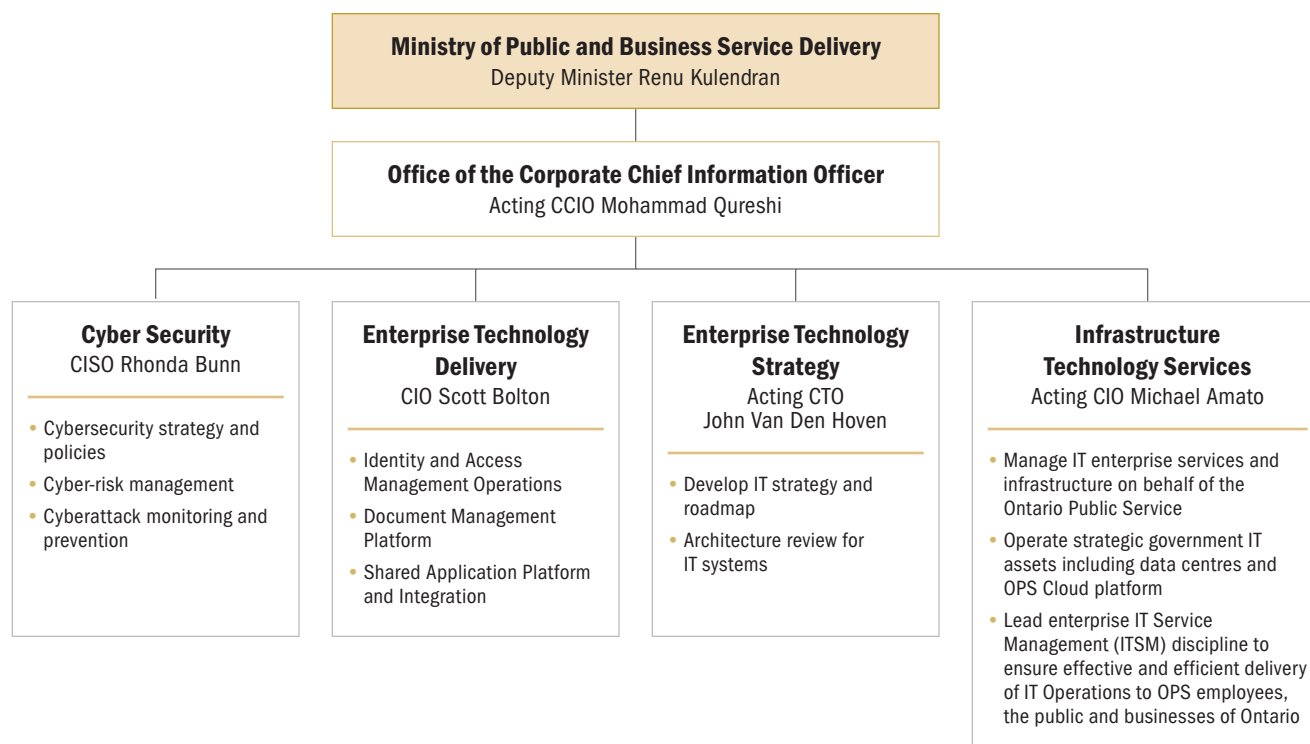
Infrastructure Technology Services

Infrastructure Technology Services (ITS) is responsible for providing hardware such as laptops, cell phones and printers, as well as enterprise-wide software applications like Microsoft Office, to about 60,000 OPS staff in office locations across Ontario. ITS manages daily operational activities at its two data centres that store about 1,200 IT systems used internally by ministries and with the public. To deliver government programs and critical services to Ontarians, the Guelph Data Centre is to ensure that the data is secure and available with minimal disruption. There is a 24-hour OPS Service Call Centre hotline which provides telephone, remote and in-person technical support for requests such as password resets and general IT troubleshooting for all OPS staff.

ITS equips OPS staff and its two data centres with appropriate IT assets such as laptops, desktop computers, peripherals, and servers. IT clusters are responsible for engaging the ITS to request assets such as laptops, printers, telephone devices on behalf of the ministries within the cluster. As of January 2022, ITS managed over 90,000 laptop and desktop computers, 45,000 mobile devices, and 10,000 servers on behalf of ministries. Three categories of assets are managed by ITS (see **Section 2.5**).

Figure 1: Office of the Corporate Chief Information Officer (CCIO) Enterprise Divisions

Prepared by the Office of the Auditor General of Ontario



In addition, ITS provides the infrastructure that supports critical ministry and agency IT systems.

Cyber Security

The CCIO's Cyber Security Division (CSD), which is responsible for setting cybersecurity requirements for the OPS through policies and standards, consistently performs vulnerability scans for critical IT systems to identify potential vulnerabilities. In addition, CSD recommends safeguards and compensating controls through point-in-time cybersecurity assessments such as penetration tests and Threat Risk Assessments. Implementation and operationalization of these recommendations is the responsibility of system owners. The CSD is also responsible for information-security-related activities for all ministries and clusters across the OPS. The division focuses on increasing cyber awareness and education among Ontario government staff and addressing high cyber risk areas. It also provides services such as: monitoring for cyberattacks; performing Threat Risk Assessments; providing security advice; reviewing IT network

architecture; and advising on security-related procurement. The division maintains various cybersecurity policies, standards and guidelines that hold across the OPS. The division has also established a cybersecurity standard for clusters and ministries that requires them to safeguard sensitive information by using security controls such as encryption.

The Cyber Security Division also operates the Cyber Security Operations Centre, available to OPS employees 24 hours a day. The operations centre performs incident identification, notification, response, prevention and web filtering. CSD's Secure Solution Design Unit provides advice and guidance on configuration of information systems and solutions to address security requirements based on security assessments. Within CSD's Vulnerability Management Unit, the staff performs vulnerability assessments, penetration tests, and Threat Risk Assessments.

In 2019, the CCIO established a Cyber Security Centre of Excellence, led by the Cyber Security Division. The centre provides seminars, workshops and an online cybersecurity awareness program to broader

public sector employees to increase their awareness of cybersecurity risks. It also runs monthly campaigns and advises client ministries and agencies on cybersecurity best practices and relevant industry standards. The Cyber Security Centre of Excellence is also responsible for developing and delivering a cybersecurity-related training and awareness course through the LearnON IT system, accessible to all OPS employees.

Enterprise Technology Delivery

The Enterprise Technology Delivery division is responsible for managing a significant portion of government authentication systems that manage access to government IT systems. The division also runs a document management IT system called OPSdocs that has significant integration with several OPS leading IT systems, providing document hosting, search and records management functions. The Enterprise Technology Delivery division also runs a technology platform that hosts several mission critical IT systems and provides integrations services between systems so they can exchange data and complete transactions that support business processes.

Enterprise Technology Strategy

The Enterprise Technology Strategy (ETS) division was recently established, on April 1, 2021. It is responsible for developing and maintaining IT standards, policies, and procedures and for the development of an overall IT strategy and vision across the OPS. ETS works in collaboration with IT clusters and their ministries. ETS has established a strategy called Technology Roadmap and Investment Plan that outlines the plan of technology investments, identifies and prioritizes common technologies within OPS that could be leveraged by ministries, and uses IT resources in the most efficient way.

The Enterprise Technology Strategy division governs the design of projects that are high-risk or cost \$2 million or more. This includes chairing the Corporate Architecture Review Board (ARB) which oversees OPS' Enterprise Architecture practice; co-ordinates the security, privacy, and accessibility; and records management reviews.

2.1.2 CCIO Funding

In fiscal year 2021/22, the CCIO's total operating expense was \$144 million and \$9.2 million in capital expenses. Notably, ITS is the organization's largest division by far; salaries and wages in 2021/22 for this division were \$99.8 million.

In 2020/21, expenditures were \$117 million in operating costs and \$9.6 million in capital expenses.

2.2 The Eight IT Clusters

While the CCIO's four enterprise divisions address OPS-wide needs, initiatives and projects such as email and phone service, there are also eight IT "clusters" (with a total of roughly 2,400 employees) that each have their own Chief Information Officer (CIO) and manage IT needs considered particular to a grouping, or cluster, of ministries. These clusters are not part of the CCIO; cluster employees are employees of the ministries, reporting to a deputy minister. **Appendix 2** records the individuals who oversee each of the IT clusters, as of September 2022.

The eight IT clusters provide customized IT services based on a ministry's unique needs, whether those be day-to-day or longer-term in scope. This includes implementing new IT projects and overseeing the development, testing and implementation of IT systems, IT resource management and IT consulting services. For example, the Community Services Cluster manages IT support for the Ministries of Education; Colleges and Universities; Municipal Affairs and Housing; and Heritage, Sport, Tourism and Culture Industries. The cluster developed and maintained the IT systems needed to provide COVID-19 reporting in schools and an Internet modernization program for schools.

Figure 2 presents the organizational/reporting structure of the CCIO in relation to the eight IT clusters, while **Appendix 3** lists the responsibilities of the CCIO as compared to the clusters.

Figure 2: IT Reporting Structure in the Ontario Public Sector, as at August 19, 2022

Prepared by the Office of the Auditor General of Ontario



2.2.1 Governance Committees

The CCIO is governed by the IT Governance Boards and Committees to review CCIO's IT operation service delivery, policies and value of services delivered. The following governance committees/boards have been established to provide oversight for IT operations.

Information Technology Executive Roadmap Committee

The mandate of the Information Technology Executive Roadmap Committee is to provide functional level leadership and governance for the IT organization, by promoting a broader understanding of IT directions and partnerships between the business and IT communities. The committee also provides support for the development of IT professionals within the Ontario Public Service and the effective functioning of the IT organization. It is also responsible for development and implementation of enterprise IT standards and solutions where appropriate.

Technology Roadmap and Investment Plan (TRIP) Program Governance Committee

The purpose of the TRIP Program Governance Committee is to provide comprehensive strategic support for the ongoing evolution, oversight, and direction-setting of the government's Technology Roadmap and Investment Plan. The committee shares information and updates to senior management and clarifies and communicates accountabilities for technology enablement and investments. It also monitors, approves, and endorses major initiatives.

2.3 Guelph and Kingston Data Centres

Guelph Data Centre (data centre) is a physical facility used by the OPS to host servers and databases for about 1,200 IT systems. These include critical IT systems that are used to ensure continuity and effective delivery of government services. In addition, some broader public sector and Crown agencies use the data centre to store their data, including the Liquor Control

Board of Ontario, Ontario Health, Technical Standards and Safety Authority, Wellington-Dufferin-Guelph Public Health, Metrolinx and Financial Services Regulatory Authority of Ontario. The data centre was built in 2011 because the current data centre at the time, the Toronto Data Centre, had reached its end of life and could not meet the capacity and availability demands of the OPS' IT systems. The OPS also makes use of a smaller, secondary physical facility, the Kingston Data Centre, which hosts about 260 IT systems. The CCIO is currently in the process of moving the existing IT systems at Kingston to the data centre in Guelph as well as to a cloud service provider. By May 2025, the Kingston Data Centre is expected to be fully phased out.

2.3.1 Disaster Recovery Management

A Disaster Recovery (DR) strategy, one component of IT risk management, is used to evaluate whether an IT system can be restored or made functional during various disaster scenarios, such as power outages, cyberattacks and earthquakes. DR strategies are prepared by each ministry to determine priorities and map a timeline for recovery. Once a DR strategy is finalized, a DR plan is created to document a step-by-step process to recover and resume critical operations and services following a disaster scenario. It is best practice for a DR plan to be reviewed, tested and updated on an annual basis, at minimum.

2.4 Risk Management in the OPS

The Office of the Chief Risk Officer (Chief Risk Officer) for the Province of Ontario has established an Enterprise Risk Management (ERM) process by which IT clusters, the CCIO, and ministries identify and report risks. The Chief Risk Officer was established in April 2021 and reports into the Office of the Comptroller General, within the Treasury Board Secretariat. As part of the ERM process, the CCIO has initiated work in collaboration with the Chief Risk Officer to identify various IT risks related to cybersecurity and management of IT assets. Each IT risk documented in the risk register is assigned a risk owner responsible

for monitoring that risk until it has been remediated or mitigated.

ERM identifies the processes that are in place for key control areas in an organization to ensure that risks have been adequately identified, treated or mitigated and addressed, including risks relating to IT operations and cybersecurity. ERM is holistic, and includes consideration for risk aspects of IT investments, responsibilities for risk management, risk analysis methodology, strategies for addressing risks and continuous monitoring of threats, occurrence, and impact.

Ontario's Chief Risk Officer is responsible for:

- overseeing the OPS enterprise risk management process, including reviewing and advising on ministry risk information and risk management practices;
- providing guidance and training, and being a centre of expertise in support of the Enterprise Risk Management Directive and OPS Enterprise Risk Management Framework;
- providing advice and guidance when the other program areas may be addressing risk in new or existing corporate directives and policies;
- advising the Secretary of Treasury Board/Management Board of Cabinet on requirements for ministries and provincial agencies to report risk information to central agencies; and
- working in co-operation with ministries and central agencies to ensure that risk information is available to the Treasury Board/Management Board of Cabinet, and other key decision-makers as required to inform decision-making.

2.5 IT Asset Management in the OPS

Asset management involves the monitoring and administration of the resources needed to provide infrastructure and IT system-related services. This includes the lifecycle management of hardware and the utilization of tools to manage and enable asset reporting.

There are three categories of assets managed by the CCIO's ITS division:

- **End user computing assets** are devices used by OPS staff such as laptops, desktops, mobile devices, and tablets. These assets are tracked and stored in the Configuration Management Database (CMDB), a central repository which stores the information related to IT assets.
- **Data centre operation assets** include servers, storage devices, back-up hardware and software devices that are used at the two data centres. The CCIO tracks these assets in the CMDB.
- **Telecom assets** include network and voice services such as remote access services, telephone systems, and satellite phones.

2.6 IT Consultants

The CCIO uses the company Flextrack to source fee-for-service IT consultants. The contract with Flextrack is valued at \$600 million over five years. Flextrack began to provide contract IT consultants in October 2020, in conjunction with the Vendor of Record at the time.

At the CCIO, when IT consultants are needed, a request for services is sent to Flextrack using the Vendor Management System (VMS), an IT system used for processing and maintaining vendor-related documents. The VMS is owned by Flextrack and employs a Salesforce-based software. The requesting manager submits a requisition on the platform. The request is automatically received by Flextrack via the VMS, after checking the existing pool of IT consultants within the IT system first. Flextrack has a list of 359 firms, called IT qualified firms, who are allowed to submit candidates for the contract requisition. Flextrack then performs an initial review of resumes to arrive at a shortlist of candidates based on their fit for role. This shortlist is then sent to the requesting manager and interview evaluators for assessment.

The subsequent evaluation consists of a review of the candidate's resume. The candidate must score a minimum of 70% on their resume in order to proceed to an interview. The interview is then performed by at least three full-time equivalent evaluators and they

each assign an interview score. The candidate with the highest combined score of their interview and daily rate of pay is awarded the contract and undergoes the applicable security clearance and background check.

Figure 3 depicts a flowchart of the fee-for-service intake process.

2.6.1 Rate of Pay and Payment

The hiring manager determines a per diem rate for the hire in accordance with the per diem maximum rates, per role, developed by the Treasury Board Secretariat. (See the chart in **Appendix 4**.) To complete the procurement process the Treasury Board Secretariat, CAC, and the requesting ministry are notified of the award and its finance team submits payment invoices to Flextrack.

Payments made are in accordance with the consultant's timesheets. The CAC performs a reconciliation of hours submitted by the contract employee against the payment made to Flextrack on a monthly basis. OPS

then issues payment to Flextrack, and Flextrack in turn issues a payment to the IT qualified firm, who then pays the consultant.

2.6.2 Timesheets and Performance Evaluation

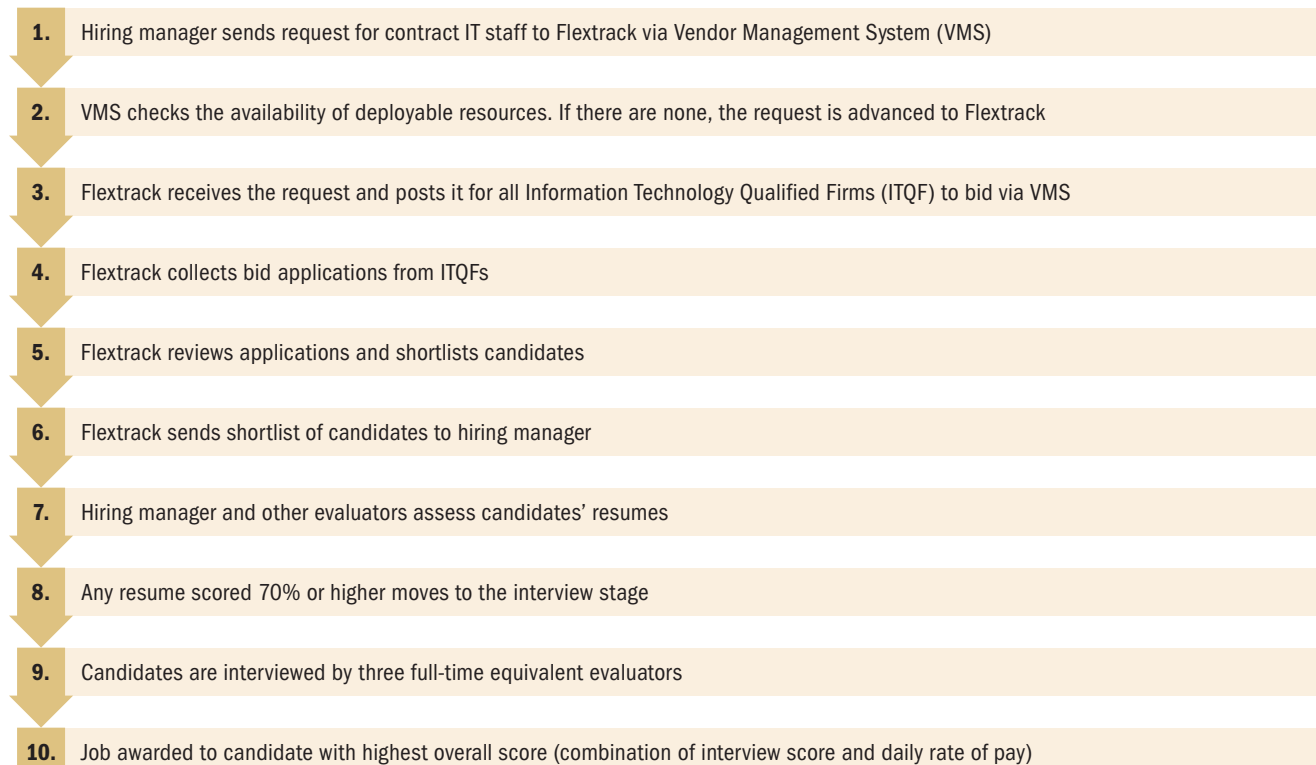
Planview, a Treasury Board Secretariat-managed system, is the IT system currently used for capturing, managing and maintaining the timesheets of contract employees and IT OPS employees in ministries. At the end of an employee's work term a survey is to be performed by the reporting manager to evaluate their performance. The survey results are shared by Flextrack with the CAC.

2.6.3 IT System for Procurement and Evaluation

The candidate's evaluation status is shown in the VMS and when a candidate is selected the offer is submitted via the VMS. Approvals of statement of work and contract awards are captured and stored within the VMS as well. Signatures for these documents are

Figure 3: IT Consultant Hiring Process

Prepared by the Office of the Auditor General of Ontario



carried out via the electronic signature DocuSign function in an automatic workflow.

2.7 Monitoring of Service Delivery

IT systems are critical for continuous operation of the services and programs delivered by government. Any disruption to operations and/or outages with key IT systems can have a significant impact in availability and effective delivery of OPS operations on Ontarians. So, it is important that services are delivered and any IT incidents are resolved as per the expected service level agreements, which should be in line with industry best practices.

Service delivery is established and enforced through several agreements between the CCIO, clusters, and ministries. These agreements establish the roles and responsibilities of the work that is expected to be delivered by the CCIO.

The CCIO has established a compliance target of 90% for all service delivery tickets relating to IT incidents such as password resets, restoration after system outages, installing IT software and user account-related administration.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Office of the Corporate Chief Information Officer (CCIO) has effective processes and procedures in place to ensure:

- A governance framework is in place that encompasses an overall IT strategy that demonstrates effective oversight of IT functions to deliver IT services to the Ontario Public Service and Ontarians efficiently and effectively.
- IT operations and systems are effectively monitored in accordance with established performance metrics and corrective actions are taken upon review.
- Ontarians' data and IT assets including hardware and software are secure, reliable and protected against cyberattacks.

- IT resources including IT contract employees are procured in accordance with legislative, regulatory and contractual requirements and with due regard for economy.

In planning for our work, we identified the criteria we would use to address our audit objective (see **Appendix 5**). These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at the CCIO reviewed and agreed with the suitability of our audit objective and related criteria.

We conducted our audit between January 2022 and September 2022. We obtained written representation from management that, effective November 23, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

We interviewed senior management staff at the CCIO under the Ministry of Public and Business Service Delivery to review their roles and responsibilities related to oversight and administration of day-to-day IT activities at OPS and effective delivery of government programs. We interviewed the Chief Information Security Officer to assess if policies and processes are in place to protect the security and privacy of confidential data. We interviewed senior management staff of the Cyber Security Division of the CCIO to assess if adequate cybersecurity scans and assessments are being performed to identify and remediate IT risk within the Ontario government's IT system portfolio. We interviewed stakeholders who are responsible for management of IT assets in OPS to assess if IT asset inventory is being maintained to support the identification of risk and support investment decisions into critical assets.

We also interviewed senior management staff at the clusters and Treasury Board Secretariat to obtain an understanding of the contingent employee procurement process and to assess if the CCIO procured IT contract employees with due regard for economy. We selected a sample of 30 IT contract employees and reviewed the practices involved in hiring them,

including but not limited to shortlisting of candidates, interview notes, candidate selection criteria and performance evaluations.

We conducted a survey of 51 IT executives working within the eight IT clusters in order to understand the existing operating model and potential improvement opportunities with respect to IT operations and services being performed by the CCIO. We also wanted to understand stakeholders' perspectives on the CCIO's overall strategy, cybersecurity practices, oversight over IT vendors and procurement of IT systems. We invited cluster CIOs, directors and management process leads to participate and received a response rate of 76% (39 out of 51).

We visited Guelph Data Centre, which stores Ontarians' financial and confidential data, to assess physical security, environmental controls, safety and emergency procedures along with IT incident response procedures. We did not visit the Kingston Data Centre since it is in the process of being decommissioned.

Over the next two years we plan to audit the eight IT clusters to assess if IT systems and operations are being managed effectively and efficiently and with due regard for economy. **Figure 4** depicts our Office's planned audit coverage of IT in the OPS.

4.0 Detailed Audit Observations

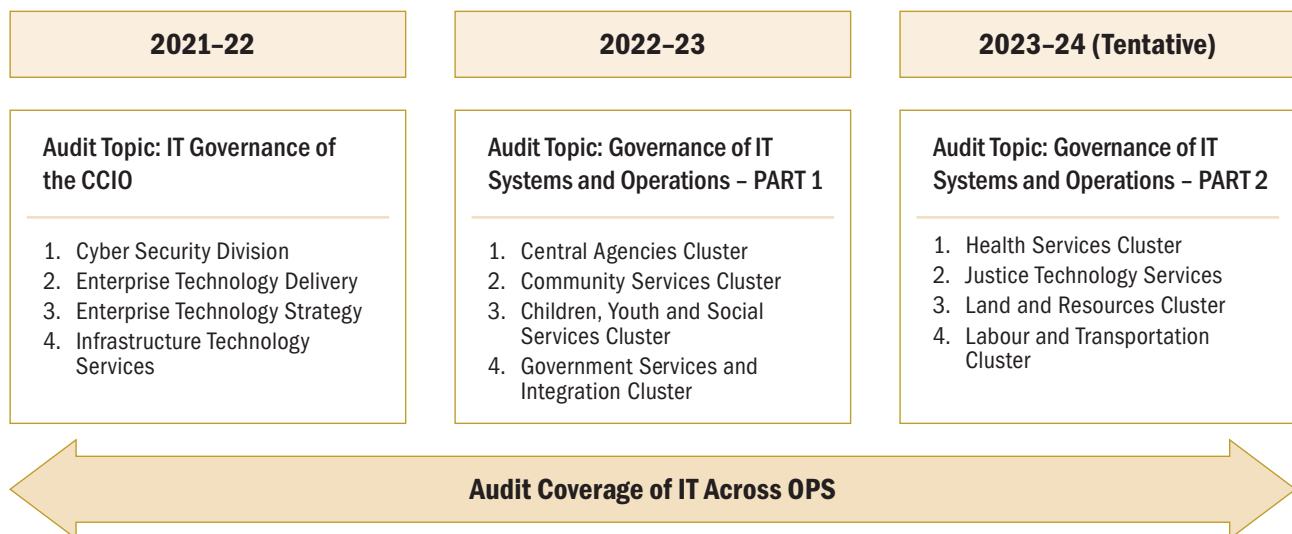
4.1 Reporting Structure Prevents the CCIO from Ensuring Clusters Have Effective and Efficient Delivery of IT Systems

According to the CCIO's mandate, it is responsible for ensuring the provincial government's IT systems are working efficiently and effectively, by supporting all ministries in their IT initiatives and projects. Within this broad mandate, the CCIO is directly responsible for OPS-wide IT needs such as procuring IT assets, cybersecurity, and developing IT policies and standards. Specifically, its mandate is to deliver value-for-money on the technology infrastructure that powers all of government and to ensure the privacy, security, and integrity of critical government information, operations, networks, and systems. The CCIO also oversees day-to-day operations of the OPS's two data centres.

The CCIO develops OPS IT policies and standards such as for information security, application development, and database management standards, and provides them to the eight IT clusters. Ministry goals

Figure 4: Audit Coverage of Internet Technology Across the Ontario Public Service

Prepared by the Office of the Auditor General of Ontario



and priorities, staffing and funding, however, are under the purview of the deputy ministers associated with each cluster. Consequently, the CCIO is unable to measure the performance outcomes of cluster-specific IT systems. Further, key decisions about IT that are made in the clusters—such as about safeguarding Ontarians' data, or IT procurement under \$2 million as per its policy which outlines requirements to manage IT projects' lifecycle, set by the Treasury Board Secretariat are not overseen by the CCIO, and therefore, it cannot hold clusters accountable for them. IT projects valued at \$2 million and above are required to seek IT project approval from Treasury Board/Management Board of Cabinet and may be subject to quarterly reporting on their status and risk.

The current reporting structure, in which the clusters report to their respective deputy ministers and the CCIO reports to the Ministry of Public and Business Service Delivery, does not allow for the oversight necessary to mitigate overarching risks associated with day-to-day IT operations in the OPS. As a result, the CCIO is unable to fulfil its mandate. Our survey of cluster employees found that 92% of respondents believed that the CCIO's overall strategy provides an appropriate vision for the future. However, 43% of respondents were not satisfied with their relationship with the CCIO, and indicated that although the strategy is a work-in-progress, they would like to be more engaged and integrated in that vision.

When we inquired whether there were any services the CCIO did not currently provide that would be helpful in daily operations, 18 (46%) of the 39 respondents suggested cross-cluster collaboration and centralized IT procurement would be better for managing IT projects and capacity. Only 13 (33%) of the 39 respondents reported they had always involved the CCIO in procurement decisions over the past five years.

Given the current reporting structure of IT clusters—reporting to their respective deputy ministers instead of to the CCIO—we noted a number of constraints that prevented the CCIO from ensuring that clusters are effectively and efficiently delivering IT systems. Some key examples are:

Cybersecurity Standards to Secure Sensitive Data Are Not Enforced

The CCIO has established a security standard that requires ministries and IT clusters to encrypt sensitive government and Ontarians' data. However, we noted that the CCIO cannot monitor whether the clusters secure the data as required by the standard. During our audit we identified IT systems that were supposed to encrypt confidential information that was not encrypted. Refer to **Section 4.6.1** for details on that finding.

No Workforce Strategy Exists to Efficiently Share Internal IT Resources

Because the clusters report into their respective deputy ministers, their respective IT staff are siloed within their designated cluster. As a result of the siloed approach, an OPS-wide IT workforce strategy has not been developed. Given the CCIO's mandate, such a strategy would allow IT staff with similar skillsets to be shared amongst the CCIO and the eight IT clusters. Results from our IT survey showed that 90% of respondents believed they did not have sufficient IT resources; respondents highlighted cross-cluster collaboration and sharing of IT staff as one of the services the CCIO could provide.

Collaboration between clusters and the CCIO could allow for efficiencies and the ability to meet increased demand for IT resources. For example, the CCIO led a cross-jurisdictional team across various clusters to identify 30 OPS IT employees to provide temporary assistance in the Health Services Cluster, in support of the COVID-19 vaccination program, systems support, training, and communications functions.

No Oversight for IT Vendors Procured by Clusters for Contracts Under \$2 Million

Projects within clusters that have an estimated cost of \$2 million or more are reviewed by the CCIO as per its policy set by the Treasury Board Secretariat, a policy that outlines requirements to manage IT projects' lifecycle. However, below the \$2 million threshold, there is no requirement for cluster staff to obtain input or

approval from the CCIO. Consequently, the CCIO is often unaware of which IT vendors were procured, whether their performance history was taken into account during the selection, and whether procurement complied with the OPS Procurement Directive. Without any awareness of these IT-related decisions, the CCIO cannot hold clusters accountable for them.

Our audit found that from April 1, 2017 to March 31, 2022, 34 IT vendors provided duplicate or similar IT services to the CCIO and the eight clusters. We noted that there was no verification of past performance prior to procurement, nor any leveraging of existing contracts.

Our audit also confirmed that the CCIO does not perform an evaluation of vendor performance for the procurements in which it is involved. In contrast, the majority (64%) of our survey respondents working in the clusters told us they did in fact evaluate vendor performance. These respondents also indicated (74%) that they did not share their evaluations with the CCIO or any other cluster. There is no central repository that records how a vendor performed which could be referenced and used by the clusters or the CCIO to determine whether that vendor should be hired again.

RECOMMENDATION 1

To ensure there is a clear alignment of operations amongst the IT clusters and so that the Office of the Corporate Chief Information Officer (CCIO) can appropriately oversee and enforce accountability of day-to-day IT operations to ensure the IT clusters effectively and efficiently deliver IT systems, we recommend that the Treasury Board Secretariat:

- work with the IT clusters and their respective ministries so that the right level of governance, oversight, and accountability is in place; and
- re-evaluate the criteria to review IT systems based on impact and risk rather than the current financial threshold of \$2 million.

MINISTRY RESPONSE

The Ministry and the Treasury Board Secretariat accept the Auditor General's recommendation and

are committed to ensure the right governance is in place to ensure value for money. In this regard, the Treasury Board Secretariat and Ministry will:

- work together with Clusters to review the governance structures and reporting relationship of Cluster CIOs within the context of other operational, structural and leadership considerations and take necessary action to ensure the right governance and accountability is in place; and
- re-evaluate the criteria to review IT systems based on impact and risk rather than the current financial threshold of \$2 million and include this in the new Integrated Digital and IT Governance model that is being established that would govern high-risk information technology and digital solutions in the Ontario Public Service.

4.2 The CCIO Does Not Compile a List of IT Risks Across the Ontario Public Service, Nor Do They Identify IT Risks within the CCIO

As part of the risk identification process, ministries, IT clusters, and the CCIO are responsible for identifying IT-related risks for their own portfolio and reporting them quarterly to the Office of the Chief Risk Officer (Chief Risk Officer). As of August 2022, the Chief Risk Officer maintained a risk register which included 38 IT-related risks such as cybersecurity, data privacy, and aging IT systems that have been identified by the ministries and clusters. Each risk is categorized as either high, medium-high, medium or low.

We met with Ontario's Chief Risk Officer to review the IT-related risks they track for the OPS and learned that the CCIO had not identified or assessed any IT risks within its own area of operations. Also, the CCIO relied on ministries and clusters to identify IT risks. Upon review, we found that the only IT risk on the registry rated as high was a cybersecurity risk identified by our Office's 2018 audit School Boards—IT Systems and Technology in the Classroom.

In addition, we noted that clusters and ministries do not share or inform the CCIO of their respective IT risks.

Even though the CCIO has the overall responsibility for IT in the OPS (as per their mandate), it does not identify, document and communicate systemic IT risks and mitigating factors to the OPS, nor does it perform an independent assessment of these IT risks or evaluate the impact holistically on the entire OPS.

We also compared the IT risks listed in the OPS' risk register against industry standard IT risks and noted that none of the key expected risks were identified. For example, Open Web Application Security Project (OWASP), a leading non-profit foundation, publishes top cybersecurity risks that affect industries globally; none of OWASP's top 10 cybersecurity risks such as security misconfiguration, lack of encryption, and insecure design, were present on the OPS IT risk register. We noted that other key IT risks associated with aging IT systems, data security, lack of disaster recovery plans and risks associated with third-party vendors were also missing. Refer to **Sections 4.4, 4.6, and 4.7** for our findings on disaster recovery, cybersecurity, and IT asset management, respectively.

At the CCIO, the current risk management process is immature and lacks a formal strategy for identifying and managing IT risk. At the time of our audit, the CCIO was in the process of establishing a new framework and strategy to work with the Chief Risk Officer to identify, document and communicate IT risks to the OPS through the Enterprise Risk Management process.

RECOMMENDATION 2

To ensure IT-related risks for the Ontario Public Service (OPS) are identified, reported and mitigated appropriately, we recommend that the Office of the Corporate Chief Information Officer work with the Office of the Chief Risk Officer to:

- develop and implement an overarching strategy that encompasses all IT risks impacting the OPS;
- put in place actions to mitigate IT risks that impact OPS-wide operations; and
- periodically compare its risk register to industry standards to ensure the risks listed are relevant and up-to-date.

MINISTRY RESPONSE

The Ministry agrees with this recommendation and acknowledges the importance of identifying, reporting and mitigation of IT-related risks at an enterprise level.

In this regard, the Ministry is committed to:

- maturing its risk reporting process and working with the Office of the Chief Risk Officer to establish a new framework aligned to the IT strategy that encompasses enterprise IT risks and risks reported by the IT clusters to the CCIO;
- ensuring that the CCIO tracks all IT risks and that actions are in place to mitigate the IT risks. IT Clusters will continue to play a role in identifying and mitigating their own IT project-specific risks in support of ministries; and
- reviewing industry standards to help inform the enterprise IT risks in the risk register are relevant and up-to-date.

4.3 Ontario's Highest Rated Data Centre is Significantly Underutilized

The government's Guelph Data Centre was built with a total budget of \$352 million and has been operational since March 31, 2011. It costs an average of \$9 million annually to operate and is owned by the Ministry of Public and Business Service Delivery. The CCIO's ITS division is responsible for daily operations and supervision of the data centre, such as granting access to the server rooms and monitoring server capacity (storage) and availability (outages). The facility is about 250,000 square feet and the server storage area is 30,000 square feet.

The data centre was awarded a Tier IV rating—the highest standard rating for a data centre—by an independent international organization, Uptime Institute. The Tier IV rating indicates that the IT systems hosted at the certified data centre are able to withstand any type of failure: hardware, HVAC, or environmental crises such as earthquakes or fire. Guelph Data Centre

is the only data centre in all of Canada, and only one of four in North America, to receive this rating.

Our audit revealed that the data centre is significantly underutilized. We examined utilization reports for the last five years and noted that it has been operating at an average of only 32% of its capacity for hosting servers and databases. Utilization declined over this time frame, as shown in **Figure 5a**, and as of August 2022, the data centre was utilizing only 30% of available space. We calculated that as a direct result of underutilization, the CCIO incurred an additional \$31 million, a direct loss in operating costs over five years for power, cooling, maintenance and physical security for the unoccupied space. These operating costs could have been offset by occupying the unutilized space with other government clients that would have shared in the costs. **Figure 5b** represents operating expenses for utilized and unutilized space at the data centre.

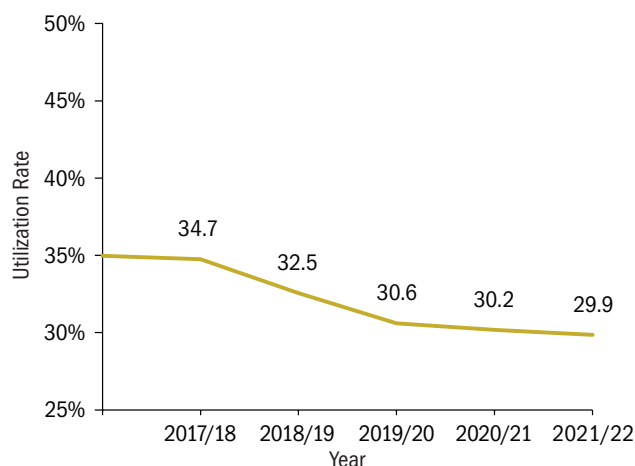
Although the data centre was built in March 2011 with the intention of only servicing the OPS, and has this capacity, there is currently minimal use from the broader public sector and Crown agencies. We noted the CCIO submitted a business case in 2012 to the Treasury Board Secretariat with the intention to leverage the new data centre for use by public sector

organizations outside of the OPS by establishing a co-location service to be used by the broader public sector. However, the CCIO has not established a marketing strategy or engaged in any outreach to showcase the data centre's capabilities. At present, taxpayers are incurring costs to operate the data centre along with incurring the additional costs Crown agencies pay to private sector companies for the same services that the data centre could provide. By comparison, the government of British Columbia has mandated the use of its provincial data centre for its broader public sector, including health agencies.

We compared the data centre pricing with private sector data centres and discovered that the data centre generally charges significantly more than its private sector competitors. The standard data centre charge is approximately \$75 per square foot (converted to power drawn for comparison purposes is or \$1.33 kWh) usage for facility cost and resource cost which includes floor space, heating, cooling, electrical, physical security and other needs to run the facility based on their allocated space. Private sector data centres' cost structure is calculated by electricity usage based on kilowatt hour (kWh), not square foot usage. The CCIO engaged an external consulting firm, Ernst & Young, to assess the data centre's operations. The consultant determined

Figure 5a: Utilization Rate (%) of Guelph Data Centre, 2017/18 to 2021/22*

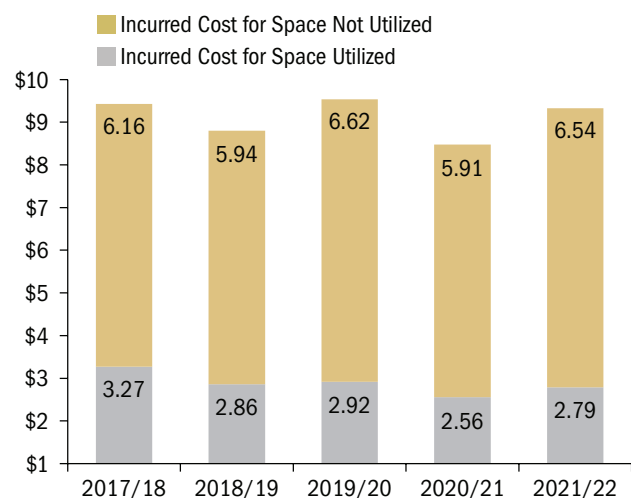
Prepared by the Office of the Auditor General of Ontario



* Utilization rate is based on the average of power (kWatt), cooling (tonnes), and physical server space.

Figure 5b: Guelph Data Centre Operating Expenses (\$ million), 2017/18 to 2021/22

Prepared by the Office of the Auditor General of Ontario



that the data centre charges approximately \$1.33 kWh, more than double the amount charged by other private Tier IV data centre operators. The average charge is about \$0.59 kWh in other countries such as the United States, the United Kingdom, and Australia. This analysis also determined that if the data centre was operating at 100% capacity, the cost would reduce to \$0.67 kWh compared to the current fee of \$1.33 kWh.

In 2019, Elections Ontario moved its data hosting from Guelph Data Centre to a cloud-based data centre owned by Microsoft. We reviewed management meeting minutes and noted that the decision was made based on lower cost, flexibility to increase IT infrastructure capacity during election cycles, and the faster provisioning time to **configure** servers offered by cloud providers. At present, the data centre does not have the above-mentioned capabilities.

We also noted that the Kingston data centre will be decommissioned by May 2025 and the IT systems hosted there are in the process of being moved to the Guelph data centre as well as to a third-party cloud service provider. Not all IT systems are being moved to the Guelph data centre because the CCIO wants to ensure that IT systems are able to scale capacity and disaster recovery capabilities quickly. Other challenges include a lack of standardization of IT systems in the OPS and technical skillsets. The CCIO has acknowledged these shortcomings of the data centre and is currently working on a plan to address them and increase usage of the data centre. Refer to **Section 4.3.1** for details.

4.3.1 Future of The Guelph Data Centre

Recognizing underutilization of the data centre, the CCIO engaged an external consulting firm, Ernst & Young (E&Y), in April 2021 to perform a review of the data centre's current operating model. The purpose of the review was to understand costing in data centre operations, identify any gaps, compare similar data centres that were available in the market, and provide recommendations for a future operating model that would increase utilization and generate more revenue. Three different operating models were proposed with

the intent of increasing its utilization while reducing operating costs. The three options were:

- **Option 1:** Maintain status quo and continue to operate the data centre as it operates today. Develop a strategy to increase the utilization of the data centre within this operating model.
- **Option 2:** Partner with Infrastructure Ontario and the private sector to operate and manage the data centre. Explore lease or lease-sharing arrangements where the OPS would sublease 100% of the space for a fixed fee, then pay for its own usage.
- **Option 3:** Terminate the lease and sell the data centre to a vendor. The OPS would become one of the tenants of the vendor-owned data centre.

At the time of our audit, the CCIO was in the process of performing its own analysis of the three options proposed by E&Y. The analysis to determine which of the proposed options it intends to move forward with is expected to be completed by December 2022. We were informed that once its analysis is complete, the CCIO will prepare a business case that takes input from various stakeholders such as Infrastructure Ontario, Supply Ontario, Labour Relations, digital, and private consultations to assess the future operating model and will submit the business case to the Treasury Board Secretariat for review and approval of funding (depending upon the option they select) as part of its 2023/24 multi-year planning process.

4.3.2 The CCIO Does Not Have a Process to Revoke Terminated Users' Access to Guelph Data Centre for Non-OPS Employees

In our review of the data centre, we noticed that the CCIO has not established a user access review process to ensure that employees with access to the data centre have their access revoked in a timely manner upon departure from their job. The data centre and the CCIO obtain periodic attestations from those within the OPS but not from Crown agencies or those in the broader public sector. In these cases, the CCIO depends solely on Crown agencies and the broader public sector to inform them of any employee terminations.

As a result, one employee from the Liquor Control Board of Ontario who was terminated in February 2022 continued to have access to the data centre until the physical access card's expiration date in July 2022. The data centre has not established a user removal process to ensure terminated users are actively removed within 24 hours of employment termination, which is a significant process breakdown for a Tier IV data centre.

RECOMMENDATION 3

To increase Guelph Data Centre's utilization and strengthen its existing user access controls, we recommend that the Office of the Corporate Chief Information Officer:

- determine the cost recovery rate per square foot or by kWh to then perform a cost/benefit analysis of the most optimal charge out rate in order to attract and onboard more government entities;
- assess if it is feasible to mandate that the broader public sector and Crown agencies move their data centre operations to the data centre at its cost recovery rate;
- implement an outreach strategy to broader public sector and provincial agencies to increase the data centre adoption;
- review all proposed options for the future operating model of Guelph Data Centre so that the decision made is in due regard for economy and data security; and
- similar to obtaining an attestation from those in the OPS, the data centre should establish a user access review process across all agencies to ensure that user access to the data centre is removed within 24 hours of an employee's termination.

MINISTRY RESPONSE

The Ministry agrees with this recommendation to increase Guelph Data Centre's utilization and strengthen its existing user access controls and will:

- perform a cost/benefit analysis that incorporates the cost recovery rate to attract and onboard additional entities to the data centre;
- assess the feasibility to mandate broader public sector (BPS) and Crown agencies to increase the data centre's adoption;
- develop an outreach strategy for the BPS and provincial agencies to increase the data centre's adoption;
- determine a future operating model for the Guelph Data Centre with due regard for economy and data security; and
- develop an attestation process for agencies and vendors to ensure user access is removed within 24 hours of an employee termination.

4.4 Half of All Critical IT Systems Used by the OPS Do Not Have a Disaster Recovery Strategy

A Disaster Recovery (DR) strategy is an organization's plan to identify and restore critical IT systems that are essential for its operation, in the case of a disaster or interruption to services. Given the IT systems in use in the OPS, a disaster could impact public safety (in the case of emergency 911 IT systems, for example) or critical services such as health-care operations. Having a DR strategy can help to restore IT systems as soon as possible if a disaster occurs.

Our audit found that the CCIO has not developed an enterprise-wide DR strategy or policy for IT systems in the OPS. Nor has it tested its capability to restore IT operations in an event of a major outage, similar to the Rogers' outage that incurred in July 2022, discussed in **Section 4.5**. Instead, each IT cluster is responsible for developing and testing its own DR strategy, without testing the dependencies its IT systems may have on other IT systems or on the network services managed by the CCIO.

Specifically, we noted that:

- 63 of 142 (or 44%) of all mission critical systems do not have a disaster recovery plan;

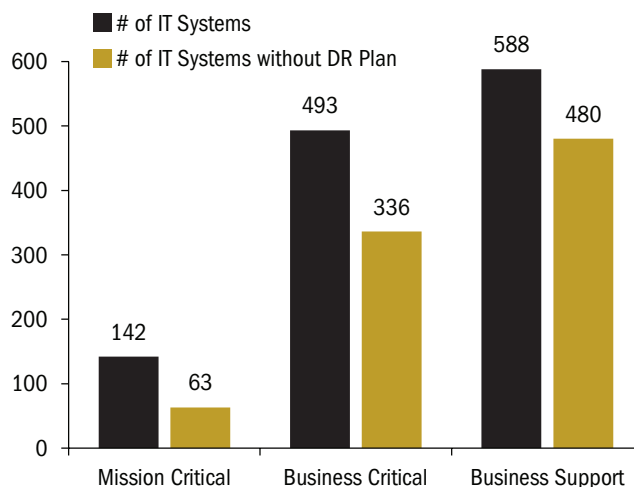
- 336 of 493 (or 68%) of all business critical systems do not have a disaster recovery plan; and
- 480 of 588 (or 82%) of all business support systems do not have a disaster recovery plan.

Refer to **Figure 6** for a breakdown of IT systems without a DR plan as of August 2022. We noted that some of these IT systems have experienced significant incidents in the past five years resulting in unplanned outages that could have been prevented had a DR strategy been in place and tested to ensure minimal disruption to IT systems. For example:

- **Emergency Health Services IT system** is used by OPS contact centres for emergency 911 services involving ambulances, hospitals and patient transfers. We noted there were 13 critical IT incidents where numerous 911 telephone lines across Ontario were impacted due to both IT hardware and software issues such as faulty network cables, power supply failures and IT equipment performance issues. This resulted in the loss of connection between the 911 systems and several Central Ambulance Communication Centres, causing delays in ambulance dispatch. On average, these incidents were resolved in 8 hours. The longest resolution time was 24 hours, whereas the target resolution time is 4.5 hours.
- **COVID-19 Patient Viewer and COVID-19 Vaccination Patient Portal** websites are used by Ontarians to register for the COVID-19 vaccine appointments and to view COVID-19 test results. These websites encountered 18 critical IT incidents during the pandemic, during which Ontarians were unable to make vaccine appointments or view their test results. The IT outages occurred because maintenance patches were not applied on time. On average, these incidents were resolved in 17 hours, with the longest resolution being 48 hours. The required resolution time is set at 4.5 hours.
- **Laboratory Information System** is a health-care software used by Public Health Laboratories to maintain, process, and retain patient information associated with lab procedures and test

Figure 6: IT Systems Without a Disaster Recovery Plan, as of August 2022

Prepared by the Office of the Auditor General of Ontario



results. We noted six critical incidents occurred due to database connectivity issues and performance issues resulting in delays to retrieve patient information. On an average these incidents were resolved in 36.5 hours compared to the required resolution time of 4.5 hours.

- **GO Secure** is used by OPS employees and contractors to access OPS IT systems securely. We found 10 critical IT incidents such as unexpected server restart and database issues prevented OPS employees and contractors from accessing OPS IT systems for an extended period of time. On an average these incidents were resolved in 12.5 hours whereas the required resolution time is 4.5 hours.

RECOMMENDATION 4

In order to minimize any interruptions to operations, we recommend that the Office of the Corporate Chief Information Officer:

- work with the IT clusters to develop an OPS-wide Disaster Recovery (DR) strategy and verify that all critical IT systems have a DR plan developed and in place;
- assess whether all IT systems require a disaster recovery plan on an ongoing basis;

- review and assess clusters' compliance with the DR plans on an annual basis, at minimum, and whenever there is a significant change to the OPS IT environment; and
- periodically test its ability to ensure IT systems can recover on a timely basis in a disaster scenario.

MINISTRY RESPONSE

The Ministry agrees with this recommendation and is committed to ensuring IT systems are resilient and available, minimizing any interruptions to operations, with a Disaster Recovery (DR) plan.

The DR plans are based on ministry-specific Service Level Agreements (SLA) and, as such, the Ministry is committed to:

- incorporating the IT cluster-specific DR plans into an overarching OPS-wide Disaster Recovery Strategy;
- working with ministry partners to confirm IT systems requiring a DR plan, taking into account ministry business continuity of operations plans, and ensuring that those that require a DR plan have one developed through established SLAs; and
- working with ministry partners to review clusters' compliance with DR plans and test them annually or in the event of a significant change to the OPS IT environment to recover critical IT systems on a timely basis.

4.5 The OPS Has No Backup Network Provider to Ensure Continuity of Operations for Some Critical Services

Rogers Communications (Rogers) is one of the largest telecommunications providers for the OPS and the sole network service provider for about 128 office locations, as well as telephone connectivity for 44 contact/call centres and the 56,000 cell phones used by all OPS employees. On July, 8 2022, Rogers experienced a major nation-wide outage which affected thousands of Canadians across various provinces. Rogers customers,

including the OPS, were left without phone and Internet service for more than 15 hours. The outage was caused by a coding error with its network equipment, according to the company.

Since Rogers is the sole service provider of some network services for key critical OPS operations such as contact centres and mobile phones, the nation-wide outage significantly impacted these operations such that it was unable to provide Ontarians services through contact centres such as Service Ontario, COVID-19 Vaccination Patient, and social assistance payments websites. Although the majority of OPS office locations were not impacted by the outage, OPS employees who were using Rogers home Internet were unable to access the Internet to perform their day-to-day activities. The CCIO has estimated a direct loss of \$500,000 in productivity as a result of these employees being unable to work. The CCIO developed a business position on what the estimated compensation could potentially be based on the impact to government business.

In addition, affected components included 11 critical IT systems, 44 contact centres, 29 ministry IT systems, 128 physical ministry locations and 56,000 cell phones used by OPS employees. Five out of the 11 critical IT systems provide emergency services such as the 911 call centre, ambulance, fire notification and critical payments to Ontarians.

Some examples of IT systems impacted by the outage were:

- Automatic Vehicle Location and mobile Computer Aided Dispatch systems are used to collect and share ambulance locations, dispatch ambulance to the emergency and transfer 911 incidents to Ambulance Dispatch Centres. These IT systems were solely dependent on Rogers services in four cities: Mississauga, Cambridge, Georgian and London. Due to the outage, ambulance dispatch centres were unable to share ambulance locations and paramedic services were unable to make operational decisions. As a work-around, dispatch centres manually tracked the ambulances using radios.

- Automated Fire Notification system is used by 911 call centres to notify fire stations in the event of an emergency. Due to the Rogers outage, fire stations were not able to receive automated fire notifications from dispatch centres. As a work-around, fire stations were contacted by telephone.
- Social Assistance Management System used by the Province to deliver social assistance payments was not able to process payments.

Forty-four call centres across the province were also disrupted. For example, Public Health Ontario and the Provincial Vaccine Contact Centre were unable to function during this time frame. Ontarians also faced issues while contacting Service Ontario customer care, as communications were down.

Appendix 6 provides a list of other OPS services impacted by the Rogers outage.

Typically, organizations would initiate their business continuity and disaster recovery plans in the case of a network outage, to ensure that critical operations are delivered with minimal interruption. Since OPS was uniquely dependent on a sole network service provider for its contact centres and mobile phones, and it did not have a backup service provider, it was therefore unable to restore operations even for those IT systems where business continuity and disaster recovery plans existed.

4.5.1 Fines Imposed for Rogers Outage Do Not Reflect the Losses Incurred by OPS

According to the existing service level agreement between the CCIO and Rogers, performance targets such as 99.9% availability of Internet connection should be maintained. This agreement has penalty clauses which stipulate fines if Rogers fails to provide the agreed-upon service levels.

The CCIO conducted an evaluation to determine the appropriate fines that it can impose on Rogers. Based on the penalty clauses in the agreement, the CCIO calculated it can impose a fine of \$38,000 on Rogers. In addition, the CCIO will receive five days' worth of service credits, approximately \$200,000, which Rogers has announced for all its customers. However, the

CCIO has estimated a direct loss of \$500,000 in productivity as a result of this outage since OPS employees were unable to work. The CCIO developed a business position on what the estimated compensation could potentially be based on the impact to government business.

Considering the financial impact to OPS as a direct result from Rogers outage, the fines imposed by the CCIO do not make up for the loss it incurred. Our audit found that the contract between the CCIO and Rogers was created in 2014 and has never been updated. The existing contract does not provide the CCIO with the ability to impose fines related to an overall network outage.

RECOMMENDATION 5

To ensure continuous operations of critical IT systems in OPS, we recommend that the Office of the Corporate Chief Information Officer:

- perform a cost/benefit analysis for acquiring a secondary, back-up network provider for its critical operations; and
- amend the existing contracts for all vendors to include a comprehensive penalty clause that could be imposed in the event that service level agreement performance targets are missed.

MINISTRY RESPONSE

The Ministry agrees with this recommendation. In response to the Auditor General's recommendations, the Ministry is committed to:

- acquiring a secondary, back-up network redundancy for Ministry-identified critical operations, including contact centres, mobility services and IT systems; and
- reflecting penalty clauses for upcoming new network contracts and renewals of existing contracts.

4.6 OPS Cybersecurity Practices Need Improvement

The CCIO's Cyber Security Division (CSD) is responsible for providing cybersecurity services to all 29 ministries

of the Ontario government. These services include monitoring for cyberattacks, performing cybersecurity assessments and scans, delivering cybersecurity training, and providing IT security-related procurement advice for cybersecurity services for the government. While the OPS has made progress in its overall cybersecurity posture, we noted it requires further strengthening to secure Ontarians' data with minimum impact to its integrity, security, and availability.

We reviewed controls related to cybersecurity assessments. Due to the nature of cybersecurity, and so as to minimize the risk of exposure for the OPS, we provided relevant details of our findings and recommendations directly to the CCIO. The CCIO agreed with the recommendation and committed to safeguarding the data entrusted to the government by the people and businesses of Ontario.

4.6.1 Sensitive Data Is Not Secured Using Encryption as Required

The CCIO has established a security standard that outlines the requirements for safely storing Ontarians' personal and sensitive information. As per the standard, any personal information collected must be retained, transferred and disposed of in a secure manner so as to protect that information against theft, loss or unauthorized use or disclosure. If personal information collected digitally is not secured through, for example, encryption, it could result in a violation of the *Freedom of Information and Protection of Privacy Act*.

We selected five IT systems used by the Ministry of Public and Business Service Delivery, the Ministry of the Solicitor General, the Ministry of Health, and the Ministry of Community Safety and Correctional Services that store sensitive and personal data of Ontarians to see if the data was being stored according to the required data security standard. We discovered that none of the five IT systems we sampled had data security controls such as encryption.

The CCIO relies on the ministries to enforce the data security requirements for the clusters and does not itself monitor compliance with them. Further,

due to the existing reporting structure of clusters to their respective ministries (rather than to the CCIO), the CCIO does not enforce and monitor data security requirements on the clusters.

As part of 2021/22 Public Accounts audit conducted by the Office of the Auditor General of Ontario, we identified data security weaknesses with respect to IT general controls such as user access administration, change management and IT operations for IT systems managed by IT clusters.

RECOMMENDATION 6

To help ensure Ontarians' confidential and sensitive personal information is protected from unauthorized and accidental disclosure we recommend that the Office of the Corporate Chief Information Officer:

- enforce clusters to follow the required security standard of applying robust cybersecurity controls such as encryption; and
- monitor compliance with the security standard requiring encryption of sensitive data.

MINISTRY RESPONSE

The Ministry would like to thank the Auditor General and her staff for their recommendations to improve upon the cybersecurity program's depth in defense practices and in this regard, is committed to working with ministry partners and clusters to review and implement approaches to monitor and enforce cluster compliance with security standards including the encryption of sensitive data.

4.6.2 Insufficient Cybersecurity Awareness among OPS Staff

4.6.2.1 Majority of OPS Staff Are Not Trained on Latest Cybersecurity Practices

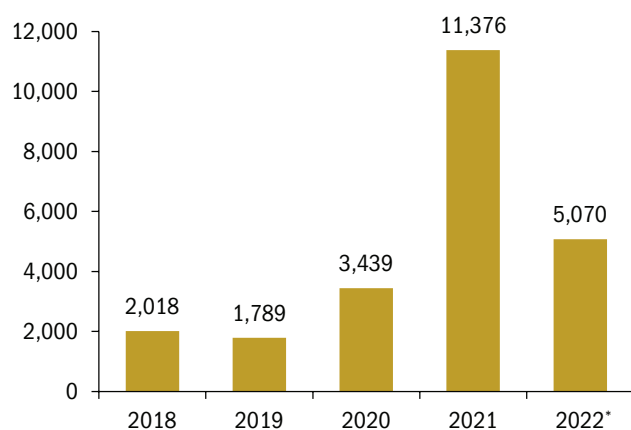
Human error is one of the largest threats to an organization's cybersecurity. According to Gartner Inc., an industry-leading research and consulting firm, in an article from April 2022, human error continues to be one of the top five security risks globally. Basic

cybersecurity awareness training is therefore crucial for employees to be able to understand and avoid exposing the data they work with to potential hackers. In 2020, the CCIO's Cyber Security Division, through its Cyber Security Centre of Excellence, developed an introductory cybersecurity course for all OPS staff to keep them informed about the risk of cybersecurity-related attacks. All full-time staff have access to an IT system called LearnON where they can take training courses designed for Ontario government employees. As of April 2022, the CCIO's mandatory "Cyber Security Basics" course, hosted on LearnON, provided an understanding of data classification and best practices such as appropriate email use, downloading external attachments or programs, and phishing avoidance. We noted:

- Based on the attendance report for "Cyber Security Basics" from 2018–2022, only 11,000 (or less than 30%) of the approximately 40,000 staff in the OPS completed the cybersecurity basics course in 2021. However, since its launch in 2020, there has been an increase in the number of OPS staff that have attended the mandatory cybersecurity training. Refer to **Figure 7** for a five-year trend of cybersecurity course attendance for all OPS staff from 2018 to 2022.

Figure 7: Cybersecurity Training Attended by OPS Staff, 2018 to 2022

Prepared by the Office of the Auditor General of Ontario

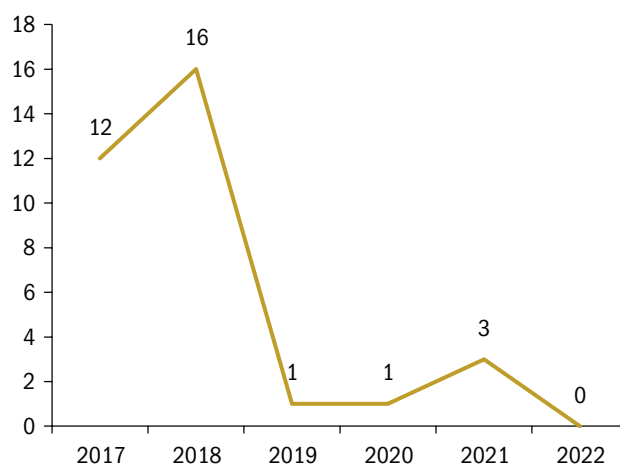


* Data is as of July 2022.

- From 2017–2022, the Cyber Security Division reported a total of 33 cybersecurity attacks, as shown in **Figure 8**. Of these 33 cybersecurity attacks, 27 were related to a phishing event, namely, an OPS employee clicked on a malicious weblink and provided their username and password. The remaining six incidents were impersonation attacks, in which an email with a malicious attachment was sent and an employee opened the attachment.
- Completion of mandatory courses is tracked by employees' managers. If an employee does not complete a mandatory course, it is their manager's responsibility to follow up to ensure they take it. We determined that the CCIO does not review any training completion reports or have awareness of course completion rates amongst OPS employees.
- The cybersecurity mandatory course provided to OPS employees does not have a due date by which the employees have to complete the training, and is also not provided on a regular basis, such as annually in accordance with industry best practices.

Figure 8: Cybersecurity Attacks, January 2017 to January 2022

Prepared by the Office of the Auditor General of Ontario



4.6.2.2 Cybersecurity Training is Not Provided to OPS Contract Employees

- LearnON, the learning management system used to deliver online training to OPS employees, is accessible to full-time employees only. We noted that contract employees working for the OPS do not have access to LearnON, and as such cannot attend courses, including the “Cyber Security Basics” course.
- Yet contract employees make up a significant portion of the OPS workforce. There are about 7,000 contractors, as of January 2022, in long-term contract positions and many work in critical organizational roles such as in human resources and social services, or as health and safety consultants and correctional officers. These employees may have access to sensitive data, like their full-time counterparts. Not providing and requiring contract employees to take the Cyber Security Basics training increases the risk of cybersecurity incidents.
- The CCIO has established a cybersecurity standard, however, it did not assess risk or implement controls to protect confidential data when using personal devices. Industry best practices advise implementing controls such as prohibiting the use of personal devices. However, the CCIO is unable to identify or prevent OPS employees from using personal devices or storing confidential government data on them.
- We noted that both full-time and contract OPS employees can store OPS data on their personal USB devices (external storage). In addition, they are able to print confidential documents outside of the OPS IT network, such as at home.
- We also noted that, while the OPS has a mandatory automatic screensaver policy, about 1,000 users are exempted from this policy and either have no screensaver or have the ability to change the setting themselves. This increases the data security risk since confidential information could be viewed by an unauthorized person if the

device was left unattended, a type of cyberattack known as shoulder-surfing.

RECOMMENDATION 7

To reduce the risk of human error when handling sensitive data and thereby reduce the exposure of the OPS to cybersecurity threats, we recommend that the Office of the Corporate Chief Information Officer:

- extend mandatory cybersecurity training courses to all OPS staff, including contract employees;
- review reports on mandatory course completion rates and create an escalation process for incomplete mandatory courses;
- provide cybersecurity training to all OPS staff at least on an annual basis;
- implement IT controls to restrict use of personal devices to prevent OPS employees who are working remotely from storing data on non-OPS devices; and
- enforce a screensaver policy for all users.

MINISTRY RESPONSE

The Ministry agrees with the recommendations of the Auditor General and continues to enhance its cybersecurity training and awareness program and is committed to:

- investigating the ability to extend mandatory cybersecurity training courses to contract employees;
- investigating mechanisms for ensuring completion of mandatory courses and implementing an escalation process for incomplete mandatory courses;
- implementing a policy requiring cybersecurity training to be completed by all OPS staff on an annual basis;
- reviewing and enhancing the existing IT controls to restrict the use of personal devices to prevent OPS employees who are working remotely from storing data on non-OPS devices by

- documenting associated risks, and ensuring an appropriate risk treatment is in place; and
- reviewing the exemptions to the existing screensaver policy for all users by documenting associated risks, and ensuring an appropriate risk treatment is in place.

4.6.3 Ontarians' Data Used and Stored Within the Broader Public Sector Needs Better Oversight by the CCIO

Ontario's broader public sector refers to organizations that receive funding from the Ontario government but operate independently of it, such as regional school boards, hospitals, and universities. Broader public sector entities host a large amount of personal, health-related, and sensitive information, making their IT systems an attractive target for hackers. Personal and sensitive information contains data that can be used to identify an individual, such as a combination of their name, address, contact details or phone number.

Our Office reviewed publicly available news articles on cyberattacks on the Ontario government and the broader public sector from January 2018–July 2022. Over this period, there was increase in the number of cyberattacks on broader public sector agencies. There were 14 publicly available attacks, such as the ransomware attack on the Ontario Nurses' College, in which sensitive and personal data like names and financial records were compromised. A cyberattack on the Durham Region School Board IT network resulted in the Ontario Education Number, name, date of birth, address, and school location of students being stolen and leaked.

The Government of Ontario appointed a Cyber Security Expert Panel in October 2020. The panel's purpose was to identify challenges in the broader public sector and develop recommendations to improve cyber resilience across the province.

Our audit found that the CCIO does not track and is not aware of cyberattacks affecting the broader public

sector; there is no centralized function to track cybersecurity incidents or breaches. This is a critical gap, since broader public sector entities such as school boards, colleges and hospitals store large amounts of Ontarians' data.

Currently, the Cyber Security Division's Centre of Excellence hosts monthly calls that are available for all individuals employed in the broader public sector, where they can learn about emerging cybersecurity trends and best practices. However, in the past five years, the Cyber Security Division has been engaged only 15 times by broader public sector entities for cybersecurity scanning and testing even though there are over 200 broader public sector organizations in the province.

RECOMMENDATION 8

To assist in responding to cyberattacks and increase engagement for preventative best practices for broader public sector entities that face cyberattacks, we recommend that the Office of the Corporate Chief Information Officer establish a Memorandum of Understanding with the broader public sector to share detailed reports of cybersecurity incidents and communicate about how to remediate any weaknesses.

MINISTRY RESPONSE

The Ministry agrees with the recommendations of the Auditor General and welcomes the opportunity to build upon its efforts to help modernize cybersecurity across the Ontario public sector. As part of the 2023–26 Cyber Security Strategy, the Ministry will be evaluating opportunities to strengthen broader public sector (BPS) partnership through the Strategy that includes establishing a framework to work with the BPS to share detailed reports of cybersecurity incidents and communicate about how to remediate any weaknesses as part of its go-forward cybersecurity strategy.

4.6.4 Cybersecurity Risks for Vendor IT Systems Are Not Assessed

As of August 2022, the CCIO used 140 IT vendors to manage IT services and systems on behalf of the OPS that are essential to the continuity of government programs and operations. We requested a list of the assurance reports being received and reviewed by the CCIO about these service providers. The CCIO was unable to provide us with any Service Organisation Control reports since it does not obtain and review third-party assurance reports to identify cybersecurity vulnerabilities and IT weaknesses. As a result, it is unable to assess the potential impact to its business operations and is unaware of the risks to which it is exposing Ontarians. Third-party assurance reporting is a crucial source of information for identifying any IT risks and weaknesses including cybersecurity risks.

In addition, we noted that the CCIO was not aware if any of the service providers contracted by the IT clusters were storing Ontarians' data outside of Canada, something which would violate provincial privacy and data security requirements related to the collection, retention, and disposal of sensitive information.

RECOMMENDATION 9

To identify any risks that Ontario government data may be exposed to, we recommend that the Office of the Corporate Chief Information Officer:

- establish a centralized process to mandate the receipt and review of third-party assurance reports from vendors that host or use OPS data;
- review IT weaknesses identified in third-party assurance reports to assess the impact to OPS operations and take corrective action where necessary; and
- work with IT clusters to identify any vendors that store data outside of Canada, assess the risk and take corrective action if that storage violates requirements related to the collection, retention, and disposal of sensitive information associated with storing data outside of Ontario.

MINISTRY RESPONSE

The Ministry agrees with the recommendations of the Auditor General and recognizes the importance of identifying risks that Ontario government data may be exposed to. Today, security assessments are conducted as part of OPS vendor procurement practices, where security terms and conditions are reflected in contracts to ensure ongoing protection of government data and any data residency requirements.

In this regard, the Ministry is developing a refreshed Cyber Security strategy where vendor management will be a component. The strategy will include a commitment to:

- establishing processes to mandate the receipt of third-party assurance reports;
- review any weaknesses identified in third-party assurance reports and their impact to OPS operations and take corrective actions to mitigate the risk; and
- working with the ministries and IT clusters to identify any vendors that store data outside of Canada and take corrective actions to mitigate the risk.

4.7 Ontario Government's IT System Inventory is Incomplete and Inaccurate

A current and complete IT asset inventory is important for any organization to ensure its IT assets are accounted for, maintained, and appropriately disposed of. Asset inventories also serve to identify aging IT and when IT security controls are needed.

As the CCIO is responsible for the purchasing of all Government of Ontario IT assets, it uses the Configuration Management Database (CMDB) to track and monitor all IT assets. The CMDB includes information for IT systems such as Transfer Payment Ontario and the Social Assistance Management System used by Ontarians to apply for and receive social assistance.

Figure 9: Critical Data Attributes Not Listed in Configuration Management Database

Prepared by the Office of the Auditor General of Ontario

Data Attribute	Description	# of IT Systems with Missing Data Attributes
Data storage technology	Location where the data is stored (OPS data centre or cloud)	179
Hosting costs	Annual hosting costs across all environments	145
Supports legislated function	Indicates whether the IT system supports any legislative or compliance function such as inspection, investigation, enforcement	141
Licensing cost	Licence fees or any non-hosting related costs	115
Privacy Impact Assessment completed	Indicates whether a Privacy Impact Assessment has been completed	51
Threat Risk Assessment completed	Indicates whether a Threat Risk Assessment has been completed	47

The CMDB typically includes details such as the IT system's name, criticality, owner (accountable person), the associated ministry (primary user) and the IT cluster responsible for servicing it.

We obtained a data extract from the CMDB for all IT systems. From a total of 1,212 IT systems being tracked and monitored, we noted that, although the inventory is being tracked, the database is incomplete. It does not have all relevant and critical information about each IT system recorded. See **Figure 9** for a list of key data attributes missing from CMDB.

In addition, we found that the current process to review the CMDB lacks thorough, frequent, and consistent criteria-based reviews to verify or ensure that information stored there was accurate and complete or current. Although the CCIO's asset management team undertakes informal reviews to identify outdated and missing data within the CMDB, the reviews are not performed with any frequency or defined criteria. As a result, the CCIO does not have an accurate recording of the assets' ages.

The Ontario Internal Audit Division issued an audit report in October 2021 regarding outdated IT systems in the OPS. The audit report concluded that 23.5% of all IT systems in the OPS have aged and as a result are out of vendor support. Because this recent audit was performed by Internal Audit, we excluded an assessment of the age status of IT systems in the OPS from

our scope of work. The CCIO was in the process of acting upon Internal Audit's report and recommendation, which was to update the IT inventory for an estimated completion target of early 2023.

RECOMMENDATION 10

To improve the accuracy and completeness of the IT system inventory and to more easily identify aging IT systems, we recommend that the Office of the Corporate Chief Information Officer:

- develop a guideline for all employees that outlines a process to update the Configuration Management Database using a defined set of criteria;
- complete any empty, mandatory fields in the Configuration Management Database; and
- perform a systematic review of the database on an annual basis and whenever a system is onboarded or retired.

MINISTRY RESPONSE

The Ministry agrees with this recommendation and is committed to improving the accuracy and completeness of the IT system inventory and to more easily identify aging IT systems. In this regard, the Infrastructure Technology Services division will work with the Enterprise Technology Strategy division and Clusters to:

- enhance the existing process for its staff so that the Configuration Management Database is updated using a defined set of criteria;
- review and populate mandatory fields in the Configuration Management Database for IT systems; and
- develop a systematic, annual review process, or whenever a new system is onboarded, for Clusters/IT system owners to identify missing data, update, and report on completeness.

4.7.1 Not all Software Licenses Are Managed or Accounted For

A complete and accurate register of all software licenses and installed software is helpful for an organization to effectively procure, manage, and terminate licenses as needed. It is part of an effective asset management process to avoid costs of any unused surplus software licenses, manage the licenses needed to continue operations, and detect and avoid the use of pirated software.

We noted that the CCIO does not have a process to effectively and efficiently manage the software licenses for all IT vendor systems. At present, software licenses are being managed using a central tracking system called Snow. As of August 31, 2022, the CCIO has enrolled only three vendors (Oracle, IBM, and Microsoft) in order to track software licenses and utilization. However, it does not track utilization for the remaining 137 IT vendors for which it has procured a software license. As a result, the CCIO does not currently have an inventory of any other software licenses installed on employee workstations and their associated costs and usage.

We also noted that there is no process at the CCIO to appropriately reconcile the number of licenses purchased to the fees being paid to vendors for these licenses. The CCIO relies on the vendors to perform their own audits of the number of licenses purchased and is unaware, then, and does not do any work to determine if there are any potential underpayment or overpayment to vendors for software licenses.

RECOMMENDATION 11

To ensure a robust software license management process and avoid underpayment or overpayment to vendors, we recommend that the Office of the Corporate Chief Information Officer:

- onboard its key IT systems into its software asset management system so that it is able to track utilization to assess optimal and economical use of resources;
- adopt a process to verify and confirm the licenses on hand match the fees being paid to vendors; and
- perform regular audits of installed software to identify the need to purchase or retire software licenses.

MINISTRY RESPONSE

The Ministry agrees with this recommendation and is committed to:

- continuing to expand the utilization of a software asset management tool to onboard other key software vendors into its software asset management system; and
- ensuring processes are in place to verify and validate license entitlements and correct payments made to vendors, and to assist in audits of installed software when required.

4.8 Insufficient Due Diligence When Hiring IT Consultants

The CCIO hires all contract IT consultants via a single recruitment service provider, Flextrack, and has paid approximately \$16 million to Flextrack from 2020/21–2021/22. In addition, the ministries and clusters have paid Flextrack approximately \$146 million over this period to procure contractors for non-IT and IT roles. We selected a sample of 30 IT consultants from a total list of 244 consultants working for the CCIO during the period April 1, 2021–April 2023. For each employee, we reviewed the business justification to hire a contract employee, internal capability assessments, interview notes and scoring evaluation sheet, timesheet

approvals by supervisors and approved timesheets are sent to Flextrack. According to the OPS Procurement Directive, before requesting external consulting services, an organization must first consider its internal human resources and provide a rationale for hiring contingent staff. The internal capability assessment involves performing a cost/benefit analysis to evaluate the relative cost of hiring a consultant compared to hiring a full-time equivalent employee for the role.

Capabilities Assessments Were Not Performed Prior to Hiring Consultants, Resulting in Higher Costs

We reviewed hiring request forms and briefing notes submitted by the CCIO to the Treasury Board Secretariat for 30 IT consultants. The CCIO did not perform an internal capability assessment for 28 of the 30 roles. For the two roles where an assessment was performed, we calculated that hiring a full-time equivalent employee was cheaper on an annual basis than hiring a consultant. For example, the cost of hiring a consultant for the role of IT Quality Assurance Specialist was approximately \$132,000 compared to the full-time employee's annual salary of approximately \$86,000. The CCIO told us it hired a consultant because there were no full-time resources available internally.

We also noted that the CCIO did not perform an assessment to determine if hiring a full-time employee was more cost-effective than hiring a consultant. In another example, the CCIO ended up hiring two IT consultants for the role of IT Developer with a contract cost of approximately \$403,000 for one year for both. The assessment noted that the cost to hire two full-time employees was approximately \$248,000, excluding approximately 22% of the gross salary allocated to benefits.

We also noted that consultants' performance evaluations were not reviewed. The consultants' job performance had no bearing on whether or not they would be awarded another contract.

Consultants Were Paid Above Recommended Rate

The OPS People Placement Service Manual created by the Treasury Board Secretariat recommends that consultants be paid in accordance with the planning

market rate card table developed for the manual. Pay rates are determined by a number of factors such as job title and responsibilities.

We compared the daily pay rate recommended on the planning market rate card table to the actual rates paid to all 244 IT consultants hired by the CCIO since April 1, 2021. We noted that 25 of these employees were approved for pay rates above the recommended level. No rationale or justification was provided by the CCIO for providing a higher pay rate. In addition, 25 consultants from a total of 244 were paid an average of \$86 above the daily rate recommended. For example, one IT consultant was paid \$1,199 per day although the recommended daily rate was \$967 per day, a difference of \$232, for a total additional cost of \$51,736 for the contract duration of seven-and-a-half months. In total, for these 25 contractors, the CCIO paid approximately \$470,000 more than the Treasury Board Secretariat recommended.

Interview Evaluation Process Needs Improvement

The interview assessment is a critical aspect of the process to select consultants, as it allows for the assessor to evaluate the candidate against the selection criteria. Candidates that are scored higher than 70% on their resume are granted an interview.

However, we noted that there is no requirement for a minimum number of candidates to be interviewed during the interview stage. This resulted in scenarios where there was only one candidate interviewed for the IT contract position, as occurred with four of the 30 consultants from our sample. We also noted that this contract position is a highly demanded role in organizations and typically receives a high number of applicants when a position is posted.

According to the People Placement Service Manual, competitors for contract positions should be interviewed by at least three full-time equivalent evaluators. For eight of the 30 employees in our sample, their interview was performed by two evaluators only.

Finally, we noted that 21 of 30 (70%) interviewers had no interview notes/comments captured in their scoring worksheet or within the VMS. There is no requirement to capture interview notes within the VMS

IT system. We also noted that 6 of 30 (20%) interviewers provided very limited interview notes.

RECOMMENDATION 12

To ensure that consultants are procured with the necessary due diligence and to maximize value for money, we recommend that the Office of the Corporate Chief Information Officer:

- ensure that when procuring additional services cost/benefit analyses are performed and the option of hiring a full-time employee is considered;
- pay consultants within the recommended rate ranges set out by the People Placement Service Manual, and that any deviation or exception from the Manual be formally documented and approved by the Office of the Corporate Chief Information Officer;
- ensure a minimum of two candidates, per position, are interviewed by at least three evaluators; and
- formally document and retain interview notes within the IT system.

MINISTRY RESPONSE

The Ministry would like to thank the Auditor General and her staff and agrees with the recommendation and is committed to improving its practices and to enhancing transparency and accountability.

In this regard, the Ministry is committed to:

- implementing a consistent approach to enable a review of capacity and resourcing options prior to procuring IT consultants. IT consultants will be hired in line with the recommendation, by the Treasury Board Secretariat planning market rates where it is possible;
- ensuring that the appropriate level of approval is obtained and documented to support exceptional cases; and
- reviewing the rules, controls, and best practices supporting the interviewing and selection process

when hiring IT consultants. Specifically, it will be ensured that a minimum of two candidates, per position, are interviewed by at least three evaluators; and that the interview notes are formally documented and retained within the IT system.

4.9 IT Incident Resolution Targets Are Outdated

The CCIO has established an IT incident classification process that distinguishes the priority of an incident, ranging from those with the most significant impact (“critical”) to those with the least impact (“low”). The CCIO considers critical incidents to be those that could result in customer data loss, security breaches or customers being unable to access client-facing webpages.

Our Office reviewed IT incident data from April 2017 to March 2022 and noted a total of 2,057,917 incidents occurred for all IT systems at the OPS. These incidents were logged within Remedy, the IT system used by different IT clusters in the OPS to view and resolve IT incidents. When an IT incident is resolved within the time frame defined by the applicable service level agreement, it is marked as “met” within the Remedy IT system. Incidents that are resolved outside of the time frame of the service level agreement are marked as “missed.” See **Figure 10** for a breakdown of the 2,057,917 incidents by priority level, along with the percentage of IT incidents that met the agreed-upon resolution time. We noted there were 803 priority critical IT incidents.

4.9.1 The CCIO’s Compliance Targets to Resolve IT Incidents Are Outdated

The CCIO has a compliance target of 90% for all service delivery tickets relating to IT incidents based on target time frames for business critical, mission critical, and business support systems. **Figure 11** indicates the target resolution times required for IT incidents by IT system classification.

The CCIO’s compliance target of 90% was established in 2016 and has not been revaluated since then. Further,

Figure 10: Number of IT Incidents by Priority Level and Percentage Resolved, April 2017 to March 2022

Prepared by the Office of the Auditor General of Ontario

Priority Level	Number of Incidents	% Resolved (CCIO) ¹	% Resolved (OAGO) ²	% Resolved (OAGO) ³
Critical	803	73.2	66.5	47.8
High	4,215	86.8	85.8	75.8
Medium	905,316	93.4	93.4	83.1
Low	1,147,583	96.6	96.6	92.5
Total	2,057,917	95.2	85.6	74.8

1. Percentage resolved as calculated by CCIO's IT incident ticketing system (Remedy)

2. Percentage resolved as calculated by OAGO by comparing the IT incident ticket logged time against the resolved time

3. Percentage resolved as calculated by OAGO by comparing the IT incident ticket logged time against the resolved time, excluding any pending time

Figure 11: Target Resolution Times for Types of IT Incidents

Prepared by the Office of the Auditor General of Ontario

IT System Classification	Priority Critical Incident	Priority High Incident	Priority Medium Incident
Mission Critical ¹	4.5 hours	1 day	5 days
Business Critical ²	4.5 hours	1 day	10 days
Business Support ³	No time limit	1 day	15 days

1. **Mission Critical:** Used for solutions only where failure may i) cause harm to the health of Ontarians, and/or ii) endanger Ontarians' lives or create safety hazards, and/or iii) reduce government's revenue generating capacity, and/or iv) prevent critical payments.2. **Business Critical:** Used for solution only where the solution i) supports the government's priorities, and/or ii) demonstrates a direct link to mission critical systems, application, infrastructure, and/or iii) demonstrates that failure will threaten mission critical projects, and/or iv) supports government's stewardship role.3. **Business Support:** Used only where solutions are critical to the operation of a business unit or department, but are not directly essential to the delivery of a public program or service. Its scope is limited to a smaller business unit than Business Critical.

the CCIO's service targets are set lower than industry best practice. For example, an IT incident with a critical status should be resolved within 1–2 hours, whereas the CCIO's target is set at 4.5 hours.

4.9.2 IT Incident Resolution Targets Missed

Using data analysis, we re-evaluated the 2,057,917 IT incidents to assess if they were resolved as per the 90% compliance target defined by the CCIO and in the time frame specified by the service level agreements.

Figure 10 provides a breakdown of incidents by priority level and percentage of resolution reported by the CCIO and the Office of the Auditor General of Ontario (OAGO). We noted that the CCIO reported an overall compliance of 95% for all IT incidents in the past five years. However, based on our review and analysis, the overall compliance was, in fact, 85% for all IT

incidents. This 10% discrepancy is due to the fact that CCIO calculates the compliance rate using the elapsed time, which is the time spent by the technician to resolve the incident ticket, whereas for our calculation, we compared the time when the incident ticket was created against the time when it was closed. Further, we noted that the compliance rate for IT incidents with the most significant impact ("critical") was 66%.

In addition, we also noted that the CCIO's reported compliance of 95% includes "pending" time, that is, the time when IT incident tickets are put on hold, as they are awaiting confirmation from the employee or affected users to validate whether the IT incident has been resolved. We noted that out of 2,057,917 IT incidents 418,145 (20%) were marked as pending status before these tickets were resolved. We also noted that there is no process in place to verify that all 20% of tickets require a justified pending time, since the system

does not capture this level of detail in the audit logs. We performed another analysis which excluded the pending time, and noted that the overall compliance of IT incidents dropped to 75%. Refer to **Figure 10**.

RECOMMENDATION 13

To efficiently restore IT services with minimal interruption to Ontarians, and to accurately calculate and report on compliance with service delivery targets, we recommend that the Office of the Corporate Chief Information Officer:

- re-assess its compliance targets to ensure they are in accordance with industry standards;
- review the calculation of incident resolution time to ensure it aligns with industry best practices; and
- put in place remedies to improve the time taken to restore IT services.

MINISTRY RESPONSE

The Ministry agrees with this recommendation and is committed to:

- identifying enhancements to service delivery targets for critical systems and high priority incidents, based on the industry scan findings;
- reviewing and updating Incident Resolution Time to ensure metrics and reporting align with industry best practice; and
- implementing any changes to existing service delivery targets for the fiscal year 2025/26.

Appendix 1: Glossary of Acronyms

Prepared by the Office of the Auditor General of Ontario

Term/Acronym	Definition
CAC	Central Agencies Cluster
CCIO	Office of the Corporate Chief Information Officer
CIO	Chief Information Officer
CISO	Chief Information Security Officer
CMDB	Configuration Management Database – IT system used to track IT asset-related information such as name, user, and deployment date.
CTO	Chief Technology Officer
CVOR	Commercial Vehicle Operator Registration – automated IT system used to store information about large vehicle carriers
DR	Disaster Recovery
ERM	Enterprise Risk Management
ETD	Enterprise Technology Delivery
ETS	Enterprise Technology Strategy
FTE	full-time equivalent
GSIC	Government Services and Integration Cluster
HSC	Health Services Cluster
IRP	International Registration Plan
IT	information technology
ITQF	Information Technology Qualified Firms
ITS	Infrastructure Technology Services
MTO	Ministry of Transportation
OCL	Office of the Children's Lawyer
OPAC	Ontario Police Arbitration Commission
OPS	Ontario Public Service
PIA	Privacy Impact Assessment
PRIO	Permitting and Registration for International Registration Plan and Oversize/Overweight
TRA	Threat Risk Assessment
VMS	Vendor Management System – processes and maintains vendor-related documents

Appendix 2: Individuals Overseeing the Eight IT Clusters, as of September 2022

Prepared by the Office of the Auditor General of Ontario

Cluster	Chief Information Officer or Assistant Deputy Minister	Deputy Minister	Minister
Community Services	Soussan Tabari	Nancy Naylor	Stephen Lecce
Children, Youth and Social Services	Alex Coleman	Denise Allyson Cole	Merrilee Fullertone
Health Services	Angela Copeland	Catherine Zahn	Christine Elliott
Justice Technology Services	Catherine Emile	David Corbett	Douglas Downey
Land and Resources	Rocco Passero	Monique Rolf von den Baumen Clark	Gregory Rickford
Labour and Transportation	Roman Corpuz	Douglas Jones	Caroline Mulroney
Central Agencies	Liz Mackenzie	Deborah Richardson	Prabmeet Sarkaria
Government Services and Integration	Manish Agarwal	Renu Kulendran	Kaleed Rasheed

Appendix 3: High-level Responsibilities of the Office of the Corporate Chief Information Officer as Compared to the Clusters

Prepared by the Office of the Auditor General of Ontario

Services	CCIO	Clusters
Cybersecurity	Performs security-related scans and incident responses for: 1. Threat Risk Assessments 2. Cybersecurity Scans 3. Vulnerability scans 4. Incident Response	Identify applicable IT systems and request cyber scans and assessments
Asset Management	ITS manages, tracks, and distributes physical assets such as laptops and servers	Request new hardware and work with ITS to get required assets
IT Service Delivery	Sets goals and compliance targets for service delivery for entire OPS	Incident management teams work within the cluster and report performance metrics to CCIO
Vendor Management	Manages enterprise-level vendor contracts like Compucom, TELUS	Procure vendors with the help of their own contract managers

Appendix 4: Highest Recommended Daily Pay Rates for IT Contractors, as Established by Treasury Board Secretariat

Prepared by the Office of the Auditor General of Ontario

Role	Recommended Daily (per diem) Rate (\$)
Program Manager	1,015.00
Project Manager/Leader	983.00
Application Architect	967.00
Technology Architect	967.00
Privacy Impact Assessment (PIA) Specialist	966.00
Automation Solution Consultant	954.00
Business Architect	954.00
Solutions Designer	940.00
DevOPS/Cloud Engineer	936.00
Business Intelligence Specialist	925.00

Appendix 5: Audit Objective and Criteria

Prepared by the Office of the Auditor General of Ontario

Audit Objective

The objective of this audit is to assess whether the Office of the Corporate Chief Information Officer has effective IT systems and governance in place to ensure:

-
1. A governance framework is implemented that encompasses an overall IT strategy that demonstrates effective oversight of IT functions to deliver IT services to the Ontario Public Service and Ontarians efficiently and effectively.
-
2. IT operations and systems are effectively monitored in accordance with established performance metrics and corrective actions are taken upon review.
-
3. Ontarians' data and IT assets including hardware and software are secure, reliable and protected against cyberattacks.
-
4. IT resources including IT vendors are procured in accordance with legislative, regulatory and contractual requirements with due regard for economy.
-

Audit Criteria

-
1. Effective governance framework with adequate oversight of IT operations, strategy and accountability with clear roles and responsibilities are in place to achieve IT strategic objectives and goals.
-
2. Appropriate IT performance measures and targets have been defined, approved and a monitoring process is in place to evaluate IT performance and services provided to the the Ontario Public Service and report regularly.
-
3. Cybersecurity IT systems and controls are in place to detect, prevent and mitigate anomalies and threats to OPS operations in a timely manner including the safeguarding of legislatively protected, personal identifiable and OPS sensitive data.
-
4. Processes are in place to ensure procurement is managed economically in accordance with applicable regulations and vendor performance is monitored for satisfactory delivery of goods and services.
-

Appendix 6: List of OPS and Crown Agencies and Related Public Services Affected Due to Rogers Outage, July 8, 2022

Prepared by the Office of the Auditor General of Ontario

Service/Organization	Description	Impact
Agrisuite GoCloud	IT system used by farmers and agricultural consultants	Website was not available
Attorney General	To contact the Ministry of the Attorney General	Phone line was not available
Child Empanelment Portal	Interact with OCL to access case information and submit information relating to Child (Core) IT system	Website was not available
Drivers Medical Review (DMR)	The DMR program reviews drivers with medical conditions and driver fitness assessments based on legislated MTO policies.	Website was not available
Hospitals	Many hospitals were affected by the outage. Hospitals had difficulty reaching staff who were at home, causing longer wait times at hospitals. Additionally, hospitals have difficulty contacting family members, and health systems partners (such as long-term-care facilities).	Website and phone communications were not available
Metrolinx and GO Transit	Public transportation services in the Greater Toronto Area	Some locations and fares could not be purchased using debit or credit. E-tickets were unavailable for purchase.
Ministry of Transportation 511 website	Access to road information	Website was not available
MTO iCorridor	iCorridor is a map-based data visualization and information sharing tool to increase understanding of historical, real-time, and forecast information in transportation and land use planning.	Website was not available
MTO Online Carrier Records	Public portal to access their CVOR Record online	Website was not available
MTO Technical Consultation Portal	Provides an IT system used by MTO and its vendor	Website was not available
MyBenefits	Social Assistance recipients unable to access their accounts	Website was not available
Office of the Premier	To contact the premier	Phone line was not available
Ontario Lottery and Gaming Corporation	Gaming services for Ontario public	Lottery ticket purchase was not available
Ontario Pension Board Client Care Centre	Contact centre used for general inquiries	Longer than normal wait times for call centre
Ontario Police Arbitration Commission (OPAC)	The OPAC website allows for a search into collective agreements, interest and rights disputes and related content around the conciliation and mediation arbitration process under the <i>Police Services Act</i> .	Website was not available

Service/Organization	Description	Impact
Permitting and Registration for IRP/00 (PRIO)	Permitting and registration for Ontario-based commercial carriers for inter-jurisdictional travel in Canada/US/Mexico	Website was not available
Public Health Unit Locator	Geographical search for the health unit that governs the user's area	Website was not available
The Toronto District School Board	Students and staff in remote learning summer sessions	Online learning not available; participants had to switch to asynchronous learning
Tribunals Ontario (Landlord Tenant Board)	Contact line to speak to a customer service officer	Phone line was not available
Volunteer Corps Ontario	Inquiry with contact centre for Volunteer Corps Ontario	Phone line was not available

Management of Invasive Species

1.0 Summary

Animals, plants and micro-organisms that are introduced to new environments from other countries, regions or ecosystems often act as predators, competitors, parasites or diseases that put native species and their habitats at risk. Once in their new habitat, these invasive species can establish, spread and cause harm to the local environment, economy and/or society, including people's health.

According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, invasive species is one of the five biggest threats to biodiversity, along with changes in land and sea use, direct exploitation of organisms, climate change and pollution. Of the Canadian provinces, Ontario is among those at the highest risk for new introductions and has the most invasive species, with at least 441 invasive plants and 191 non-native and invasive aquatic species in the Great Lakes. This is largely due to Ontario's proximity to major international shipping channels, multiple land and water entry points, and high volume of imported goods.

Invasive species can have devastating environmental and economic impacts. For example, sea lamprey, alewife, zebra mussel and round goby caused the historic collapses of lake trout, lake whitefish and cisco stocks in the Great Lakes, as well as significant impacts to other commercially harvested native fish species. According to a study commissioned by the Invasive Species Centre in 2017, the economic impacts

of invasive species to Ontario's agriculture, forestry, fisheries, health care, tourism and recreation are an estimated \$3.6 billion each year.

Invasive species can negatively impact Ontario's tourism and recreational activities. For example, phragmites, the costliest invasive plant that has established in the province, can form dense, five-metre-tall thickets that restrict people's access to water for swimming and trails for hiking, while obstructing visibility for hunting and birdwatching. Other species, like the Asian tiger mosquito, serve as vectors for diseases such as Zika virus, West Nile virus and Dengue fever. Some invasive species pose further threats to human health and quality of life—for example, sap from the invasive plant giant hogweed can cause severe skin burns, painful blisters and even temporary blindness. Some invasive carp species, while not yet established in Ontario waters, pose a significant threat to the Great Lakes because of their potential to outcompete native species, consume large amounts of aquatic vegetation, decrease water quality, and injure boaters with their jumping behaviour.

With the global COVID-19 pandemic, people now understand the urgent need to act when a dangerous new virus or other biological threat emerges. The same is the case for responding to invasive species: preventing their introduction is the most effective and economical solution for managing them. Scientific studies estimate that investing in preventing introductions generally provides economic returns that are many times higher than trying to manage invasive species after they have arrived. Once a species is introduced and

established, management costs increase and eradication becomes extremely challenging, if not impossible. Invasive species-related costs incurred in 2021/22 by Ontario municipalities and conservation authorities (mostly spent on control and management) are estimated to be over \$50 million. By comparison, the Ministry of Natural Resources and Forestry (Natural Resources Ministry; formerly the Ministry of Northern Development, Mines, Natural Resources and Forestry) dedicates less than \$4 million each year toward invasive species programming.

The federal government is responsible for preventing the entry of invasive species into Canada and their movement between provinces. It does this by regulating key pathways including ship ballast water; fisheries; and the movement of wildlife, pathogens and pests. The federal government also conducts various research and monitoring, risk assessment, co-ordination and management activities related to invasive species. In Ontario, the Natural Resources Ministry leads the implementation of Ontario's Invasive Species Strategic Plan (2012) and administers the *Invasive Species Act, 2015* (Act), which provides the Ministry with legislative and regulatory powers to prevent and control the spread of invasive species across the province.

As the provincial lead, the Natural Resources Ministry collaborates with other ministries, the federal government, partners and stakeholders to co-ordinate activities to combat invasive species. The Ministry also provides about \$1.4 to \$2.2 million in annual funding to organizations to support invasive species programs, research and other initiatives. When federal and provincial efforts to prevent and eradicate invasive species are unsuccessful, the impacts and costs to society generally flow downstream to municipalities; property owners; and park, lake and forest managers. Indigenous communities can also be impacted by invasive species.

Overall, our audit found that the Natural Resources Ministry is not effectively monitoring and managing the introduction and spread of harmful invasive species in Ontario. The following are some of our most significant findings:

- **The Ministry's lengthy delays in regulating invasive species has increased the risk of introduction and spread.** Assessing the risks posed by invasive species is a key step to determining whether they should be regulated under the Act. If an assessment shows that a species poses a substantial risk to Ontario's environment, then it should be regulated promptly. However, risk assessments for the 12 invasive species newly regulated in January 2022 (excluding wild pigs, which followed a separate process) were completed on average almost four years before the species were ultimately listed and regulated. The Natural Resources Ministry has only one staff member regularly performing risk assessment work, contributing to the delays in regulating invasive species. These delays have meant that penalties to deter the importation, trade and release of these species were not in place for several years. For example, we found that Carolina fanwort—an invasive aquatic plant that crowds out native plants, clogs irrigation systems and interferes with aquatic recreation—was not regulated until almost five years after a substantially complete risk assessment was provided to the Ministry by a contracted expert.
- **Harmful invasive plants are unregulated and several are available to buy in Ontario.** The Ministry has left at least 30 harmful terrestrial invasive plants (plants that grow on land) and their pathways unassessed and unregulated. One example is the tree-of-heaven, a favoured host of the spotted lanternfly, which is a federally regulated invasive insect that threatens vineyards, the fruit and vegetable sector, and the hardwood industry. There are hundreds of confirmed tree-of-heaven detections in southern Ontario. However, Ontario does not regulate the species' spread despite the Province's role as an important line of defense. Further, 52% of all intentional introductions of invasive plants in Canada occur through imports of plants used for landscaping or ornamental purposes, yet the Ministry has not regulated horticultural

pathways (such as the movement of soil within the province) or any other terrestrial invasive species pathways. We found at least six of the 30 terrestrial invasive plants mentioned above (specifically, creeping jenny, goutweed, Norway maple, periwinkle, spearmint and winter-creeper) are available for purchase at local garden centres, nurseries and/or home improvement retailers.

- **The Ministry lacks information to detect and processes to monitor potentially harmful invasive species.** The Ministry's monitoring programs mainly rely on incidental observations instead of a regular and risk-based approach to invasive species surveillance. Furthermore, we found that 33 invasive species identified as high risk by nearby jurisdictions were not systematically tracked by the Ministry and have been found in Ontario. In addition, the Ministry has not fully leveraged the efficiency and cost-effectiveness of environmental DNA (eDNA), a modern detection tool for systemically monitoring species, by widely expanding its use.
- **The Ministry does not clearly define roles and responsibilities of partner organizations.** Therefore, it assigns tasks on a case-by-case basis but has no processes or protocols to ensure that actions are implemented for all invasive species and regions of the province. Based on a survey we conducted, 79% of the 135 responding municipalities and 89% of the 27 responding conservation authorities indicated that roles and responsibilities related to Ontario's invasive species response are not clearly defined. Further, 85% of municipality respondents and 74% of conservation authority respondents do not know their overall role as part of Ontario's invasive species response.
- **Gaps in collaboration between Ministry and federal partners have led to inadequate management of invasive species.** According to the Canadian Food Inspection Agency (CFIA), the CFIA has been working since 2019 to engage the provinces to support collaborative action on hemlock woolly adelgid, an invasive insect that kills hemlock trees. Specifically, the CFIA has reported seeking support on response measures to preserve hemlock resources in accordance with the Hemlock Woolly Adelgid Management Plan for Canada (2018), an information report that outlines potential management tactics. CFIA staff told us that it believes Ministry leadership has been lacking with respect to inventorying this species, supporting the development of insecticides, creating a strategy to use predatory beetles as a biological control, and organizing an immediate response to the known infestations in southern Ontario. According to the CFIA, the Ministry has not responded to or undertaken the CFIA's recommendations or calls to action. The Ministry informed us that it is currently collaborating with the CFIA and others on science activities to support the monitoring and management of hemlock woolly adelgid in Ontario, and that decisions to do more are weighed against other priorities in allocating limited resources. In October 2021, the species was confirmed in Fort Erie, Ontario.
- **Invasive species work is not well co-ordinated by the Ministry.** Despite being the dedicated lead on implementing Ontario's Invasive Species Strategic Plan (2012), the Ministry lacks an implementation plan for executing invasive species work, and does not provide comprehensive and organized direction to municipalities, conservation authorities and stakeholder organizations across the province to combat invasive species threats. In the absence of this direction, these stakeholders must develop and implement their own strategies, but this rarely actually happens. Specifically, our survey results indicated that 70% of responding municipalities have not developed any invasive species management plans to guide relevant activities.
- **Program partners lack funding to sufficiently combat invasive species.** When federal and provincial efforts fail to prevent the introduction and spread of invasive species, land managers

such as municipalities and conservation authorities are saddled with managing these species. The burden on these land managers is significant, and we noted that the combined amount spent by municipalities, conservation authorities and the Ministry of Transportation in 2021/22 on phragmites management alone was higher than the total the Ministry spent that year on all invasive species programming. We also found that Ontario municipalities are insufficiently resourced to manage these threats compared to their counterparts in other provinces. In our survey of municipalities and conservation authorities, 81% of each group's respondents indicated that they receive no Ministry support to help address invasive species. Similarly, a 2022 survey commissioned by the Invasive Species Centre found that municipalities in Ontario reported lower per-capita expenditures than those in other provinces, and were more likely to report insufficient funding to manage invasive species.

- **Funding delays and single-year funding agreements negatively impact invasive species work.** The Ministry is regularly delayed in approving annual funding for transfer payment recipients (such as the Invasive Species Centre and the Ontario Federation of Anglers and Hunters), limiting the invasive species planning and work done in the crucial spring/summer months when many such species are best tackled. Moreover, due to the lack of multi-year funding agreements and certainty of funding, organizations struggle to retain the staff needed to conduct invasive species work.
- **Conservation officers are insufficiently trained on invasive species and perform related enforcement activities infrequently and inconsistently.** As of March 31, 2022, zero charges and only 11 warnings had been issued under the *Invasive Species Act, 2015*. In addition, while invasive species-related hours are assigned to conservation officers, these can in

many cases be fulfilled through activities irrelevant to regulated invasive species under the Act (for example, patrols to ensure anglers have valid fishing licences and comply with catch and possession limits, which is more relevant to federally regulated invasive species such as gobies). We also found that the training provided to these officers included minimal visual aids and practice identifying regulated species, and that many officers have not received this training. As a result, many would be unable to identify invasive species encountered during patrols, necessitating external expert support to assist in identification when responding to tips. The number of conservation officers has decreased since 1998, from 281 to 238 officers. Meanwhile, the legislation they must enforce has expanded from at least 22 acts to 27, resulting in less resources available to commit to work for which they are responsible under each individual piece of legislation.

- **The Ministry has acknowledged that it lacks sufficient staff to effectively administer the *Invasive Species Act, 2015*.** In 2014/15, and again in 2017/18, the Ministry requested funding from the Treasury Board/Management Board of Cabinet (TB/MBC) to address inadequate staffing levels for invasive species work. The TB/MBC did not provide the requested funding. However, it directed the Ministry to divert the necessary funding from other programs to address this shortage. The Ministry did not follow this instruction and did not fill these positions. As a result, programming continues with inadequate human resources to effectively administer the Act.

Our audit also found that the Invasive Species Centre, a major transfer payment recipient of the Ministry, is using funds received from the Province for their intended purposes.

This report contains 12 recommendations, with 37 action items, to address our audit findings.

Overall Conclusion

The Natural Resources Ministry is responsible for leading the implementation of Ontario's Invasive Species Strategic Plan and administering the *Invasive Species Act, 2015* (Act), but lacks sufficient information about potentially harmful invasive species to inform its decision-making on funding and prioritizing activities to respond to invasive species threats. Specifically, the Province does not have a listing of all invasive species known to be present in Ontario, a watch list of emerging invasive species detected in neighbouring jurisdictions, or a risk-based surveillance program to monitor the introduction and spread of invasive species. The Ministry also lacks current information about the damage to ecosystems and related economic impacts, and the number of human health and safety incidents, caused by invasive species each year.

We also found that the Ministry is missing key opportunities to find and eradicate invasive species before they become established. Specifically, delays in identifying, assessing and regulating some species have negatively impacted Ontario's ability to prevent their introduction and spread.

We also found that provincial conservation officers are not sufficiently trained to enforce the Act. Current invasive species-related inspections do not target several significant, high-risk pathways—such as garden centres, baitfish retailers and fish markets—to curb the introduction and spread of invasive species.

Further, Ontario's Invasive Species Strategic Plan has not been updated since 2012 and lacks a co-ordinated provincial implementation plan, which has led to largely fragmented and localized activities across the province. While the Ministry is the dedicated provincial lead, it does not provide sufficient direction, guidance, co-ordination and resource support to other ministries, municipalities, conservation authorities and other key organizations to effectively prevent and minimize the spread of invasive species.

Without immediate corrective actions, new invasive species will continue to establish and spread in Ontario, becoming costlier and more difficult to eradicate and creating worsening negative impacts to the environment, the economy and human health.

MINISTRY OVERALL RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) thanks the Auditor General for the audit report and recommendations. Invasive species are an established and growing ecological and economic threat that are negatively impacting the lives of Ontarians and reducing the province's resiliency to climate change.

The Ministry and our partners have taken significant strides to address these impacts through the development of the *Invasive Species Act, 2015*; ongoing eradication and control of priority species such as water soldier, European water chestnut and phragmites; and ongoing public outreach and education. However, despite these efforts, the Ministry recognizes the impacts of established invasive species and threat of new introductions is increasing.

Given the breadth of this challenge, the Ministry is committed to continue working with established partners and to seeking opportunities for enhanced collaboration to prevent, respond to, and manage invasive species. Key to this will be a review and renewal of the Ontario Invasive Species Strategic Plan, which will help guide Ontario's invasive species management actions into the future.

The findings of the Auditor General's report acknowledge the significant challenges faced by the Ministry and the need for enhanced leadership on the national and international stages.

The Ministry is committed to continue its efforts to reduce the impacts of invasive species in Ontario, while seeking ways to enable and better support the efforts of partners at all levels in tackling this growing challenge.

INVASIVE SPECIES CENTRE OVERALL RESPONSE

The Invasive Species Centre would like to thank the Auditor General of Ontario and her team for this report. We agree that invasive species are a growing threat to lands and waters in Ontario, with economic, environmental and social impacts.

We are pleased that the audit found that the Invasive Species Centre is using funds for the purposes intended in order to help prevent introductions and help reduce the spread and harmful impacts of invasive species.

The Invasive Species Centre works with many partners to help prevent the introduction and spread of invasive species. We work collaboratively to catalyze action, share knowledge and build the case for needed investments in invasive species. We thank the Auditor General and team for drawing attention to the critical issue of invasive species and look forward to discussing the recommendations with partners.

2.0 Background

2.1 Invasive Species Is a Costly Global Issue

Invasive species are non-native plants, animals or micro-organisms that have been introduced—intentionally or unintentionally—to new environments from other countries, regions or ecosystems and that cause significant harm to the local environment, economy and/or society, including human health. The impacts of invasive species on native ecosystems, habitats and species can be severe and often irreversible, causing billions of dollars in damages in Canada each year.

In 2019, the United Nations' Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services reported that across 21 countries around the world, the number of invasive species per country has increased by an average of 70% since 1970. In terms of the associated global costs, a 2021 study published in *Nature*, a leading scientific journal, found that invasive species created at least \$1.288 trillion USD in such costs from 1970 to 2017.

The economic impacts of invasive species include significant control and management costs; reduced productivity in the forestry, agriculture and fishing sectors; export and import trade restrictions; and

reduced property values. Invasive species can also have negative societal impacts by, for example, reducing land and water recreational opportunities, and causing disease and harm to both humans and wildlife.

2.2 The Impacts of Invasive Species in Canada

A 2004 study by the Government of Canada estimated that the annual impact in Canada of 16 invasive species, for which published information is available, is between \$13 billion and \$35 billion. A 2017 study published in the journal *Global Ecology and Biogeography*, which used 2016 data from the Global Invasive Species Database and two other major global databases, found that Canada ranks 10th amongst all tracked countries in the highest number of recorded invasive alien species. In 2002, researchers estimated that there were at least 1,442 invasive species in Canada.

Among the Canadian provinces, Ontario is estimated to have the most invasive species, with at least 441 invasive plants (as per 2008 data) and 191 non-native and invasive aquatic species in the Great Lakes (as per 2020 data). Ontario also has a high risk of new introductions due to its multiple land and water entry points, large and in some places highly dense human populations, high volume of imported goods, proximity to major international shipping channels, and degraded habitats, which create favourable conditions for invasive species to enter and become established in the province.

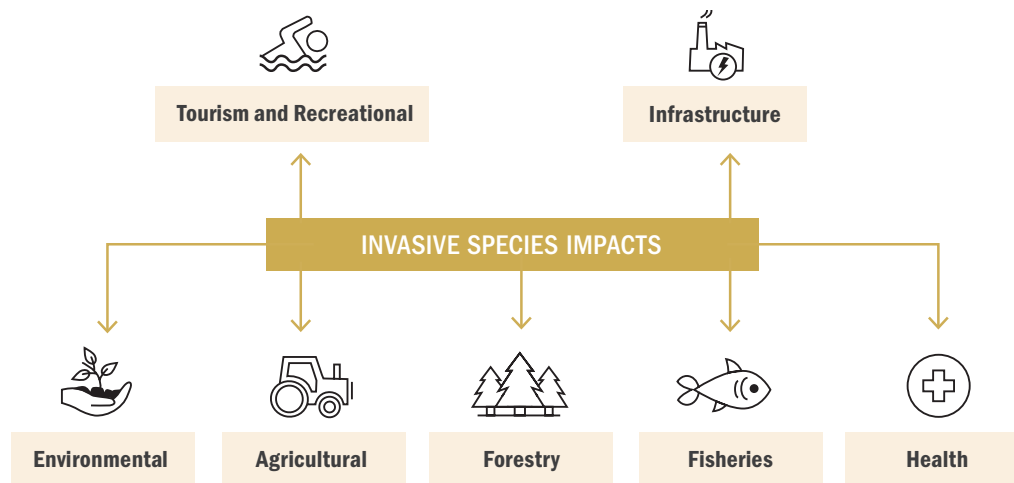
A 2017 study commissioned by the Invasive Species Centre found that the economic impacts of invasive species to Ontario's agriculture, forestry, fisheries, health care, tourism and recreation are estimated to be \$3.6 billion each year. **Figure 1** discusses how invasive species negatively affect these sectors.

2.3 How Invasive Species Spread

Invasive species are primarily spread by human activities. The rise in global trade has resulted in increased transportation via air, land and sea of both goods and people—including a threefold increase in travel from

Figure 1: Invasive Species Impacts

Prepared by the Office of the Auditor General of Ontario

**Environmental Impacts**

Invasive species can negatively impact the environment by affecting biodiversity, causing local and even global species extinctions, creating soil degradation and erosion, and altering forest fire cycles. By altering ecosystem structure and function, invasive species can negatively impact the beneficial and economically valuable services that otherwise healthy ecosystems provide to the environment (such as water purification, carbon sequestration and climate regulation). According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, invasive species are a top threat to biodiversity. For example, a single disease-causing fungus is a threat to nearly 400 amphibian species worldwide and has already caused a number of extinctions.

**Forestry Impacts**

In 2004, Canada's annual timber losses through reduced wood supply and quality caused by invasive species were estimated at 61 million cubic metres, equivalent to \$720 million in losses per the Canadian Food Inspection Agency. Ontario's forest sector, which is responsible for over 148,000 direct and indirect jobs across the province, can be threatened by the impacts of invasive species. For example, the emerald ash borer, a wood-boring beetle, has killed millions of ash trees in Canada and is the most costly invasive species for Ontario municipalities and conservation authorities. Spongy moth caterpillars defoliated (removed the leaves from) a record-breaking 1.78 million hectares of Ontario forest in 2021. In Ontario's Haliburton Forest, most beech trees are infected by beech bark disease, which cost an estimated \$5 million dollars in lost product value between 2017 and 2025.

**Agricultural Impacts**

According to the Canadian Food Inspection Agency, the estimated annual economic impact of invasive plants on Canadian agriculture due to damage to crops and pastures, and costs of controlling weeds, is \$2.2 billion. Invasive plants can act as new or additional hosts for crop diseases and pests. They can reduce crop yields and require greater use of pesticides to control them, increasing the costs for farmers while decreasing crop values. For example, Canada thistle can severely decrease the yields of many crops including barley, canola and wheat. Some invasive plants can endanger livestock and diminish the growth of edible vegetation. In addition, the government of Canada's August 2022 *Canada in a Changing Climate: Regional Perspectives Report* noted that climate change will lead to increased movement and establishment of invasive species, including pests, disease and competing plants, which will threaten agricultural production.

**Fisheries Impacts**

Invasive species frequently have strong negative impacts on fish populations and the fisheries they support. For example, invasive species such as sea lamprey, alewife, zebra mussel and round goby have had significant impacts on native fish communities in the Great Lakes, causing the historic collapses of lake trout, lake whitefish and cisco stocks in the Great Lakes. The economic impacts of invasive species on commercial and recreational fisheries, and the dollars spent by all levels of government to rehabilitate and propagate the affected fisheries, are estimated to be in the billions of dollars.



Health Impacts

Invasive species can negatively impact human health by infecting humans with new diseases; serving as vectors (or pathways) to transmit existing diseases; or causing wounds through bites, stings, allergens or other toxins. For example, the Asian tiger mosquito, often considered the most invasive mosquito in the world, serves as a vector for many diseases including Zika virus, West Nile virus and Dengue fever. This species was found in Windsor-Essex County in 2017, and local health officials believe it is becoming established in southern Ontario. Other examples of harmful invasive species are the Africanized honey bee, which is known to attack humans and domestic animals in large swarms and over long distances, and the European fire ant, which can inflict extremely painful stings. Some invasive plants, like giant hogweed, can cause severe skin burns, painful blisters and even temporary blindness if its sap contacts the eyes.



Tourism and Recreational Impacts

Invasive species can negatively impact people's ability to use affected lakes, rivers and other waterbodies for recreational activities such as fishing, boating and swimming. Some invasive species have the potential to depress sportfish populations, reducing recreational fishing opportunities and damaging local economies. Water soldier (a plant) forms dense floating mats that directly impede boating and have sharp, serrated leaf edges that can cut swimmers. Other invasive plants may reduce native plant biodiversity and dense vegetation can impede access to natural areas, affecting activities such as forestry and hiking. Phragmites (a tall grass species) can take over wetlands and beaches; reduce native wildlife populations including species at risk; and negatively impact recreational activities such as swimming, birdwatching, fishing and hunting. These impacts can cause economic hardship for Ontario's tourism and recreation industry.



Infrastructure Impacts

Invasive species can cause significant damage and costs for repairs to damaged infrastructure as well as a loss in value of assets. For example, zebra mussels in the Great Lakes can rapidly cover submerged surfaces (such as those of boats, docks, rocks, native mussels and plants), and clog water intakes for water treatment and electric power generation facilities, costing at least an estimated \$500 million USD on management efforts across the Great Lakes basin.

Municipalities spent an estimated \$4.5 million in 2021/22 to prevent and respond to the impacts of zebra mussels, such as actions to prevent these mussels from clogging water intake pipes at municipal water treatment facilities, while Ontario Power Generation spent an estimated \$520,000 in 2021/22 to prevent generating station outages associated with mussels fouling water cooling facilities. Some terrestrial invasive plants, such as Japanese knotweed, can creep onto home properties, inhibiting garden plants and posing threats to walls and foundations of homes.

developed and developing countries—in turn, significantly increasing the risk of invasive species spread. **Figure 2** shows the most common examples of human-assisted invasive species pathways. “Pathways” are the routes by which an invasive species is transferred from one area or ecosystem to another (see **Appendix 1** for definitions of key terms in this report).

Climate change can accelerate the introduction and spread of many invasive species. Weather conditions

such as changing temperature, humidity and rainfall can affect species' life cycles and create favourable conditions for increased invasive species spread. For example, where cold temperatures previously killed up to 98% of the population of mountain pine beetles, a species native to western Canada, warming winters have resulted in decreased mortality, allowing these beetles to spread beyond their historical range. As these beetles invade and kill nearly all species of pine trees,

Figure 2: Human-Assisted Invasive Species Pathways

Prepared by the Office of the Auditor General of Ontario, adapted from Environment and Climate Change Canada

Examples of Aquatic Species Pathways	Examples of Species
Shipping Many species have been introduced to the Great Lakes and other waterbodies through shipping. Ocean-going ships hold water in their ballast (a compartment at the base of the ship) for balance and stability during their voyage. When ships discharge ballast water, often taken on in distant parts of the world, they can release numerous non-native species.	European green crab, barnacles, bloody red shrimp
Recreational and Commercial Boating Boats can inadvertently help spread invasive species. Invasive weeds can get attached to boat trailers. New recreational wake boats have water ballasts that take on water and can transport invasive species.	Zebra mussels, spiny and fish hook water flea, Eurasian watermilfoil
Live Bait and Unauthorized Introductions Live bait used for fishing that is released into lakes and rivers are responsible for the movement of several species. Other species native to Ontario have been purposely released into waterbodies where they do not belong.	Rusty crayfish, round goby, yellow perch, northern pike, smallmouth bass, rock bass, black crappie
Aquarium and Water Garden Trade Invasive fish and plants can be offered for sale as pets or decorations in the aquarium and water garden trades. Products may also unknowingly be contaminated with invasive species.	Water hyacinth, lionfish, goldfish, yellow floating heart, purple loosestrife
Live Food Fish Many species of fish are also imported live as food. If released into the wild, some of these species become invasive.	Invasive carp, northern snakehead
Canals and Water Diversions The construction of canals and water diversions has allowed species to move into new waterbodies where they do not belong.	Sea lamprey
Examples of Terrestrial Species Pathways	Examples of Species
Transport Cargo containers are sometimes contaminated with living plants, animals and insects that become invasive alien species. The transport of firewood, Christmas trees, and other wood products can also introduce invasive insect species to new (uninfested) areas.	Emerald ash borer, Asian longhorned beetle
Horticultural Planting Many varieties of garden plants and herbs are imported into Canada but become invasive once escaping the confines of a garden.	English ivy
Accidental Release A number of terrestrial species have escaped captivity or been released into the wild and become invasive.	Wild pigs

they could devastate Ontario's boreal forest if current control activities in western provinces are unsuccessful and the species arrives in Ontario. Similarly, the geographic range of blacklegged (or deer) ticks, which can transmit the pathogen that causes Lyme disease, was once limited by cold winters. However, with climate change, these ticks have expanded northward into numerous parts of Canada, including Ontario, increasing the risk of Lyme disease for Ontarians.

2.4 Managing Invasive Species: Federal, Provincial and Municipal Roles and Responsibilities

In Canada, all three levels of government are involved in the prevention and management of invasive species spread. **Appendix 2** summarizes the roles and responsibilities of the federal, provincial and municipal governments, as well as those of other key players, in

this work. Additional details and other key stakeholders are discussed in **Appendix 3**.

2.4.1 Federal Role and Responsibilities

Canada is responsible for preventing the entry of invasive species into Canada and their movement between provinces. Federal legislation plays a role in regulating key invasive species pathways including ship ballast water; fisheries (e.g., use of bait); and the movement of wildlife, pathogens and pests—all of which contribute to prevention and management efforts.

For example, the federal *Plant Protection Act, 1990* includes regulations to prevent the import, export and spread of invasive species (plant pests) such as insects, snails and viruses that threaten plant life and the agricultural and forestry sectors of the Canadian economy. Similarly, the federal Ontario Fishery Regulations and Aquatic Invasive Species Regulations under the federal *Fisheries Act* regulate the import and handling of invasive species such as specified fish, mussels and crayfish that threaten Ontario's fisheries. These federal laws are enforced in Ontario by designated officers, which in the case of the Aquatic Invasive Species Regulations includes Ontario's conservation officers.

Also relevant to Ontario, the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health supports the restoration and protection of the Great Lakes basin ecosystem. The Agreement outlines how the governments of Canada and Ontario will co-operate and co-ordinate their efforts to restore, protect and conserve this ecosystem, with defined roles and responsibilities related to preparing for and responding to aquatic invasive species.

Depending on the type of species and its regulatory status, federal agencies may also have a role in research and monitoring, risk assessment, co-ordination and management activities.

2.4.2 Provincial Role and Responsibilities

The Ministry of Natural Resources and Forestry (Natural Resources Ministry) leads the implementation

of Ontario's Invasive Species Strategic Plan, a multi-ministry plan released in 2012 that aims to prevent new invasive species from arriving and surviving, slow or reverse the spread of existing invasive species, and reduce the harmful impacts of existing species (see **Appendix 4** for more on the Strategic Plan). In this role, the Ministry is responsible for working with and providing guidance to other ministries, partners and stakeholders in Ontario to co-ordinate actions that address the threats posed by invasive species.

The Natural Resources Ministry also administers the *Invasive Species Act, 2015* (Act), the main piece of legislation regulating the management of invasive species in the province (**Appendix 5** compares invasive species laws across Canada). The Act gives the Ministry inspection and enforcement powers to regulate invasive species prevention and management. It also sets out a legislative framework for prohibiting or restricting the possession, transfer, sale, release and propagation of listed invasive species that threaten Ontario's natural environment. **Appendix 6** lists the 33 species regulated under the Act and the harm they do to ecosystems. The Act also requires watercraft users to clean and drain watercraft and watercraft equipment to ensure they are free of all aquatic plants, animals and algae before being placed into waterbodies. **Appendix 7** summarizes other federal and Ontario legislation and regulations relevant to invasive species.

2.4.3 Municipal Role and Responsibilities

Municipalities are responsible for protecting street trees; public parks; municipal roadways; and municipally designated forests, woodlands and natural areas from invasive species. Some municipalities have developed an invasive species management plan while others have provided training to their parks and forestry personnel on detecting and managing invasive species. In addition, some invasive weeds are controlled by local bylaws.

2.4.4 Conservation Authorities' Role and Responsibilities

Conservation authorities are local public-sector organizations, established by the *Conservation Authorities Act* (administered by the Ministry of the Environment, Conservation and Parks), to develop and deliver local, watershed-based resource management programs on behalf of the Province and municipalities. Conservation authorities partner with others to undertake invasive species prevention and management activities, mostly using municipal funding, to protect and manage water and other natural resources.

2.5 The Four Stages of Invasive Species Management

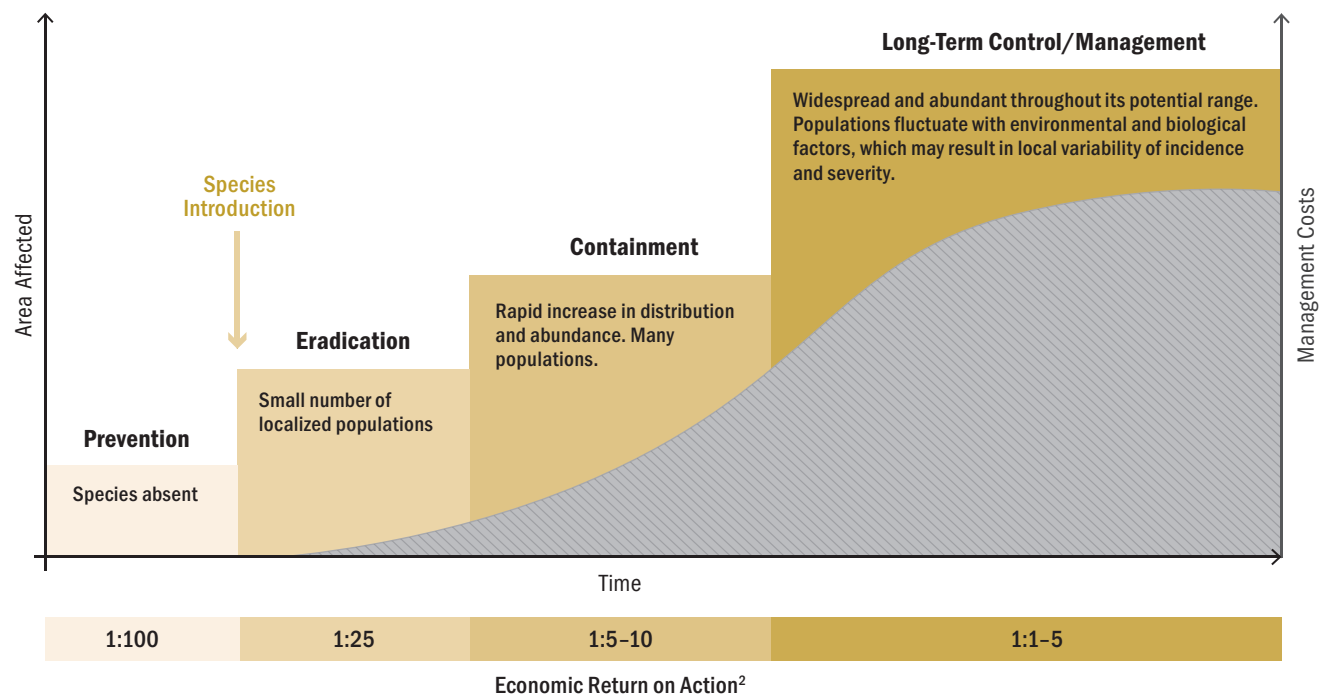
The invasion curve shown in **Figure 3** is a tool for understanding the four stages of invasive species

management: prevention, eradication, containment and long-term control.

Preventing introduction in the first place is the most effective and economical solution for managing invasive species—investing in prevention is generally estimated to provide economic returns that are many times higher than trying to manage a species after it arrives. Where prevention fails, detecting and controlling invasive species populations at an early stage of invasion often increases the chance of cost-effective eradication (removal of a species population in its entirety followed by its continued absence). If a species population is small and localized, eradication may be possible. However, once a species is introduced, management costs increase, and the likelihood of eradication decreases as time passes and the population grows. At this stage, priorities shift to containment (preventing further spread). When eradication is unlikely or impossible, the focus then becomes long-term

Figure 3: The Generalized Invasive Species Invasion Curve¹

Prepared by the Office of the Auditor General of Ontario, adapted from the State of Victoria



1. The shaded curve indicates that, as time passes, the geographic area affected by an invasive species, and the costs associated with managing that species, initially increase exponentially.
2. The amounts shown for economic returns are for illustrative purposes only rather than precise and guaranteed returns. Investing in prevention generally provides economic returns that are many times higher than trying to manage a species after it arrives. Once a species is introduced, management costs increase and the likelihood of eradication typically decreases as time passes.

control—i.e., limiting the species' further spread and establishment while reducing its negative impacts on native species and ecosystems.

2.6 Invasive Species Work in Ontario

As the provincial lead on invasive species, the Natural Resources Ministry provides funding each year to a number of organizations to carry out invasive species management work—key transfer payments include \$1.2 million (2021/22) to the Invasive Species Centre (see **Section 2.6.3**) and \$275,000 (2021/22) to the Ontario Federation of Anglers and Hunters (see **Section 2.6.2**). Ontario uses a risk-based approach to regulate and allocate resources to manage those species it determines are the greatest risk to the province. The Ministry also collaborates with other ministries, municipalities, conservation authorities, and other partners and stakeholders to co-ordinate activities to help address invasive species. **Appendix 2** and **Appendix 3** provide more details on these key players and stakeholders.

Figure 4 shows that invasive species-related costs incurred in 2021/22 by provincial ministries, municipalities and conservation authorities alone are estimated to be over \$58 million.

2.6.1 Preventing the Introduction and Spread of Invasive Species

Preventing the harmful introduction of invasive species into Ontario is largely a federal responsibility. For example, the Canadian Food Inspection Agency, Fisheries and Oceans Canada, and Environment and Climate Change Canada each have import prohibitions for travellers and commercial importers for this purpose. The Canada Border Services Agency assists with the enforcement of these import prohibitions on certain types of food, plant and animal products (outlined in **Figure 5**).

Ontario is responsible for preventing the introduction and spread of provincially regulated invasive species, and assessing the threat posed by new and potential invaders. Specifically, the Natural Resources

Ministry has a responsibility to co-ordinate with the federal and other provincial governments, as well as neighbouring US states, to prevent, detect and respond to invasive species that impact the natural environment and cross or border on jurisdictional boundaries.

In addition, the Ministry's Enforcement Branch has appointed 238 conservation officers (209 of which are active in the field) to enforce various mandated acts—including the *Invasive Species Act, 2015*—by, for example, inspecting vehicles, boats and aircraft for the presence of invasive species and issuing orders to help prevent invasive species spread. These officers also respond to non-compliance under the Act and can obtain warrants to conduct searches and tests, seize evidence, and arrest suspected offenders. While park wardens under the Ministry of the Environment, Conservation and Parks are also considered enforcement officers by the Act, there had been no relevant activities (such as the laying charges or issuing of warrants and warnings) conducted by park wardens at the time of our audit.

2.6.2 Detecting, Assessing, and Regulating Harmful Invasive Species

To facilitate the monitoring and early detection of invasive species, two key tools were implemented by the Invading Species Awareness Program—established by the Natural Resources Ministry in partnership with the Ontario Federation of Anglers and Hunters (OFAH), a non-profit, charitable fish and wildlife conservation organization. Specifically, the Invading Species Hotline (1-800-563-7711) is a tool that allows members of the public to speak with an invasive species expert to report a sighting or inquire about invasive species information. Reports can also be submitted online through the Early Detection and Distribution Mapping System for Ontario (EDDMapS), a web-based mapping tool for documenting invasive species occurrences across Ontario.

Further, the Ministry has developed and is using tools for environmental DNA (eDNA)—genetic material (DNA) that is shed into the environment by living or dead organisms—which allows scientists

Figure 4: Invasive Species Expenditures in Ontario by Fiscal Year, 2017/18–2021/22 (\$ 000)

Prepared by the Office of the Auditor General of Ontario

Spending and Transferred Funds	2017/18	2018/19	2019/20	2020/21	2021/22
Ministry of Natural Resources and Forestry					
Invasive Species Centre ¹	1,043	943	893	1,243	1,243
Ministry staff salaries and employee benefits ²	1,239	1,248	1,086	1,179	1,226
Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health ³	403	680	387	575	630
Ontario Federation of Anglers and Hunters	550	350	200	275	275
University of Waterloo ⁴	205	190	190	190	150
Ducks Unlimited Canada	80	100	20	49	75
Ontario Invasive Plant Council ⁵	150	100	-	9	17
Kudzu eradication	7	7	11	8	7
Federation of Ontario Cottagers' Associations ⁶	50	50	-	-	5
Communications and marketing campaigns	30	-	50	-	-
Other funding recipients ⁷	151	86	116	150	91
Total Ministry of Natural Resources and Forestry Transferred Funds	3,909	3,755	2,954	3,679	3,719
Ministry of Transportation					
Roadside invasive plant management	1,790	559	1,497	2,220	3,280
Ministry of Agriculture, Food and Rural Affairs					
Agricultural plant and pest management	666	574	1,421	917	584
Ministry of the Environment, Conservation and Parks					
Provincial park and conservation reserve management	218	228	275	229	297
Municipalities⁸					
Prevention, detection, control and management	42,300	42,300	42,300	42,300	42,300
Conservation Authorities⁸					
Prevention, detection, control and management	8,400	8,400	8,400	8,400	8,400
Total Ontario Invasive Species Spending and Transferred Funds⁹	57,283	55,816	56,847	57,745	58,581

Note: Totals may differ from the sums of above amounts due to rounding.

1. The amount to the Invasive Species Centre includes approximately \$43,000 per year from the Ministry's Science and Research Branch to fund an insect diagnostician.
2. The amount includes the salaries and employee benefits paid to staff in the Biodiversity and Invasive Species Section, as well as the estimated salaries and employee benefits for staff in other ministry departments (based on the portion of time these staff spent performing invasive species-related work among their other duties).
3. This represents spending on co-operative and co-ordinated efforts to reduce the threat of aquatic invasive species to Great Lakes water quality and ecosystem health.
4. The University of Waterloo received funding for phragmites management and environmental remediation in the Long Point region.
5. The Ontario Invasive Plant Council was funded to update best management practice and technical documents, host annual invasive species awareness webinars, support relevant working groups, and hire two full-time project-based staff, as well as an Executive Director.
6. The Federation of Ontario Cottagers' Associations was funded to promote best management practices, create and distribute educational signs, increase education and outreach through social media awareness, work with member associations aimed at aquatic invasive species eradication at a local level, and hire two consultants/biologists.
7. Various other recipients have received funding for invasive species-related activities.
8. Municipalities' and conservation authorities' spending related to invasive species are based on estimates provided in a 2019 report commissioned by the Invasive Species Centre. Most of these estimated costs are for invasive species control and management. The Centre indicated that actual expenditures are likely higher than the estimated amounts.
9. Various other non-governmental and conservation organizations perform work on invasive species that receive funding from federal grants, donations and other funding sources.

Figure 5: Canadian Border Controls to Prevent the Importation of Invasive Species

Prepared by the Office of the Auditor General of Ontario, adapted from the Canada Border Services Agency

Prohibited Items	Responsible Agency	Importation Prohibition
Firewood	Canadian Food Inspection Agency	As firewood can contain invasive insects and diseases, it can only be imported into Canada with a permit from the Canadian Food Inspection Agency and a Phytosanitary Certificate.
Invasive Carp (formerly called Asian Carp)	Fisheries and Oceans Canada	Invasive carp, while not yet established in Canada, pose a significant threat because of their potential to have a devastating impact on the Great Lakes. Importation of live invasive carp is illegal in Canada.
Zebra and Quagga Mussels	Fisheries and Oceans Canada	Zebra and quagga mussels are freshwater species that can cause serious environmental and economic impacts. Travellers towing mussel-carrying watercraft and equipment across borders may be refused entry into Canada or required to follow decontamination and/or quarantine procedures.
Bait for Recreational Fishing	Canadian Food Inspection Agency	Importing susceptible species and their products for use as bait, live or dead (including fresh and frozen), requires a Canadian Food Inspection Agency import permit. Bringing earthworms, insects and leeches into Canada also requires special authorizations and documentation.
Other Aquatic Invasive Species	Fisheries and Oceans Canada	Canada prohibits the importation of other aquatic invasive species such as the Eurasian watermilfoil, sea lamprey, European green crab and smallmouth bass.
Salamanders, Frogs and Toads	Environment and Climate Change Canada	All species of salamanders, frogs and toads that do not have proper documentation are refused entry into Canada.
Wood Packaging Material	Canadian Food Inspection Agency	Strict requirements for the importation of wood packaging material are in place to protect Canadian forestry from non-native pests that could be found in these materials.
Goods/Vehicles Contaminated with Soil	Canadian Food Inspection Agency	All goods found to be contaminated with soil are inadmissible and will be refused entry or ordered removed from Canada. All motor vehicles entering Canada are also subject to inspection to ensure they are clean and free of pests and/or soil.

to detect invasive species in an environment even if they are present in low numbers, acting as an early warning system.

To address new reports of invasive species, in April 2018, the Ministry developed an Invasive Species Response Framework, which outlines two stages to guide response actions. In stage one, the Ministry confirms the identification and status of a potential new invasive species, uses risk assessments to determine the threat of an invasive species infestation to Ontario's natural environment, and determines whether the species falls under the Ministry's mandate. Based

on these assessments and the extent of infestation, program staff make recommendations as to the level of response required. Stage two is for managing higher-risk invasive species that require more robust measures to address the threat. Here, the Ministry forms a multi-divisional team to develop response and implementation plans, which may evaluate and recommend containment, prevention, control, eradication and/or monitoring measures. As part of this process, program staff may identify candidate invasive species to be regulated under the Act.

2.6.3 Controlling and Increasing Awareness of Invasive Species

Once an invasive species is established, there are five common types of controls to manage and reduce the harm it can do: mechanical, physical, chemical, biological and integrated control (see **Appendix 1** for the definitions of these terms).

As invasive species are primarily spread by human activities, public education and outreach about invasive species can help reduce their spread. This may be achieved by increasing the public's awareness (for example, recognizing which species are harmful and invasive) and knowledge (for example, understanding invasive species and their impact) of such species.

As the provincial lead on invasive species, the Natural Resources Ministry funds other organizations to support this work. For example, the Invasive Species Centre (Centre), a not-for-profit organization founded in 2011 and funded by the governments of Canada and Ontario, acts as a hub for information on invasive species. It also brings stakeholders and partners (e.g., governments, municipalities, academia, industry, Indigenous communities/organizations) together to collaborate on invasive species research, response planning, mitigation and rehabilitation. The Centre's activities include:

- developing best management practices to help individuals and organizations prevent and manage invasive species;
- engaging communities to report and/or manage invasive species;
- maintaining a database to consolidate risk assessments for various invasive species and pathways;
- assessing applications and providing micro-grants for local education, prevention and management initiatives;
- supporting or leading research, communications and outreach initiatives;
- answering questions from the public, organizations and media;
- providing leadership on the co-ordination of invasive species work, and assisting with such work; and

- supporting policy development through policy recommendations and technical advisory committee participation.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Ministry of Natural Resources and Forestry (Ministry) has a long-term strategy, and cost-effective and efficient systems and processes, to:

- prevent introductions of harmful invasive species before they occur;
- promptly detect, identify, respond to and manage invasive species in Ontario;
- reduce the spread and harmful impacts of invasive species;
- oversee the use of funds by transfer payment recipients; and
- measure and publicly report on progress toward preventing, detecting, identifying, responding to, managing and reducing the spread and impacts of invasive species.

In addition, this audit assessed whether the Invasive Species Centre is using the funds received from the Province for the purposes for which they are intended in order to help prevent introductions and help reduce the spread and harmful impacts of invasive species.

In planning for our work, we identified the audit criteria (see **Appendix 8**) we would use to address our audit objective. We established these criteria based on a review of applicable legislation, policies and procedures; internal and external studies; and best practices. The senior management of both the Ministry and Invasive Species Centre reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between January 2022 to September 2022. We obtained written representation from both Ministry and Invasive Species Centre management that, effective November 21, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusions of this report.

Our audit work was conducted remotely and at the Invasive Species Centre's Sault Ste. Marie office. Through video-conferencing and other forms of electronic communication, we engaged staff of the Ministry, the Invasive Species Centre, and other stakeholders including Ducks Unlimited, the Ontario Invasive Plant Council, the Ontario Federation of Anglers and Hunters, the Nature Conservancy of Canada, the Canadian Food Inspection Agency, Natural Resources Canada, the Ontario Ministry of Transportation, the Canadian Council on Invasive Species, the Federation of Ontario Cottagers' Associations, Ontario Power Generation and the Ontario Conservation Officers Association. We interviewed senior management, staff and conservation officers, and reviewed relevant data and documents, from both the Ministry and Invasive Species Centre.

We also contracted a national survey company to ask Ontarians about their awareness of invasive species programs and the reporting of invasive species sightings in Ontario. In addition, we conducted surveys of Ontario's 444 municipalities and 36 conservation authorities to gain insights on their experiences with invasive species, as well as priorities, risks, challenges and opportunities in carrying out invasive species work. We received 135 and 27 responses (for a 30% and 75% response rate) from these municipalities and conservation authorities, respectively.

To identify best practices, we reviewed scientific literature and international standards about invasive species prevention and management. We also interviewed experts in invasive species policies and science.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. These standards involve conducting the tests and other procedures that we consider necessary, including obtaining advice from external experts when appropriate, to obtain a reasonable level of assurance.

The Office of the Auditor General of Ontario adheres to the Canadian Standard on Quality Control

and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Invasive Species Are Not Assessed and Regulated in a Timely Manner

The Natural Resources Ministry uses risk assessments to evaluate the threats posed by non-native species to Ontario and to identify species it may need to regulate. These assessments draw upon literature reviews that summarize relevant information for a species, such as its biology and life cycle, invasion history, and pathways of introduction or spread. The Ministry considers factors such as the species' ecological risks (e.g., impact on food chains), socio-economic risks (e.g., impact on recreational fishing) and regulatory risks (e.g., impact on businesses).

These assessments are either developed by Ministry staff, contracted to experts, or adopted from other jurisdictions if their risk assessments meet the Ministry's needs. The Ministry regulates species in batches rather than individually once risk assessments are completed. Since the *Invasive Species Act, 2015* (Act) was passed, the Ministry has completed risk assessments to inform two regulatory updates: in the first update (November 2016), 19 individual invasive species and all species belonging to the snakehead family (a type of freshwater fish) were regulated; in the second (January 2022), 13 more species were regulated.

To list a new species under Ontario Regulation 354/16 of the Act, the Ministry must complete both

the species' risk assessment and a regulation development and approval process. **Appendix 9** lists the steps for each of these processes, and provides guidelines on how many months it should take to regulate a new species. The length of time to complete risk assessments can vary depending on the complexity of the work required to address each species.

4.1.1 Delays in Regulating Invasive Species Increase the Risk of Introduction and Spread

We found that the Natural Resources Ministry took a significant amount of time to complete risk assessments for several now-regulated invasive species. The resulting delays in regulating these species negatively impacted Ontario's ability to promptly prevent their introduction and spread, increasing the likelihood of ecological, social and economic harm and management costs.

The Ministry has acknowledged the importance of conducting risk assessments in managing invasive species. For example, in the 2012 Invasive Species Strategic Plan, the Ministry stated that, with so many invasive species and pathways to consider, it is important to establish priorities through risk assessments in order to estimate the likelihood of an invasive species being introduced and evaluate the potential consequences of that introduction.

However, we noted that the Ministry had only the equivalent of one permanent staff member performing this work at the time of our audit, with additional capacity being provided on an as-needed basis through agreements with partners and experts. Also, the Ministry does not have a list of all recognized invasive species in the province to prioritize and shortlist, but rather an incomplete workbook of compiled information from various sources for some species. Furthermore, the Ministry has not tracked when assessed species were identified and how long the various steps in the assessment and listing process took, nor has it maintained a list of invasive species that are pending risk assessment. The Ministry indicated that it does not formally track these steps since there is no requirement for completing them within specific timelines. As a result, the Ministry cannot

determine whether risk assessments are completed in a timely manner or estimate the size of the backlog of species requiring assessments.

In contrast, we noted that the US state of Maine maintains a clearly defined list of species that require review. Recently Maine's Department of Agriculture, Conservation and Forestry developed a list of 171 invasive plants that were found to pose a threat to habitats and natural resources in the state. From this list, it prioritized 81 plants in 2021 to be considered for evaluation to inform whether the sale of those species should be restricted. Maine also maintains a "watch list" of other invasive plants that meet some of the criteria for restricting their trade, but for which evidence is currently insufficient to list them for review. This watch list will be revisited during its next update to determine whether sufficient information is available to review additional species to restrict their sale. Maine's rules require a review of these listings every five years at a minimum, and citizens can submit petitions to add species to or delete species from the list, which are reviewed by a stakeholder committee.

The *Invasive Species Act, 2015* (Act) does not mandate a timeline for regulating invasive species. In contrast, the *Endangered Species Act, 2007* requires a committee to assess at-risk species and summarize in an annual report any newly classified species and changes to the classification of listed species (as identified in **Section 2.7.1** of our Protecting and Recovering Species at Risk audit in our *2021 Annual Report*). Within a year of receiving the annual report, the Environment Minister must update the Species at Risk in Ontario List to regulate the classified species. There is no requirement for a similar annual report on the identification of invasive species. Ministry staff indicated that, while an annual report may not be appropriate for reporting newly assessed invasive species for regulatory consideration, a predictable and consistent schedule for updating the regulated list of species in Ontario Regulation 354/16 would help ensure that completed high-risk assessments translate into the regulation of invasive species on a regular basis.

The Ministry has an internal timeline that targets completing the regulatory process within 7 to 13 months (depending on when regulations can next come into force per Ontario's Twice Annual Effective Date policy, which is January 1 and July 1 of each year) after the risk assessment is completed. Since the Act was passed in November 2015 and came into force in November 2016, all initially listed species were regulated in a reasonable time frame. However, for the 12 species that were newly regulated in January 2022 (excluding wild pigs, which were assessed and regulated through a separate process), the Ministry took on average 46 months to list and regulate those species after they were assessed (see **Figure 6**). According to the Ministry, these delays were a result of limited staff capacity, staff transitioning to working remotely during the COVID-19 pandemic, and limited opportunities for external consultation as public and stakeholder attention was largely on the pandemic and industry sectors. Moreover, the Ministry indicated that it required additional consultation and engagement to determine the regulatory approach for wild pigs (see **Appendix 10**), Ontario's first regulated invasive mammal. In contrast to the lengthy delays experienced in Ontario, Maine's reviews of the 81 terrestrial plant species noted above were completed in early 2022. From these reviews, it listed an additional 30 terrestrial plants to the 33 already listed on the state's Do Not Sell Invasive Plant List, and these 30 species will be effectively banned from trade starting January 1, 2024.

For some species, the delay in regulation has meant that control measures that could have reduced the risk of their spread were not in place for several years. For example, Carolina fanwort (an aquatic plant) was not regulated until almost five years after a Ministry consultant identified, in a draft risk assessment to the Ministry in 2017, that the species can cause significant harm to Ontario's natural environment (e.g., by out-competing native vegetation) and negatively impact recreational activities like boating, fishing and swimming. We noted that this draft risk assessment is very similar (and in some sections identical) to the final risk assessment used to inform regulatory consideration for the species. Despite the draft (and final) risk

assessment identifying that Carolina fanwort has a high risk of becoming widely invasive, the Ministry did not finalize the risk assessment or consider the species for regulation until 2020.

We also noted that four other invasive species (bohemian and giant knotweed, European frog-bit, and red swamp crayfish) already had risk assessments completed by other parties (the State of New York, the State of Michigan, and the US Fish and Wildlife Service, respectively) prior to the Act coming into force in 2016, which the Ministry adopted to inform its recent regulatory update. However, the Ministry took over six years (74 months) to regulate these species from when those assessments were first available for adoption. While a risk assessment in another jurisdiction does not inherently initiate a timeline in which the Ministry must review and regulate a species, this time lag does represent a period of years in which relevant risk information was available but not acted upon by the Ministry. The Ministry told us that it did not regulate these species initially because they were not in the Conference of Great Lakes and St. Lawrence Governors and Premiers' "least wanted species" list, and limited information was available regarding both their presence in Ontario and import and sales volumes in Ontario's horticultural sector.

However, according to the adopted risk assessments, all four species are considered high risk. In Ontario, sightings were confirmed for three of these species prior to their regulation, with European frog-bit having almost 1,500 confirmed reports. European frog-bit is an invasive aquatic plant that resembles native waterlilies and can produce dense mats of floating vegetation that outcompete native species by reducing available light for submerged plants. Large areas of these plants may die and decompose in the fall, decreasing a waterbody's oxygen levels and negatively impacting aquatic life. Since European frog-bit is now well-established in Ontario—including in the Rideau and Ottawa river systems, Kawartha Lakes, and other lakes and rivers in south central and southwestern Ontario—its impacts are likely much more widespread than they otherwise may have been had the Ministry acted sooner to restrict its movement.

Figure 6: Months from Risk Assessment Completion to Regulation by Species, 2016 and 2022

Prepared by the Office of the Auditor General of Ontario

Year Regulated	Species Type	Species Common Name	Months from Risk Assessment Completion to Regulation (target: 7–13 months) ¹	
2022	Aquatic invertebrates	Marbled crayfish	23	
		New Zealand mud snail	23	
		Red swamp crayfish	74	
	Fish	Prussian carp	36	
		Tench	25	
	Insects	Mountain pine beetle	59	
	Mammals	Pig	n/a ²	
	Plants	Bohemian knotweed	74	
		Carolina fanwort ³	57	
		European frog-bit	74	
		Giant knotweed	74	
		Himalayan knotweed	25	
		Yellow floating heart	13	
Avg # of Months from Assessment Completion to Regulation (2022)			46	
2016	Aquatic invertebrates	Common yabby	12	
		Golden mussel	12	
		Killer shrimp	6	
	Fish	Bighead carp	12	
		Black carp	12	
		Grass carp	12	
		Silver carp	12	
		Snakehead, all species in the snakehead family	12	
		Stone moroko	12	
		Wels catfish	9	
		Zander	12	
		Plants	Black dog-strangling vine	12
			Brazilian elodea	7
	Dog-strangling vine		12	
	European water chestnut		12	
	Hydrilla		4	
	Japanese knotweed		12	
	Parrot feather		5	
	Phragmites	12		
	Water soldier	12		
Avg # of Months from Assessment Completion to Regulation (2016)			11	

- Months are measured from the month that the relevant ecological risk assessment was completed and the month the *Invasive Species Act, 2015* was passed to the month when the species was actually regulated under O. Reg 354/16. This is done so that months where the Act did not exist are not counted, as it was not possible to regulate these species without the Act. Socio-economic impact assessments are not considered in this analysis as the Ministry's goal is to complete them at the same time as ecological risk assessments (as per **Appendix 9**).
- Pigs were assessed and regulated through a separate process from that used for other species (outlined in **Appendix 9**). As a result, there is no comparable risk assessment completion date to measure from for this species.
- The timeline for Carolina fanwort is measured from the date that a consultant submitted a draft ecological risk assessment to the Ministry. This draft was similar to (and in many sections indistinguishable from) the final version used to inform regulatory consideration.

RECOMMENDATION 1

So that harmful invasive species are more promptly regulated, and to help prevent their introduction and spread, we recommend that the Ministry of Natural Resources and Forestry:

- track the duration and ongoing status of various steps in its risk assessment and listing processes;
- maintain a list of invasive species pending risk assessment to determine the size of the backlog and implement measures to reduce the backlog;
- determine and document the reasons for delays in assessments and listings and implement effective actions to avoid these delays; and
- establish a timely and consistent schedule for regulatory updates to Ontario Regulation 354/16 and submit regulatory proposals accordingly.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with developing and consulting on regulation proposals for newly identified high-risk invasive species where regulations would contribute to preventing their introduction or spread.

The Ministry will continue to examine the current risk assessment process for opportunities to reduce timelines and track progress, while maintaining an evidence-based approach that considers ecological and socio-economic impacts of invasive species in Ontario.

Decisions to regulate an invasive species must consider how the application of prohibitions would support or impede management objectives, as well as the impact of prohibitions on individuals and businesses in Ontario.

Given the diversity of species, impacts and management priorities, timelines for completing ecological risk assessments, and consulting the public, regulation development can vary. The Ministry is committed to regularly considering regulation changes and will continue to maintain and update a list of species for future consideration with the understanding that

timelines may change in response to species or carrier-specific issues.

4.1.2 Ministry Does Not Sufficiently Assess and Regulate Terrestrial Invasive Species and Their Known Pathways, Like the Horticultural Trade

Our audit found that terrestrial invasive species receive insufficient focus and assessment by the Ministry, including terrestrial plant species (and their pathways) and, more specifically, terrestrial vascular plants that are of concern or known to be invasive. This lack of focus increases the risk that new introductions and spread will occur in Ontario.

We found that, in 2016, the Ministry developed an ecological risk assessment tool to evaluate the probability of invasion and ecological impacts of aquatic invasive species in Ontario. This tool considers factors that influence the likelihood of a species' arrival, survival, establishment and spread, as well as the magnitude of the species' potential impacts. The Ministry uses this information to determine which aquatic invasive species should be prioritized for regulatory consideration. In contrast, the Ministry has not yet implemented a similar tool for terrestrial invasive species. However, during our audit the Ministry adapted the aquatic tool to assess the ecological risk of invasive terrestrial plants. Ministry staff told us that these novel tools are designed to inform consistent, evidence-based and systematic processes to improve upon past practices for assessing ecological risk. The Ministry plans to test and validate the tool in the third and fourth quarter of the 2022/23 fiscal year.

In addition, the Ministry has not collaborated with stakeholders to compile a list of "least wanted" terrestrial species to facilitate the risk assessment process. To select species for initial risk assessment and regulation, the Ministry has largely used the "least wanted" invasive species list created by the Great Lakes and St. Lawrence Governors and Premiers' Invasive Species Task Force. However, the 21 invasive species on this list are exclusively aquatic species, as the task force was formed to unite the chief executives from Ontario, Quebec and eight US states to stop the introduction

and spread of invasive species in the Great Lakes–St. Lawrence River Basin. No equivalent collaboration exists at this time to identify and list shared terrestrial invasive species threats. To date, 47% of species selected for assessment and 64% of all regulated species under the Act have come from that aquatic species list.

Several terrestrial plant species and their pathways that are of concern or known to be invasive have also been left unassessed and/or unregulated. We reviewed the comments made by stakeholders and members of the public on the Environmental Registry of Ontario

in response to the most recent public notice of regulations under the Act, and found concerns raised about the Ministry not regulating several terrestrial plant species. Based on these concerns and those expressed by the Ontario Invasive Plant Council (OIPC), as well as species identified in the OIPC's Grow Me Instead guides, we identified 30 additional terrestrial plant species that should be considered for regulation under the Act (see **Figure 7** for details). One example is the tree-of-heaven (a tree native to China and Taiwan), which is invasive in North America and the favoured

Figure 7: Select Unregulated Invasive Plant Species in Ontario and Their Impacts

Prepared by the Office of the Auditor General of Ontario

Invasive Plant Species	Impacts
Amur maple	Establishes dense shade that suppresses the growth of native shrubs, herbaceous plants and grasses.
Autumn Olive	Can outcompete and displace native plants by changing the chemistry of the soil around it.
Common buckthorn	Forms dense thickets that crowd and shade out native plants, alters nitrogen levels in the soil, and produces a large number of seeds that germinate quickly and prevent the natural growth of native plants. Can host the fungus oat crown rust.
Creeping jenny	Thrives in wet soil and creates dense mats that deter the establishment of native plant species.
Dame's rocket	Produces a large number of seeds and crowds out native vegetation.
Daylily	Poses a threat to native plants in fields, meadows, floodplains, moist woods and forest edges by forming dense patches that displace native plants.
English ivy	Threatens native species, including tree saplings, by outcompeting and impacting photosynthesis.
Garlic mustard	Actively displaces native spring ephemeral wildflowers, has chemicals produced in roots that prevent the growth of other plants, and changes the composition of the litter layer of the forest floor.
Glossy buckthorn	Produces a large number of seeds, preventing the growth of native plants.
Goutweed	An invasive groundcover that reproduces quickly and outcompetes native species by forming dense patches.
Italian honeysuckle	Can outcompete and smother small saplings and shrubs.
Japanese barberry	Forms dense thickets that reduce wildlife habitat, affect native plants, restrict recreational activities along trails, and shade out other native species. Can invade undisturbed forests and hybridize with the common barberry; and can impact agriculture by spreading black stem rust, a disease capable of causing major damage to grain crops.
Japanese honeysuckle	Twines around stems of shrubs, herbaceous plants and other vertical supports; forms large tangles that smother and kill vegetation; and kills shrubs and saplings by girdling.
Japanese spurge	Can spread by rhizomes in difficult growing conditions.
Lily of the valley	Outcompetes native species for resources by forming dense colonies. All parts of the plant are highly poisonous.
Manitoba maple	Quickly establishes itself along riverbeds and in disturbed areas, but can also grow rapidly in a variety of soil types where they create weak, hazardous and short-lived dense canopies that shade out native species.

Invasive Plant Species	Impacts
Miscanthus	Forms thick bunches, displacing native plant communities and reducing light availability to other plants at the soil surface; creates fire hazards as dense, dry stands are highly flammable; and decomposes on the ground, limiting the amount of nutrients returned to the soil.
Multiflora rose	Overtakes the landscape, shading and outcompeting native species for light and nutrients; modifies the structure of the habitat it invades; and uses other trees and plants as scaffolding, overgrowing the plant and thereby suppressing its growth and/or killing it.
Norway maple	Creates dense shade, reducing the amount of light that reaches the forest floor, and replaces native tree species.
Oriental bittersweet	Chokes and girdles native woody plants. Can be spread long distances by birds as it can remain in the stomach for weeks.
Ornamental honeysuckle	Rapidly invades areas, outcompeting native plants by forming dense patches; affects light and nutrient availability of neighbouring plants; and produces toxic chemicals.
Periwinkle	Can escape cultivation and spread rapidly, quickly becoming a dominant plant in the forest understory, and outcompeting and displacing native plant species and tree seedlings.
Russian olive	Drinks more water than most plants in dry soil settings and can outgrow and compete with native species.
Sea buckthorn	Poses a threat to the native vegetation of sand dunes by forming dense thickets that shade out native dune plants and alter the nutrient status of the soil where it grows.
Spearmint	Can quickly sprawl into surrounding areas and suppress the growth of native plants.
Tree-of-heaven	Outcompetes native trees and is a preferred host for spotted lanternfly, an invasive insect not yet established in Canada.
White mulberry	Poses a threat to the endangered native red mulberry due to the hybridization of the invasive tree with the native tree.
Winged burning bush	Forms dense thickets, which can displace native woody and herbaceous plants.
Wintercreeper	Increases the rates of decomposition and nutrient cycling on the forest floor, altering the soil bacterial community in ways that benefit wintercreeper growth.
Yellow archangel	Can easily escape cultivation and establish in a variety of habitats, surviving robust and extreme conditions where it can reproduce through several means and dominate the forest floor.

host of the spotted lanternfly, a federally regulated invasive pest that threatens the grape, fruit tree and forestry industries in Canada. While the Ministry contracted the OIPC to conduct a literature review for the tree-of-heaven in 2021/22 to help inform a risk assessment, the risk assessment itself was not complete at the time of our audit. According to the OIPC, if the Ministry prohibited Ontarians from purchasing and planting the tree-of-heaven, the impacts of the spotted lanternfly would be reduced. The OIPC also recommended the regulation of other species that crowd out native plants, such as white mulberry, winged burning bush and Norway maple. The Ministry indicated that for some of these species, increased public awareness

of their invasiveness has generally led to their elimination or reduced demand in the horticultural sector, and factsheets and best management practice documents have been developed to support landowner awareness. However, no formal risk assessment of these species has been performed. In contrast to Ontario, we noted that Maine has listed 63 invasive terrestrial plants on its Do Not Sell Invasive Plant List, which is almost double the 33 combined aquatic and terrestrial species currently regulated by Ontario's *Invasive Species Act, 2015*.

In addition, we noted that the Natural Resources Ministry has not regulated any pathways associated with the spread of terrestrial invasive plant species to date. A Canadian Food Inspection Agency (CFIA)

analysis showed that 58% of invasive plant introductions have been intentional, and therefore preventable. Specifically, imports of plants used for landscaping or ornamental purposes represent a pathway that accounts for about 52% of all intentional introductions of invasive plants in Canada. Despite this analysis being publicly available since 2008, the Ministry has not regulated any pathways of terrestrial invasive plants (such as the movement of soil) other than restricting the trade of those plants regulated under the Act. For example, we found that at least six of the 30 unregulated terrestrial invasive plant species discussed above—namely creeping jenny, goutweed, Norway maple, periwinkle, spearmint and wintercreeper—are available for purchase at various nurseries, garden centres, and/or home improvement retailers such as Home Depot, Lowe’s, and Rona (see **Figure 8** for photographs of these species). This is particularly concerning because plants introduced through the ornamental trade can be extremely difficult to eradicate. For example, kudzu is a federally regulated terrestrial invasive plant that is referred to as “the vine that ate the South” for its rapid spread in southern states after being introduced to the US for landscaping purposes. Kudzu can grow up to 30 centimetres in a single day and its taproots can weigh more than 45 kilograms, blanketing affected areas and making eradication extremely difficult. Kudzu was discovered in Essex County, Ontario, in 2009, and though contained to roughly a 6,000 square metre patch, has not been eradicated despite persistent efforts by the CFIA and Ministry to do so.

In the absence of regulating terrestrial invasive species pathways, the Ministry has opted to work with industry and partners to educate the public about invasive species in this sector, and highlight plants that look similar to invasive ones through Grow Me Instead guides. We noted that Maine’s Department of Agriculture, Conservation and Forestry has adopted a more direct approach through recently amended legislation, requiring that a specific terrestrial invasive plant (*Rosa rugosa*) available for sale must be accompanied by a label or sign that denotes its invasiveness and directs customers to ask the vendor for alternatives, which helps to deter its spread throughout the state.

To help prevent the introduction and spread of aquatic invasive species in Ontario, a regulation was updated in January 2022 requiring boaters to drain water from their watercraft and watercraft equipment and to remove all aquatic plants, animals and algae from watercraft, watercraft equipment, vehicles and trailers before placing them into waterbodies or risk being fined up to \$350.

Finally, despite terrestrial vascular plants (plants with complex tissues that transport nutrients and water throughout the plant) representing at least 36% of all invasive species in Ontario, the Ministry has only assessed and/or regulated a small portion of them. Although neither the Ministry nor any of the organizations involved in invasive species work have an updated, comprehensive estimate of the total number of invasive species in the province, the Canadian Endangered Species Conservation Council’s National General Status Working Group has estimated that over 1,780 non-native species have made their home in Ontario (not all of which are necessarily invasive), with 1,079 (over 60%) of these being vascular plants (as per data used to prepare the working group’s most recent report, *Wild Species 2015: The General Status of Species in Canada*). Based on cross-referenced data between this listing and a 2008 CFIA listing of all invasive plants in Canada, we identified that at least 398 invasive terrestrial vascular plants reside in Ontario. However, only 16% and 21% of species the Ministry has assessed (including adopted assessments) and regulated, respectively, are terrestrial vascular plants.

RECOMMENDATION 2

So that harmful terrestrial species and their pathways are promptly regulated, in line with the goals and objectives of Ontario’s Invasive Species Strategic Plan (2012), we recommend that the Ministry of Natural Resources and Forestry:

- develop and employ a standardized risk-assessment tool for terrestrial species;
- collaborate with stakeholders to identify potential terrestrial plant invasive species for regulation; and
- assess and address the need to regulate pathways for terrestrial invasive species.

Figure 8: Some Unregulated Invasive Plants Sold in Ontario

Photo credit: iStock by Getty Images

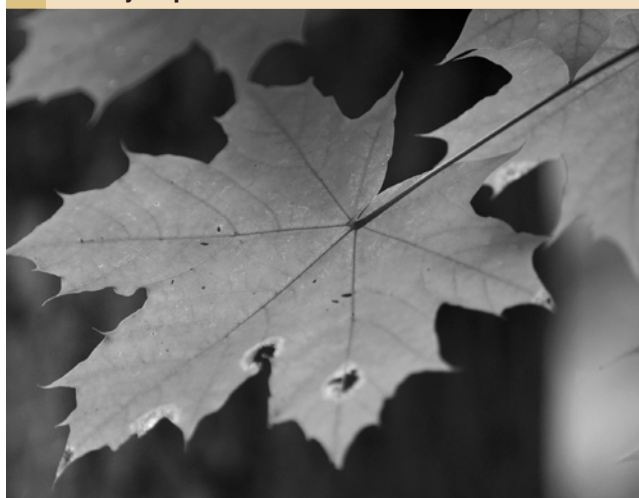
Goutweed



Creeping Jenny



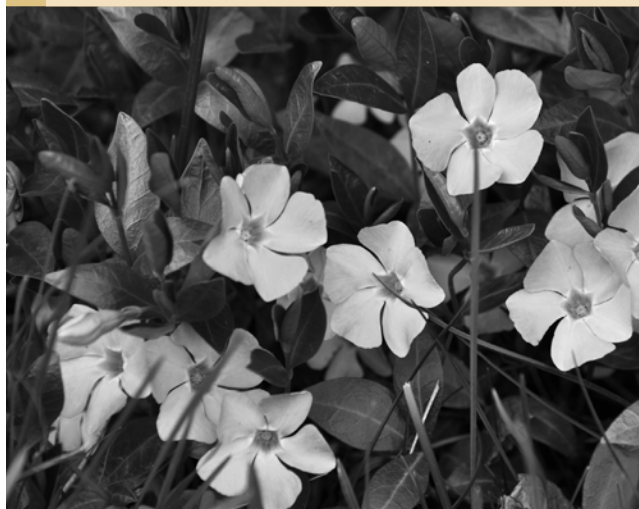
Norway Maple



Spearmint



Periwinkle



Wintercreeper



MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with the importance of identifying and regulating terrestrial invasive species and their pathways that have been identified as high risk and where regulations would prevent introduction or spread. As reported in the Auditor General's report, the Ministry is currently adapting its ecological risk assessment tool for aquatic invasive species to apply to terrestrial invasive species. This version of the tool is currently undergoing peer review and testing with the expectation that the tool will be ready for use by 2023.

The Ministry will continue to collaborate with stakeholders, neighbouring jurisdictions and the Government of Canada to identify and prioritize terrestrial invasive species and pathways for regulatory consideration that are within the Ministry's mandate and jurisdiction.

4.2 Province Lacks Information to Detect and Monitor Potentially Harmful Invasive Species

Data from systematic monitoring programs is needed to accurately assess changes in invasive species populations over time and space. Knowing these changes helps determine the need to regulate certain species and inform management actions and policies. The main monitoring tool used by the Ministry is the Early Detection and Distribution Mapping System (EDDMapS), launched in 2014 to track information on invasive species occurrences and distributions in Ontario. This is supplemented by targeted monitoring of specific areas and species of concern. For example, the Ministry has been monitoring the hectares of phragmites treated in the Long Point region since 2016.

The Ministry identified four monitoring-specific actions in its Invasive Species Strategic Plan, which are summarized below:

- undertake surveillance activities in geographic areas at high risk of invasive species introductions;

- improve existing invasive species monitoring programs and develop a network of experts to identify species;
- strengthen data management and reporting for invasive species; and
- engage science support to design appropriate surveillance protocols.

Sections 4.2.1, 4.2.2 and 4.2.3 below outline the limited effectiveness of existing monitoring programs in achieving these goals and identify opportunities for improvement.

4.2.1 Invasive Species Tracking Process Omits 33 High-Risk Species

We found that 33 high-risk invasive species have been detected in Ontario but are not being systematically tracked and reported.

The Ministry funds the Ontario Federation of Anglers and Hunters (OFAH) to collect and record reported community invasive species sightings, confirm species identification, and upload the sightings reports to EDDMapS if the confirmed species is on a predefined list. Species tracked through EDDMapS that are not on the predefined list are not reported to the Ministry except for those species that are newly detected in the province.

Prior to 2014, the Ministry drafted, in tandem with Fisheries and Oceans Canada and the Canadian Food Inspection Agency (CFIA), a list of 196 species for the OFAH to track on EDDMapS. Of these 196 species, the Ministry selected 98 for the OFAH to report back on if there is a confirmed sighting in Ontario (a further three species are reported only to the CFIA). In drafting the list, the Ministry considered various factors such as whether the species was: an established species that could spread to new areas of the province, regulated federally or provincially, known to exist in Ontario, and/or highly likely to cause harm to Ontario's natural environment.

Based on our review of other nearby jurisdictions' risk assessments, we identified 33 species that are considered high risk and not reported by the OFAH to the Ministry when sightings occur (see **Figure 9**). All 33 species are not federally regulated and have been

Figure 9: Unregulated High-Risk Invasive Species in Ontario and Their Impacts

Prepared by the Office of the Auditor General of Ontario

Invasive Species	Impacts	Assessed as High Risk In/By:
Aquatic Invertebrates		
Faucet snail	Hosts parasites that can cause death and disease in waterfowl that consume infected snails. May also clog water intake pipes, infest municipal water supplies and compete with native snails for resources.	New York
Birds		
Mute swan	Uproots submerged aquatic plants in marshes, lakes and rivers while feeding, potentially altering ecosystems by reducing food and habitat for native waterfowl and other wildlife.	New York
Fish		
Common carp	Destroys habitat for native species and decreases water quality as a result of burrowing into lake sediment and uprooting aquatic vegetation, thereby increasing water cloudiness and releasing sediment-bound nutrients that stimulate algal blooms.	New York
Plants		
Amur cork tree	Forms dense populations of juvenile trees that are large enough to cast significant shade, suppressing the growth of native understory species and the regrowth of canopy species. Can alter soil bacteria, suppressing the sprouting and growth of other species.	New York
Baby's breath	Outcompetes native grasses and reduces usable food for livestock in pastures, roadsides and grasslands.	California
Bristly starbur	Competes with crops for water and nutrients, impedes harvesting and is toxic to animals.	USDA*
Butterfly bush	Fast growing and spreads rapidly into disturbed, open areas and along coastal forest edges, roadsides and riverbanks, replacing native plants.	California
Caper spurge	Self-seeding and difficult to remove. Causes skin irritation in humans and is toxic if eaten by people, pets or livestock.	California
Common mugwort	Causes allergic reactions in some people; outcompetes desirable plants.	New York
Creeping bentgrass	Forms dense stands and outcompetes other grasses and broadleaf weeds.	USDA*
Cutleaf teasel	Forms large stands that inhibit the growth of desirable plant species, especially in riverbank areas; reduces food available for livestock; degrades wildlife habitat; and competes with native species.	New York
Cypress spurge	Reduces abundance of desired vegetation, cattle-grazing or hay-production capacity; causes dermatitis or skin blistering; and irritates the eyes.	New York
False-brome	Can quickly become the dominant species in forest understories and open grasslands, creates a good habitat for rodents that damage tree seedlings, has low palatability for wildlife and livestock, and may increase fire risks due to the build-up of a heavy layer of thatch.	New York
Field bindweed	Reduces land value and precludes the planting of many vegetable crops.	Indiana
Field pennycress	Reduces wheat yields in cultivation fields, reduces populations of native plants and increases the density of vegetation in disturbed and waste areas.	USDA*
Goatsrue	Outcompetes native species, decreases biodiversity and can contaminate alfalfa. Contains a chemical compound that can be toxic to livestock, and reduces yield value and forage potential of livestock by forming dense thickets.	Oregon
Gum succory	Reduces livestock and wildlife forage potential, can cause problems with crop harvest machinery and provides limited value.	USDA*
Hoary alyssum	Outcompetes native species; decreases forage value; and is toxic to horses if eaten, leading to serious illness or death.	California
Horsenettle	Reduces crop yields and is poisonous to livestock.	California

Invasive Species	Impacts	Assessed as High Risk In/By:
Japanese angelica tree	Grows rapidly and forms dense thickets that exclude native plants.	New York
Johnsongrass	Reduces native plant diversity in grasslands and is a refuge for a variety of agricultural pests and viral plant diseases.	Indiana
Matgrass	An invasive perennial grass that is competitive and unpalatable to most livestock. It spreads commonly through mud attached to the hooves of grazing animals.	California
Meadow foxtail	An invasive plant that can outcompete native species for resources.	California
Musk thistle	Grows rapidly into dense vegetation, outcompeting native species. Reduces usable food for livestock, which tend to avoid grazing near this plant due to its numerous spines.	Indiana
North Africa grass	Increases erosion, reduces usable livestock forage, decreases crop production and displaces native vegetation.	California
Palmer amaranth	Impacts crop yield, especially of cotton, maize, soybean and sweet potatoes. Highly competitive and adaptive, it can produce a large biomass and develop resistance to herbicides.	USDA*
Perennial pepperweed	Grows persistently and densely, displacing native plants and infesting entire stream corridors and riverbank areas. Uptakes and excretes salt, depositing it on surface soil.	New York
Poison hemlock	Outcompetes native vegetation and is extremely poisonous. Eating a small amount can kill humans, livestock and wildlife, and dead plants can remain toxic for years.	Indiana
Scentless chamomile	Forms dense vegetation and semi-permanent stands which negatively impact grain fields, pastures, hayfields, cultivated crops and disturbed areas.	USDA*
Silky bent grass	Competes with winter wheat and fall rye for soil water, light, space and nutrients. Reduces wheat and rye yields and slows harvest.	USDA*
Spear thistle	Has a high seed production and grows aggressively, competing with and displacing crops and native species in pastures, rangelands and agricultural fields.	Indiana
Spiny plumeless thistle	Grows rapidly, replaces native vegetation and reduces the availability of grasses grazed upon by animals.	Indiana
Sweet autumn clematis	An aggressive, self-seeding plant that can cause skin irritation in humans and is toxic to cats, dogs and horses.	New York

* United States Department of Agriculture

detected in Ontario per data used to prepare Wild Species 2015: The General Status of Species in Canada, the most recent report published by the Canadian Endangered Species Conservation Council's National General Status Working Group. For example, the faucet snail, which is native to Europe, is ranked as high risk by a New York State risk assessment. This species alters native ecosystem dynamics and may carry multiple parasites that can kill waterfowl when consumed. Only recently has the full extent of the faucet snail's distribution been characterized in the Great Lakes and surrounding wetlands, including recent detections of the snail in new parts of Ontario.

In April 2018, the Natural Resources Ministry developed a *Response Framework for New Invasive Species* to provide internal guidance on the processes

and criteria to consider when deciding to undertake response efforts for invasive species that are newly detected in the province or new to a part of the province and pose a risk to the natural environment. While the Ministry has used the framework since then to guide response actions on invasive species—such as zebra mussels (see **Appendix 11**) in a new region of Ontario, Japanese stilt-grass and bristly locust plants—it did not employ the framework on any of the aforementioned 33 high-risk species.

The Ministry indicated that these species are known to be established in Ontario, in many cases for decades, and thus it would not use the response framework as they are not new to the province. However, since the spread of an invasive species to new parts of the province provides a basis to employ the framework, the

Ministry should closely monitor the spread of these species and undertake appropriate responses if new locations are affected.

4.2.2 Ministry Does Not Consolidate and Store Invasive Species Data Collected by Different Organizations

A best management practice for invasive species programs identified in the scientific literature is developing plans for data management, storage and sharing within and among organizations involved in the work. This includes having shared databases and standardized methods for collecting data to maximize the use and analysis of the data, and improve the delivery of invasive species programs.

However, the Natural Resources Ministry does not effectively manage invasive species data. Specifically, it does not collate and consolidate the data collected by different organizations, including transfer payment recipients or other program partners such as municipalities and conservation authorities. In our review of the Ministry's funding agreements with external partners since 2015/16, we noted that the Ministry did not collate or consolidate the data collected in 22 invasive species-related projects it funded. These projects include surveys of European water chestnut, water soldier and invasive phragmites as well as management projects and studies of dog-strangling vine, the emerald ash borer (see **Appendix 12**), garlic mustard, water soldier and Japanese knotweed.

Further, while some external partners have created and maintain their own separate databases, none of their funding agreements with the Ministry specify requirements or protocols for collecting, managing and transferring relevant data to the Ministry. The Ministry indicated that the individual documents and reports it collects from its partners, while not collated, meet its needs. If programs are expanded in the future to include additional species and larger geographies, the Ministry intends to make additional efforts at that time to support data management.

However, as a result of not collating the data, the Ministry does not ensure its central database

(EDDMapS) is populated with all available and relevant invasive species data for the province. Compiling and analyzing data from different sources would help the Ministry inform and improve actions and tactics to achieve the Ontario Invasive Species Strategic Plan's objectives. For example, the Ministry could compare and contrast management activities, such as phragmites-removal activities performed by Ducks Unlimited Canada in 2019 and a biological-control activity targeting phragmites performed by the University of Toronto in 2017, to determine the most cost-effective steps to take in protecting the province against the impacts of invasive species.

In our 2020 value-for-money audit on Setting Indicators and Targets, and Monitoring Ontario's Environment, we recommended that the Natural Resources Ministry develop and implement data and information management plans for its monitoring programs. We continue to put forward this recommendation as the absence of such plans increases the risk that data collected from multiple individual projects will not be available or in a usable format for future use.

4.2.3 Ministry's Monitoring Programs Mainly Rely on Aggregated Incidental Observations and Do Not Allow for Reliable Analyses of Trends

None of the Natural Resources Ministry's monitoring programs are designed to consistently detect or monitor invasive species introductions and spread on a province-wide scale. Instead, the Ministry mainly relies on aggregated incidental observations, which do not allow for reliable analyses of trends over time and space.

The Early Detection and Distribution Mapping System (EDDMapS) is the main tool used by the Ministry to collect and analyze invasive species-related information. EDDMapS is limited in scope to reports that are voluntarily submitted by concerned organizations and members of the general public. Due to the higher population density in southern Ontario, there is an inherent bias in having more reporting from this area relative to the rest of the province. Further, a 2021 Ministry study on wild pig sightings in Ontario found

that the number and frequency of public reports cannot accurately measure changes in the size and location of invasive wild pig populations. This is because the public is more likely to report sightings after it has been exposed to relevant media events, with reports spiking in response to outreach efforts.

Best practices for invasive species programs include incorporating standardized survey protocols in public reporting of invasive species. One example of a program that takes this approach is that of the Alaska Department of Fish and Game in southcentral Alaska. Since 2008, the Department has applied a piscicide (a chemical substance that is poisonous to fish) to combat invasive pike in invaded waterbodies. The Department has monitored these waterbodies through gillnet sampling, which uses wide mesh nets to catch fish, and more recently through environmental DNA (eDNA) sampling, which helps confirm whether pike have been chemically eradicated or still remain. Between 2010 and 2020, this invasive species was successfully eradicated from over 20 lakes and creeks.

One of the actions identified in the Ontario Invasive Species Strategic Plan is to undertake surveillance activities in geographic areas at high risk of invasive species introductions. However, 24 (or 73%) of the 33 species regulated under the Act have not been systematically monitored in such areas. Only bighead carp, black carp, European water chestnut, grass carp, phragmites, silver carp, tench, wild pig and water soldier have systematic monitoring programs in place.

Volunteer surveillance programs can be used to boost invasive species monitoring efforts. In Ontario, as part of a recent pilot project to assess the effectiveness of community science sampling and facilitate early detection, the Invasive Species Centre and Federation of Ontario Cottagers' Associations trained volunteers to collect water samples from 25 Ontario lakes. These samples were then analyzed to determine whether larval zebra and quagga mussels, as well as spiny waterfleas, were present. Volunteers also collected water samples to detect eDNA and compare the accuracy between the two sampling methods in detecting the presence or absence of zebra and quagga mussels. Volunteers were provided with sampling protocols for

each sampling method, based on Ministry recommendations. This program encourages community science, environmental stewardship and increased awareness of invasive species threats, and complements the Ministry's broad-scale fisheries monitoring program.

While this provides a scalable and replicable model that engages volunteers to conduct meaningful surveillance in a cost-effective manner, the scientific literature highlights that a lack of standardized data collection is a weakness of this approach. Therefore, to ensure volunteer sample collection can be scaled up effectively, the Ministry should provide guidance on which locations to inspect, which species to look for, and how often to reperform an inspection.

Systematic monitoring of invasive species can also help to evaluate the effectiveness of management actions and reduce management costs. For example, one study found that implementing a standardized survey optimized for detecting and trapping wood borers and bark beetles in New Zealand could reduce the costs associated with these species by 39% over a 30-year period, when compared to management without surveillance in place. More specifically, surveillance and trapping enable early detection and eradication efforts. The study found that a robust \$54-million surveillance program would reduce the net present value of expected eradication, urban forest damage, and plantation forest damage by about \$110,000, \$200 million, and \$154 million, respectively, generating a total savings with a net present value of about \$300 million (all amounts in USD).

Given the importance of such monitoring efforts, in our 2020 value-for-money audit on Setting Indicators and Targets, and Monitoring Ontario's Environment, we recommended that the Natural Resources Ministry develop an integrated, broad-scale monitoring program for all aspects of Ontario's biodiversity. Such a monitoring program could be leveraged to also include systematic monitoring of invasive species in high-risk areas. To date, this has not been completed, though the Ministry has taken steps in this direction (see our 2022 Follow-up Report).

While it may be impractical for the Ministry to expand from fragmented monitoring efforts to

measuring all invasive species across the entire province, especially given Ontario's large size and limited resources, steps in this direction are needed so that the Ministry has crucial information on the spread and impacts of invasive species to inform prioritization of its management activities.

RECOMMENDATION 3

So that Ontario's invasive species are effectively monitored to inform management actions and policies, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- require staff to adhere to the Ministry's *Response Framework for New Invasive Species* for all known instances of species that are likely to cause harm to the environment and are new to Ontario or regions of Ontario;
- regularly review and consider risk assessments from other jurisdictions when determining which species sightings need to be tracked;
- work with relevant invasive species partners, including municipalities and conservation authorities, to obtain and consolidate available invasive species monitoring and surveillance data; and
- where no suitable data exists, develop and implement risk-based monitoring programs that systematically detect and monitor potentially harmful invasive species within each Ministry district.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) recognizes the ecological and economic benefits of early detection and response. The Ministry will apply Ontario's *Response Framework for New Invasive Species* to assess the risk of a new invasive species (to Ontario or to a part of Ontario) to the natural environment and to identify and implement response actions where opportunities exist for effective control of the invasive species.

The Ministry will review and consider risk assessments from ecologically and geographically

relevant jurisdictions such as Great Lakes states when identifying species for risk assessment and regulatory consideration in Ontario.

The Ministry will continue to engage partners and monitor invasive species occurrence information collected by neighbouring jurisdictions, community science, and Ministry monitoring programs, while also exploring opportunities to develop and enhance monitoring for invasive species.

4.3 Levels of Ministry Engagement with Program Partners Are Insufficient to Combat Invasive Species

4.3.1 Gaps in Collaboration Between Ministry and Federal Partners Have Led to Inadequate Invasive Species Management

Despite both federal and provincial roles in regulating invasive species, our audit found that the introduction and spread of harmful invasive species in Ontario has not been adequately managed due to gaps in federal and provincial collaboration.

The federal government is the gatekeeper charged with preventing invasive species from entering Canadian ecosystems, but past reports show that it has not adequately fulfilled this role. The federal Commissioner of the Environment and Sustainable Development found in 2002 that only 1% to 2% of global trade shipments arriving at Canada's borders are inspected for invasive species, and that "[d]espite continuing efforts to protect agriculture crops and forest trees, invasive pests gained access to Canada in the past, sometimes with devastating ecological impacts." More recently, in its 2019 audit on aquatic invasive species, the federal Commissioner of the Environment and Sustainable Development found that Fisheries and Oceans Canada did not implement sufficient measures to prevent aquatic invasive species from becoming established in Canadian waters. Similarly, it found that the Canada Border Services Agency did not implement adequate measures to help enforce relevant regulations at international borders.

Once a species becomes established, federal departments and agencies will generally focus on preventing the introductions of other species. For example, federal efforts to actively manage emerald ash borers and zebra mussels halted once eradication no longer seemed possible. This puts the burden of managing an increasing number of established species on provinces and municipalities. In contrast to its federal counterpart, Ontario's ability to prevent new introductions to the province is limited, as the Natural Resources Ministry has no role in regulating international borders or controlling pathways of invasion such as imported commodities; transportation vectors (e.g., ships, planes, trains); international tourism; and movement through shared canals and other waterways.

Further, the Ministry does not receive any funding support from the federal government for invasive species work, and has only five staff in its Biodiversity and Invasive Species Section dedicated to full-time invasive species work. These staff plan, fund and oversee relevant invasive species activities; educate the public about invasive species; inform policymaking; and co-ordinate with other Ministry staff from other divisions and branches to support invasive species science and research as well as the enforcement of the Act, but are not involved in implementing on-the-ground actions.

The Ministry and its federal partners did not always collaborate with each other when bilateral involvement was needed to respond to invasive species threats. For example, the Ministry did not respond to the Canadian Food Inspection Agency (CFIA) on collaborating, delineating responsibilities and developing a strategy to address hemlock woolly adelgid, an invasive insect that kills hemlock trees and was recently introduced to several locations in southern Ontario. According to the CFIA, the agency has been seeking provincial support for years on response measures to preserve hemlock resources in accordance with the Hemlock Woolly Adelgid Management Plan for Canada (2018), an information report that outlines potential management tactics. CFIA staff told us that it believes Ministry leadership has been lacking with respect to inventorying this species, supporting the development

of insecticides, creating a strategy to use predatory beetles as a biological control, and organizing an immediate response to the known infestations in southern Ontario.

More specifically, in June 2016, the Hemlock Woolly Adelgid Interagency Task Force—which included members from the Canadian Forest Service (CFS); the CFIA; the Natural Resources Ministry; and the Ministry of Agriculture, Food and Rural Affairs (Agriculture Ministry)—made recommendations, including one for a firm commitment between these agencies and ministries to pursue a collaborative response to future detections of this species. The CFIA also identified priorities for collective action with the Canadian Forest Service, highlighting the need for leadership from the Natural Resources Ministry on preserving hemlock trees and taking risk-mitigation measures. In 2020, the CFIA noted moderate to high hemlock woolly adelgid populations in Wainfleet, and issued a call to action focused on surveillance, inventorying hemlock trees, containing hemlock woolly adelgid populations, supporting research for long-term management including biological control and defining a management strategy for Ontario. Although the Ministry has undertaken some scientific, advisory and policy work, it has not clearly indicated the activities it will perform, and has not undertaken the items listed above. In September 2021, the CFIA summarized the efforts made to date, and outlined short-, medium- and long-term recommendations that require Ministry involvement. Again, according to the CFIA, there has been no Ministry response to the CFIA's recommendations and call to action. The Ministry informed us that it is currently collaborating with the CFIA and others on science activities to support the monitoring and management of hemlock woolly adelgid in Ontario, and that decisions to do more are weighed against other priorities in allocating limited resources.

In October 2021, the CFIA confirmed that this species was found in Fort Erie, Ontario. In the absence of Ministry involvement, the insects continue to spread without any co-ordinated control actions, risk assessments, hemlock inventories, research, communications and outreach efforts to manage it. In contrast, Nova Scotia

has partnered with the CFIA, the Canadian Forest Service and Parks Canada to test the effectiveness of insecticides and stand thinning (leaving space between trees to decrease density and insect spread), and to search for an effective biological control to address this problem.

In another example, the Department of Fisheries and Oceans Canada declined to participate in a binational St. Lawrence River Tench working group to co-ordinate tench surveillance and research with the Ministry. Tench are invasive fish that outcompete native fish species and can potentially carry diseases that can impact fishing and wildlife if they enter and establish in Ontario. If federal and provincial players continue operating without shared priorities, they will miss opportunities to collaborate, pool resources, share knowledge, and most importantly, implement meaningful management actions to address invasive species threats on a broad scale.

RECOMMENDATION 4

To effectively prevent harmful invasive species from entering and establishing in Ontario, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- assess the need to work with federal departments and agencies to develop collaborative and timely responses to specific invasive species threats;
- provide a written response when solicited to support federal invasive species efforts;
- document the Ministry's justification for whether and how it plans to provide support for federal invasive species efforts; and
- request federal funding and resources to support the Ministry and its partners in the management of invasive species within the province.

MINISTRY RESPONSE

Invasive species do not recognize jurisdictional boundaries; therefore, effective collaboration with other jurisdictions including federal departments in Canada is essential for invasive species prevention

and management objectives to be achieved. The Ministry of Natural Resources and Forestry (Ministry) will continue to collaborate with federal departments through established mechanisms such as the Federal-Provincial-Territorial Invasive Alien Species National Committee, and through the ongoing collaborative partnership with the Invasive Species Centre. In addition, the Ministry will continue to participate on species-specific working groups and committees to support ongoing research and management activities while also seeking opportunities to increase investment and collaboration on invasive species prevention and management.

4.3.2 Roles and Responsibilities of Provincial Players Are Not Clearly Defined

With few exceptions, the roles and responsibilities of relevant organizations in responding to invasive species threats are not formally defined by Ontario's Invasive Species Strategic Plan (Strategic Plan). While the Natural Resources Ministry is the dedicated lead on implementing the Strategic Plan, it has not formalized roles to provide clarity for key players in the province on what invasive species work they should undertake.

Specifically, the Strategic Plan identifies that the Ministry will lead Ontario's invasive species response, with support from the Ministries of the Environment (now Environment, Conservation and Parks); Transportation; and Agriculture, Food and Rural Affairs. It further states that the Invasive Species Centre's role is "to facilitate and improve coordination, collaboration and decision-making on invasive species issues, so available resources can be used in the most effective and efficient manner." However, these broadly defined roles do not specify which organizations will actually conduct on-the-ground eradication, management and monitoring activities as invasive species are detected, nor are any expectations outlined for how quickly a response should be mobilized.

Further, the Ministry has not clearly assigned a party to create and maintain best management practices for invasive species in the province, and those

practices that have been developed do not meet the needs of all potential users. For example:

- In 2011, the Natural Resources Ministry developed a best management practice guide for managing invasive phragmites.
- In 2020, the Ministry of the Environment, Conservation and Parks funded the Ontario Invasive Plant Council to update its best practices guide for managing invasive phragmites, incorporating considerations for species at risk.
- In 2022, the Ministry of Transportation was developing its own best practices to provide its contractors with agency-specific guidance on managing phragmites on provincial highways.

As the provincial lead on invasive species prevention and management, the Natural Resources Ministry should clearly outline the party responsible for developing and updating best management practices for invasive phragmites and ensure these meet the needs of all relevant parties.

Our Office surveyed Ontario's 36 conservation authorities and 444 municipalities, and found that 89% of the 27 conservation authority respondents and 79% of the 135 municipality respondents indicated that roles and responsibilities related to Ontario's invasive species response are not clearly defined. Further, 74% of conservation authority respondents and 85% of municipality respondents do not know their overall role as part of Ontario's invasive species response.

4.3.3 Invasive Species Work Is Not Well Co-ordinated by the Ministry

In the absence of defined roles and responsibilities with respect to invasive species work, the Ministry assigns tasks to its partners on a case-by-case basis covering specific species. While case-by-case assignment ensures that prevention and management activities are assigned with clear consideration for the best party to conduct them, there is no process or protocols in place to ensure this actually happens for all species and regions of the province.

In contrast to Ontario, for example, British Columbia established a Plant Protection Advisory Council

(the Council) in 1973, which organizes and mobilizes stakeholders to respond to invasive species that threaten British Columbia's agriculture and forestry. The Council has processes in place to bring together government, industry and academic organizations and gather consensus; recommend actions; and rapidly respond to invasions by assigning organizations to lead, support and monitoring roles. As a result, at the first sign of a threat, and even in the absence of complete information, these organizations are formally engaged to clearly delineate roles and responsibilities on a case-by-case basis and take immediate action.

For example, spongy moths (formerly called gypsy moths) are frequently introduced in British Columbia, and the Council works primarily with the Canadian Food Inspection Agency (CFIA) and the BC Ministry of Forests to organize an effective surveillance and eradication response. The CFIA is the designated lead on surveillance and prevention activities, while the BC Ministry of Forests is the lead for eradication programs. Natural Resources Canada is the lead organization fulfilling research activities, and defined support roles are performed by all partner organizations. A study conducted on this co-ordinated response found that the program's expected annual economic benefits (gained through preventing damage to trees and vegetation and avoiding regulatory trade costs) were 3.4 to 8.3 times higher than the program's estimated annual costs.

In Ontario, no such response framework exists to identify the presence of invasive species and mobilize partners and resources at the first sign of a threat. Instead, a number of piecemeal monitoring and management programs are taking place. For example:

- The closest thing Ontario has to a widespread monitoring system is the Early Detection and Distribution Mapping System (EDDMapS). Through EDDMapS, invasive species sightings can be reported by anyone in the province in an ad hoc fashion. However, 66% of Ontarians responding to a survey contracted by our Office indicated that they did not know where to report invasive species sightings.
- Through the Early Detection and Rapid Response (EDRR) Network Ontario, a project

co-developed by the Invasive Species Centre and the Ontario Invasive Plant Council, management projects such as an annual invasive spongy moth Egg Mass Scraping Contest have been organized with interested members of the public participating. While the EDRR Network Ontario organizes some small, localized management activities, most of the network's activities relate to equipping volunteers with the skills to identify and report invasive species and enhance their invasive species detection and monitoring skills in their communities, and are not intended to help organize province-wide responses.

- Ontario Power Generation (OPG) manages invasive species, such as zebra mussels and invasive phragmites, on its properties. In 2021, OPG collaborated with a local farmer to deploy 34 goats to eat invasive phragmites at its Sir Adam Beck Pump Generating Station in Niagara Falls. These goats removed more than 140,000 square feet of phragmites in only a few weeks. This initiative was organized without any input or guidance from other parties, including the Natural Resources Ministry. Moreover, no assessment has been conducted to determine whether this management control method has been effective and can be used elsewhere in the province.

4.3.4 Municipalities and Conservation Authorities Require More Guidance and Direction on Invasive Species Work

The Ministry does not provide guidance (outside of publicly available best management practices) or adequate direction to municipalities and conservation authorities on invasive species work. This is despite Ontario's Invasive Species Strategic Plan stating: "Ontario needs to establish provincial interests and clear objectives that will be supported with strong cooperation at all levels of government and with a wide variety of partners ... and which engage stakeholders and the public."

In the absence of Ministry direction, municipalities and conservation authorities that wish to conduct

invasive species work must independently develop and implement their own strategies, but this rarely actually happens. According to the Invasive Species Centre, only five of Ontario's 444 municipalities have developed overarching municipal management plans, with four more municipalities having either species-specific plans or substantial invasive species consideration in other plans (such as biodiversity plans). Our survey results indicated that 70% of municipality respondents had not developed any invasive species management plans.

Furthermore, one of the objectives of the Invasive Species Centre is to "continue engagement with municipalities in Ontario to better understand their invasive species management challenges, develop resources, and provide learning opportunities in response to these challenges." At the time of our audit, 57 of Ontario's municipalities (less than 13%) were voluntarily enrolled as part of the Invasive Species Centre's Municipal Community of Practice, which launched in September 2020. Through this platform, representatives from each member municipality can collaborate through discussion and the exchange of resources and expertise related to invasive species prevention, detection and control.

Conservation authorities experience many of these same challenges. Without guidance or direction beyond broad goals outlined in the Strategic Plan, conservation authorities that are willing and able to do invasive species work within their watershed must develop their own plans and priorities. Credit Valley Conservation Authority (CVCA) is one of the few conservation authorities that responded to our survey to have formally developed its own invasive species strategy, which it created in 2009 (recently updated in 2020) and has used to help guide its actions since. Our survey results indicate that 78% of conservation authority respondents had not developed an overarching invasive species management plan to address all threats in their watershed, while 52% had not even developed any species- or area-specific management plans.

Further, our 2020 value-for-money audit on Conserving the Natural Environment with Protected Areas found that the Province does not ensure sufficient invasive species management on even its own lands. That

audit found that one-third of the provincial park management plans we reviewed did not outline actions to identify, prevent and manage invasive species in these protected areas. During that audit, our Office visited Sharbot Lake Provincial Park and observed a very high number of invasive spongy moths. The 1988 management plan for the park states that staff historically used an aerial biological insecticide to minimize the spread of the spongy moth. However, the Ministry told us that no insecticide applications have been completed since 2000, and no other management occurs in the park to control this invasive species. Further, no other management actions are taken to control spongy moths in provincial parks. At the time of our follow-up, the Ministry was working to implement measures intended to improve invasive species data collection and monitoring in provincial parks, but it had not determined timelines for the project.

Thus, the Ministry needs to have better processes in place to identify and communicate priorities, co-ordinate action and provide direction to its program partners to effectively combat invasive species threats.

RECOMMENDATION 5

To have an effective and co-ordinated approach to preventing and managing invasive species in Ontario, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- specify the roles and responsibilities of program partners and key stakeholders, including the responsibility for developing and updating best management practices;
- establish and formalize an accountability framework where the Ministry leads, co-ordinates and collaborates with all levels of government and a wide variety of program partners for invasive species prevention and management activities; and
- work with municipalities and conservation authorities to provide the guidance and direction they need to develop and implement their own invasive species strategic and implementation plans.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with this recommendation and intends to proceed with a review of progress and update to the Ontario Invasive Species Strategic Plan.

This review will provide an opportunity for the Ministry to work with program partners, municipalities, conservation authorities, Indigenous communities and others to identify opportunities for improved collaboration, shared priorities and capacity to support effective invasive species management in Ontario.

The review will also enable the Ministry to clarify roles and opportunities for invasive species management and result in new actions such as enhanced guidance and knowledge transfer for municipalities as required to support the objectives of the Strategic Plan.

4.3.5 Ministry Has Not Leveraged Existing Reporting Tools Nor Planned for Widespread Use of Emerging Monitoring Methods

The Natural Resources Ministry has significant opportunities to expand the use of modern detection tools, and to work with key partners and the general public to develop a collaborative response when detections of invasive species do occur. However, the Ministry has not planned for the widespread use of such tools or leveraged its existing reporting tools effectively. For example:

- **Early Detection and Distribution Mapping System (EDDMapS) Reporting**—EDDMapS is the primary tool used in the province for mapping and managing invasive species occurrence data. It is co-ordinated in the province by the Ontario Federation of Anglers and Hunters (OFAH), and run through the University of Georgia, Center for Invasive Species and Ecosystem Health. Anyone can submit a report with the name and location of the species observed, the date of the observation, and photographs

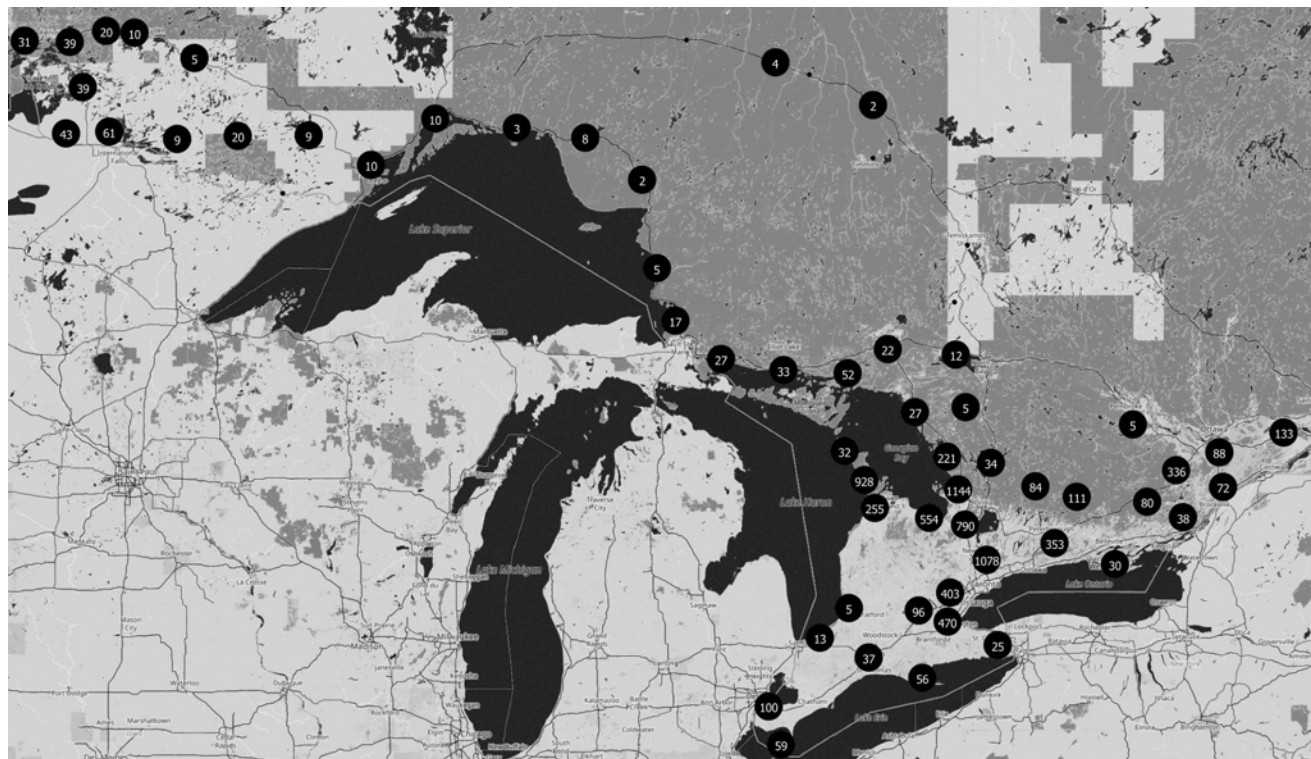
of the species for verification purposes. In addition, the OFAH continues to operate the toll-free Invasive Species Hotline, allowing users to report invasive species by phone. Once verified, OFAH staff enter the occurrence into EDDMapS. This provides a meaningful opportunity for interested Ontarians to contribute to invasive species detection efforts. However, while EDDMapS has an option to record treated areas, it has limited data on the treatment and control actions taken. Specifically, **Figure 10** shows EDDMapS reports of invasive phragmites across southern Ontario, but treatment actions to manage these species were only logged in areas near Collingwood and the Bruce Peninsula. While the Ministry admits that EDDMapS control data is not a fair or accurate representation of invasive species control efforts across the province, and that the Ministry tracks some treatment actions in an

unaggregated manner, no better representation of these actions throughout the province exists. As a result, it is unclear how many management actions are being conducted but unreported in EDDMapS.

- **Public Engagement**—Ontarians are not always engaged on how to protect their communities from harmful invasive species. In particular, when submitting EDDMapS reports, no guidance is provided at that time as to what individuals can do to treat the reported invasive species on the spot. **Figure 11** shows a map of historical spongy moth reports in Ontario, but there are no records on EDDMapS of actions taken to manage or eradicate them. Since many of these reports relate to spongy moth egg masses, which can be scraped off trees and controlled by Ontarians, Ontario is missing an opportunity to educate individuals who report sightings and to prompt

Figure 10: Map of Reported Southern Ontario Phragmites Detections (as of July 20, 2022)*

Source of data: Early Detection and Distribution Mapping System (EDDMapS), 2022. The University of Georgia - Center for Invasive Species and Ecosystem Health.

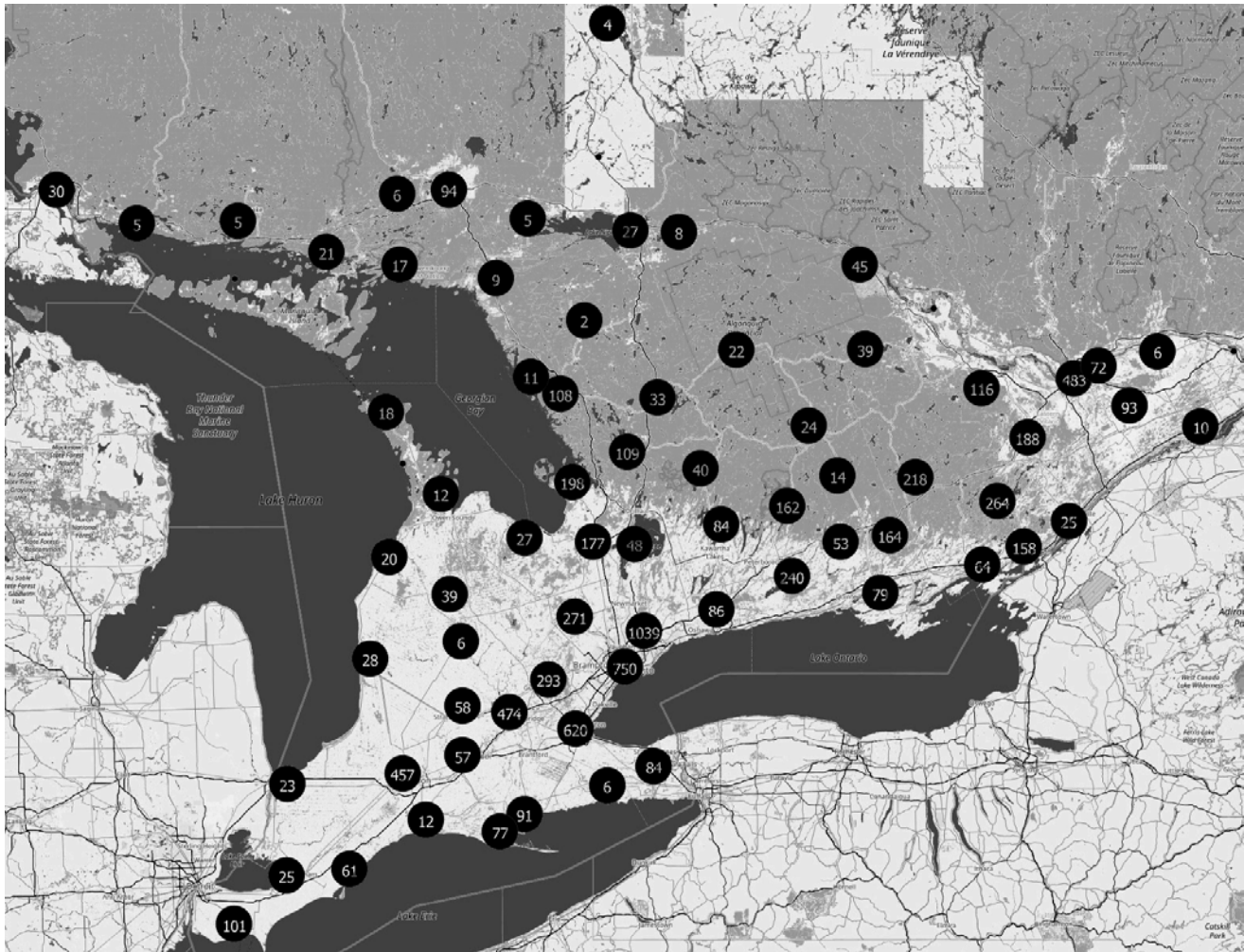


Note: This figure presents all historical reports in Ontario of phragmites to EDDMapS, which are based on voluntary submissions. Phragmites reports in an area do not necessarily indicate that the species still resides in that area, while areas without reports may contain phragmites populations.

* Black-shaded bubbles represent confirmed detections of phragmites. Each bubble consolidates reports within 75 kilometres.

Figure 11: Map of Reported Southern Ontario Spongy Moth Detections (as of July 20, 2022)*

Source of data: Early Detection and Distribution Mapping System (EDDMapS), 2022. The University of Georgia - Center for Invasive Species and Ecosystem Health.



Note: This figure presents all historical reports in Ontario of spongy moth to EDDMapS, which are based on voluntary submissions. Spongy moth reports in an area do not necessarily indicate that the species still resides in that area, while areas without reports may contain spongy moth populations.

* Black-shaded bubbles represent confirmed detections of spongy moth. Each bubble consolidates reports within 50 kilometres.

them to act—for example, by developing resources and capacity within the OFAH to provide these prompts and encourage reporting and action.

- **eDNA Monitoring**—In a recent IsampleON (Invasive Species Awareness and Monitoring Program for Lakes Education Ontario) pilot project, trained volunteers collected water samples from 25 Ontario lakes in order to detect larval zebra and quagga mussels, as well as spiny waterfleas. Volunteers also collected water samples for environmental DNA (eDNA) analysis to confirm the accuracy between the two sampling methods in detecting the presence

or absence of zebra and quagga mussels and help inform future monitoring strategies. eDNA allows scientists to detect invasive species in an environment even if they are present in low numbers, acting as an early warning system. However, the Ministry has not attempted to further mobilize interested Ontarians to implement recurring eDNA sampling across the province to systematically track the introduction and spread of invasive species, despite sample collection and testing being simple and cost effective, volunteers being available, and many laboratories showing an interest in conducting

eDNA testing. Ministry staff informed us that this is because funding is not available to support broad testing of eDNA samples.

- If the Ministry acts on opportunities to more effectively leverage its existing reporting tools and implement greater use of emerging monitoring methods, it will be better equipped to find and eradicate invasive species before they become established. However, at the time of our audit, the Ministry did not have a plan to update and better leverage the functionality of EDDMapS nor to scale eDNA monitoring for widespread use.

RECOMMENDATION 6

To avoid missed opportunities to find and eradicate invasive species before they become established, we recommend that the Ministry of Natural Resources and Forestry:

- provide guidance on steps the public can take on the spot to manage invasive species when they report sightings; and
- explore and implement approaches to expand eDNA sampling and other emerging technologies across the province to systematically track the introduction and spread of invasive species.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) recognizes the benefits of quickly responding to new introductions of high-risk invasive species and supporting actions to manage established invasive species where effective tools are available.

The Ministry will work with the Ontario Federation of Anglers and Hunters to examine the potential for enhancing the information provided to the reporters of invasive species sightings, as part of the ongoing support for EDDMapS Ontario and the Invasive Species Hotline.

The use of eDNA and other emerging technologies, such as remote sensing, are generally still in the research and development stage and

not available for wide-spread operational use in invasive species detection and management. The Ministry continues to contribute to the development and use of eDNA in invasive species management and has developed the expertise and capacity to conduct all required analyses for the Ministry's current eDNA surveillance activities, while also working to expand the use of this tool to detect additional species.

The Ministry will also continue to work with researchers and industry partners to identify and assess the potential use of remote sensing and drones to support invasive species detection and management. For example, the Ministry recently partnered with Hydro One on the use of a thermal-imaging-equipped drone to look for wild pigs in an inaccessible area of eastern Ontario.

4.4 Ministry Funding for Invasive Species Work Is Neither Sufficient Nor Timely

4.4.1 Program Partners Lack Funding to Sufficiently Combat Invasive Species

Federal departments and agencies, and the Natural Resources Ministry, represent the first and second lines of defense, respectively, for preventing the introduction and spread of invasive species in the province. When they fail to do so, land managers such as municipalities and conservation authorities face the consequences and are saddled with the responsibility of managing those species. However, while many organizations in Ontario are available and willing to perform invasive species work, many do not have enough funding to do so.

Despite Ontario being among the highest-risk provinces for new invasive species introductions in Canada, its municipalities report greater challenges in paying for necessary invasive species work than those in other provinces. Specifically, a report published by the Invasive Species Centre in 2022 reported that, based on a Canada-wide survey of 2020 expenses, Ontario municipalities were struggling more than their counterparts in other provinces and territories to

finance invasive species management work, with 91% of Ontario respondents (20 out of 22 municipalities) reporting they had insufficient funding (municipality responses elsewhere ranged from 25% in the territories to 81% in British Columbia). In addition, the report noted that the \$1.07 per-capita expenditure by Ontario municipalities on invasive species activities—including prevention, detection, control and management, habitat restoration, and research and science—significantly trails spending in, for example, Manitoba (\$7.54), Alberta (\$5.45), Quebec (\$4.83), and Saskatchewan (\$3.46). The report also revealed that 43 out of 231 responding municipalities across Canada reported receiving provincial funding in 2020 (ranging from an average of \$22,473 in Quebec to \$108,817 in Alberta), but none of these municipalities were in Ontario.

The 36 conservation authorities in Ontario experience similar funding challenges as municipalities, spending an estimated combined average of \$8.4 million each year on combatting invasive species. Current programs and services related to biodiversity (e.g., invasive species management and associated education programming) are not eligible for the usual municipal levy funding support that mandatory programs receive. Therefore, not all conservation authorities have the resources to manage invasive species in their watersheds. For example, Credit Valley Conservation Authority's invasive species strategy identifies 31 priority actions, but its staff informed us that it does not have the funding nor staffing resources to undertake a comprehensive approach to managing invasive species within the Credit River watershed. Instead, it can only perform small pockets of work focused on specific species in particular areas. As a result, invasive species can continue to negatively impact biodiversity, increase economic costs, and even create hazards to human health. For example, the giant hogweed (see **Appendix 13**), an invasive plant spreading within the watershed, can burn and blister skin after contact.

When we surveyed Ontario municipalities and conservation authorities, the majority of respondents indicated that the Ministry is not effectively preventing

the introduction and spread of invasive species through its own actions and through the support it provides to municipalities and conservation authorities to manage invasive species. Specifically, 81% of respondents from both groups indicated that the Ministry provides them with no support at all (while an additional 5% of municipality respondents and the remaining 19% of conservation authority respondents indicated that the Ministry provides insufficient support).

Without sufficient funding from the Ministry, many municipalities, conservation authorities and other stakeholders continue to see invasive species establish and spread in their areas with little resources to proactively detect and eradicate them before long-term controls and management actions are required. This is demonstrated by the costs these parties spend each year managing invasive phragmites, the costliest invasive plant that has established in the province. Per an analysis funded by the Invasive Species Centre, municipalities and conservation authorities spend approximately \$2.8 million and \$350,000 each year, respectively, combating invasive phragmites alone (see **Figure 12**). In addition, due to the rapid spread of phragmites along roadsides, the Ministry of Transportation spent over \$2.7 million to manage this species in 2021/22. These combined phragmites-management costs are higher than the amount that the Natural Resources Ministry spends on all invasive species activities annually. It is clear that the Ministry's failure to organize and fund sufficient activities to prevent the spread of phragmites has resulted in significant long-term management and control costs for others.

We observed that bordering US states, like Michigan and New York, oversee invasive species grant programs amounting to about \$3.6 million and \$2.8 million, respectively, which are each greater than the amount the Natural Resources Ministry spends annually on invasive species programming altogether (excluding internal staff salaries and benefits). This is concerning because Ontario has a larger landmass to manage than the two aforementioned states combined.

While the Ministry itself does not have a grant program like these US states, the Invasive Species Centre began facilitating a microgrant program in

Figure 12: Estimated Annual Minimum Expenditures on Preventing, Detecting and Managing Select Invasive Species, by Ontario Municipalities and Conservation Authorities, July 2019 (\$)

Source of data: Invasive Species Centre

Invasive Species	Expenditures		
	Municipalities	Conservation Authorities	Total
Emerald ash borer	22,426,763	7,300,615	29,727,378
Zebra mussel	4,486,761	-	4,486,761
Spongy moth (formerly called gypsy moth)	4,474,562	-	4,474,562
Quagga mussel	4,458,250	-	4,458,250
Phragmites	2,806,166	349,098	3,155,264
Wild parsnip	1,081,183	4,736	1,085,919
European buckthorn	832,318	206,561	1,038,880
Dutch elm disease	587,569	-	587,569
Dog strangling vine	88,813	234,956	323,770
Giant hogweed	209,416	21,974	231,390
Asian longhorned beetle	227,778	-	227,778
Autumn olive	205,649	6,761	212,410
Japanese knotweed	163,851	18,596	182,448
Sea lamprey	-	108,181	108,181
Garlic mustard	55,385	39,151	94,536
Invasive carp (formerly called Asian carp)	-	67,613	67,613
Linden bark borer	61,695	-	61,695
Oak wilt	50,874	3,381	54,255
Beech bark disease	23,711	28,060	51,770
Hemlock woolly adelgid	10,829	28,736	39,565
Brown spruce longhorned beetle	30,508	-	30,508
Glossy buckthorn	29,378	-	29,378
Manitoba maple	11,299	-	11,299
European chafer	11,299	-	11,299
Scots pine	11,209	-	11,209
Total	42,345,268	8,418,420	50,763,687

Note: The analysis funded by the Invasive Species Centre recognizes these expenditures are likely underestimated. Totals may slightly differ from the sum of the above amounts due to rounding.

2020/21 as part of its transfer payment agreement with the Ministry. Through this program, the Centre solicits proposals for invasive-species related education activities, community action and management planning, and awarded grants of \$1,000 to successful applicants in 2020/21, which increased to be as high as \$5,000 (depending on the scope of the project) in 2021/22. A total of \$24,000 in grants was provided across 24 projects in 2020/21, and increased to \$120,000 across 60 projects in 2021/22. This small amount of funding

enabled various activities such as removing phragmites and planting native species on a Niagara College campus, conducting drone surveillance and monitoring of invasive phragmites in Nipissing First Nation to inform eradication activities, and deploying zebra mussel samplers (surfaces on which mussels will settle after completing their larval stage) to serve as an early detection method in the traditional waters of 28 First Nations communities.

However, the amount of funding provided through this program is considerably less than the grants provided by Ontario's neighbouring US states and through a similar grant program in Ontario called the Ontario Species at Risk Stewardship Program (over \$4 million each year). In addition, we noted that, while the Centre has an established process with evolving selection criteria to evaluate microgrants, it did not identify a list of high-priority species or geographic areas for targeted action despite insufficient funding to finance all eligible projects. In comparison, the Ontario Species at Risk Stewardship Program specifically identifies annual project funding priorities (including high-risk species and habitats), eligible activities and detailed assessment criteria.

The capacity of Ontario stakeholders to independently plan and co-ordinate work to achieve invasive species goals could be strengthened if funding is made available to solicit proposals from invasive species partners. For example, the Green Shovels Collaborative (GSC) is a coalition of six conservation organizations working together on "shovel-ready" projects that create jobs, conserve the natural environment and benefit local communities. These six partners include Ducks Unlimited Canada, the Federation of Ontario Cottagers' Associations, the Invasive Species Centre, the Nature Conservancy of Canada, the Ontario Federation of Anglers and Hunters, and the Ontario Turtle Conservation Centre. The GSC developed its initial proposals for these projects independently of Natural Resources Ministry input, funding and guidance. The GSC has approached the Ministry and received funding for several of these projects to date, despite there being no request-for-proposals process at the Ministry to solicit project ideas for funding consideration. The GSC has proposed additional invasive species-related projects for Ministry consideration, and if funded, could further help prevent and manage invasive species in Ontario. For example, the GSC proposed purchasing and installing boat-washing stations in strategic communities to clean invasive species such as zebra mussels off boats, which would help Ontarians comply with the Ministry's regulations for watercraft (see **Section 2.4.2** for details).

A Ministry grant program to solicit and award funding through a competitive process could leverage the ideas and capacity of interested parties and help implement actions in line with Ministry priorities to prevent invasive species from spreading in the province.

4.4.2 Ministry Discontinued Funding to Organizations that Perform Significant Invasive Species Work

The Natural Resources Ministry has reduced its engagement with external partners despite the long-standing and positive relationships it has had with these parties. For example, in 2019, the Ministry abruptly discontinued funding to the Ontario Invasive Plant Council (OIPC) and the Federation of Ontario Cottagers' Associations (FOCA). While the Ministry acted in response to financial pressures, the abrupt communication of these funding decisions has harmed these partners' capacity to perform valuable invasive species work.

Specifically, the Natural Resources Ministry discontinued transfer payment funding to the OIPC after providing it with about \$300,000 over the prior three years. OIPC used a major portion of that funding to build its capacity to take on a greater role in Ontario's response to invasive species, and to establish long-term contracts with additional employees.

However, without any warning or discussion, the Ministry decided to discontinue funding the OIPC in response to budgetary pressures, despite the Ministry acknowledging in its internal documentation that the OIPC is "the primary coordinating body for invasive plant management and control in the province," that it had a history of delivering "value for money and effective products," and that elimination of Ministry funding would "pose a threat to OIPC and provincial efforts to address invasive plants."

By discontinuing this relationship, the Ministry has moved away from working with a key partner named in its strategic plan, while also disregarding the plan's tactics to "continue to support the work of the [OIPC] on invasive plant management" and "foster the efforts of the [OIPC] on invasive species outreach and

communication through continued support.” Since this discontinuation of funding, the OIPC has scaled back its activities; reduced the internal capacity it had built; and has been unable to update its best management practices, guides and technical documents with new information.

Similarly, the Natural Resources Ministry abruptly discontinued its previously recurring transfer payment funding to FOCA due to financial pressures. In the previous two years, FOCA had used the \$100,000 funding it received from the Ministry to successfully organize invasive species education, detection and management activities in various townships across the province. By engaging its membership through a small grant program, FOCA was able to leverage roughly \$20,000 in each of those two years as part of a call for proposals process to mobilize hundreds of volunteer hours to support invasive species efforts. These activities include distributing 468 signs with aquatic invasive species prevention messaging in 77 townships, organizing volunteers to remove invasive phragmites in 27 locations around Eagle Lake, and setting up a boat-washing station at Lake St. Peter Provincial Park.

Without continued engagement with partners in delivering invasive species-related work, the Ministry is missing opportunities to further develop and leverage the capacity it built with past partners.

RECOMMENDATION 7

To improve the sufficiency of financial resources available for actions to prevent and manage invasive species, we recommend that the Ministry of Natural Resources and Forestry, with input from relevant stakeholders and experts, as applicable:

- assess and prioritize the activities that are needed to eradicate, control and prevent the introduction or spread of harmful invasive species;
- estimate the costs and make funding available to organizations and/or individuals to perform prioritized activities; and
- guide, support and monitor the implementation of those activities.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with the importance of prioritizing the activities needed to prevent and manage invasive species, and funding and supporting the implementation of prioritized activities. Given the diversity of invasive species established in or threatening Ontario, the significant management costs, and the availability of effective control tools, the Ministry will continue to focus available resources on the management of recently introduced, high-risk invasive species that are within the Ministry’s jurisdictional mandate.

The Ministry will also seek to improve collaboration with federal departments, while exploring opportunities to increase investment in invasive species management. Should new opportunities arise, the Ministry will work with partners to identify priority species and plan for the implementation of various management activities.

4.4.3 Funding Delays and Single-Year Funding Agreements Negatively Impact Invasive Species Work

We found that there were annual delays in funding projects to help address invasive species, as the Ministry regularly approves transfer payment recipients’ annual funding months after the fiscal year begins. Due to the lack of multi-year funding agreements and certainty of funding, organizations have difficulty performing long-term planning and retaining the staff needed to conduct invasive species work.

As part of our audit, we reviewed transfer payment agreements awarded for this work from 2011/12 to 2021/22. We found that, on average, the Ministry signed transfer payment agreements for the Invasive Species Centre and the Ontario Federation of Anglers and Hunters (OFAH) more than two months after the prior agreement lapsed. These agreements expire each year on March 31, but are generally not signed and in effect until mid-June to mid-July. This gives the funding recipients only about nine months to complete

and report on the work, limiting their ability to successfully perform the specified activities.

On-time funding would also allow organizations to determine the number of seasonal staff they can hire based on the approved budget. Earlier confirmation of funding in the winter or early spring would facilitate improved project planning and staffing. The months of April to June are especially important in planning activities since many invasive species' ecological windows fall between May and October each year. For example, it is best to tackle many herbaceous invasive plants (like phragmites and giant hogweed) in the spring and summer when they are just starting to grow to prevent them from producing seeds and becoming fully established. For other woody invasive species (like autumn olive, buckthorn and honeysuckle), early fall is the best time to undertake management activities.

However, in reviewing transfer payment agreements for the past 10 years, we found that Ministry funding was typically not confirmed until well into the summer months. For example, in 2021/22, the Invasive Species Centre's transfer payment agreement was not signed until the beginning of July, limiting the Centre's ability to begin organizing the launch of its Phragmites Fund to support local phragmites-management activities. Shifting this launch from spring to late summer made it difficult for some projects to fit phragmites control efforts into the appropriate time window. Further, other funding recipients needed to adapt activities from on-the-ground control to mapping, communications and outreach.

Timely confirmation of funding is also critical to enable third parties to obtain the necessary permits (e.g., for specialized equipment) and other authorizations to conduct invasive species work. Delays in these approvals can cause further delays in beginning contracted work. In a 2021 phragmites-specific report, the Green Shovels Collaborative (detailed further in **Section 4.4.1**) identified that phragmites management practitioners "report that delays in receiving authorizations can cause substantial challenges in implementing projects and introduces uncertainty to project delivery." For example, the use of herbicides to combat phragmites can require provincial, municipal

and landowner permissions, and this permitting and approvals process can be held up further when funding to pursue phragmites management arrives late. Similarly, in 2019, Ducks Unlimited Canada was entering into the final year of a Canada–Ontario funding agreement for European water chestnut control, but due to uncertainty over the agreement, it paused the time-sensitive program until alternative funding was secured. Had it waited until the government funding was ultimately approved in August, it would have been too late to begin conducting work effectively.

Without funding guarantees, organizations must put planning and commitments on hold. While recurring transfer payment recipients could operate with the assumption that Ministry funding will arrive eventually, this has not always been the case, as the Ministry discontinued transfer payment funding entirely to the Ontario Invasive Plant Council and the Federation of Ontario Cottagers' Associations (FOCA) in 2019 (see **Section 4.4.2** for details).

Invasive species organizations we spoke with described their struggles to retain qualified staff because jobs could not be guaranteed through annual funding agreements. For example:

- The OFAH's Invasive Species Hit Squad—a team of approximately 20–25 summer staff hired to deliver community-level outreach, monitoring and/or management activities across Ontario—experienced an unforeseen reduction of \$150,000 (or 43%) of its funding in 2019/20. As a result, the OFAH cancelled the squad. Work that was lost included monitoring waterbodies along the Trent River for water soldier, creating EDDMapS reports for multiple invasive species in various regions, and controlling and removing invasive plants. This funding reduction was not communicated to the OFAH until mid-April, after staff contracts had already been signed. Thus, the OFAH had to cancel those contracts after being informed about the funding reduction. Although the Invasive Species Hit Squad was reinstated in 2021 after a two-year hiatus, it consisted of only 14 staff members, a decrease of 6–11 staff.

- The OFAH's inability to guarantee jobs and pay staff salaries has directly reduced its ability to hire and retain qualified staff. In 2019/20, it had to decline approved funding for 30 invasive species projects as it was unable to pay staff to perform the work due to budgetary constraints. The OFAH had to instead reallocate staff time to fundraising.
- The Invasive Species Centre has lost long-standing team members who want more stability and certainty in their employment, which one-year funding cannot provide. In addition, the Centre has delayed formally hiring candidates until funding is confirmed, reducing the talent pool from which it can hire. This impacts projects because the work often relies on the expertise and capacity of the in-house team.

The Ministry has acknowledged the benefit of multi-year funding guarantees and the value of its key partners. In the Ministry's 2020/21 review of its Invasive Species Centre Transfer Payment Program, it noted that the Centre plays a key role in helping to achieve the Ontario government's mandate to address invasive species. The Ministry identified that a multi-year funding agreement would enable more efficient, effective and strategic longer-term planning; enhance Ontario's ability to respond to emerging invasive species threats; leverage additional funding opportunities for and improve collaboration with partners on strategic long-term projects; and support ongoing and effective implementation of the *Invasive Species Act*, 2015.

However, the Ministry again signed a one-year funding agreement with the Centre in July 2021/22. Prior to having its funding guaranteed, the Centre had to hold agreements and payments with project partners until the Ministry's funding agreement was signed and payment was made, which took four months during the crucial ecological window of time. As a result, activities for some of these projects were compressed into a shorter period (six versus 10 months) or redirected

from on-the-ground control to communication and outreach activities.

In contrast, for example, British Columbia switched from a single- to multi-year funding model in 2018 to fund activities that prevent the spread of invasive plants. In 2018 alone, that province provided \$7.7 million at the beginning of the year to 34 grant recipients, guaranteeing them continued funding for over two to three years. Similarly, Fisheries and Oceans Canada provided federal funding to the Invasive Species Centre over a four-year term covering the 2018/19 to 2021/22 fiscal years, which was recently updated and renewed for five more years.

In further contrast to the activities led by the Ministry, the Canadian Food Inspection Agency (CFIA) initiated efforts in 2010 to eradicate the first and only known wild Canadian population of kudzu in Essex County, Ontario, along the edge of Lake Erie. Kudzu is an invasive plant with massive roots that rapidly grows and spreads, outcompeting native vegetation and completely blanketing infested areas. Through a decade-long collaborative funding agreement beginning in 2015, the CFIA works with Ontario's Ministry of Agriculture, Food and Rural Affairs; the Natural Resources Ministry; and an affected landowner to chemically eradicate kudzu and prevent its establishment and spread in Ontario. The Natural Resources Ministry acknowledges the success of this collaborative agreement, and could pursue similar results with dedicated long-term funding for priority projects.

In its transfer payment agreements with the Centre and the OFAH for the 2022/23 fiscal year, the Ministry expressed its intent to work with these organizations over a three-year period. However, these agreements did not initially specify the amount of funding these parties would receive beyond the first year, which can hinder planning on multi-year projects. In September 2022, during the completion of this audit, the Ministry issued amendments to these agreements to specify that funding would be provided over the full three-year period. Because invasive species are an ongoing

problem that can be best managed through long-term funding commitments rather than a series of single-year agreements, we encourage the Ministry to continue multi-year funding for invasive species work.

RECOMMENDATION 8

So that transfer payment recipients can effectively plan, staff up and implement invasive species work that is needed during critical times of each year, we recommend that the Ministry of Natural Resources and Forestry:

- develop invasive species program funding agreements with a long-term view, where appropriate; and
- approve and transfer funds under agreements prior to the beginning of the funding year.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with this recommendation and has committed to providing funding to the Invasive Species Centre and the Ontario Federation of Anglers and Hunters until March 2025. These multi-year agreements acknowledge the benefits longer-term planning provides for invasive species management actions, as well as increased certainty for program staff and additional partners.

Multi-year agreements also support ongoing management of priority invasive species, such as water soldier and European water chestnut, while also enabling existing grant programs to commit multi-year funding to additional partner organizations.

The agreements specify reporting and payment schedules that will ensure partners receive funds as required to continue implementing critical activities. The Ministry also commits to reviewing these agreements in late 2024 prior to the expiry of current agreements.

4.5 Invasive Species Strategy is Outdated and Does Not Enable Sufficient Implementation of Needed Activities

4.5.1 Ministry Has an Outdated Invasive Species Strategy and No Implementation Plan

To be successful at meeting its goals, a strategic plan should include specific, detailed tactics (supported by action and/or implementation plans with timelines and assigned parties) that will be used to effectively and efficiently achieve desired outcomes. It should also outline requirements for measuring and reporting on progress and updating the plan so it stays current and relevant. However, Ontario's 2012 Invasive Species Strategic Plan (Strategic Plan) does not include these elements.

We found that the Strategic Plan provides broad overall goals and objectives, as well as imprecise actions and tactics, but no detailed roadmap toward implementing the on-the-ground activities necessary to prevent and manage invasive species spread. The draft version of the Strategic Plan, originally posted on the Environmental Registry of Ontario in 2011, noted that many of the actions and tactics identified in the Strategic Plan are high level, and indicated the Natural Resources Ministry would co-ordinate the development of an annual implementation plan to identify and articulate priorities.

However, the Ministry never developed an implementation or action plan after the final release of the Strategic Plan. When the Strategic Plan was first released, the former Office of the Environmental Commissioner of Ontario noted in its 2012/2013 Annual Report the same concern and concluded that the Strategic Plan “lacks the specifics necessary to instil confidence that all of the responsible players will do what is required to ensure success.” The report noted that actions in the Strategic Plan “lack timelines for completion,” “fail to specify targets and indicators for measuring progress,” and “contain no public reporting requirements.”

The Natural Resources Ministry uses the very general and high-level Strategic Plan to work with partners and stakeholders to make decisions on key priorities for action. Instead of developing an annual (or multi-year) implementation plan, the Ministry has opted to conduct annual work planning and priority-setting exercises. Our Office reviewed all work plans the Ministry developed from 2012/13 to 2021/22, and found that these plans were limited to being activity lists; mostly focused on policy development, collaboration and communication rather than on planning and implementing prevention and management activities; and altogether insufficient and lacking in detail to effectively implement and achieve the goals of the Strategic Plan. For example, the 2021/22 work plan consisted of a five-page slide deck with a single sentence describing each planned activity (see **Appendix 14**).

We further noted that planning with a one-year time horizon has left activities unfinished: for example, the Ministry recognized that its risk assessments were not publicly accessible, so in 2016/17 it tasked the Invasive Species Centre with developing a risk assessment database to consolidate available risk assessments from various jurisdictions in one place. The database now includes over 1,700 risk assessments and 19 pathway assessments, including many by the Canadian Food Inspection Agency; the Department of Fisheries and Oceans Canada; and other provinces, states and countries. However, at the time of our audit, the Ministry had still not provided its completed risk assessments to the Centre to include in this database. The Ministry informed us that it was instead focused on other priorities, but would revisit including its risk assessments going forward.

In comparison, the US Department of Agriculture Forest Service's Alaska Region Invasive Species Strategy 2006–2010 specifically lists the action items, responsible party and outcome measures for each goal and objective the strategy identifies. Similarly, the municipality of Mississauga's Invasive Species Management Plan and Implementation Strategy includes a table summarizing the different objectives, action items, targets and implementation timelines.

We also found that the Ministry's Strategic Plan has never been updated since its creation in 2012. While Ministry staff indicated that the 10-year anniversary of the plan has prompted internal discussion to review and update it, this had not been committed to and timelines had not been established at the time of our audit. The current Strategic Plan predates the *Invasive Species Act, 2015* (Act) and the use of modern tools for detecting and responding to invasive species, and therefore does not provide any direction on how and when to use them. Specifically:

- The Act empowers conservation officers to issue penalties when invasive species-related offences (e.g., possessing, trading or releasing regulated species) are committed. However, since the Strategic Plan predates the Act, it does not provide guidance on the role of these penalties, describe what offences should be prioritized for enforcement work, or define the terms of a successful enforcement system to measure results against.
- Environmental DNA (eDNA) monitoring is a modern tool that can determine the presence (or absence) of a species in an area through detecting that species' DNA in a sample. Currently, the Ministry uses only two laboratories to perform eDNA testing. However, staff at many other laboratories are interested in performing this work, and could be leveraged to perform testing if eDNA testing moves into commercial use and plays a larger role in invasive species monitoring in the future.
- Aerial mapping is a cost-effective monitoring technique using aircraft (such as drones) to collect overhead images of a large area, which can then be examined using software to interpret the images and identify the presence of some invasive species or their impacts, such as the defoliation of trees. This technique is used by the Natural Resources Ministry to measure the impacts of forest pests such as the invasive emerald ash borer and the native forest tent caterpillar. However, the Ministry is currently not using aerial mapping to measure the spread and impacts of any species regulated under the Act.

- While the Ministry informed us that it intends to review and update the Strategic Plan in the future, this exercise will be undermined if it lacks the accompanying implementation plan and resources to execute the work needed to achieve the Strategic Plan's goals.

RECOMMENDATION 9

To effectively, efficiently and accountably achieve successful outcomes for invasive species prevention and management, we recommend that the Ministry of Natural Resources and Forestry:

- develop a detailed implementation plan that lists specific action items, responsible parties, required human and financial resources, outcome measures and implementation time-lines for each goal and objective identified in the Ontario Invasive Species Strategic Plan (Strategic Plan);
- regularly update the Strategic Plan, through public consultation, to keep it current and relevant; and
- publicly report on the progress toward the implementation of the Strategic Plan on an annual basis.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with this recommendation and intends to proceed with a review of progress and update to the Ontario Invasive Species Strategic Plan (Strategic Plan).

This review and update will include consultation with program partners, municipalities, conservation authorities, Indigenous communities, and the public to inform the development of actions and tactics and associated implementation planning. Implementation plans will support efforts to clarify roles and responsibilities, as well as any requests for required human and financial resources.

The Ministry will also work with partners to explore opportunities to publicly report on joint

efforts and progress on the implementation of the Strategic Plan.

4.5.2 Public Awareness on Invasive Species Is Low Despite Ministry Funding Education and Outreach Activities

The Ministry funds a number of public outreach and education activities. However, the results of our Office's survey of Ontarians suggests that Ontario's invasive species public education and awareness programs have not reached most people across the province.

Specifically, we found that 18 out of 35 projects the Ministry funded through transfer payment agreements in 2021/22 involved education and outreach activities. These activities include organizing invasive species education and outreach committee meetings; writing invasive species blog posts for the Biodiversity Education and Awareness Network; and hosting monthly webinar series to highlight invasive species risks, management tools and success stories.

Many of the activities funded through the Invasive Species Centre (Centre) relate to education and outreach, and the Centre plays an integral role in communicating information on invasive species to the public. However, we engaged a polling firm and found that 74% of 1,001 surveyed Ontarians had never heard of the Centre before. Furthermore, only 13% of respondents were able to correctly identify that the Centre tracks/identifies/records invasive species; 9% correctly identified that the Centre eradicates/removes invasive species; and 6% correctly identified that the Centre controls invasive species and prevents their spread. Only 3% of respondents correctly identified that the Centre educates the public and shares information about invasive species, which represents a substantial portion of the Centre's work.

We also found that 70% of respondents had never heard of the Ontario Federation of Anglers and Hunters' Invading Species Awareness Program. While 34% of those surveyed indicated how they might go about reporting invasive species sightings in Ontario, most of the methods mentioned were inappropriate

(e.g., calling animal control, contacting the Ministry/city/local municipality/town hall). These findings are in line with past surveys on environmental topics, which note low public awareness of environmental issues, organizations and roles.

We also noted that some of the Ministry's educational materials needed improvements. For example, the Ministry posts a summary of fishing regulations each year to help educate the public on fishing rules and guidelines. While the 2022 summary included a listing of all the regulated aquatic invasive species in Ontario, it only provided visual aids for two invasive species: one labelled, black-and-white illustration of a round goby, and one full colour advertisement showing a tench. Since the 2022 summary did not have photographs and/or labelled illustrations of other invasive species, the Ministry is missing a valuable opportunity to educate anglers on how to spot other invasive species through publications they are expected to read.

Importantly, while public education and outreach are essential components of any invasive species program, the capacity these activities build is wasted if they do not result in actual on-the-ground prevention, detection and management outcomes. Our concerns about Ontario's focus on funding education and outreach over necessary on-the-ground activities mirror those raised in a 2008/09 evaluation of Environment Canada's Invasive Alien Species Partnership Program (conducted by Environment Canada's Evaluation Division), which identified "the need to focus more on an action-oriented approach to addressing [invasive alien species] in Canada, as opposed to focusing on education and outreach."

RECOMMENDATION 10

To improve public awareness of invasive species, and to have effective education and outreach activities that achieve intended outcomes, we recommend that the Ministry of Natural Resources and Forestry work with partners, including the Ontario Federation of Anglers and Hunters and the Invasive Species Centre, to develop and implement a strategy for public education and outreach, and for tracking the effectiveness of efforts to raise

public awareness on how to report invasive species sightings.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) recognizes that, despite significant past and ongoing education efforts, public awareness in Ontario of invasive species and the *Invasive Species Act, 2015* is still limited.

Public awareness is essential to achieving broader prevention and management objectives. The Ministry will continue to work with key partners to assess the effectiveness of current awareness actions and to develop a strategy to improve public awareness of invasive species and pathways in Ontario.

4.6 Enforcement Resources and Activities Are Limited

4.6.1 Ministry Staffing Is Insufficient to Administer the *Invasive Species Act, 2015*

Since 1998, the number of environmental laws that conservation officers must enforce has increased from at least 22 to 27 acts, while the number of such officers has decreased from 281 to 238 (15%) during the same period (25 of whom were hired in 2021/22 after the Natural Resources Ministry acknowledged that it did not have enough officers). Ministry staff have previously identified inadequate staffing levels and requested funding for additional full-time staff. For example, when the *Invasive Species Act, 2015* (Act) was being developed, the Ministry submitted a business case to the Treasury Board/Management Board of Cabinet (TB/MBC) ahead of the 2014/15 fiscal year, seeking "approval for specific financial provisions necessary to implement the legislation," including additional funding and full-time staff. Specifically, the Ministry requested \$10 million over the next four years and six staff (two in the Biodiversity Branch, one in the Forestry Branch, and three in the Enforcement Branch). The TB/MBC instructed the Ministry to divert the necessary funding from existing programs.

However, the Ministry did not divert the funding and increase staffing, and therefore these policy and enforcement positions were not filled.

Similarly, the Natural Resources Ministry sought to increase its staff again in the 2017/18 fiscal year. As part of its submission, the Ministry identified that it would “be critical to expand its capacity beyond its current level to enable more focus and effort on preventing new invasive species from arriving and establishing in Ontario.” The Ministry requested the addition of eight permanent full-time equivalent staff to work in policy development and four permanent full-time equivalent staff to improve compliance and enforcement activities. The TB/MBC approved an increase of three full-time equivalent staff “for additional capacity required to support the implementation of the new Invasive Species Act,” and directed the Ministry to manage the funding requirements for these staff within its existing budget allocation. However, the Ministry again did not divert resources to staff these three positions.

Further, the Ministry does not provide comparable support for its conservation officers to enforce the Act as it does for other laws. For example, the Ministry’s Regional Operations Division, which manages the implementation and delivery of provincial programs on local, regional and division levels, currently has a limited role in performing work under the Act. Per internal Ministry documentation, the “[Regional Operations Division’s] approach to implementation of the [Act] will be based on leveraging existing partnerships and existing resources.” While the Regional Operations Division will collaborate with others to respond to wild pig sightings, it is otherwise hands-off and directs individuals with other invasive species-related inquiries to partner organizations and existing Ministry resources.

4.6.2 Training for Conservation Officers Does Not Enable Reliable Species Identification and Effective Enforcement

While the Act came into force in 2016, the earliest relevant conservation officer training related to understanding the law and how it applies in the field

occurred in 2017. The training presentation included a single slide that showed all the regulated invasive species but only labelled and named four. Moreover, only 19 conservation officers attended this training. It was not until May 2018 that training was provided (by the Invasive Species Centre) with a focus on invasive species identification; however, this training was only provided in two small sessions, with 10 and 23 conservation officers in attendance, respectively.

During 2021/22, two identification-related training sessions were held in April 2021, with a greater focus on aquatic invasive species identification; two legislative controls sessions were held in May 2021; and two sessions on updates to the Act were delivered in February 2022. While these sessions had a much greater turnout (111, 67 and 106 conservation officers attending each pairing of sessions, respectively), they were again not mandatory. As a result, more than five years after the Act came into force, not all conservation officers have been trained to identify invasive species.

In addition, helpful resources to carry in the field, such as labelled visual aids for each of Ontario’s 33 regulated invasive species, have not yet been developed and distributed to conservation officers to help them independently identify invasive species. The Natural Resources Ministry informed us that it is planning to develop such resources in 2022/23.

Without comprehensive and mandatory training, we found instances where conservation officers required the assistance of experts to help them identify invasive species in the field. In the Ontario Invasive Species Strategic Plan, one Ministry tactic is to “develop a network of experts that can be called upon for technical expertise ... related to taxonomic identification.” However, the difficulty in obtaining expert support has delayed enforcement work and taken away time that conservation officers could have spent doing other on-the-ground patrols and inspections. For example:

- On October 16, 2019, a conservation officer responded to a public tip of water soldier (an invasive aquatic plant) in backyard ponds close to the Lake Erie shoreline. The officer recognized the need for water soldier-identification

expertise, but the Ministry's Regional Operations Division indicated that it would not be involved in supporting this search. As per Ministry staff, the division "does not currently have an active role in implementing the [Act]" and "does not broadly support implementation of the Act." The officer then contacted the Ministry's Enforcement Services Section two days later to request an expert, and was again unsuccessful; they then began initial conversations with the Ministry's Biodiversity Section. On October 24, the officer again emailed the Biodiversity Section, stating their intent to perform the inspection "as soon as possible." While the Biodiversity Section provided contact information for an expert at the Ontario Federation of Anglers and Hunters, the inspection had to be deferred to November 5 due to scheduling conflicts. During this inspection, water soldier was positively identified and seized. This 20-day delay could have been avoided if officers were sufficiently trained, or if there were protocols and on-call experts in place to help identify invasive species.

- On May 28, 2020, a conservation officer responded to a public tip claiming a worm farm was selling topsoil containing Japanese knotweed, an invasive species. The officer took pictures and samples and determined that an inspection with expert support was required to confirm whether Japanese knotweed was present. The Regional Operations Division again did not provide support as it does not help implement the Act. The officer contacted the Natural Resources Ministry which provided the officer with an expert contact at the Ministry of the Environment, Conservation and Parks. This expert supported the officer's inspection, 14 days after the tip was first received, and identified the invasive species present in the soil as phragmites (not Japanese knotweed). During this time, the farm was not directed to discontinue operating, advertising or selling the compromised soil.

4.6.3 Conservation Officers Do Not Fully Use Enforcement Powers Granted by the *Invasive Species Act*, with No Charges Laid and Only 11 Warnings Issued

We found that conservation officers are not fully using the inspection tools and enforcement powers available to them under the *Invasive Species Act, 2015* (Act).

From 2015/16 to 2021/22, the Natural Resources Ministry's Enforcement Branch recorded 1,032 invasive species-related inspections. Of these inspections, we reviewed the ones where invasive species-related offences were detected, and found that many targeted the general public rather than high-risk pathways or activities. As well, many of these inspections pertained to Ontario's legal use of live baitfish, which most other provinces do not allow because (among other reasons) the release of baitfish into non-native ecosystems has the potential to start an invasion. Invasive species such as gobies can be mixed with, and difficult to distinguish from, minnows commonly used in angling, and may thus be transported throughout the province to baitfish retailers and individual anglers.

However, the Ministry conducted a three-year monitoring program of baitfish retailers from 2015/16 to 2017/18, which showed significant non-compliance rates in 2015/16 (34%) and the first quarter of 2016/17 (67%), the period in which reliable compliance data was tracked. Despite the success of this program in detecting non-compliance, the Ministry stopped collecting reliable compliance data midway through the program and no such systematic monitoring is organized provincially today. The Ministry informed us that due to reporting and capacity limitations, it could not determine whether the baitfish retailers were revisited to ensure their behaviour improved.

Similar to the Ministry's prioritization of aquatic species in its risk assessments and regulation of invasive species, we found that the Ministry has also focused on aquatic over terrestrial invasive species in its inspections. As of year-end 2021/22, 100% of charges and 97.3% of warnings issued across relevant

laws since 2015/16 were related to aquatic invasive species. Further, the Ministry confirmed that, while conservation officers began inspecting garden centres in 2021/22, these inspections were ineffective in detecting invasive plants because conservation officers are not adequately trained to identify them (as noted in **Section 4.6.2**).

A more effective use of the limited conservation officers available could be to focus on inspections of high-volume distributors, such as baitfish retailers, which may transport and sell invasive fish, and garden centres, which may transport and sell invasive plants. Indeed, in its 2020/21 and 2021/22 published plans, the Ministry identified the need to target compliance in specific invasive species pathways such as angler bait use, fish markets and restaurants. A targeted approach could better prevent significant movement of invasive species across the province, and may be much more impactful than targeting individual Ontarians participating in angling or gardening.

Our review of inspection files and discussions with conservation officers also showed that the Natural Resources Ministry has not pursued laying any charges or issuing fines or penalties. From 2015/16 to 2021/22, only 11 warnings and no charges were laid under the Act. For example:

- As indicated in the first example in **Section 4.6.2**, invasive water soldier plants (a prohibited species) were found in the backyard ponds of a private property during an inspection. The invasive plants were seized and the conservation officer issued verbal warnings and educated the homeowner rather than pursuing charges. The Ministry informed us that it did not pursue charges because its initial approach to non-compliance is focused on promoting awareness of the rules and encouraging voluntary compliance.
- As indicated in the second example in **Section 4.6.2**, a conservation officer found a farm was selling topsoil containing phragmites (an invasive plant). As selling a regulated invasive species meets the definition of an offence under the Act, the officer planned to issue a

compliance order and charge the farm. However, after consultation with the Ministry's Regulatory Support Unit and Legal Services Branch, the decision was made to take no enforcement action. The Ministry interpreted this situation as the business operator not directly selling the invasive species but only the soil that contained it, and no further actions were taken to prevent these sales from going forward.

Similarly, despite the fact that the Act allows officers to obtain inspection and search warrants, no warrants had ever been issued as of March 31, 2022.

4.6.4 Conservation Officers Are Not Required to Perform Invasive Species-Related Patrols and Inspections in a Consistent and Reliable Manner

The Natural Resources Ministry establishes which enforcement activities to prioritize annually. These priorities are then considered when the Ministry's Enforcement Branch budgets conservation officer hours. However, there is no standard across the province for how officers should track their enforcement work to show the prioritized activities are being performed. For example, conservation officers conduct sport fish patrols to ensure anglers have valid fishing licences and comply with catch and possession limits. One officer might record four hours of sport fish patrols as aquatic invasive species work, while another might record them as sport fish or baitfish patrol work. Refining how invasive species hours are assigned, tracked and overseen would help the Ministry ensure that relevant and meaningful patrols and inspections are actually performed and logged in a consistent manner by conservation officers.

We also noted some deficiencies in inspectors' powers that limit their effectiveness in preventing the introduction and spread of aquatic invasive species. For example, while baitfish harvesters must submit a Hazard Analysis and Critical Control Point Plan to the Ministry outlining the steps they will take to prevent the spread of invasive species, there is no follow-up to ensure their actions actually adhere to this plan. Including this as a condition in licences would

allow inspectors to check whether baitfish harvesters are complying with the commitments made when acquiring their baitfish harvesting licences. Baitfish harvesters and dealers are also required to submit annual reports to the Natural Resources Ministry outlining how many dozens, gallons or pounds of baitfish and leeches they harvested and sold. With few exceptions, harvesters and dealers are not required to disclose holding locations. Requiring licensed parties to disclose where their offsite bait is stored as a mandatory licence condition would allow inspectors to visit these locations, detect any invasive species not found and removed during harvesting/transport to the location, and take appropriate actions.

Furthermore, unlike other provinces, Ontario has not made watercraft inspections for invasive species mandatory. Aquatic invasive species are most likely to establish at locations with high shipping and boating activities, such as ports, marinas, harbours and boat launches. In particular, moving watercraft overland is a major risk for transporting aquatic invasive species to uninvaded waterbodies. Therefore, an effective way to prevent the introduction and spread of some aquatic invasive species would be through the use of watercraft inspections at high-risk locations such as border crossings or between regions.

Currently, Ontario boaters are required to drain water from their watercraft and watercraft equipment and remove aquatic plants, animals and algae from watercraft, watercraft equipment, vehicles and trailers before placing them into waterbodies. However, there is no process in place to routinely ensure compliance with this law. In comparison, for example, Alberta, Manitoba, British Columbia, Saskatchewan and the Canada–US border in those provinces have established mandatory watercraft inspection stations in response to the threat of aquatic invasive species invasion and/or spread. All carriers of water-based vessels must stop at all open watercraft inspection stations to be checked for aquatic invasive species on boats, trailers and other water-related equipment. In addition, Alberta and British Columbia use trained dogs to detect invasive mussels as part of their watercraft inspections. If invasive species are suspected or found, a decontamination

(thorough cleaning) is required and the watercraft may also be subject to quarantine.

RECOMMENDATION 11

So that the *Invasive Species Act, 2015* is effectively enforced to detect invasive species and reduce their spread, we recommend that the Ministry of Natural Resources and Forestry:

- assess and ensure the sufficiency of enforcement resources, including training requirements, the availability of specialist support and the number of field conservation officers;
- develop and implement a risk-based approach to inspections, focusing on high-risk species, pathways and activities;
- assign, track and review hours assigned to conservation officers for invasive species work to make sure relevant work is performed;
- explore and implement cost-effective ways to ensure compliance with Ontario's watercraft laws, particularly in high-risk areas;
- update licence requirements for baitfish retailers and harvesters to include disclosure of where bait is stored; and
- require baitfish retailers to adhere to the steps outlined in their Hazard Analysis and Critical Control Point Plans to prevent the spread of invasive species.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with the importance of inspections and enforcement to detect and reduce the spread of invasive species. Over the past two years, the Ministry has recruited an additional 25 conservation officers to increase the number of field officers to 209. As part of the new-recruit training curriculum, the Ministry extended the time spent on enforcement of the *Invasive Species Act, 2015* (Act) and is in the process of circulating additional information that articulates new rules around watercraft to assist conservation officers with education and outreach when they are in the field. Plans also

include other quick reference tools to aid conservation officers in identifying invasive species.

The Ministry will investigate sustainable ways to extend compliance authority under the Act to other areas of the Ministry as resources allow. The Ministry agrees that accessible and available specialist support is required for conservation officers to be sufficiently supported when investigating invasive species cases and will work to create a referral list to ensure supports are available upon request within a reasonable amount of time.

Consistent with professional law enforcement practices, the Ministry will continue to take a risk-based approach to prioritize enforcement activities. The Ministry commits to continually improving the annual process of assigning conservation officer time to enforcement priorities to ensure relevant work associated with the Act continues to be performed.

In 2020, the Province finalized Ontario's Sustainable Bait Management Strategy, which establishes a new approach to the management of baitfish across the province. Ontario's approach aims to reduce the spread of invasive species and diseases and protect Ontario's vibrant fisheries and the industries that rely on them while also providing flexibility and certainty to the bait industry and anglers.

4.7 Ministry Lacks Performance Measurement and Reporting for Invasive Species Work

The Natural Resources Ministry has not developed a performance measurement framework to assess whether its activities aimed at preventing the introduction and spread of invasive species are effective. As a result, decision-makers and the public are also not aware whether invasive species introductions are prevented and managed in an effective and efficient manner. This lack of performance measurement also limits the Ministry's ability to identify, prioritize and respond to new and existing threats while ensuring

effective prevention and control measures are adopted and expanded. The Ministry indicated that it has not developed a performance framework because it would be difficult to establish such monitoring in a province as large as Ontario.

The Treasury Board Secretariat (Secretariat) establishes policies and standards for organizational practices across the provincial government. The Secretariat has provided guidance to ministries emphasizing the importance of developing key performance indicators and targets to track performance, report on progress and drive continuous improvement. For over a decade, the Secretariat has also encouraged ministries to develop performance measurement frameworks—consistent processes to collect, analyze and report information on how programs are performing and whether they are achieving their intended outcomes.

The lack of meaningful performance indicators and reporting by the Natural Resources Ministry has been identified repeatedly over the last decade with no observed improvement. For example:

- In its 2015/2016 Annual Report, the former Office of the Environmental Commissioner of Ontario recommended that the Natural Resources Ministry should “report publicly on progress to manage invasive species regulated under the *Invasive Species Act, 2015* to enable meaningful evaluation of the act's efficacy and allow the public to hold the government accountable for its successes or failures in managing regulated species.”
- Our 2021 value-for-money audit on Reporting on Ontario's Environment found that the Ministry had not publicly released regular reports on its progress preventing the spread of invasive species.

While the Ministry did not have any performance metrics in place, we noted that occurrences of some invasive species in some parts of the province are reported through its State of Ontario's Natural Resources reports, its Forest Health Conditions in Ontario reports, and the Ontario Biodiversity Council's State of Ontario's Biodiversity reports. However, we found that none of these reports assess whether Ontario's current invasive species strategy and programming

are effective. For example, none quantify the effects of existing interventions aimed at curbing the spread of invasive species, nor do they provide details on the extent and location of terrestrial invasive species spread. Data related to invasive plants, animals and pathogens is inadequate and not consistently reported. For example, the area affected by the emerald ash borer, the most economically damaging invasive species for Canadian municipalities, was not reported for several recent years (2017 and 2019) per Ontario's State of Ontario's Natural Resources Report 2021. Unlike reporting for some federally regulated invasive species, none of these reports include any species-specific reporting to show the spread of any invasive species regulated under the Act.

It is best practice to have performance measures that show whether current actions are working in order to drive progress. These measures also inform which corrective actions ministries should take to improve the individual and collective statuses of invasive species. Without collecting and reporting on indicators relevant to invasive species, the Ministry does not know the extent to which actions have been successful in preventing and managing these species. Such data collection and reporting are only happening in very specific circumstances, such as with the actions taken to control phragmites in the Long Point region.

In addition, the Ministry has no progress reports on the implementation of the Act or Ontario's Invasive Species Strategic Plan. The purpose of progress reports would be to update the public on the Ministry's progress made toward achieving invasive species-related goals and objectives and to facilitate monitoring. They would also help identify additional techniques and lessons learned to improve invasive species management.

For example, the municipality of Mississauga aims to complete a progress report every five years. The New York State Invasive Species Comprehensive Management Plan proposes that an annual report card be prepared to show the outcomes of various metrics for

different action items organized by priorities. Other jurisdictions such as New South Wales and Michigan state also develop and track performance indicators, and publicly report on them. See **Appendix 15** for examples of invasive species performance indicators from other jurisdictions that could be applicable in Ontario. Notably, the metrics in New York State include the number of permanent monitoring points established for tracking invasive species. A targeted expansion of monitoring in Ontario against a similar metric would provide baseline data with growing geographical coverage to measure the success of invasive species prevention and management activities.

RECOMMENDATION 12

To measure the effectiveness of its invasive species program at preventing and controlling the spread of invasive species and its impacts, we recommend that the Ministry of Natural Resources and Forestry:

- develop a performance measurement framework for the Province's overall invasive species program, including meaningful, measurable, and outcome-oriented performance indicators with targets and timelines; and
- document invasive species management and outcomes, and publicly report on the status of the performance measures as part of an annual report.

MINISTRY RESPONSE

The Ministry of Natural Resources and Forestry (Ministry) agrees with exploring mechanisms to measure the effectiveness of its invasive species program during the review of progress and update to the Ontario Invasive Species Strategic Plan.

During this review and update, the Ministry will engage with program partners, stakeholders, and others on the development of a performance management framework and associated public reporting as an action in the updated strategic plan.

Appendix 1: Glossary of Terms

Prepared by the Office of the Auditor General of Ontario

Term	Definition
Ballast	A heavy substance placed in such a way as to improve stability and control of a ship or the ship's buoyancy.
Biodiversity	The variety of life on Earth—it includes plants, animals and all other living things, as well as how they interact with one another and their environment.
Biological control	The process of using biological pesticides (containing a bacterial or viral agent) or living organisms (particularly insects, mites, nematodes, bacteria, viruses or other organisms) to control the growth of invasive species.
Chemical control	The process of using pesticides, herbicides, insecticides and fungicides to control or eradicate invasive species on contact or indirectly by suppressing regeneration and damaging their essential life processes or ability to reproduce.
Climate change	The long-term shift in global or regional climate patterns.
Conservation authorities	Local public sector organizations that develop and deliver local, watershed-based resource management programs on behalf of the Province and municipalities. Conservation authorities are established by the Province and governed by the <i>Conservation Authorities Act</i> , which is administered by the Ministry of the Environment, Conservation and Parks.
Conservation reserve	An area that protects significant natural and cultural features while providing opportunities for a variety of compatible traditional activities (e.g., fishing, hunting, trapping).
Ecological window	The optimal period of time, from a biological perspective, for invasive species management practices.
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living, abiotic environment interacting as a functional unit.
Environmental DNA (eDNA)	The nuclear or mitochondrial DNA that is released from an organism into the environment. Sources of eDNA include secreted feces, mucous and gametes; shed skin and hair; and carcasses. eDNA can be detected in cellular or extracellular (dissolved DNA) form.
Extinction	The dying out of a species.
Habitat loss	The elimination or alteration of the conditions necessary for animals and plants to survive. Habitat loss not only impacts individual species but the health of the global ecosystem.
Integrated control	An approach that considers the biology and life cycle of the invasive species to be managed and involves the use of a combination of mechanical, biological and chemical control methods, as well as changes in land use practices and preventative methods (e.g., habitat rehabilitation) to control invasive species and prevent their recolonization.
Invasive species / Invasive alien species	Harmful alien species whose introduction or spread threatens the environment, the economy, or society, including human health. Alien bacteria, viruses, fungi, aquatic and terrestrial plants, animals, birds, reptiles, amphibians, fish and invertebrates (including insects and molluscs) can all become invaders.
Invasive species detection	The process of finding and identifying the presence or existence of an invasive species.
Invasive species identification	The process of recognizing or distinguishing a species and confirming whether it is native to Ontario.
Mechanical control	The process of removing an invasive species from its environment such as by hoeing, tilling, girdling, chopping or constructing barriers using tools or machines.

Term	Definition
Native species	A species that originated and developed in its surrounding habitat and has adapted to living in that particular environment.
Organism	A living thing made up of one or more cells that is able to carry out the activities of life.
Pathogen	An organism that causes disease.
Pathways	Routes by which an invasive species is transferred from one ecosystem to another.
Pest	Any injurious, noxious or troublesome plant or animal life. While invasive species are limited to species that are not native to the area in which they are causing harm to native species or the natural environment, pests can be attributed to both non-native and native species that cause harm or damage to native species.
Physical control	The process of manually removing an invasive species from its environment, which includes the process of physically removing an invasive species by hand-pulling, digging, flooding, mulching, or manual destruction or removal of nests, egg masses, or other life stages; generally includes the destruction of invasive species by hand.
Prohibited species	Species that are illegal to import, possess, deposit, release, transport, breed/grow, buy, sell, lease or trade anywhere in Ontario.
Propagation	The increase in the population of and/or area occupied by an organism.
Protected areas	Areas that are defined to protect natural and cultural features, maintain biodiversity and provide opportunities for compatible recreation. These areas may contain old-growth forest, lakes, habitats for rare and endangered species, archaeological sites or other cultural values.
Restricted species	Species that are illegal to import, deposit, release, breed/grow, buy, sell, lease or trade anywhere in Ontario.
Risk assessment	A consideration of the likelihood that a non-native species will be introduced, become established and spread, combined with the projected impact of its establishment on biodiversity and socio-economics.
Soil degradation	The decline in soil condition caused by its improper use or poor management, usually for agricultural, industrial or urban purposes.
Species	From a biological perspective, a group of living organisms that are similar to one another and are capable of reproducing with one another to make offspring that are capable of reproducing with one another.
Terrestrial species	Animals and plants that live predominantly or entirely on land.
Vascular plants	Plants whose tissue transports water, nutrients and sugars to the rest of the plant.
Waterbody	Any body of surface water, such as a lake, river, or pond.
Watercraft	Any conveyance used or designed for navigation on water, including any motorboat, rowboat, canoe, punt, sailboat or raft.
Watercraft equipment	Anything used to aid in the operation, movement or navigation of a watercraft, including ropes, fenders and anchors.
Wetland	Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of very wet soils and has favoured the dominance of either plants that grow partly or totally submerged in water or water-tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens.

Appendix 2: Roles and Responsibilities of Key Players in Invasive Species Prevention and Management

Prepared by the Office of the Auditor General of Ontario

Government Organizations

Federal Departments and Agencies

- Regulate the import and movement into Canada of invasive species and goods that could contain them.
- Enter into agreements with provincial, municipal, Indigenous and other organizations to address invasive species.
- Co-ordinate and implement on-the-ground management activities for priority invasive species.

Ministry of Natural Resources and Forestry (formerly Ministry of Northern Development, Mines, Natural Resources and Forestry)

- Administers the *Invasive Species Act, 2015* and its associated regulations.
- Developed and leads the implementation of the Ontario Invasive Species Strategic Plan (2012).
- Funds organizations, programs, research and initiatives to understand, prevent, detect and manage invasive species.

Other Provincial Ministries

The Ministries of the Environment, Conservation and Parks; Agriculture, Food and Rural Affairs; and Transportation address invasive species by regulating pesticides, regulating noxious weeds, and managing roadside invasive species, respectively.

Municipalities

- Fund various stakeholders and local conservation authorities to prevent and manage local invasive species.
- Support on-the-ground invasive species prevention, detection and management activities to address local priorities.

Other Key Players

Conservation Authorities

- Public-sector organizations established by the Province to develop and deliver watershed-based resource management programs.
- Perform invasive species prevention and management activities using mostly municipal funding.

Invasive Species Centre

A non-profit organization established as a federal and provincial partnership to connect stakeholders, knowledge and technology to prevent the introduction and spread of invasive species that harm Canada's environment, economy and society.

Ontario Federation of Anglers and Hunters

- A non-profit organization that represents anglers and hunters, and champions wildlife conservation to ensure the enhancement of hunting and fishing opportunities.
- Leads the Invading Species Awareness Program to monitor and educate Ontarians on invasive species.

Ducks Unlimited Canada

Conducts wetland restoration activities, with provincial funding tied to monitoring and physical removal of European water chestnuts and parrot feather, and monitoring of phragmites populations prior to the introduction of a biological control.

Other Non-Government Organizations

Other organizations, such as the Ontario Invasive Plant Council and the Nature Conservancy of Canada, provide public education, develop best practice guidelines and co-ordinate activities to prevent and manage invasive species throughout the province.

Appendix 3: Agencies and Organizations with Invasive Species Relevance

Prepared by the Office of the Auditor General of Ontario, adapted from the Invasive Species Centre and the Ontario Invasive Plant Council

Agency/Organization	Jurisdiction	Roles and Responsibilities
Provincial Agencies		
Ministry of Natural Resources and Forestry (formerly Ministry of Northern Development, Mines, Natural Resources and Forestry)	Forests, fisheries, wildlife, water, oil, gas, salt and aggregates resources in Crown lands and waters	• Leads the Ontario Invasive Species Strategic Plan. • Administers the <i>Invasive Species Act, 2015</i> and the Ontario Fishery Regulations, 2007 (SOR/2007-237) under the <i>Fisheries Act</i>. • Administers the <i>Fish and Wildlife Conservation Act, 1997</i>. • Administers the <i>Crown Forest Sustainability Act, 1994</i> and <i>Forestry Act</i>. • Regulates aquatic invasive plant removal under the <i>Public Lands Act</i>. • Issues Letter of Opinion for Natural Resource Exception of the Cosmetic Pesticides Ban (O. Reg. 63/09) to enable the control of invasive plants using certain pesticides.
Ministry of the Environment, Conservation and Parks	Pesticide regulations for lakes, ponds, rivers, streams and wetlands	• Regulates the sale, use, licensing, transportation, storage and disposal of pesticides under the <i>Pesticides Act</i> and O. Reg. 63/09. • Supports the Ontario Invasive Species Strategic Plan. • Provincial parks may implement their own invasive species management strategies. • Administers the <i>Provincial Parks and Conservation Reserves Act, 2006</i>. • Administers the <i>Endangered Species Act, 2007</i>. • Administers the <i>Great Lakes Protection Act, 2015</i>. • Provincial lead ministry for the <i>Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health, 2021</i>. • Administers the <i>Lake Simcoe Protection Act, 2008</i>. • Administers the <i>Conservation Authorities Act</i>.
Ministry of Transportation	Transportation network of highways and other transportation corridors	• Supports the Ontario Invasive Species Strategic Plan.
Ministry of Agriculture, Food and Rural Affairs	Invasive weeds that impact the agriculture and horticulture industries	• Supports the Ontario Invasive Species Strategic Plan. • Enforces the <i>Weed Control Act</i> and maintains the Noxious Weed List.
Ministry of Health	Vector-borne and zoonotic diseases (those that can be transferred between animals to humans) that constitute a risk to public health	• Administers the <i>Provincial Framework and Action Plan concerning Emerging Vector-Borne Diseases Act, 2015</i>.
Federal Agencies		
Agriculture and Agri-Food Canada	Canadian agriculture and agri-food sector	• Supports research and development of invasive species biological control agents.
Parks Canada	National parks	• Parks implement their own invasive species management strategies.

Agency/Organization	Jurisdiction	Roles and Responsibilities
Environment and Climate Change Canada	National wildlife areas (NWAs) and migratory bird sanctuaries (MBSs)	- Some NWAs and MBSs implement their own invasive plant management strategies. - Leads the Invasive Alien Species Strategy for Canada.
Canadian Food Inspection Agency (CFIA)	Animal health, plant health and international market access	- Administers the <i>Plant Protection Act, 1990</i>, the <i>Seeds Act</i> and the <i>Health of Animals Act</i>. - Manages the importation, exportation, spread, control, and eradication of pests, including invasive species.
Pest Management Regulatory Agency (PMRA)	Pesticide regulations	Administers the <i>Pest Control Products Act, 2002</i>.
Fisheries and Oceans Canada	All waters in the fishing zones of Canada, in the territorial sea of Canada and all internal waters of Canada	- Administers the <i>Fisheries Act</i>, the Aquatic Invasive Species Regulations SOR/2015-121, and the <i>Great Lakes Fisheries Convention Act</i>. - Has proposed new federal regulations to manage and control aquatic invasive species in Canada.
Transport Canada	International and inter-provincial transportation	Administers the <i>Canada Shipping Act, 2001</i> and the Ballast Water Regulations (SOR/2021-120).
Canadian Forest Service (CFS) [under Natural Resources Canada]	Canada's natural resources	- Administers the <i>Forestry Act</i>. - Supports research on invasive forest pests in Canada.
Canadian Border Services Agency (CBSA)	International border control	Assists with enforcing import prohibitions on invasive species.
All federal departments and agencies	Federal lands	Conducts vegetation control where needed.
Local Governments		
Municipalities	Lands within municipal boundaries	- Some implement their own invasive management strategies, which may include bylaws and regulations. - Can designate locally noxious weeds impacting the <i>Weed Control Act</i>. - Responsible for enforcing the <i>Weed Control Act</i> through municipal weed inspectors.
Regional municipalities	Lands within regional municipality boundaries, including municipalities.	Same as municipalities.
Indigenous Communities		
Indigenous communities	First Nation reserves and treaty lands	Nations, councils or bands may implement their own invasive species management strategies.
Utility, Gas and Railroad Companies		
Utility, gas and railroad companies	Management on rights of way	- E.g., Hydro One, Ontario Power Generation, Ontario Hydro, Via Rail Canada. - Manage rights of way of nuisance vegetation including some invasive plants.
Non-profit Organizations		
Conservation authorities	Regulated areas within their jurisdictions	Local watershed management agencies that partner with others to conduct activities, including those related to invasive species, to protect and manage water and natural resources.

Agency/Organization	Jurisdiction	Roles and Responsibilities
Invasive Species Centre	Canada	Connects stakeholders, knowledge and technology to prevent and reduce the spread of invasive species that harm Canada's environment, economy and society.
Trail councils	Trails within their authority	May be responsible for managing trails within their authority.
Ontario Invasive Plant Council	Ontario	Multi-agency organization that provides leadership expertise and a forum for Ontarians to take action on invasive plant issues.
Ontario Biodiversity Council	Ontario	Reports on the state of Ontario's biodiversity every five years, including invasive species indicators.
Invading Species Awareness Program (partnership between Natural Resources Ministry and the Ontario Federation of Anglers and Hunters)	Ontario	- Addresses invasive threats through education and awareness. - Tracks invasive species occurrences in Ontario.
Community groups with land management authority	Lands under their management authority	- E.g., Ducks Unlimited, The Nature Conservancy of Canada, Ontario Nature. - Conduct active management of invasive species to protect lands under their management authority.
Stewardship groups	Variable	- E.g., Wildlife Conservation Society Canada, Field Naturalists, Friends of the Rouge Valley Watershed. - May be responsible for managing a natural area or park or partaking in invasive species removal.

Appendix 4: Ontario Invasive Species Strategic Plan, 2012

Prepared by the Office of the Auditor General of Ontario

The Ontario Invasive Species Strategic Plan is guided by the following four strategic goals:

1. Prevent: Prevent harmful introductions of invasive species before they occur	2. Detect: Detect and identify invasive species before or immediately after they become established
3. Respond: Respond rapidly to invasive species before they become established or spread	4. Manage and Adapt: Implement innovative management actions and take practical steps to protect against the impacts of invasive species

The Province commits to achieving these goals through the following activities and actions:

Activity	Action(s)
Leadership and Co-ordination	• Clarify the roles of key federal departments/agencies and provincial ministries • Improve communication co-ordination across jurisdictions and governments • Build effective communication networks with partners • Improve the effectiveness of existing committees • Establish new inter-jurisdictional committees to address gaps
Legislation and Policy	• Examine provincial legislation and policy frameworks • Support and strengthen existing legislation • Review and enhance policies • Enhance enforcement efforts • Develop rapid response protocols • Identify obstacles to prevention, rapid response and management
Risk Analysis	• Increase capacity for conducting risk assessments and analyses
Monitoring and Science	• Undertake surveillance in high-risk areas • Improve monitoring programs and develop a network of experts • Strengthen data management • Provide scientific support for surveillance protocols • Influence research priorities • Improve research on the control of invasive species • Conduct research on the impacts of invasive species • Conduct research on the impacts of climate change on invasive species • Build science capacity to support risk assessments
Management Measures	• Manage key pathways • Develop and implement best management practices and plans using a partnership approach
Communication and Outreach	• Evaluate existing communication initiatives • Expand initiatives to address gaps and improve communication on high-risk pathways • Build new communication networks

Appendix 5: Invasive Species Laws in Canada

Prepared by the Office of the Auditor General of Ontario

Ontario is the only province in Canada with comprehensive, standalone invasive species legislation that applies to both invasive plant and animal species. Nova Scotia recently enacted its *Biodiversity Act, 2021*, but has yet to establish a complete regulatory regime for invasive species management under this legislation. Additionally, federal and other provincial legislation contribute to the regulation and control of invasive species and establish comparable elements to Ontario. New Brunswick and Newfoundland and Labrador do not have distinct legislative regimes for regulating invasive plant or animal species, while Prince Edward Island has a legislative regime for invasive plants only.

Law	ON	Canada	AB	BC	MB	NS*	PE	QC	SK
Invasive species legislation	Invasive Species Act, 2015	Fisheries Act; Canada Wildlife Act; Plant Protection Act	Fisheries (Alberta) Act; Weed Control Act	Wildlife Act; Weed Control Act; Forest and Range Practices Act	The Water Protection Act; The Forest Health Protection Act	Biodiversity Act; also Agricultural Weed Control Act; Forests Act; Wildlife Act; Fisheries and Coastal Resources Act	Weed Control Act	Environment Quality Act; Act Respecting the Conservation and Development of Wildlife	The Wildlife Act; The Weed Control Act; The Fisheries (Saskatchewan) Act
Management Oversight									
Centralized, single-ministry oversight	✓							✓	
Regulation of invasive plant species	✓	✓	✓	✓	✓		✓	✓	✓
Regulation of invasive animal species	✓	✓	✓	✓	✓			✓	✓
Species-Specific Rules									
Invasive species designation or listing	✓	✓	✓	✓	✓		✓	✓	✓
Prohibition to possess, transport or release	✓	✓	✓	✓	✓		✓	✓	✓
Prohibition to breed or grow	✓	✓		✓	✓		✓	✓	✓
Prohibition to buy, sell or trade	✓			✓			✓	✓	
Regulation of vectors of spread (watercraft)	✓	✓	✓	✓	✓			✓	✓

	ON	Canada	AB	BC	MB	NS*	PE	QC	SK
Exemptions and Authorizations	✓	✓	✓	✓	✓		✓		✓
	✓	✓	✓	✓	✓				
	✓		✓		✓				
	✓		✓	✓					✓
	✓	✓	✓	✓	✓			✓	✓
Enforcement Activities and Ministerial Orders	✓	✓	✓	✓	✓			✓	✓
	✓	✓	✓	✓	✓		✓	✓	✓
	✓	✓	✓	✓	✓		✓	✓	✓
	✓	✓	✓	✓	✓		✓	✓	✓
	✓		✓	✓	✓	✓			✓
	✓	✓	✓	✓	✓		✓	✓	✓

	ON	Canada	AB	BC	MB	NS*	PE	QC	SK
Fines and Penalties									
Maximum prescribed fines for corporations ≥\$500,000	✓	✓	✓	✓	✓				
Maximum prescribed fines for individuals ≥\$100,000	✓	✓	✓	✓	✓			✓	✓
Penalty of imprisonment included	✓	✓	✓	✓	✓		✓	✓	✓

* The checked box in this chart for Nova Scotia relates to the *Biodiversity Act*, which has provisions related to invasive species. Other Nova Scotia laws do not reference invasive species, but may have provisions that regulate some species incidentally.

Appendix 6: The Impacts of Prohibited and Restricted Invasive Species Regulated under the *Invasive Species Act, 2015*

Prepared by the Office of the Auditor General of Ontario

Common Name	Scientific Name	Impact
Prohibited Invasive Species		
Fish		
Bighead carp	<i>Hypophthalmichthys nobilis</i>	Bighead carp constantly filter the water of plankton, outcompeting native species and decreasing water quality, which causes negative environmental, social and economic impacts.
Black carp	<i>Mylopharyngodon piceus</i>	Black carp consume molluscs and threaten our already at-risk native mussel population. Their feeding behaviour would also cause negative impacts to biodiversity, the economy and society.
Grass carp	<i>Ctenopharyngodon idella</i>	Grass carp consume up to 40% of their bodyweight daily in aquatic vegetation, allowing them to destroy wetlands, which would cause negative environmental, social and economic impacts.
Prussian carp	<i>Carassius gibelio</i>	An extremely hardy species, Prussian carp are highly tolerant of various environmental conditions, threatening and outcompeting native species for habitat and food.
Silver carp	<i>Hypophthalmichthys molitrix</i>	Silver carp constantly filter the water of plankton, outcompeting native species and decreasing water quality, which causes negative environmental, social and economic impacts. Their jumping behaviour is a health and safety risk to boaters.
Snakehead (all species)	All species in the family <i>Channidae</i>	A family of fishes, some of which are aggressive and pose a serious threat to native fish and the fishing industry as they are an adaptable species with no known long-term natural predators in the Great Lakes. All 28 species of snakehead are regulated to prevent establishment in Ontario waters.
Stone moroko	<i>Pseudorasbora parva</i>	Fast-growing and adaptable fish that impact biodiversity by decreasing dissolved oxygen due to increased algae and plant life levels as a result of their preference for larger planktonic crustaceans.
Tench	<i>Tinca tinca</i>	Invasive fish that outcompete native fishes and serve as a potential vector for disease, which could impact fishing and wildlife.
Wels catfish	<i>Silurus glanis</i>	As one of the world's largest freshwater fish species, these opportunistic and non-selective feeders eat large amounts of other fish, mammals and vegetation, and are extremely successful breeders. If they enter Canada, they could put native biodiversity at risk and create a competitive ecosystem.
Zander	<i>Sander lucioperca</i>	Not currently in Canada, this popular game fish preys upon and competes with native fish species, which reduces biodiversity. There is a concern for hybridization with native fish species in the Great Lakes.
Insects		
Mountain pine beetle	<i>Dendroctonus ponderosae</i>	An insect native to British Columbia that has expanded into and caused significant tree mortality in Alberta and Saskatchewan and if introduced, would cause significant harm to Ontario's forests.

Common Name	Scientific Name	Impact
Aquatic Invertebrates		
Common yabby	<i>Cherax destructor</i>	Not yet introduced in North America, this freshwater crayfish species has a high tolerance to a variety of conditions. They are opportunistic feeders and prolific breeders that outcompete and displace native species.
Golden mussel	<i>Limnoperna fortunei</i>	Freshwater golden mussels can form dense populations that alter water quality (e.g., by filtering and removing important phytoplankton populations) and damage infrastructure by blocking pipes, intakes, etc.
Killer shrimp	<i>Dikerogammarus villosus</i>	Aggressive freshwater feeders that kill native species (sometimes killing more than it can consume), which reduces aquatic biodiversity and alters food webs.
Marmorkreb or marbled crayfish	<i>Procambarus virginalis</i>	Invasive freshwater crayfish that reproduce quickly through cloning and outcompete native species with their large populations and aggressive behaviour.
New Zealand mud snail	<i>Potamopyrgus antipodarum</i>	An invasive snail that forms extremely large populations and feeds on algae, which alters ecosystem functioning and impacts entire food webs.
Red swamp crayfish	<i>Procambarus clarkii</i>	Large, aggressive crayfish that dominate waterbodies and reduce native fish habitat by being quick and prolific reproducers that feed on large amounts of vegetation and fish eggs, subsequently reducing fish populations.
Plants		
Brazilian elodea	<i>Egeria densa</i>	This invasive aquatic plant forms dense floating mats that reduce water temperature, light penetration and oxygen availability, leading to a loss of essential fish habitats and reduced biodiversity.
European water chestnut	<i>Trapa natans</i>	This invasive aquatic plant severely reduces recreational value as well as plant biodiversity by forming into very thick floating mats that shade out vegetation and leave behind sharp, hard, spiny seeds that can cause injury.
Hydrilla	<i>Hydrilla verticillata</i>	Not yet detected in Canada, this invasive aquatic plant grows aggressively, shading out other native submerged plants and slowing water movement—affecting recreational value such as boating and swimming and leaving behind ideal habitats for mosquito breeding.
Parrot feather	<i>Myriophyllum aquaticum</i>	A perennial aquatic plant that can clog waterways, impact recreation, displace native species and increase breeding ground for mosquitoes by creating areas of stagnant water.
Water soldier	<i>Stratiotes aloides</i>	An invasive aquatic plant that forms dense stands, crowding out native vegetation, impacting aquatic biodiversity and hindering recreational value.
Restricted Invasive Species		
Mammals		
Wild pigs	<i>Sus scrofa</i>	A catch-all term referring to escaped wild boar, feral domestic pigs and hybrids. Wild pigs reproduce quickly, compete with native species for resources, can spread disease and are costly to control.

Common Name	Scientific Name	Impact
Plants		
Black dog-strangling vine	<i>Cynanchum louiseae</i>	An invasive vine that spreads easily and can overtake the understory, outcompeting and choking out native plants and small trees, and create a tripping hazard for humans.
Bohemian knotweed	<i>Reynoutria × bohemica</i>	An invasive plant hybrid of Japanese and giant knotweed that forms dense stands, pushing out native vegetation and causing damage to infrastructure.
Carolina fanwort	<i>Cabomba caroliniana</i>	An invasive aquatic plant that produces large floating-vegetation mats, outcompeting native species for light. Dense mats clog and interrupt infrastructure such as drainage and irrigation systems.
Dog-strangling vine	<i>Cynanchum rossicum</i>	An invasive vine that spreads easily and can overtake the understory, outcompeting and choking out native plants and small trees, and create a tripping hazard for humans.
European frog-bit	<i>Hydrocharis morsus-ranae</i>	An invasive aquatic plant that forms floating masses that block sunlight from reaching submerged vegetation, entangles native plants, and reduces biodiversity. When colonies die, they deoxygenate the water, harming native fish and aquatic species.
Giant knotweed	<i>Reynoutria sachalinensis</i>	A very large and tall invasive plant that rapidly colonizes a diverse range of habitats, shading out and displacing native plants and reducing biodiversity.
Himalayan knotweed	<i>Koenigia polystachya</i>	An invasive plant that aggressively and easily reproduces in dense colonies, replacing native vegetation and inflicting damage to riparian habitats.
Japanese knotweed	<i>Reynoutria japonica</i>	An invasive plant with a deep root system that is extremely difficult to control and can cause damage to infrastructure and reduce biodiversity.
Phragmites	<i>Phragmites australis</i> subsp. <i>australis</i>	A highly invasive plant that can harm biodiversity and at-risk species; impact tourism, recreation and agriculture; reduce water quality; impede line of sight on roadways; and may pose a fire risk due to remaining dead plant material.
Yellow floating heart	<i>Nymphoides peltata</i>	An invasive aquatic plant that reduces light penetration, oxygen levels and waterflow by forming thick floating mats of leaves. Its habitat versatility puts native aquatic biodiversity at risk and impedes recreational activities.

Appendix 7: Relevant Federal and Ontario Legislation and Regulations

Prepared by the Office of the Auditor General of Ontario

Legislation	Description
Federal Laws	
<i>Environmental Violations Administrative Monetary Penalties Act, 2009</i>	This act was created to establish a monetary penalty system to enforce federal environmental acts—several of which contribute to the regulation of invasive species.
<i>Canada Shipping Act, 2001</i>	This act allows Canada's government to regulate the control and management of ballast water in marine (ocean) environments. Ballast water regulation is critical in preventing the arrival of aquatic invasive species via shipping and trade.
<i>Health of Animals Act, 1990</i>	While this act does not directly reference invasive species, it does cover the importation, possession, movement and export of wildlife, pathogens and other biological agents. The act helps prevent the introduction of invasive species by giving Canada's government the right to regulate the movement of wildlife.
<i>Plant Protection Act, 1990</i>	Invasive species are not directly referenced in this act but can be covered by the act's definition of "pest" as "any thing that is injurious or potentially injurious whether directly or indirectly, to plants or to products or by-products of plants." Regulations related to pest importation and possession are critical in preventing the introduction of invasive species to Canada.
<i>Fisheries Act, 1985</i>	This act allows Canada's government to establish a list of aquatic invasive species and create regulations related to the management and control of these species. These include regulations regarding the prevention, possession, release, handling, treatment and eradication of aquatic invasive species. Regulations under the act are critical in preventing the introduction of aquatic invasive species to Canada's waters.
<i>Great Lakes Fisheries Convention Act, 1985</i>	This act was written to form a convention (an agreement between countries) between Canada and the United States on fisheries in the Great Lakes. The Great Lakes Fishery Commission, established under this act, is in charge of minimizing and/or eradicating sea lamprey populations in the Great Lakes and its tributaries.
Provincial Laws and Regulations	
<i>Invasive Species Act, 2015</i>	This act explicitly regulates the prevention and management of invasive species in Ontario. Twenty-two species are prohibited under the act, meaning it is illegal to import, possess, transport or release these species anywhere in Ontario. Eleven additional species are restricted, meaning it is illegal to bring them into provincial parks or conservation reserves and illegal to release them anywhere in Ontario. These species are listed in Appendix 6 . Under this act, the Ontario government has the right to regulate prevention, early detection and rapid response, control, eradication, monitoring and reporting, education and research, risk assessment, and prevention and response plans related to invasive species.
Ontario Regulation 354/16	This regulation contains lists of prohibited and restricted invasive species that are regulated by the <i>Invasive Species Act, 2015</i> . These species are listed in Appendix 6 .
<i>Great Lakes Protection Act, 2015</i>	This act was written to protect and restore the Great Lakes–St. Lawrence River Basin, in recognizing their importance for human health, biodiversity and Indigenous communities. The act regulates measures to monitor, manage and restore this area, including monitoring and reporting on invasive species.

Legislation	Description
<i>Lake Simcoe Protection Act, 2008</i>	This act requires the Lieutenant Governor in Council to establish the Lake Simcoe Protection Plan and review it at least once every 10 years. One objective of this plan is to respond to adverse effects related to invasive species and, where possible, to prevent invasive species from entering the Lake Simcoe watershed.
<i>Fish and Wildlife Conservation Act, 1997</i>	This act does not directly mention invasive species, but regulates the release of wildlife, aquaculture and wildlife disease control and surveillance in the province. Specifically, it prohibits the release of farmed animals, game wildlife or specially protected wildlife kept in captivity, unless in accordance with ministerial authorization or prescribed circumstances under the regulations. The act also prohibits aquaculture unless the cultured fish belong to a species prescribed by the regulations and are cultured under the authority of a licence.
<i>Forestry Act</i>	This act regulates forest management, control and sale in Ontario. It includes invasive species (referred to as an “infestation”) in Section 7, whereby the Ministry of Natural Resources and Forestry can prevent, manage or eradicate forest infestations as it sees fit.
<i>Weed Control Act</i>	This act regulates the designation and management of noxious (harmful, destructive) weeds in Ontario. Currently, 25 species are listed as noxious weeds in Ontario, including invasive species such as dog-strangling vine, European buckthorn, giant hogweed and wild parsnip.

Appendix 8: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

Audit Criteria for the Ministry of Natural Resources and Forestry (formerly the Ministry of Northern Development, Mines, Natural Resources and Forestry)

1. Roles and responsibilities for preventing, detecting, identifying, managing, researching, monitoring and progress reporting on invasive species and their pathways are clearly defined, and accountability requirements are established.
2. The Ministry has accurate, timely and sufficient information on potentially harmful invasive species and their pathways to inform effective decision-making.
3. Invasive species and their pathways are effectively detected, identified and assessed using the best available scientific information and community knowledge. Invasive species and pathways with high potential for social, economic, or environmental impacts are promptly and effectively regulated.
4. Effective oversight and accountability frameworks are in place to ensure that transfer payment recipients deliver successful programs to prevent, detect, identify, respond to, and manage invasive species. These programs are prioritized, sufficiently and promptly funded, based on best practices, and include appropriate goals, objectives and timelines, and are collectively sufficient to stop the introduction and spread of invasive species.
5. Effective processes and procedures exist to provide leadership, guidance and co-ordination within the Ministry, and with partner ministries and other relevant stakeholders on invasive species work. Best practices and knowledge are shared through effective and sufficient collaboration with partner ministries and other stakeholders, such as municipalities and conservation authorities.
6. Meaningful performance measures and targets are established, progress is regularly monitored and publicly reported on, and corrective actions are taken on a timely basis when issues are identified.

Audit Criteria for the Invasive Species Centre

1. Funds are used effectively, efficiently, and for the purposes for which they were intended.
2. Reports are completed and submitted to the Ministry in accordance with the content and timeline requirements outlined in the transfer payment agreements.
3. Meaningful performance indicators and targets are established for invasive species activities funded by the Ministry. Results are monitored and compared against targets to ensure that intended outcomes are achieved.

Appendix 9: Risk Assessment and Regulatory Approval Process

Source: Ministry of Natural Resources and Forestry

Invasive Species Risk Assessment Process

Step in the Process	Month						
	1	2	3	4	5	6	7
Maintain potential invasive species list (ongoing process)							
Conduct screening-level ecological risk assessment/jurisdictional scan The Ministry of Natural Resources and Forestry (Natural Resources Ministry) engages with other jurisdictions and performs preliminary screening on an invasive species.	●	●					
Conduct species literature review The Natural Resources Ministry seeks approval to procure non-consulting services and solicits invitations for quotes from taxa experts to conduct a literature review for the species of interest.		●	●				
Hold initial stakeholder/public consultations To collect preliminary feedback on the idea for a proposed regulation, the Natural Resources Ministry consults the public through the Environmental Registry (45-day posting) and directly engages with relevant stakeholders, Indigenous communities, provincial ministries, and the government of Canada. This feedback may support the completion of the following two steps.			●	●	●		
Complete ecological risk assessment The Natural Resources Ministry incorporates literature review findings, consultation comments and other relevant information into a detailed ecological risk assessment.				●	●	●	
Complete species socio-economic impact assessment The Natural Resources Ministry incorporates literature review findings, consultation comments and other relevant information into a species socio-economic impact assessment.					●	●	
Prepare regulatory proposal The Natural Resources Ministry seeks Cabinet Office direction or approval in principle to prepare a regulatory proposal for the species of concern.							●

Invasive Species Regulation Development/Approval Process

Step in the Process	Month							
	7	8	9	10	11	12	13	14
Gain direction or approval in principle to proceed Cabinet Office approves the preparation of the regulatory proposal, as needed. (This is usually not required, but may be required if, for example, the proposal is a significant change in approach/practice or very high profile.)	●							
Draft regulatory impact assessment for open for business* The Natural Resources Ministry estimates the time and cost burden to business that may be impacted by the new invasive species regulation. Cabinet Office reviews the draft.		●			●			
Draft regulation The Natural Resources Ministry prepares the draft regulation. Timing of the regulation's approval depends on its complexity and scope of changes, and availability of legislative counsel.		●	●	●	●			
Consult on the regulation (dependent on content of proposal) The Natural Resources Ministry consults the public and stakeholders on the proposed regulation's draft wording through the Environmental Registry, regulatory registry (45 days), letters to stakeholders and Indigenous communities and/or in-person meetings.			●	●				
Seek direction from Minister's office on approach (as needed) Based on the above consultation, the Natural Resources Ministry engages other ministries, the Premier's Office and central agencies on whether and how to move forward with the proposed regulation (as needed).				●	●			
Develop, review and approve Legislation and Regulations Committee (LRC) submission Other ministries and central agencies review and/or approve the LRC submission (as needed).					●	●		
Attain LRC and Cabinet approvals LRC-Cabinet approves and ratifies items on the same day, unless complex/contentious (rare) LRC dates are requested by the Ministry and approved by the LRC.						●	●	
Provide public notice of regulation approval (Twice Annual Effective Date: January 1 or July 1) The Natural Resources Ministry publishes notices online (e.g., environmental and regulatory registries, the Canada Gazette) of the regulation's approval.								●
Implement regulation and disseminate knowledge The Natural Resources Ministry creates and disseminates communications products on the species (e.g., summaries, fact sheets, webinars); updates its website; and develops program delivery policies.						●	●	●

Note: This figure represents the processes that were used to support the development and approval of the regulatory amendments that came into force January 1, 2022. The Ministry informed us that these processes are being reviewed and are subject to change.

* The gap between Months 8 and 11 reflects a pause in developing a regulatory impact assessment to consult the public on the regulation, after which the assessment is reviewed and updated.

Appendix 10: One of The Most Damaging Invasive Species—Wild Pigs

Prepared by the Office of the Auditor General of Ontario

INVASIVE WILD PIGS (domesticated pigs, including pot-bellied pigs, that have escaped; and Eurasian wild boar and their hybrids) are among the most invasive terrestrial mammals worldwide. They were first introduced to Canada from Europe in the 1980s and 1990s as alternative livestock for meat. Since then, wild pigs have established populations in Saskatchewan, Alberta and Manitoba, with scattered reports of sightings in British Columbia, Ontario and Quebec. Wild pigs are elusive animals that tend to be nocturnal (active at night), which can make them difficult to detect. They have a broad geographic range and can quickly adapt and survive in new environments due to their ability to produce many offspring, early sexual maturity, varied diet, long lifespans and highly adaptive nature. Although not documented in Canada, wild pigs may demonstrate aggressive behaviour, and their attacks on humans and pets can be severe and sometimes fatal.

The most significant ecological impact of wild pigs is from damage caused by their rooting and trampling behaviour, which can cause damage by preventing new tree seedlings from establishing, reducing seed survival and success, and displacing soil leading to erosion and alteration of habitat structure and quality. Other impacts include the transmission of viral and bacterial pathogens and parasites leading to diseases in livestock, pets and humans; damage to crops, grasslands and pasturelands; and competition with and predation of native species. Overall, this leads to increased costs for farmers due to damaged crops, lost production, and losing or treating infected livestock. Farmers also incur the costs of taking control measures, including building fence barriers to keep wild pigs out. In addition, although it has not been introduced in North America, wild pigs can potentially carry and introduce African

Wild Pigs

Photo credit: Dr. Ryan Brook, University of Saskatchewan



swine fever to Canada, which could rapidly spread to domestic pigs and have significant impacts on the Canadian pork industry. While the economic impacts of wild pigs in Ontario are unknown, these costs, along with management and control costs, are expected to become extremely high if wild pigs become established in the province. In 2007, wild pigs were estimated to cause more than \$1.5 billion each year in damages and control costs in the United States. These figures were based on an estimated \$300 in damages per wild pig and a population of 5 million wild pigs in the US at that time. Given that the current number of wild pigs in the US is estimated at over 6 million, the estimated cost of damages would now be over \$1.8 billion USD per year.

Appendix 11: Fresh Water Transformers—Zebra and Quagga Mussels

Prepared by the Office of the Auditor General of Ontario

ZEBRA AND QUAGGA MUSSELS are small aquatic molluscs from Eurasia. They arrived in Canada in ships' ballast water in the late 1980s and are now found in many lakes throughout southern, central and eastern Ontario. They filter plankton from water, which depletes this food source for native species. Zebra and quagga mussels form dense colonies on many surfaces—including those of boats, docks and beaches—and their sharp shells can cut the feet of swimmers. These colonies threaten native species by preventing fish from effectively reproducing and by affecting fish spawning areas, depleting food, and encouraging aquatic vegetation growth. They also play a role in increasing the growth of hazardous algal blooms. By filtering water and making it clearer, zebra mussels force light-sensitive fish, like walleye, into deeper waters and encourage aquatic vegetation growth. They can also colonize on underwater infrastructure, such as outflow and intake pipes, reducing pumping capabilities and leading to significant cleaning and replacement costs. A recent estimate of total economic costs from invasive mussels in electric generation and water treatment facilities was \$267 million dollars from 1989 to 2004 in Canada and the United States.

According to the Invasive Species Centre, based on survey results, municipalities spend approximately

Zebra Mussels

Photo credit: iStock by Getty Images



\$9 million annually preventing and managing these invaders. Once established, existing techniques cannot eradicate zebra mussels; however, these invasive species can be prevented from entering new waterbodies by cleaning and draining boats and other vessels when moving them from one body of water to another. As of January 1, 2022, it is mandatory under the *Invasive Species Act, 2015* to remove aquatic plants, animals and algae attached to watercraft, watercraft equipment, vehicles and trailers before placing them into a body of water.

Appendix 12: Tree-Killing Beetles—Emerald Ash Borers

Prepared by the Office of the Auditor General of Ontario

THE EMERALD ASH BORER is an invasive wood-boring beetle from Asia. It was first detected in Windsor in 2002 and has since spread throughout southern and eastern Ontario, with sightings reported in Ottawa, North Bay and Thunder Bay. This species continues to spread eastward. It chews through ash trees and lays eggs in their trunks; hatched larvae then tunnel through the tree's vascular system, disrupting the flow of water and nutrients. Once an ash tree is infested, it

Emerald Ash Borer

Photo credit: Invasive Species Centre



is almost certain to die. Emerald ash borers have killed millions of ash trees in Canada, negatively affecting the forestry industry, reducing the shade and beauty these trees provide, and creating significant costs to safely remove dead trees and plant new ones in their place. The Invasive Species Centre, based on a 2019 survey, estimates that the emerald ash borer is responsible for the majority of invasive species expenditures by municipalities and conservation authorities in Ontario, costing up to an estimated \$29.7 million annually.

In January 2022, black ash trees were listed as an endangered species under the *Endangered Species Act, 2007*, with emerald ash borers being the primary threat—these beetles are projected to reduce black ash tree populations by over 70% over the next 100 years. Natural predators of the emerald ash borer, such as woodpeckers, have been ineffective in stopping the spread of this invasive species. The main method used to control their populations is insecticides approved by the Health Canada Pest Management Regulatory Agency. The insecticides help to protect trees from mortality caused by the emerald ash borer but are not suitable to eradicate populations. In addition, four species of non-native wasps were approved by the Canadian Food Inspection Agency in 2013, and three were introduced into Canada as biological controls for the emerald ash borer.

Appendix 13: Toxic Perennials—Giant Hogweed

Prepared by the Office of the Auditor General of Ontario

GIANT HOGWEED is an invasive plant native to the Caucasus Mountains in southwest Asia. It likely first arrived in Canada as a garden plant in the 1900s, and was first confirmed in Ontario in 1949. It has since spread to many parts of southern and central Ontario, and can grow more than five metres tall under ideal conditions. This invasive species can be difficult to identify given its similar appearance to the native cow parsnip. Giant hogweed poses a significant threat to human health. The clear watery sap of giant hogweed contains toxins that can cause severe dermatitis (inflammation of the skin). Ultraviolet radiation activates compounds in the sap, resulting in severe burns when exposed to the sun. Symptoms occur within 48 hours and consist of painful blisters. Purplish scars may form that can last for many years. It can also outcompete native plants, reducing biodiversity in areas where it is present.

The Invasive Species Centre found that municipalities and conservation authorities in Ontario spend an estimated \$230,000 annually dealing with giant hogweed. Giant hogweed is regulated as a noxious weed under the *Weed Control Act*, meaning that landowners have a legal obligation to manage them if they are found to be negatively affecting agriculture or horticulture. Giant hogweed can be controlled by digging to uproot the plant, which is best done early

Giant Hogweed

Photo credit: iStock by Getty Images



in its lifecycle as its taproot can exceed one metre in mature plants. However, extreme care needs to be taken to remove giant hogweed. Given the health concerns associated with giant hogweed and similar plants with phototoxic properties, it is highly recommended that private landowners hire a licensed professional to remove the plant to ensure safe procedures are followed.

Appendix 14: Ministry of Natural Resources and Forestry's Invasive Species Work Plan, 2021/22*

Source: Ministry of Natural Resources and Forestry

Biodiversity & Invasive Species Section 2021-22 Work Plan

April 22, 2021



Invasive Species

2021-22 Invasive Species Priorities

Goal: To prevent new invaders from arriving and surviving in Ontario, to slow, and where possible reverse, the spread of existing invasive species, and to reduce the harmful impacts of existing invasive species.

Policy Development

Invasive Species Act (ISA) Implementation

Species and Carrier Regulations

- Complete ongoing ecological and socio-economic risk assessments
- Consult and finalize species/carrier regulations
- Initiate identification of next species/carriers for regulatory consideration

Policy and Procedure

- Finalize procedure and prepare authorizations
- Determine if PR plans are appropriate for newly regulated species
- Review ISA for classification under the EBR
- Assess MNR staff awareness and training needs for response framework and work with ROD to facilitate
- Develop policy guidance on application and use of various inspection powers provided in the ISA
- Consider designation of non-EB inspectors under the ISA
- Update set fines for watercraft carrier

2021-22 Invasive Species Priorities

Collaboration

Transfer Payment Agreements

- Invasive Species Centre (Green Shovels)
- Ontario Federation of Anglers and Hunters
- Invasive Species Centre TPA Review as part of Multi-Year Planning

Canada-Ontario Agreement (COA) Implementation

- Delivery of Annex 7 projects and support COA re-prioritization and performance measurement

Research and Tool Development

- Develop MOU and participate in advisory role for multi-year projects to support invasive species science (SRB)
- Analysis of plankton hauls from BSM and dissemination of results

Support Variety of Working Groups

- Inter-ministry working group, IASNC, NAISC, CCIS, Great Lakes St. Lawrence Governors AIS Partnership and Mutual Aid Agreement, ACRCC – among others

Communication

Social media and website content

- Support CSB/CO InvasionON campaign, CSB social media communications, website updates

Regulated species communication materials

- Assess need and develop/update factsheets, BMPs as necessary in collaboration with relevant partners

Support stakeholder/partner communication efforts

- Coordinate activities with CSB, Ontario Parks and others as appropriate
- Monitor and support work on emerging issues

2021-22 Invasive Species Priorities

Species Specific Action

Wild pigs

- Consult on and finalize Ontario's Strategy to Address the Threat of Invasive Wild Pigs and work with partners to initiate implementation
- Support ongoing communications, as well as detection, response and control actions

Asian Carp

- Participate in bi-national work to manage invasive carp in the Great Lakes basin
- Coordinate Asian Carp Manager's Committee and ongoing work with DFO and PSD

Phragmites

- Support implementation of Phragmites control work at Long Point and Rondeau in partnership with Nature Conservancy Canada, MECP Ontario Parks, and University of Waterloo
- Continue working with Green Shovels collaboration on the development and implementation of the Phragmites management strategy and seek opportunities to support this work through federal nature based solutions funding

Invasive Aquatic Plants

- Support eradication efforts for invasive aquatic plants including water soldier, water chestnut and parrotfeather, working with key partners

Others – Tench, Zebra Mussel (NW Ontario), ISA compliance

* Ministry staff informed us that this (and other) work plans are for internal purposes, are subject to change throughout the year, and do not represent binding commitments to measure its efforts against.

Appendix 15: Invasive Species Management Performance Indicators Tracked or Proposed in Other Jurisdictions

Prepared by the Office of the Auditor General of Ontario

Jurisdiction	Metrics	Performance Indicators Tracked/Proposed
Michigan, United States	Tracked and publicly reported metrics	Number of counties covered by Cooperative Invasive Species Management Areas (partnerships of groups and individuals that work to address invasive species impacts on the environment, economy and human health within a defined region)
		Number of early detection sites responded to
		Number of citizens reached through outreach efforts
		Acres controlled for terrestrial and aquatic invasive species
New South Wales (NSW), Australia	Tracked and publicly reported metrics	Cumulative number of invasive weeds and pest animals detected in NSW, on an aggregate level and by region
		Percentage of NSW's geography (as the percentage of five-kilometre grid cells covered) in which select invasive weeds and pest animals are established
		Expert-predicted impact distribution (from minimal to massive) that select invasive species will have on threatened species or ecological communities
New York State, United States	Select proposed metrics per November 2018 plan ¹	Number of invasive species evaluated and prioritized through the Horizon Scanning Committee ²
		Number of priority species or ecosystems assessed through economic impact evaluations
		Number of permanent invasive species monitoring points established
		Number of new infestations detected
		Number of certified labs established (to provide reliable environmental DNA [eDNA] results)

1. New York State Invasive Species Comprehensive Management Plan.

2. A committee intended to set state-level priorities for invasive species that pose the greatest threats to New York's environment, economy, and public health, as well as location-based priorities for areas with high conservation or agricultural value.

Ontario Energy Board: Electricity Oversight and Consumer Protection

1.0 Summary

The Ontario Energy Board (OEB) is Ontario's regulator of the electricity and natural gas sectors, and operates with about 200 employees. The OEB is empowered by statute to, among other things, set rates for rate-regulated entities, license market participants, approve applications for consolidations of Local Distribution Companies (LDCs) and approve transmission line construction. While the OEB has broad jurisdiction over Ontario's electricity sector, our audit focused on three of its legislative objectives: to protect consumer interests with respect to prices and the adequacy, reliability and quality of electricity service; to promote economic efficiency and cost-effectiveness in the sector; and to help maintain a financially viable electricity industry.

Overall, our audit found that the OEB has established a transparent adjudication process, which takes consumer interests into consideration by allowing public participation in applications and policy consultations. However, in some areas the OEB's ability to protect consumer interests is constrained. For example, the OEB is not given an active role in the Province's long-term energy planning process and does not have the authority to regulate all components of an electricity bill. The OEB has no authority to review and regulate an estimated 34% of the charges in an average residential bill, with the majority of the unregulated costs coming from the electricity charge (the commodity portion of the bill). The portions of the bill outside

the OEB's oversight are largely related to electricity supply contracted by the Independent Electricity System Operator (IESO) under Ministerial direction. Without the authority to oversee these activities, the OEB's ability to protect consumer interests will decrease even further in the future if more electricity is procured through the IESO's electricity supply contracts (i.e., through procedures not subject to OEB's oversight) to meet anticipated shortfalls in supply beginning as early as 2026.

Another area where the OEB does not have sufficient authority to regulate is the fees charged by Unit Sub-Meter Providers (USMPs), companies that provide metering and billing services to occupants of multi-unit buildings (e.g., condominiums). Both LDCs and USMPs can provide individual metering and billing services to multi-unit buildings. However, unlike rates charged by LDCs, USMP fees are not subject to the OEB's regulatory review and approval. With almost 111,000 condominium and rental units under construction in Ontario's urban centres in 2021 (the highest of all provinces), the USMP market is growing and it is important that there be effective regulation to protect customers in this growing market.

With respect to the OEB's objectives to promote economic efficiency and cost-effectiveness and help maintain a financially viable electricity industry, the OEB can do more. Over the years, a number of LDCs have consolidated, with the goal to optimize efficiency in the distribution sector. While the OEB has established a framework to evaluate consolidation

applications, it does not actively monitor post-consolidation activities associated with the acquired entities to assess that the consolidations generate long-term value for customers and sustain operational efficiencies. Our audit also noted that the rate of return policy that the OEB uses to determine the appropriate rate of return for rate-regulated entities was outdated and that one major component of the policy—the deemed capital structure imposed by the OEB—has not been reviewed and updated for over 15 years. The rate of return policy directly impacts entity returns and the rates that electricity customers pay. As such, regular review and updating of the policy is important to ensure that the rate-regulated entities receive fair returns that are commensurate with their risks.

Lastly, one of the foundations of good governance is having an effective performance measurement framework. We noted that the OEB has established performance metrics in some areas (for example, customer complaints and inquiries, adjudication). However, there are no metrics or targets to measure the efficiency of the OEB's compliance and enforcement activities or the effectiveness of low-income rate subsidy programs.

The following are some of our significant observations.

Electricity Costs

- **Electricity rate subsidy programs have lessened the direct financial burden on ratepayers through taxpayer subsidization.** The government has introduced various tax-based subsidy programs to lower electricity bills for customers (that is, ratepayers). These programs do not actually reduce the true cost of electricity, however; they simply shift a portion of the costs from ratepayers to taxpayers. As of March 31, 2022, for example, we estimated that the monthly electricity bill of an average residential customer was about \$121, based on an approximate usage of 700 kilowatt hours (kWh). Without the subsidy programs, we estimate that the bill would have been as high as about \$166 per month.

- **The OEB does not regulate all components of electricity bills.** While one of the objectives of the OEB is to protect consumer interests with respect to electricity prices, the OEB has no authority to regulate almost 34% of charges on an average residential bill based on our estimates. The majority of the unregulated charges relate to the cost of generation. The OEB only sets the rates for electricity generated by certain assets owned and operated by Ontario Power Generation. Rates for the remaining generating assets are mostly governed by electricity supply contracts. These contracts are managed by the IESO and the OEB has no regulatory authority over them.

Long-Term Energy Planning

- **The long-term energy planning process is lacking independent oversight.** Proper long-term energy planning is essential to ensure the province has an adequate supply of energy that is also affordable to customers, especially with increasing electricity demand. Prior to 2016 the Ontario Power Authority (OPA), which merged with the IESO in 2015, was required by the *Electricity Act, 1998* to prepare a 20-year energy plan (known as the Integrated Power System Plan [IPSP]) and to update the plan every three years. There was also a legislative requirement that the IPSP be reviewed and approved by the OEB, but that legislative framework was never followed. In 2007, the OPA filed its first IPSP with the OEB, but the review process was suspended due to a Minister's Directive issued in September 2008 that ordered the OPA to revise the IPSP in response to changes to government policy regarding Ontario's supply mix. In 2011, the OPA prepared another IPSP that was not submitted to the OEB for review and was eventually abandoned. Instead, in 2010, 2013 and 2017 the Ministry issued Long-Term Energy Plans (LTEPs) in place of IPSPs. None of these LTEPs released by the Ministry so far were subject to independent review by the OEB to ensure they were

financially prudent. The Ministry last issued its LTEP in 2017 and was required by a regulation under the *Electricity Act, 1998* to issue the next LTEP by February 2021. But the regulation was revoked on January 1, 2021 and a new LTEP still has not been issued. The government has not set a definite timeline for the next LTEP release.

- **Ontario's Long-Term Energy Plan (LTEP) focuses only on electricity.** While the LTEP is referred to as an energy plan, historically its focus has been on electricity only, with little integration between electricity and other fuels (for example, natural gas, gasoline, fuel oils) to ensure the energy sector provides Ontarians with affordable options and supports the Province in achieving its climate change goals. Electricity makes up only 17% of the energy used in Ontario, whereas natural gas, gasoline, diesel and other fuels make up the remaining 83%. To meet Ontario's future energy needs, all energy sources need to be included in a long-term energy plan.

Consumer Protection for Unit Sub-Metering Services

- **USMP fees are not regulated and customers need more transparency regarding the charges.** In Ontario, buildings can obtain suite metering services from LDCs or USMPs. However, unlike rates charged by LDCs, USMP charges are not subject to the OEB's oversight. They are set based on contractual agreements with developers, building owners or condominium boards, and the contract terms vary. USMP customers have expressed concerns about the lack of transparency regarding USMP charges and the contractual arrangements. To date, limited actions have been taken by the OEB and the Ministry to address these concerns even though Ontario's USMP market is growing—having increased by about 55% over a four-year period (from about 252,000 customers in 2018 to about 391,000 customers in 2021).

- **Customers served by USMPs have less protection against disconnection compared to LDC customers.** Electricity customers who fall behind on their bills are at risk of service disconnections. In February 2017, the *Protecting Vulnerable Energy Consumers Act, 2017* was passed, giving the OEB the authority to stop the disconnection of electricity to low-volume customers (including residential customers and small businesses) during periods specified by the OEB. Accordingly, the OEB amended the LDCs' licence conditions to ban the disconnection of residential customers during winter months. USMPs, however, are not subject to this prohibition because USMPs are service providers to building owners or condominium boards. It is the building owners or condominium boards that make the decisions on disconnections for non-payments, which are then carried out by USMPs as authorized. We noted that about 12% of USMP customer complaints received by the OEB from 2016/17 to 2021/22 were related to winter disconnection.

Distribution Rate Protection Program

- **Residential customers in certain areas with high electricity distribution charges are ineligible for Distribution Rate Protection (DRP) due to outdated program criteria.** The DRP is a taxpayer-funded subsidy program that caps the monthly base distribution charges for residential customers of eight eligible LDCs that had, at the time of program implementation, among the highest distribution rates. However, we noted that in 2022 the eight eligible LDCs no longer have the highest distribution charges. Some LDCs with monthly base distribution charges above the cap remain ineligible for the DRP, while one LDC remains on the list even though its monthly base distribution charge has fallen below the cap.

Low-Income and Emergency Subsidy Programs

- **Effectiveness of low-income and emergency subsidy programs is not sufficiently evaluated.** The OEB and the provincial government have introduced a number of subsidy programs targeted at assisting customers who face financial hardship when paying their electricity bills, including the Low-income Energy Assistance Program (LEAP), the Ontario Electricity Support Program (OESP), and the time-limited COVID-19 Energy Assistance Program (CEAP). However, specific performance measures and targets are not established to determine if these programs are running efficiently and successfully assisting those who need the assistance most.
- **Funding mechanism for LEAP has not been sufficiently reviewed to optimize its benefits to eligible electricity customers.** Every LDC maintains its own LEAP budget, funded through distribution rates approved by the OEB, to support customers in its service area. LEAP funding for individual LDCs, however, does not account for demographic differences in customers between LDCs. Nor does funding consider prior years' application trends—that is, funding is not adjusted based on changing needs of the LDCs. While certain LDCs have LEAP funds remaining at year-end, others could no longer provide assistance to their customers as they have depleted their funds.

Rate Application Process

- **Regulatory cost of major rate applications for very small LDCs is disproportionately high.** When we compared the costs of adjudication with electricity rate “savings” to customers (that is, the amount of rate increases sought by LDCs that the OEB disallowed), we found that the OEB's rate-setting process imposes disproportionately higher costs on the very small LDCs (that is, LDCs with fewer than 5,000 customers). Based on our review of the 20 major

rate applications filed for 2019–21, the costs of adjudicating applications from very small LDCs represented 25% of the estimated five-year customer savings resulting from adjudication. This was much higher than the amount for applications from larger LDCs, where the costs of adjudication represented only 1%–2% of avoided rate increases.

- **Review of capital structure and rate of return for rate-regulated entities is overdue.** To ensure the continued financial viability of the industry and of rate-regulated entities (including Ontario Power Generation, transmitters and LDCs), the OEB sets rates to allow regulated entities to recover their prudently incurred costs in carrying on their regulated business, including the opportunity to earn a fair return on their invested capital. Two key inputs set by the OEB that determine the allowed return are the regulatory capital structure (that is, debt-to-equity ratio) and the rate of return on equity (ROE). We found that the regulatory capital structure and the formula used to set the ROE were last subject to comprehensive review by the OEB in 2006 and 2009, respectively. These factors are due for a comprehensive review to ensure that they still reflect the risk profile of the entities and result in a fair—but not excessive—return for the entities.

Consolidations of Local Distribution Companies

- **The OEB does not sufficiently monitor LDC post-consolidation activities to confirm projected benefits are realized.** The OEB does not have a standard process in place to monitor post-consolidation activities before the consolidated entity files the next rate application, which can be up to 10 years after the closing of the consolidation transaction. Standardized monitoring is important to help confirm that consolidated entities are adhering to any conditions for approval set by the OEB. Monitoring is also necessary to confirm that post-consolidation activities are progressing as planned to generate long-term value for customers and sustain operational

efficiencies. We identified cases relating to Hydro One's acquisitions where its acquisitions failed to demonstrate value (that is, lower electricity prices) to customers of the acquired LDCs.

- **Performance metrics are not separately tracked and reported after consolidations.** Once a consolidation transaction is closed, performance metrics of the acquired or merged LDCs are combined and reported as part of the consolidated entity, instead of separately tracked in individual scorecards. This results in reduced transparency for customers and the regulator.
- **Consolidations may not necessarily translate to reduced electricity rates or improved efficiency.** Based on the view that consolidations will drive efficiencies that lead to reduced rates and improved services for electricity customers, the government is encouraging consolidation of LDCs. However, based on our review of the Cost Benchmarking Report prepared for the OEB by a third-party consultant, it appears that, on average, smaller LDCs are actually more efficient than the larger LDCs.

OEB's Complaints Process and Compliance Activities

- **Consumer education and transparency of the complaints process need improvement.** To make the complaints process effective and efficient, it is important to provide customers with clarity regarding the roles and responsibilities of the OEB, electricity service providers and customers, as well as useful information regarding how complaints are handled and resolved. In navigating the OEB's website, while we noted that such information is often provided, it is fragmented and unclear in comparison to materials provided by regulators in other jurisdictions, such as British Columbia and Manitoba.
- **Performance metrics need to be developed or updated to better assess the efficiency of complaints management, as well as compliance and enforcement activities.** The OEB has not updated the targets of the customer service

metrics for its complaints and inquiries handling processes to ensure they remain relevant. The OEB also has not established metrics to measure the performance of its compliance and enforcement function. Cycle times on compliance reviews and inspections are not tracked and assessed against targets to measure the efficiency of these activities.

This report contains 12 recommendations, consisting of 26 action items, to address our audit findings.

Overall Conclusion

Our audit found that the OEB's ability to protect consumer interests (that is, access to adequate, reliable and quality electricity services at just and reasonable rates for customers) is constrained in some areas. The OEB has no authority to review and regulate an estimated 34% of the charges in an average residential bill. Of all generator-related costs, the OEB regulates only the rates for electricity supplied by certain Ontario Power Generation assets that contribute approximately 43% of generation-related charges on the electricity bill. The remaining 57% of these charges are mainly attributable to entities with electricity supply contracts over which the OEB has no oversight. As well, the OEB does not have the power to oversee the province's long-term energy planning process. Instead, its role in the planning process is limited to implementation according to Ministerial direction. The OEB also does not regulate the fees that USMPs charge their customers, who presently represent 7% of Ontario's electricity customers and are growing.

We also found that the OEB is lacking some processes that, if implemented, would allow the OEB to better fulfill its objective of maintaining a financially viable, economically efficient and cost-effective electricity sector. The OEB has not reviewed the policy that it uses to determine the appropriate return for rate-regulated entities; one major component—the deemed capital structure that the OEB imposes—has not been reviewed and updated for over 15 years. Regular review of the policy will help ensure that these entities receive fair—but not excessive—returns that are

commensurate with the risks they face. As well, after consolidation of LDCs, the OEB does not have a standardized process to actively monitor and ensure that post-consolidation activities are progressing as planned to achieve the projected long-term efficiency gains.

Lastly, the OEB has not developed metrics or targets to measure the performance of all its critical functions (specifically, the compliance and enforcement function). Metrics to measure the effectiveness of low-income subsidy programs are also insufficient.

OVERALL RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) thanks the Auditor General for her recognition of the importance of the OEB's role in regulating the electricity and natural gas sectors in the public interest and of the improvements made by the OEB to enhance regulatory efficiency and effectiveness and implement meaningful performance measures.

The *Ontario Energy Board Act, 1998* requires the OEB to balance multiple objectives. We will continue to do so as we pursue a modern and results-oriented approach to regulatory oversight focused on enhancing public trust, promoting transparency and accountability in decision-making and delivering public value for the people of Ontario, while maintaining the integrity of the independent adjudicative process.

The OEB is committed to ensuring that energy consumers have the information they need to understand their rights and responsibilities and make informed choices about their energy services, and that programs aimed at assisting those most in need are meeting their objectives. The OEB will prioritize work in this area.

The OEB will implement the Auditor General's recommendations with a focus on initiatives that are already underway and in a manner that thoughtfully balances regulatory burden, cost and OEB and stakeholder resources, in the broader context of our core adjudicative work, the ambitious policy agenda that we have set for ourselves

and the priorities that the Minister of Energy has established for us.

OVERALL MINISTRY RESPONSE

The Ministry of Energy (Ministry) appreciates the work of the Auditor General and welcomes the recommendations in the report. The report addresses topics that are ongoing priorities for the Ministry, including integrated system planning, rate mitigation, and energy consumer protection. It articulates a number of areas where the Ontario Energy Board (OEB) is successfully exercising its authorities to protect the interest of consumers from the perspective of price, reliability and quality of service, including through a robust and transparent adjudicative function, which is among the core responsibilities of the OEB.

The Ministry continues to deliver rate mitigation programs such as the Ontario Electricity Support Program (OESP) and Distribution Rate Protection (DRP), and is actively engaged in monitoring program performance to support continuous improvement. The Ministry also acknowledges opportunities for continued collaboration with OEB to help ensure fairness and consumer protection objectives for these programs are met.

In Ontario's hybrid electricity market, consisting of competitive and regulated elements, the responsibility of ensuring consumers are charged fair prices is led by the government and implemented by the OEB and the Independent Electricity System Operator (IESO). The IESO promotes economic efficiency through their operation of the electricity market, while also conducting competitive procurements of electricity resources at the direction of the government. Oversight and assessment of electricity pricing in the province is undertaken by the OEB and the Market Surveillance Panel.

The Ministry will take the report's recommendations into consideration as policies and programs are refined and decisions are rendered in the interest of a stable, reliable and affordable energy system in Ontario.

2.0 Background

2.1 Role of the Ontario Energy Board

The Ontario Energy Board (OEB) is a Crown agency that regulates the province's electricity and natural gas sectors. It was originally established in 1960 with a mandate focused on natural gas. In the late 1990s, with the passage of the *Energy Competition Act, 1998*, the mandate of the OEB was expanded to include regulation of the electricity sector.

The OEB's authority is set out in a number of statutes, most significantly the *Ontario Energy Board Act, 1998* (OEB Act). The agency has broad jurisdiction in Ontario's electricity sector, including the authority to set rates for electricity distributors, electricity transmitters and some of Ontario Power Generation's assets; to license most participants in the electricity sector; to approve the construction of electricity transmission lines; and to approve changes in ownership or control of Local Distribution Companies (LDCs) and transmitters or their assets. The OEB also establishes codes that govern the practices of electricity sector participants and has the authority to enforce compliance with these codes, as well as with license conditions and relevant legislation and regulations that fall within its authority. In its work in relation to electricity, the OEB is guided by the following statutory objectives:

- to inform consumers and protect their interests with respect to prices and the adequacy, reliability and quality of electricity service;
- to facilitate the maintenance of a financially viable electricity sector and promote economic efficiency and cost-effectiveness in the sector;
- to promote electricity conservation and demand management in a manner consistent with the policies of the Government of Ontario; and
- to facilitate innovation in the electricity sector.

The OEB currently has approximately 200 employees. **Appendix 1** provides an organizational chart of the OEB.

2.2 OEB's Key Operations

2.2.1 Adjudication

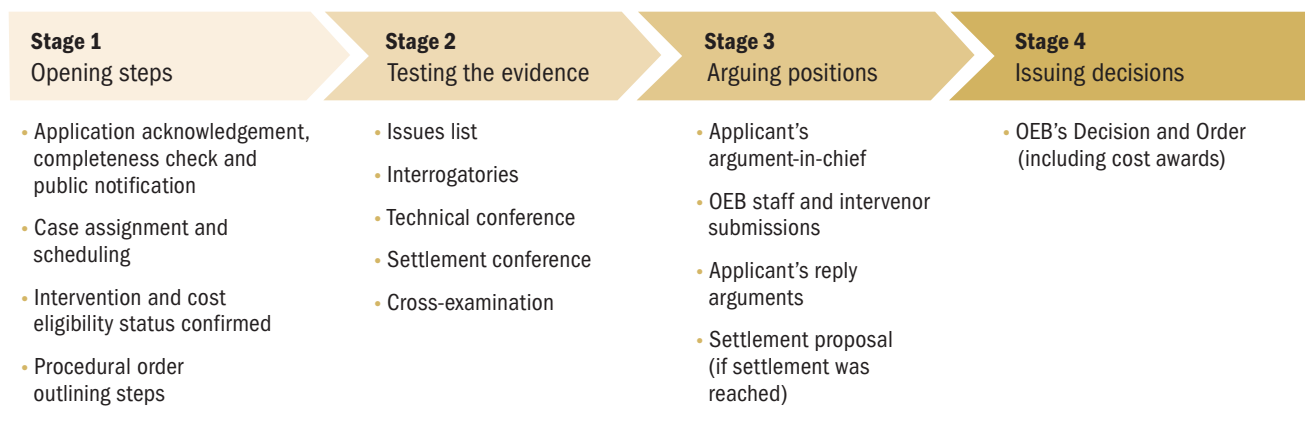
The OEB adjudicates applications for Ontario's electricity and natural gas industry for rate changes, consolidations or construction of new infrastructure through a quasi-judicial process, which is a court-like process that involves an oral, written and/or electronic hearing. Currently, the OEB has eight full-time Commissioners (including the Chief Commissioner) and one part-time Commissioner who have the authority to issue legally binding orders on applications that come before the OEB or on matters that are heard by the OEB on its own motion.

Under the OEB Act, the Chief Commissioner may delegate to an employee of the OEB the power to make decisions on applications, which the employee may do with or without a hearing. Approximately 80% of decisions issued by the OEB each year are currently decided under delegated authority, typically related to matters that do not raise significant factual, legal or policy issues. The OEB's Registrar has also been delegated authority to decide certain matters in the early stages of applications that will end up before a panel of Commissioners. For transparency, matters that have been delegated are listed on the OEB's website. Orders made by delegated authority are subject to appeal to a panel of Commissioners. Such occurrences, however, are infrequent. **Figure 1** provides an overview of the OEB's hearing process.

The OEB reviews and makes decisions on various types of applications, which can generally be categorized into four types (see **Figure 2**):

Figure 1: The Four Stages of the Ontario Energy Board (OEB) Hearing Process

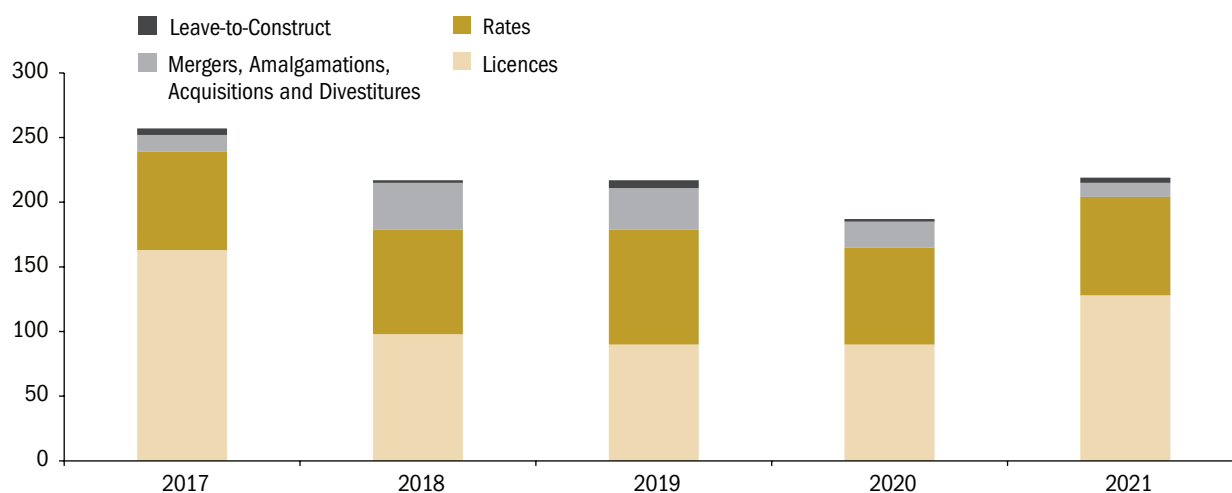
Prepared by the Office of the Auditor General of Ontario



Note: The stages and steps identified may not apply to every application. Most applications decided by delegated authority do not involve a hearing. Intervenors are participants representing various customer or other interest groups (such as low-income customers, commercial and industrial customers, environmental and conservation groups) who have the OEB's approval to actively participate in a public hearing about an application.

Figure 2: Electricity-Related Applications Decided by the Ontario Energy Board (OEB) by Type of Application, 2017–2021

Source of data: Ontario Energy Board



Note: The figure excludes interlocutory decisions made during the course of proceedings on matters such as confidentiality requests and motions within a hearing.

- **Licence Applications:** As set out in the OEB Act, a licence issued by the OEB is required for all generators, transmitters, LDCs, retailers, wholesalers and Unit Sub-Meter Providers (USMPs). In addition, the OEB also licenses the Independent Electricity System Operator (IESO), which includes the Smart Metering Entity. **Figure 3** provides a description of the roles of key market players the OEB currently licenses within the electricity sector. Licence applications (including renewals and amendments) make up the largest

percentage of all applications and are mostly decided by an OEB employee acting under delegated authority without a hearing.

- **Rate Applications:** The OEB sets rates for LDCs, transmitters and Ontario Power Generation's (OPG's) prescribed generation assets (including OPG's nuclear facilities at Darlington and Pickering and most of its hydroelectric facilities). Typically, LDCs file a Cost of Service (COS) rate application with the OEB for a full review (called a "rebasings") every five years. These major rate

Figure 3: Key Players in Ontario's Electricity Sector

Prepared by the Office of the Auditor General of Ontario

Sector Participant	Number of Licenses ¹	Responsibilities	Description	Subject to OEB's Rate Regulation?
Independent Electricity System Operator (IESO)	1 ²	Operates Ontario's wholesale electricity market, directs the operation of the transmission system (high-voltage grid), performs electricity system planning, procures resources to address system needs.	The IESO is established by the <i>Electricity Act, 1998</i> .	✓ ²
	1	Maintains and operates the province's smart meter ³ data repository that stores, processes and validates hourly electricity consumption data used for customer billing by Ontario's Local Distribution Companies (LDCs).	The IESO has been the designated manager of the smart meter data repository since 2007 as a result of the introduction of Ontario Regulation 393/07 under the <i>Electricity Act, 1998</i> .	✓
Generators	455	Produces electricity for sale.	Ontario Power Generator (OPG)—owned by the Province—is the largest electricity generator in Ontario; it generates more than half of Ontario's electricity supply.	✓ ⁴
Transmitters	8	Transmits high-voltage electricity from generators to LDCs and directly connected industrial customers across Ontario.	Hydro One Networks Inc. (Hydro One), the largest transmitter, accounts for about 98% of Ontario's transmission capacity.	✓
Local Distribution Companies (LDCs)	64	Delivers low-voltage electricity to customers.	Three distributors—Hydro One, Alectra, Toronto Hydro—together account for about 60% of distribution customers.	✓ ⁵
Retailers	72 ⁶	Sell electricity to customers under contracts, or act as agents for other retailers or customers with respect to the sale of electricity.	About 1.3% of residential and small business customers purchased their electricity from retailers.	×
Unit Sub-Meter Providers (USMPs)	27 ⁷	Provides metering and billing services within multi-unit buildings.	About 7% of customers are metered and billed by USMPs.	×

1. Number of licensees based on the list of licensed companies published on the OEB website as of September 27, 2022.

2. The OEB licenses the IESO in respect of the operation of the electricity market and of directing the operation of transmission systems, and sets fees that the IESO charges to market participants to recover its administrative costs associated with these activities. The OEB does not approve the costs and payments related to procurement contracts.

3. A smart meter is a device that is able to measure how much electricity is used and when it is used.

4. Only OPG-owned and -operated nuclear generating stations and most of OPG's hydroelectric fleet are subject to the OEB's rate regulation; the remaining generation is primarily governed by contracts under the IESO, the costs of which are not set or approved by the OEB.

5. Although 64 licenses are issued, there are only 61 licensed LDCs because the three First Nations entities (Attawapiskat, Fort Albany, Kashechewan) each have two licenses. Of the 61 licensed LDCs, 58 of them are rate regulated.

6. Based on information published on the OEB website, there are seven active electricity retailers selling contracts to residential and small business customers in Ontario as at December 31, 2021. Active retailers are those that have signed at least one new contract, or renewed at least one, in the past nine months.

7. Of the 27 USMPs, 20 of them provide metering and billing services directly to customers. The remaining seven may be service providers to other USMPs and do not have direct relationships with customers, or are licensed but not yet providing USMP service to customers.

applications involve active participation from interested parties that represent consumer or other interest groups (known as “intervenor”) and are decided by a panel of Commissioners. For each year in between COS applications, LDCs file annual Incentive Rate-Setting Mechanism (IRM) applications to have their rates adjusted using an OEB-approved formula that takes inflation and efficiency into account. In setting rates the OEB considers information on LDC costs, performance (including reliability) and capital planning.

- **Leave-to-Construct Applications:** These are project-specific applications filed when the construction, expansion, or reinforcement of an electricity transmission line longer than two kilometres is proposed.
- **Mergers, Amalgamations, Acquisitions and Divestures Applications:** These are applications (collectively referred to as “consolidation applications”) filed when an LDC or transmitter seeks approval for a change in ownership or control of a utility or its assets—for example, a proposal to merge LDCs. The OEB applies the “no harm” test when considering a proposed consolidation. Key consideration in applying this test is whether customers would be adversely affected by the transaction as compared to the status quo.

2.2.2 Compliance and Enforcement

The OEB is responsible for ensuring that licensed entities in the electricity sector are complying with provisions under relevant legislation and regulations that fall within the OEB’s compliance authority, as well as with their licence conditions, and with codes and orders issued by the OEB.

The OEB has established a system to address customer inquiries and complaints related to electricity rates, billing, disconnection practices, meter accuracy, and electricity retailers’ contract management practices, among other matters. OEB staff carry out compliance reviews when they identify potential non-compliance issues or trends, for example, from

customer complaints and industry inquiries. In some instances, an inspection is performed to determine whether further enforcement action is required. Inspections are formal assessments of regulated companies’ compliance with legal and regulatory requirements. The OEB’s compliance and enforcement activities can result in administrative penalties or other sanctions including licence revocation or suspension.

For 2021/22, 40 inspections were completed. The inspections resulted in about \$235,000 in penalties, over \$1 million in direct refunds to customers and about \$85,000 in contributions to the Low-income Energy Assistance Program, which provides emergency financial assistance to customers who are behind on their utility bills. Examples of infractions include non-compliance with disconnection rules, overcharging customers due to billing or accounting errors, and operating with an expired licence.

2.2.3 LDC Performance Reporting

The OEB has established reporting and recordkeeping requirements (RRRs) that licensees must comply with, as applicable. RRR data is used in many of the OEB’s regulatory processes, such as rate applications and reporting on LDC performance. The OEB publishes scorecards annually to track and report on the performance of each licensed LDC in Ontario. The scorecards encompass 20 measures within four performance categories: customer focus, operational effectiveness, public policy responsiveness and financial performance (see **Section 4.3.3**).

2.2.4 Policy Development

Under the OEB Act, the Minister of Energy (Minister) can issue directives, as approved by the Lieutenant Governor in Council, to require the OEB to take steps in relation to certain matters including general policies. The Minister also has the statutory authority to require the OEB to examine and advise on specific energy-related matters. As part of the accountability framework for provincial agencies, the Minister issues mandate letters outlining expectations and, from

time-to-time, other letters to the OEB articulating government policies.

Aside from government-driven policy work, the OEB also pursues its own regulatory policy development initiatives through a variety of processes, including hearings, stakeholder advisory committees or working groups and public consultations. Currently, the OEB has a number of policy initiatives and consultations (electricity or joint electricity/natural gas), several of which were launched in 2020 and 2021.

2.2.5 Market Surveillance

The OEB's Market Surveillance Panel (Panel) monitors, investigates and reports on activities and behaviour of participants in the markets administered by the IESO, specifically on issues around market efficiency and competitiveness, as well as inappropriate or anomalous market participant conduct (for example, if a market participant is suspected of gaming the market).

The Panel performs monitoring of market activities and issues semi-annual monitoring reports to the OEB's CEO. Formal investigations may also be performed based on results from the Panel's monitoring activities, at the request of the OEB's CEO, or based on a complaint or referral from a third party. In the past, the Panel investigated alleged gaming in relation to market programs and found that market defects had been exploited in some cases. While the Panel may recommend remedial actions, such as improvements in market rules, as previously identified in our 2017 audit of the Independent Electricity System Operator – Market Oversight and Cybersecurity, the Panel does not have the legislative authority to impose sanctions or require that changes be made to the market rules. In response to the 2017 audit, the Ministry of Energy is still reviewing options to enhance electricity market oversight and the OEB's authority, with a target completion date of December 31, 2023.

The Panel currently consists of three part-time members, and its work is supported by the IESO's Market Assessment Unit. Based on a protocol established between the OEB and the IESO, the Market

Assessment Unit takes direction exclusively from the Panel when supporting the Panel in carrying out the aforementioned Panel-related activities.

2.3 OEB Modernization and Governance Structure

The Ministry of Energy established the OEB Modernization Review Panel in 2017. In 2018, the Panel was asked to provide recommendations on how to strengthen the OEB's governance and operations to deliver better outcomes for consumers. In October 2018, the Modernization Review Panel completed the review and submitted a final report to the Minister that identified five key characteristics a regulator should embody and made recommendations around these characteristics: independence, accountability, certainty (that is, predictability of regulatory processes), effectiveness (that is, clarity about outcomes and how success is measured) and efficiency.

Subsequent to the release of the Modernization Review Panel report, legislative changes introduced a new corporate governance structure for the OEB (effective October 2020) that increased separation between administrative and adjudication functions (see **Appendix 1**). The OEB conducted reviews to identify best practices in other jurisdictions in its Top Quartile Regulator Report as a way to identify areas for improvement. Actions the OEB has taken to date include:

- refreshed the Memorandum of Understanding (MOU) between the Minister of Energy and the OEB to establish the accountability relationships between the two parties;
- implemented actions to increase certainty for participants in adjudicative proceedings (for example, amended procedures to establish issues at an earlier stage of the application process);
- released the Chief Commissioner Plan, which identified initiatives to enhance the efficiency, effectiveness and independence of the OEB's adjudication process (for example, introduced publication of case schedules to report on the

actual status of individual cases compared to the plan, developed performance standards for different types of applications); and

- published an Adjudicative Reporting Dashboard to provide transparency of the OEB's overall adjudicative performance.

2.4 Ontario's Electricity Sector

2.4.1 Key Sector Players

Within the legislative framework for Ontario's energy sector, the Ministry of Energy (Ministry) sets overall policy. The OEB regulates the electricity and natural gas sector, guided by statutory objectives that include protecting the interests of electricity and natural gas consumers (refer to **Section 2.1** for details) and maintaining a financially viable electricity and natural gas industry. **Figure 3** describes the key market players the OEB currently licenses within the electricity sector. **Appendix 2** provides a list of key events in Ontario's electricity sector.

2.4.2 Energy Planning

Ontario's long-term energy planning framework is set out under the *Electricity Act, 1998*. Under the framework, the Ministry is responsible for issuing a Long-Term Energy Plan (LTEP) using technical reports provided by the IESO and may issue directives to the IESO and the OEB respecting the implementation of elements of the plan.

The Ministry last released a LTEP on October 26, 2017. **Section 4.2** provides further details on the history, issues and current status related to the long-term energy planning process.

2.4.3 Electricity Price

Electricity is an essential commodity for Ontario's residents, businesses and economy. Annually, the electricity system costs Ontarians over \$20 billion.

This includes the cost to generate and deliver electricity to households and businesses, as well as the cost to build and maintain the infrastructure.

The electricity bills of low-volume electricity customers (mostly residential and small business consumers) are made up of an electricity charge, delivery charge and regulatory charge. The bills also include the Ontario Electricity Rebate and taxes. **Figure 4** provides the bill presentation for an average residential customer. An average residential customer is defined in this report as a household that purchases electricity from an LDC with a monthly consumption of approximately 700 kilowatt hours (kWh).

Figure 4: Sample Electricity Bill for an Average Residential Customer of a Local Distribution Company (LDC)

Prepared by the Office of the Auditor General of Ontario

Monthly Bill Statement

Account Number:
000 000 000 000 0000 0

Meter Number:
0000000

Your Electricity Charges

Electricity	
448 kWh Off-peak (lowest price) @ 8.2 ¢/kWh	36.73
126 kWh Mid-peak (mid price) @ 11.3 ¢/kWh	14.24
126 kWh On-peak (highest price) @ 17 ¢/kWh	21.42
Delivery	50.25
Regulatory Charges	3.11
Your Total Electricity Charges	125.75
H.S.T.	16.35
Ontario Electricity Rebate	(21.38)
Total Amount	\$120.72

Note: This is a hypothetical bill based on rates effective as of March 31, 2022 for a residential customer using 700 kWh of electricity.

Electricity Charge

The electricity charge is based on a customer's consumption; how this is charged to residential and small business customers on their bills depends on whether the customer is buying their electricity from an LDC or under a contract signed with a retailer.

In 2021, approximately 98.7% of residential and small business customers purchased their electricity from an LDC. Most of these customers pay Regulated Price Plan (RPP) prices, which the OEB sets once a year based on the forecasted cost to supply those customers with the electricity they are expected to use. The price that most generators receive for the electricity they produce is set either through OEB's rate-setting process or under contracts with the IESO. The electricity charge has two components: (1) a market component, which is based on electricity supply and demand; and (2) the Global Adjustment, which accounts for the major portion of the electricity charge. The Global Adjustment is mostly made up of the difference between the market price and the guaranteed prices paid to regulated and contracted generators. Guaranteed prices are paid to generators, including but not limited to, nuclear and certain hydroelectric generating stations owned and operated by Ontario Power Generation (OPG), as well as gas-fired, nuclear and renewable energy generators contracted by the IESO.

The remaining residential and small business customers who purchased their electricity from a retailer (1.3% in 2021) do not pay the RPP prices. Instead, they pay the contract price plus the Global Adjustment, which are shown as two separate line items on their electricity bills. Contract prices are not regulated by the OEB.

Delivery Charge

The delivery charge is the costs of delivering electricity from generating stations across the province to customers. This includes the costs to build and maintain the transmission (high-voltage) and distribution (low-voltage) lines, towers and poles.

The OEB sets delivery charge rates for LDCs. The rates vary across the province and are impacted by a number of factors, including the age and condition of

each LDC's equipment, as well as the size of the LDC's service area, the geographical location of customers and customer density within the area.

Regulatory Charge

The regulatory charge primarily recovers the costs of administering the wholesale electricity market and maintaining the reliability of the high-voltage provincial electricity grid. Though the OEB sets the charge through which these costs are recovered, it does not set or approve all of those underlying costs.

Electricity Bill Subsidy Programs

To provide Ontarians with electricity bill relief, different rate subsidy programs have been introduced over the past decade. **Appendix 3** provides a list of electricity rate subsidy programs in effect from 2011 to 2022. The Ontario Electricity Rebate (OER), a major subsidy program within the current regime for low-volume customers, was introduced by the government in November 2019 to hold annual electricity bill increases to 2% for these customers. The OER is shown on the electricity bill as a separate credit below the Harmonized Sales Tax (HST) line.

A study conducted by Hydro-Québec of electricity prices in major North American cities shows that residential and small business customers typically pay higher prices than commercial and industrial customers that have larger consumption (see **Appendix 4**). While Ontario's electricity prices show a price gap between low- and large-volume customers, the gap is comparable to other jurisdictions in the study.

A contributor to the price gap in Ontario is the Industrial Conservation Initiative (ICI) program, which was introduced by the government to encourage large commercial and industrial customers to reduce their electricity demand during times of peak provincial demand. ICI program participants are offered a reduction in their electricity charge for consuming less electricity during those times. The reduction is accomplished through shifting a portion of the electricity charge from these large customers to residential and small business customers. Our 2017 audit on Independent Electricity System Operator – Market Oversight and

Cybersecurity recommended that the Ministry review and publicly report the impact of the ICI on low-volume customers to enhance transparency. In response to our recommendation, the Ministry is currently developing and analyzing options for changes to the ICI, with a target completion date of December 31, 2023.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Ontario Energy Board (OEB) has effective systems and procedures in place to:

- inform consumers and protect their interests with respect to prices and the adequacy, reliability and quality of electricity services;
- promote economic efficiency and cost-effectiveness of the electricity sector and facilitate the maintenance of a financially viable electricity sector; and
- measure and report on the performance of the OEB in achieving its mandate.

In planning our work, we identified the audit criteria (see **Appendix 5**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. OEB senior management reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit from January 2022 to October 2022 and obtained written representation from OEB management that, effective November 9, 2022, they have provided us with all the information they were aware of that could significantly affect the findings or the conclusions in this report.

In arriving at the audit conclusion, we carried out audit work including, but not limited to, the following:

- Interviewed management and staff members across the OEB organization.
- Interviewed experts within the electricity industry and stakeholders with whom the OEB regularly interacts, including:

- the Ministry of Energy (Ministry);
 - the Independent Electricity System Operator (IESO);
 - the Electricity Distributors Association and over 20 of its members (that is, OEB-licensed Local Distribution Companies [LDCs]); and
 - intervenor groups.
- Examined legislation, regulations, ministerial directives and letters applicable to the OEB.
 - Examined and analyzed information published externally, or internally maintained, by the OEB, such as:
 - materials related to the Board of Directors and its committees;
 - the OEB's financial statements, business plans and strategic plans;
 - codes, rules, guidelines and requirements issued by the OEB;
 - applications (such as for rate changes, consolidation or construction of new infrastructure);
 - Ministry directives, mandate letters and related communication;
 - policy consultations;
 - customer complaints and inquiries;
 - compliance reviews and inspection reports;
 - LDC data and performance scorecards;
 - market surveillance monitoring and investigation reports;
 - OEB performance reports; and
 - OEB modernization initiative documents.
 - Examined and analyzed information published externally, or internally maintained, by the Ministry, including costs and program information on electricity rate subsidies, audit reports, and policy documents.
 - Obtained and reviewed data from the IESO (for example, electricity consumption, generation output, generation capacity, market prices and Global Adjustment amounts) to prepare analysis on electricity prices and cost oversight.
 - Observed a stakeholder consultation session.

- Conducted jurisdictional comparisons with other provincial energy regulators including the British Columbia Utilities Commission, the Alberta Utilities Commission and the Manitoba Public Utilities Board.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

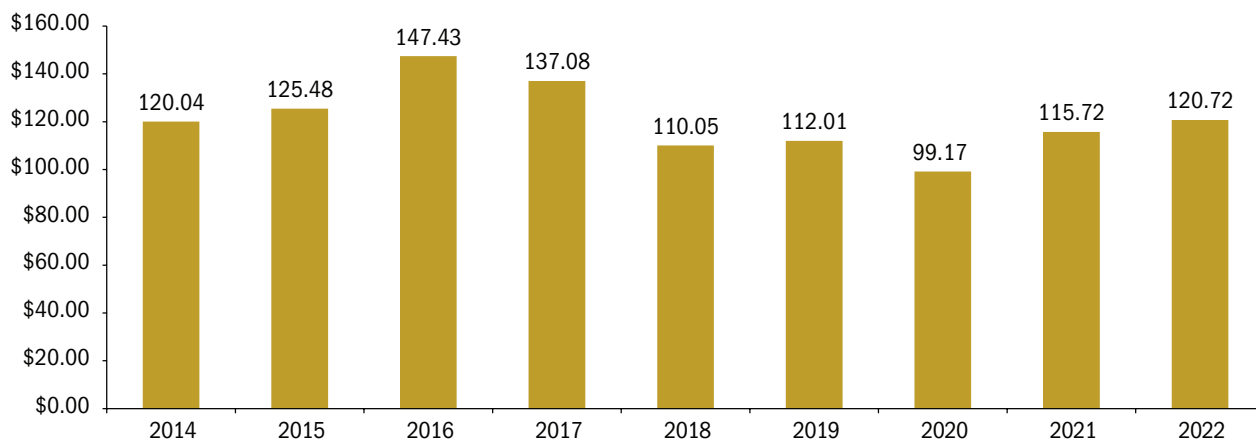
4.1 Decisions Made Outside of the OEB's Regulatory Process Have Impacted Electricity Prices and Consumers

Ontario residents have experienced significant increases in electricity prices since the restructuring of the electricity market in 1999. The increase was noted in our 2011 audit on Electricity Sector – Regulatory Oversight and the trend continued into the following decade. Based on data published by Statistics Canada for 2019, we estimate that most Ontario households spend between \$600 and \$1,700 on electricity annually. There was an average of over 20,000 disconnections every year from 2017 to 2021 because households were unable to pay their electricity bills.

For the purpose of this report, a residential consumer in Ontario is estimated to consume approximately 700 kilowatt hours (kWh) of electricity per month. As illustrated in **Figure 5**, the estimated monthly electricity bill for the average consumer rose by 23% from 2014 to 2016 but tapered off in subsequent years due to the expansion of provincial

Figure 5: Average Electricity Bill for Residential Customer Using 700 kWh of Electricity Per Month, 2014–2022*

Prepared by the Office of the Auditor General of Ontario



Note: Application-based subsidy programs (i.e., the Ontario Electricity Support Program; COVID-19 Energy Assistance Program; First Nations Delivery Credit) and subsidies provided in the form of grants or tax credits (i.e., Northern Ontario Energy Credit, Ontario Energy and Property Tax Credit) are excluded from the analysis, as they are either available on a case-by-case basis or are not directly applied to electricity bills.

* Average electricity bills are calculated based on rates effective as of March 31 each year using data provided by the Ontario Energy Board (refer to **Figure 4** for the components of an electricity bill). The analysis begins in 2014 due to a lack of comparable data in earlier years.

rate subsidy programs (see **Appendix 3** for a list of programs).

4.1.1 Electricity Rate Subsidy Programs Have Lessened the Direct Financial Burden on Ratepayers Through Taxpayer Subsidization

Since 2017, the Ontario government has expanded its electricity bill subsidy programs and introduced a number of new measures. While these subsidy programs have lowered the electricity bills of customers of electricity (that is, ratepayers), they do not reduce the true cost of electricity or address the root causes of cost increases. The programs simply shift a portion of the

costs from electricity bills to taxes so that, ultimately, the expense is still borne by all taxpayers. **Figure 6** shows examples of major taxpayer-funded electricity bill subsidy programs.

Figure 7 shows the annual costs of taxpayer-funded electricity bill subsidy programs that residential customers have been eligible for since the introduction of the Fair Hydro Plan in 2017. For 2021/22, these subsidies cost over \$6.3 billion, which is more than double the \$2.8 billion spent in 2017/18. Two programs—the Ontario Electricity Rebate (OER) and the Comprehensive Electricity Plan (CEP)—account for approximately 85% of the 2021/22 taxpayer-funded electricity subsidy costs. Without the subsidies from these

Figure 6: Major Taxpayer-Funded Electricity Bill Subsidy Programs

Prepared by the Office of the Auditor General of Ontario

Taxpayer-Funded Subsidy Program	Implementation Date	Description
The Fair Hydro Plan	Jul 2017	It resulted in an approximately 25% reduction in residential bills since July 2017 by: • providing residential ratepayers an 8% Provincial Rebate; • refinancing a portion of the Global Adjustment (as defined in Section 2.4.3); • transferring the cost of certain existing electricity subsidy programs (for example, the Ontario Electricity Support Program and the Rural or Remote Electricity Rate Protection Program) from ratepayers to taxpayers; and • providing additional subsidies to ratepayers living in areas with high distribution costs (for example, areas that qualify for the Distribution Rate Protection Program).
The Ontario Electricity Rebate (OER) Program	Nov 2019	It replaced the 8% Provincial Rebate and Global Adjustment Refinancing previously provided to ratepayers through the Fair Hydro Plan. It is an on-bill credit that offers similar bill relief as the Fair Hydro Plan, but for an extended time period.
The Comprehensive Electricity Plan (CEP)	Jan 2021	It funds a portion of renewable energy contract costs (mostly wind and solar) through taxes, rather than passing those costs to ratepayers through the Global Adjustment.
Suspension of Time-of-Use (TOU) Rates	Three periods from 2020 to 2022: • Mar 24–May 31, 2020 • Jan 1–Feb 22, 2021 • Jan 18–Feb 7, 2022	It was implemented to provide Ontarians with financial relief during the COVID-19 pandemic when they consumed more electricity as a result of staying at home. The TOU rates (off-peak, mid-peak, and on-peak) were suspended and electricity prices for all hours were subject to the off-peak rate (the lowest rate). Customers under a tiered price plan (with a lower price for electricity consumption below a set amount in a month, and another higher rate for consumption above that set amount) were also paying off-peak rates starting from the second suspension period.

Figure 7: Annual Costs of Taxpayer-Funded Electricity Bill Subsidy Programs Available to Residential Customers, 2017/18–2021/22 (\$ million)

Source of data: Ministry of Energy

Tax-Funded Electricity Bill Subsidy Programs	2017/18	2018/19	2019/20	2020/21	2021/22
Comprehensive Electricity Plan (CEP)	-	-	-	774	3,122
COVID-19 Energy Assistance Program (CEAP) ¹	-	-	-	15	17
Distribution Rate Protection (DRP) Program ²	-	254	285	306	354
Global Adjustment Refinancing ²	1,639	2,761	2,364	21	29
On-Reserve First Nations Delivery Credit ²	15	24	24	23	26
Ontario Electricity Rebate (OER)	-	-	1,809	3,961	2,276
Ontario Electricity Support Program (OESP) ³	20	172	185	182	168
Provincial Rebate of 8% ²	810	764	498	-	-
Rural or Remote Electricity Rate Protection Program (RRRP) ³	325	241	256	244	245
Time-of-Use Rate Suspension ¹	-	-	34	449	98
Total	2,809	4,216	5,455	5,975	6,335

Note: The table excludes programs that are only available to non-residential customers and programs that provide financial relief through tax credits (such as the Northern Ontario Energy Credit and the Ontario Energy and Property Tax Credit).

1. These programs were intended to provide additional relief to customers during the COVID-19 pandemic and so were available for a limited time.
2. These programs were introduced as part of the 2017 Fair Hydro Plan.
3. These programs were funded by ratepayers (i.e., electricity customers) when they were introduced, but subsequently switched to being fully or substantially tax-funded.

programs, the monthly electricity bill of an average residential customer would have been as high as about \$166 in 2021/22 based on our estimates, as compared to about \$121 with these subsidies (refer to **Figure 5**).

4.1.2 The OEB Does Not Regulate All Components of Electricity Bills

One of the objectives of the OEB is to protect consumer interests with respect to electricity prices. However, the OEB does not have the authority to regulate the entire electricity bill. As illustrated in **Figure 8**, we estimated that approximately 34% of charges of an average residential bill are not regulated by the OEB, with the majority of the unregulated costs coming from the electricity charge (that is, the commodity portion of the bill). This percentage would rise to above 40% without the impact of the Comprehensive Electricity Plan (CEP), which shifts a portion of the electricity charge related to non-hydro renewable energy contracts to be funded through taxes (as discussed in **Section 4.1.1**).

The electricity charge portion of the bill is mostly made up of the amounts payable to generators for the supply of electricity to customers. Of the three key components (that is, the electricity charge, delivery charge, and regulatory charge) on the electricity bill (as discussed in **Section 2.4.3**), the electricity charge is the largest component and was one of the key drivers of rising electricity bills over the past decade. The OEB does not review or approve all costs within the electricity charge. Specifically:

- The OEB regulates the rates of electricity supplied by Ontario Power Generation (OPG) generating assets that are prescribed in O. Reg. 53/05 under the *Ontario Energy Board Act, 1998*. This includes all of the OPG-owned and -operated nuclear generating stations and most of its hydroelectric fleet. The rates for these prescribed OPG assets contribute to approximately 43% of the total electricity charge portion of the bill.
- The OEB does not regulate the electricity charge attributable to electricity supply contracts

Figure 8: Breakdown of Average Electricity Bill for Residential Customer Using 700 kWh Per Month, as at March 31, 2022

Prepared by the Office of the Auditor General of Ontario

Bill Component	Billing Amount (\$)			Percentage of Bill (%)		
	Regulated	Unregulated	Total	Regulated	Unregulated	Total
Electricity (or Commodity) Charge	31.45	40.94	72.39	25.0	32.5	57.5
Delivery Charge	50.25	–	50.25	40.0	–	40.0
Regulatory Charge ^{1,2}	1.55	1.56	3.11	1.2	1.3	2.5
Total Electricity Bill Before Tax and Rebate³	83.25	42.50	125.75	66.2	33.8⁴	100.0

1. Amounts regulated by the OEB include the rate-funded portion of the Rural or Remote Electricity Rate Protection (RRRP) charge, which is set according to the regulation under the *Ontario Energy Board Act, 1998*. The remainder of the program has been tax funded since July 1, 2017.

2. Amounts to recover costs incurred by utilities to connect renewable generation are determined by the OEB. This has not been allocated to the regulated portion, as the charge per residential customer is not available. However, its impact on individual residential customers' bills and hence on the percentage of bills under OEB oversight is estimated to be immaterial.

3. As noted in **Figure 5**, the total electricity bill after tax and rebate is \$120.72.

4. This would increase to above 40% without the impact of the Comprehensive Electricity Plan (CEP).

managed by the Independent Electricity System Operator (IESO). The unregulated amount is about 57% of the entire electricity charge portion of the bill.

As of June 30, 2022, the IESO was managing 33,583 electricity supply contracts with a combined capacity of almost 27,000 megawatts (MW). A large number of these contracts were signed after the enactment of the *Green Energy Act, 2009* under which renewable energy (mostly wind and solar) was sourced in accordance with ministerial directives. The OEB does not set the prices for such contracted generation and has no mandate to oversee the IESO's procurement activities. These contracts contributed to rising electricity charges through the Global Adjustment at a time when the province was experiencing a surplus in electricity supply. As discussed in **Section 2.4.3**, the Global Adjustment is mostly made up of the difference between the market price and the guaranteed prices paid to regulated and contracted generators.

The Global Adjustment has increased by about 120% over a 10-year period, from \$5.3 billion in 2011 to \$11.7 billion in 2021. In 2021, wind and solar generation made up approximately 30% (that is, \$3.5 billion) of the Global Adjustment, despite supplying just 9% (that is, 12.75 terawatt hours [TWh]) of Ontario's transmission grid-connected electricity.

Included in the amount of Global Adjustment was \$180 million compensation to wind and solar energy generators for curtailing (or reducing) approximately 1.3 TWh of energy generation (that is, the electricity was available but not generated because there were surpluses in the province's electricity supply). As discussed in **Section 4.1.1**, the government introduced the Comprehensive Electricity Plan (CEP) to fund a large portion of the Global Adjustment in relation to these wind and solar renewable contracts through taxes. With the CEP, \$3.1 billion of the total Global Adjustment cost in 2021 was funded through taxes and borne by taxpayers, instead of being passed on to rate-payers through electricity bills.

Besides renewable energy contracts, the Ontario Power Authority (which merged with the IESO on January 1, 2015) had also procured gas-fired electricity generation at different points in time. Between 2010 and 2011, the Province decided to cancel the construction of two natural gas electricity plants—previously procured under Ministerial direction—in Mississauga and Oakville, respectively, due in part to local opposition. In our 2013 special reports on Mississauga Power Plant Cancellation Costs and Oakville Power Plant Cancellation Costs, we estimated that the decisions to cancel and relocate these two power plants would cost the public about \$950 million. This further illustrates

the importance of establishing regulatory oversight over procurement activities to ensure that power plant construction projects and energy purchase agreements are in the public interest, taking into consideration both economic and environmental impacts.

RECOMMENDATION 1

To enhance consumer protection over electricity prices and strengthen public trust in the regulatory system, we recommend that the Ministry of Energy:

- evaluate options within an established timeline (for example, within a year) that will increase the Ontario Energy Board's oversight role over electricity procurement activities so that future decisions impacting electricity rates are financially prudent and consistent with the anticipated demand for electricity; and
- consult with stakeholders during the evaluation process and implement the selected option with an established timeline.

MINISTRY RESPONSE

The Ministry of Energy (Ministry) thanks the Auditor General for these recommendations.

As noted in the report, the Ministry is currently reviewing the long-term energy planning framework. Following its 2021 public engagement, the Ministry established the Electrification and Energy Transition Panel, which will engage with stakeholders and Indigenous partners and examine long-term energy planning in the province. The Panel will offer recommendations in 2023 for effective integrated energy planning, including the role of the Independent Electricity System Operator (IESO) and the Ontario Energy Board (OEB). The Panel's review will help to inform any potential legislative, regulatory, or policy change.

The Ministry notes that Ontario currently has a hybrid electricity market, consisting of competitive and regulated elements. The OEB has full oversight over the regulated elements of the market.

The IESO is responsible for maintaining a reliable electricity system. It procures electricity

supply, based on government directives under the *Electricity Act, 1998*, with a focus on competitive procurements where possible. When procuring electricity resources, the IESO balances system reliability and ratepayer impact, within the constraints of government policy (e.g., environmental commitments).

The OEB's Market Surveillance Panel (MSP) has an oversight role and provides regular assessments of the functioning of Ontario's electricity market and procurement matters.

4.2 The Long-Term Energy Planning Process Lacks Independent Oversight and Does Not Include Non-Electricity Energy Sources

As mentioned in **Section 2.4.2**, the Ministry of Energy is responsible for issuing Ontario's Long-Term Energy Plan (LTEP). Proper long-term energy planning is essential to ensure that the province has an adequate supply of energy that is also affordable to ratepayers. However, our audit found that there are gaps in the Province's current long-term energy planning process, specifically around the lack of OEB regulatory oversight and insufficient integrated energy planning.

4.2.1 Lack of Independent Regulatory Oversight of Long-Term Energy Planning

With no authority to provide oversight on the Province's long-term energy planning process, the OEB has no opportunity to address any planning activities or issues in order to pursue its objectives, which include protecting consumer interests with respect to prices and the adequacy, reliability and quality of electricity service.

The recent history of energy system planning in Ontario began with the *Electricity Restructuring Act, 2004*. The *Electricity Restructuring Act, 2004* amended the *Electricity Act, 1998* and established the Ontario Power Authority (OPA) (which merged with the IESO on January 1, 2015) to perform energy system planning for the province. The *Electricity Act, 1998* required

the OPA to prepare a 20-year energy plan, known as the Integrated Power System Plan (IPSP), every three years. The *Electricity Act, 1998* also required the OPA to submit the IPSP to the OEB for review and approval to ensure that the plan was economically prudent, cost effective and compliant with directions issued by the Minister of Energy. The legislative requirements were ignored in the following ways:

- The OPA filed its first IPSP with the OEB in 2007, but the review process was suspended due to a Minister's Directive issued in September 2008 that ordered the OPA to revise the IPSP in response to changes to government policy regarding Ontario's supply mix.
- In 2011, the OPA prepared another IPSP that was not submitted to the OEB for review and was eventually abandoned.
- In the absence of an approved IPSP, the Ministry of Energy (Ministry) published a Long-Term Energy Plan (LTEP) in November 2010. Though there was no legislative requirement for the Ministry to prepare such a plan, the Ministry published an updated LTEP in 2013. Compared to the LTEPs, the IPSPs prepared by the OPA included more technical analysis and presented detailed cost-benefit analyses of different planning scenarios and alternatives. In any event, the OEB did not review or approve these LTEPs, because unlike the OPA's IPSPs, the LTEPs were the Ministry's policy plans issued outside of legislation and the OEB was not authorized to review them.

In 2016, the energy planning process was changed with the passing of the *Energy Statute Law Amendment Act, 2016*. The Act formalized changes to the long-term energy planning framework and officially put the Ministry in charge of provincial energy planning. The Ministry issued an LTEP in 2017 under the new framework, taking into consideration technical analysis from the IESO and input from stakeholders through public consultation. As with the 2010 and 2013 LTEPs, the 2017 LTEP was also not subject to the OEB's review. Instead of reviewing and approving the LTEP, the OEB's current role in the legislative framework is developing

implementation plans in response to Ministerial directives after LTEP release.

In 2021, the Ministry began a public consultation to review the long-term energy planning process. In response to comments received from the consultation, the Ministry announced in April 2022 that it was establishing an Electrification and Energy Transition Panel to review and advise the Minister on energy planning. The review would also examine the roles played by the Ministry, the IESO and the OEB in long-term energy planning and address stakeholders' feedback on the need to establish independent planning oversight. A Panel report aimed at helping the Ministry assess the next steps in energy planning is expected to be completed by March 2023.

In the meantime, however, the issuance of a new LTEP has been delayed to accommodate the review. The last LTEP was issued on October 26, 2017. While the Ministry was required by a regulation under the *Electricity Act, 1998* to issue another LTEP by February 2021, that regulation was revoked on January 1, 2021, and the government has not set a definite timeline for the next LTEP release. The Ministry informed us that the work of the Electrification and Energy Transition Panel will help inform the content and timing of the next LTEP. **Figure 9** summarizes the history of Ontario's energy planning process.

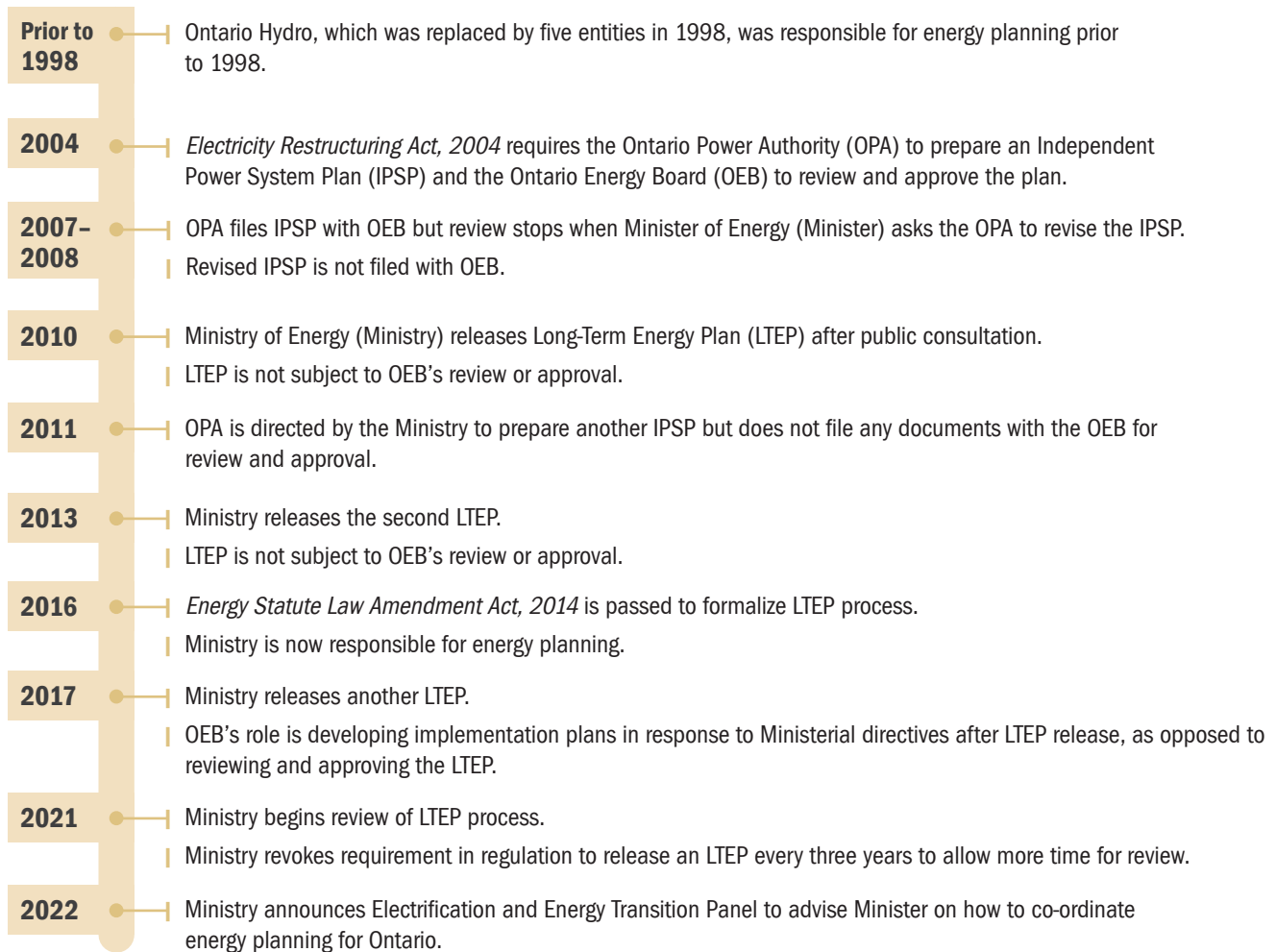
4.2.2 Ontario's Long-Term Energy Planning Focuses Only on Electricity

Another gap within the existing energy planning process is its lack of consideration in the LTEP of energy sources other than electricity. While the LTEP is referred to as an "energy" plan, its framework is set out under the *Electricity Act, 1998* and its focus has historically been on the electricity system only.

Currently, Ontario does not have an integrated energy plan that provides a co-ordinated approach that considers all energy sources. An electricity plan is to be developed by the Ministry of Energy (Ministry) and executed by the IESO and the OEB through implementation plans submitted in response to Ministerial

Figure 9: History of Ontario's Energy Planning Process

Prepared by the Office of the Auditor General of Ontario



directives. Natural gas planning is undertaken by gas utilities, subject to direction and oversight by the OEB.

Improvements were noted in the 2017 planning process, when the Ministry commissioned a third-party consultant to prepare a Fuels Technical Report to look at the supply and demand of other energy sources (for example, natural gas, gasoline, fuel oils) to complement the IESO-produced report on Ontario's electricity system. However, the outcome—the 2017 LTEP—was still an energy plan that largely focused on electricity, with little consideration of the integration of electricity and other fuels (especially natural gas).

As mentioned in **Section 4.2.1**, the Ministry is currently reviewing the long-term energy planning process. One of the key themes that emerged from the public consultation phase of the review was the

importance of having integrated, co-ordinated planning across all energy sectors, not just electricity.

The Ministry also informed us that in response to the feedback received from the public consultation, it is undertaking an independent study that will include all energy sources and a planning period up to at least 2050. A Request for Bids for the study was issued on September 6, 2022.

Electricity makes up only 17% of the energy used in Ontario whereas natural gas, gasoline, diesel and other fuels make up the remaining 83%. To meet the province's future energy needs in an affordable, reliable and environmentally responsible manner, all energy sources need to be factored into long-term energy planning to help ensure that existing assets are leveraged

and that the different energy sources complement each other to deliver optimal solutions.

In our 2020 audit report titled *Reducing Greenhouse Gas Emissions from Energy Use in Buildings*, we also recommended the Ministry of Energy “develop an integrated long-term energy plan that aligns plans for the use of Ontario’s major sources of energy (including natural gas) with the government’s emission-reduction target. The energy plan could incorporate and consider long-term industrial, commercial and housing development.” However, in our 2022 follow-up review of that audit, we noted that as of October 2022 the Ministry has not implemented this recommendation but indicated that any changes to Ontario’s long-term planning process will require additional direction from government. The Ministry, nevertheless, expects that this recommendation will be implemented by December 2023.

RECOMMENDATION 2

So that energy planning better protects the interests of energy consumers, we recommend that the Ministry of Energy:

- develop an expedited timeline to complete its review of the long-term energy planning process within 12 months;
- develop an expedited timeline to release the next Long-Term Energy Plan within 12 months;
- include all major energy sources in the planning process; and
- recognize and assign the Ontario Energy Board (OEB) a role in long-term energy planning that reflects the OEB’s role and expertise as the regulator of the energy sector, including protecting the interests of consumers.

MINISTRY RESPONSE

The Ministry of Energy (Ministry) thanks the Auditor General for these recommendations. The Ministry is currently reviewing the province’s long-term energy planning framework following significant concerns with the previous approach. Following its 2021 public engagement, the Ministry

established the Electrification and Energy Transition Panel, which will engage with stakeholders and Indigenous partners and examine long-term energy planning in the province. The Panel will offer recommendations in 2023 for effective integrated energy planning. The Panel’s review will help to inform any potential legislative, regulatory, or policy change.

The government has also asked the Independent Electricity System Operator (IESO) to report back on an achievable pathway to zero emissions in the electricity sector to support job growth and economic development. This report will be delivered in late 2022. The Ministry believes both of these actions are critical to responsible long-term energy planning.

While the review is underway, the Ministry, IESO and OEB retain their current authorities for planning and energy decisions. The IESO is continuing its ongoing planning activities, including releasing planning outlooks regularly and consulting and developing regional plans with stakeholders.

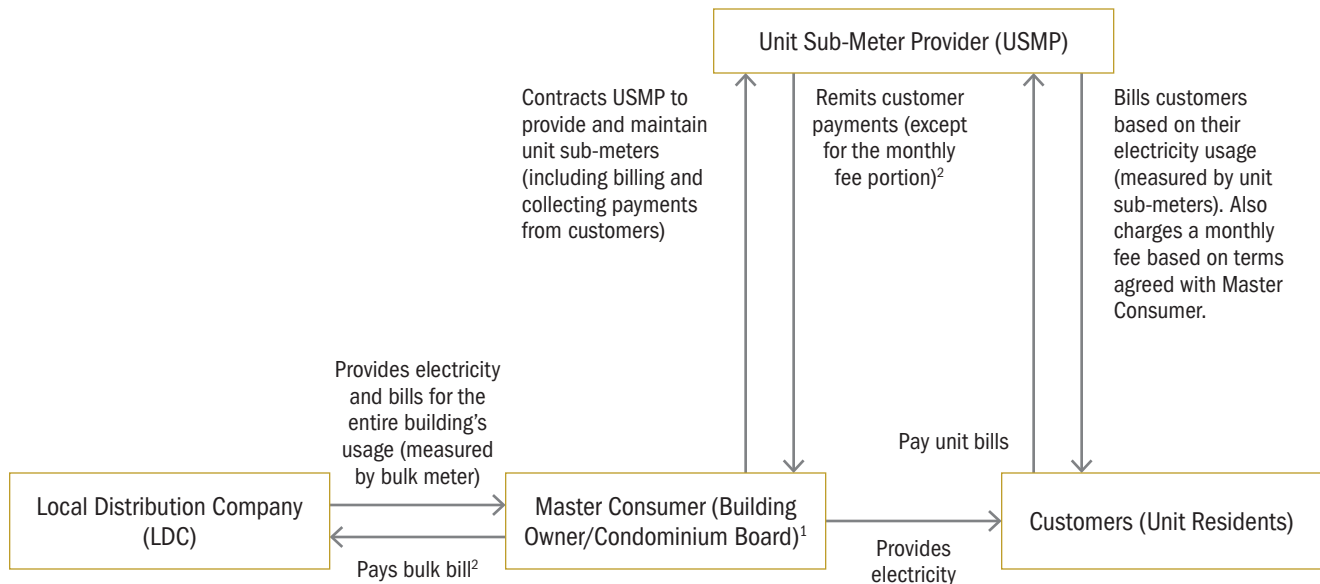
4.3 Price and Service Protection for Local Distribution Companies (LDCs) and Unit Sub-Meter Provider (USMP) Customers Varies

Suite metering is required in multi-unit residential buildings built in Ontario after January 1, 2011, as stipulated in O. Reg. 389/10 under the *Energy Consumer Protection Act, 2010*. Unlike bulk-metered buildings where residents share the electricity costs of the building, suite metering gives residents greater control over their electricity spend because residents are billed based on their individual consumption. This user-pay system is intended to encourage conservation.

In Ontario, buildings can obtain suite metering services from their Local Distribution Company (LDC) as part of their licensed distribution activities (referred to as unit smart metering) or from Unit Sub-Meter Providers (USMPs). Currently, there are 20 USMPs providing sub-metered billing services to customers directly. USMPs require a licence from the OEB to operate and

Figure 10: An Example of Unit Sub-Metering Arrangement for a Multi-Unit Residential Building

Prepared by the Office of the Auditor General of Ontario



Note: This figure shows one common form of unit sub-metering arrangement. Actual arrangements could differ depending on contract terms agreed between the master consumer and the USMP.

1. For new condominiums, the property developer enters into a sub-metering agreement with the USMP during the construction phase. Post-construction, the condominium board assumes the sub-metering contract from the developer. The newly elected condominium board can cancel contracts signed by the developer within 12 months of being elected.
2. The bulk bill could include amounts that are not apportioned to the customers (for example, electricity consumption in common areas), for which the master consumer is responsible. Depending on the contract, some USMPs pay the bulk bill first and then invoice the master consumer for the amount owed.

are subject to the service standards specified in the OEB's Unit Sub-Metering Code. However, the fees that USMPs charge their customers are not regulated. Refer to **Figure 10** for an example of a unit sub-metering arrangement.

The number of customers receiving suite metering services from USMPs has increased by about 55% over a four-year period (from about 252,000 customers in 2018 to about 391,000 customers in 2021). While USMP customers only make up approximately 7% of electricity customers in Ontario, 33% of electricity-related complaints received by the OEB in 2021 were regarding USMPs. Many of these complaints were related to billing and disconnection practices. **Figure 11** shows the growth in USMP customers and complaints from 2018 to 2021.

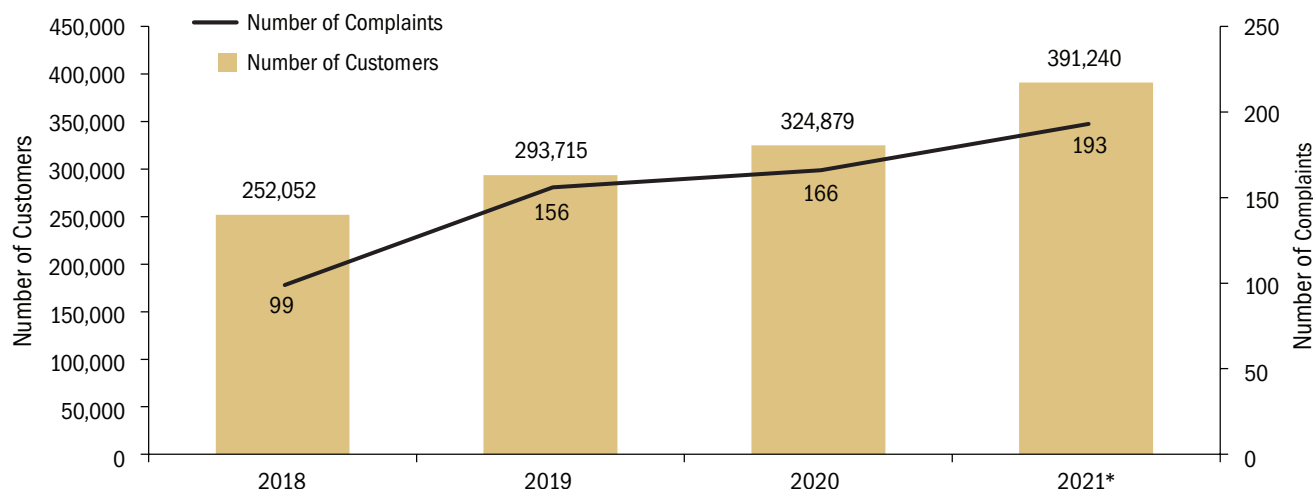
4.3.1 USMP Fees Are Not Regulated and Customers Need More Transparency Regarding the Charges

USMPs charge rates based on contracts with developers, building owners or condominium boards (collectively referred to as "master consumers"). Residents (referred to as "customers") inherit the pricing arrangements agreed to by the master consumers, which vary. While the industry is competitive before the contract is entered into, given the long-term nature of most contracts (generally between 10 and 20 years), once a contract is signed, the USMP essentially operates as a monopoly within a building.

USMPs not only bill their customers based on individual customer usage, they also charge a monthly fee in return for providing metering and billing services. This monthly service fee, as well as some other service charges (for example, account setup fee, disconnection fee, meter dispute charge), are not regulated by

Figure 11: Total Number of Unit Sub-Meter Providers' (USMPs') Customers and Number of Complaints, 2018–2021

Source of data: Ontario Energy Board



Note: Customer numbers prior to 2018 are not available because USMPs began providing such data to the OEB for 2018. Customer numbers shown are as of calendar year-end.

* 2021 customer numbers for five USMPs were unavailable at the time of the audit. For these five USMPs, customer numbers reported for 2020 were used as estimates.

the OEB. USMP monthly service fees are affected by a number of factors, such as the complexity of the sub-metering setup, the number of services and units, the level of risks assumed and other competitive considerations, and can range from under \$10 to over \$30 per month per residential customer.

The 2017 LTEP identified better protection for USMP customers as a priority, citing customer concerns about lack of clarity over charges (for example, what is being billed and who is billing). Consequently, the Ministry directed the OEB to examine ways to strengthen consumer protection in relation to USMP activities. On October 27, 2017, the Ministry posted a regulatory proposal that indicated its intention to provide the OEB with authority to regulate USMP charges and effective April 1, 2018, the necessary legislative instruments to give effect to that intention were put into place.

In anticipation of that change, the OEB initiated a policy consultation in late-2017 and performed preliminary analyses to identify rate-regulating alternatives to govern USMP charges. However, this regulatory work was stopped on April 3, 2019, when the government passed the *Restoring Ontario's Competitiveness Act, 2019*, which repealed the OEB's authority to regulate USMP charges. In the end, USMP customers were still not afforded price protection.

The government cited the following reasons for repealing the OEB's rate regulating authority over USMPs:

- development of the regulatory framework would take time, and uncertainty about the ultimate design of the regulatory framework created a barrier to investment in the USMP industry;
- rate regulation would increase the regulatory burden on the industry by an estimated \$1.3 million per year, which would likely be passed on to customers; and
- market competition would protect USMP customers from being charged higher rates.

However, we noted that some of these reasons were largely based on claims and information from the USMP industry, rather than the Ministry's own analysis. For example, the competitiveness assessment of Ontario's sub-metering industry was performed by a consultant engaged by an association that represents the province's largest USMPs. The Ministry did not conduct a study to assess whether USMP prices were fair in comparison to those charged by LDCs and whether an alternative to rate regulation would provide an improved level of protection for USMP customers.

Our research found that electricity sub-metering is currently not permitted in some provinces in Canada (for example, Manitoba, Saskatchewan and Québec). In Alberta and British Columbia, electricity sub-metering is permitted but, as in Ontario, the service fees charged by sub-metering service providers are also largely unregulated.

RECOMMENDATION 3

So that Unit Sub-Meter Provider (USMP) customers' interests are sufficiently protected, we recommend that the Ministry of Energy:

- perform its own analysis immediately to verify customer concerns and assess whether prices charged by USMPs are fair; and
- use results from these studies to develop and implement options to improve price protection and transparency for USMP customers.

MINISTRY RESPONSE

The Ministry of Energy (Ministry) thanks the Auditor General for these recommendations. The Ministry agrees with the importance of fair and transparent pricing for all energy consumers, and will continue to work with the Ontario Energy Board (OEB) and Unit Sub-Meter Providers (USMPs) to gather relevant data and information for performing its analysis and protect consumers.

4.3.2 USMP Customers Have Less Protection Against Disconnection in Comparison to LDC Customers

Despite not being rate-regulated, like LDCs, USMPs are licensed by the OEB and are subject to the OEB's compliance and enforcement processes (refer to **Section 2.2.2**). However, the OEB's current customer service requirements offer less protection to USMP customers than to LDC customers.

The OEB issues the Unit Sub-Metering Code and the Distribution System Code to set out minimum customer service requirements for USMPs and LDCs, respectively.

While the requirements between the two codes are similar in many aspects, there are a few differences, particularly in the area of service disconnection (refer to **Figure 12** for comparison).

Residential customers who fall behind on their electricity bills are at risk of disconnection. On February 22, 2017, the *Protecting Vulnerable Energy Consumers Act, 2017* was passed, giving the OEB the authority to stop the disconnection of electricity supply to low-volume customers (including residential customers and small businesses) during periods specified by the OEB. In response, the OEB amended the LDCs' licence conditions to prohibit the disconnection of residential customers from February 24 to April 30 in 2017, and from November 15 to April 30 every year thereafter. This same ban, however, does not apply to USMP customers. As long as the disconnection standards prescribed in the Unit Sub-Metering Code are observed, USMPs are not in violation of any code or legislation for disconnecting their customers during the winter because of non-payment.

USMPs are service providers to master consumers (for example, building owners and condominium boards). It is the master consumers that make decisions about disconnection for non-payment, which are then carried out by the USMPs as authorized. However, since master consumers are exempt from licensing by regulation, the OEB informed us that it is unable to use license conditions as a regulatory tool to impose a winter disconnection ban on master consumers, as that legislative authority applies only to licensed entities.

We examined complaints filed with the OEB from 2016/17 to 2021/22 and noted that there were approximately 100 complaints from USMP customers related to winter disconnections, which represents approximately 12% of all USMP customer complaints during that time period. Although USMP customers file these complaints to seek help from the OEB, the OEB can only take limited action—for example, ensuring that USMPs have followed the disconnection rules in the Unit Sub-Metering Code (see **Figure 12**) and advising customers to seek emergency funding from the Low-income Energy Assistance Program (see

Appendix 3). Complaint data also shows that some USMP customers were unaware of the fact that they are not entitled to protection against winter disconnection.

Apart from disconnection, a number of these complaints further indicated that some customers had been asked by the USMPs to pay a reconnection fee

(which could be over \$200) in addition to the overdue amount before their service would be reconnected.

In contrast, while LDC customers also have to pay a reconnection fee, they can arrange to pay this fee after being reconnected.

Figure 12: Comparison of Key Customer Service Requirements Applicable to Customers of Local Distribution Companies (LDCs) and Unit Sub-Meter Providers (USMPs)

Prepared by Office of the Auditor General of Ontario

	LDCs	USMPs
Security deposit		
Waive security deposit for eligible low-income customers upon request.	✓	✓
Cap deposit at 2.5 times customer's average monthly bill.	✓	✓
Provide residential customers at least six months to pay the deposit (four months for small business customers).	✓	✓
Return deposit to residential customers with one year of good payment history (three years for small business customers).	✓	✓
Pay interest on deposits every 12 months, based on Bank of Canada's prime business rate less 2%.	✓	✓
Equal payment plans		
Offer customers the option to join an equal monthly payment plan.	✓	
Late payment charges		
Cap charges at 1.5% per month.	✓	
Do not impose charges within 20 calendar days of bill issuance.	✓	✓
Arrears payment agreement		
Offer customers that are in arrears a payment option before proceeding with disconnection.	✓	✓
Provide residential customers at least five months to pay off arrears if amount owed is less than twice the average bill (10 months if the amount owed exceeds twice the average bill).	✓	✓
Disconnection		
Provide seven calendar days' notice of account overdue status, followed by 14 calendar days' notice of pending disconnection.	✓	✓
Complete disconnection within 14 calendar days after the end of notice period.	✓	✓
Do not disconnect electricity for residential customers during winter months (i.e., between November 15 and April 30).	✓	
Reconnect customers within two business days once bill is paid in full, or once payment agreement is reached.	✓	

RECOMMENDATION 4

So that electricity customers are entitled to similar service levels and benefits regardless of their service providers, we recommend that the Ontario Energy Board identify mechanisms to align service standards that apply to Unit Sub-Meter Provider customers with those that apply to Local Distribution Company customers, especially with respect to protection against winter disconnections and reconnections.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) will undertake a review of the service standards for Unit Sub-Meter Providers (USMPs) in order to assess the potential for alignment with Local Distribution Companies, and determine next steps having regard to the OEB's legislative authority and the different circumstances of USMPs as competitive businesses and service providers to unregulated master consumers that make decisions regarding matters such as disconnection.

4.3.3 The OEB Does Not Provide Sufficient Information to Educate Electricity Customers About USMPs

As mentioned in **Section 4.3.1**, USMP customers are seeking clarity about the prices they pay for electricity services. While the OEB does not have the authority to regulate USMP charges, it could provide customers with more education and information about USMPs so customers can have a better understanding of the services provided by USMPs, their charges and performance.

Consumer Education

We noted that the OEB website provides limited educational materials about USMPs. For example:

- The “Overview of Energy Sector” page provides a description of major players (for example, generators, transmitters, LDCs, retailers) and

the OEB's regulatory role over these players. USMPs, however, are not mentioned nor described there.

- In the section that helps customers understand their electricity bill, no information has been provided about USMP billing. Since USMP bills and LDC bills look similar, it may not be clear that delivery charges for USMP customers also include monthly service fees that are not subject to rate regulation.

Providing more educational materials about USMPs would be significantly beneficial to inform current and prospective USMP customers. This is particularly important given the growing number of customers that are being serviced by USMPs (see **Figure 11**).

USMP Performance

The OEB publishes performance scorecards for LDCs on an annual basis that include 20 measures over four performance areas (see **Figure 13**). Although not all of these measures are relevant to USMPs, given the distinct nature of their business, some performance measures related to customer service (for example, billing accuracy, first contact resolution) can apply to USMP customers. A scorecard would provide USMP customers with useful information about their providers' performance (individually or in comparison with the rest of the industry) and supplement the complaint statistics that the OEB shares with the public on its website.

RECOMMENDATION 5

To educate the public about Unit Sub-Meter Providers (USMPs), we recommend that the Ontario Energy Board immediately:

- develop educational materials about USMPs to help customers understand their services, their commercial relationships with building owners and tenants, their billing practices, and the extent of regulation over their business practices and pricing; and
- develop and publish performance metrics for USMPs to provide customers with insight into USMP performance.

Figure 13: Scorecard Measures for Local Distribution Companies

Source of data: Ontario Energy Board

Customer Focus
Service Quality
• New residential/small business services connected on time • Scheduled appointments met on time • Telephone calls answered on time
Customer Satisfaction
• Billing accuracy • First contact resolution • Customer satisfaction survey results
Operational Effectiveness
Safety
• Level of public awareness • Level of compliance with Electrical Distribution Safety Regulation • Serious electrical incident index
System Reliability
• Avg. # of times power disrupted • Avg. duration (in hours) of power disruptions
Asset Management
• Distribution system plan implementation progress
Cost Control
• Efficiency assessment • Total cost per customer • Total cost per km of power line
Public Policy Responsiveness
Connection of Renewable Generation
• Renewable generation connection impact assessment completed on time • New micro-embedded generation facilities connected on time*
Financial Performance
Financial Ratios
• Liquidity: Current Ratio (i.e., the proportion of current assets to current liabilities) • Leverage: Total Debt to Equity Ratio • Return on Equity: deemed vs. achieved

* Micro-embedded generation facilities refer to renewable energy generation (such as wind and solar) with an installed capacity of not more than 10 kilowatts (kW) connected to a distribution network rather than the transmission network.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) appreciates the Auditor General's focus on the importance of making information available to consumers, which is aligned with the OEB's objectives and strategic goals. The OEB will develop customer information and education materials regarding the Unit Sub-Meter Provider (USMP) sector addressing the areas that the Auditor General has identified, subject to confidentiality or commercial sensitivity concerns.

We will also consider the kinds of performance reporting that should be obtained from USMPs and reported on by the OEB, in order to support and enhance customer understanding of the USMP sector while balancing regulatory burden and cost.

4.4 Eligibility Criteria and Cap-Setting Methodology for the Distribution Rate Protection (DRP) Program Are Outdated

The Province implemented the Distribution Rate Protection (DRP) program on July 1, 2017 to provide electricity bill relief to residential customers who live in areas that, at the time of the program's introduction, had among the highest billed distribution rates. Under the DRP program a cap is set based on the monthly base distribution charges paid by these residential customers. However, due to structural limitations in its design, over time the program has failed to effectively respond to changes in distribution rates. This has led to the exclusion of residential customers in some service areas with high distribution charges and a stagnant monthly cap for years after implementation. **Appendix 6** shows the monthly base distribution charges of all LDC residential customers.

4.4.1 Residential Customers in Certain Areas with High Electricity Distribution Charges Are Ineligible for Bill Relief Due to Outdated Program Criteria

Since the program's inception, residential customers served by eight LDCs are eligible for the DRP (see **Figure 14**). These eligible LDCs are specified in the DRP regulation (O. Reg. 198/17). Changing which LDCs are eligible for the DRP would require an update to the DRP regulation.

In examining the monthly base distribution charge for all residential customers in 2022, we noted that there is one case where the residential customers of an LDC (Lakeland Power's customers in the Parry

Sound service area) remain eligible for the DRP, even though their monthly base distribution charge (\$36.55) has fallen below the current DRP cap effective July 1, 2022 (\$38.08), and are therefore not benefiting from the program. On the other hand, we noted certain cases where LDC residential customers (for example, residential customers of Toronto Hydro and Hydro One's Norfolk Power service area) are ineligible under the DRP even though their monthly base distribution charges are above the current DRP cap (see **Section 4.4.2** for details on the cap-setting methodology). As shown in **Figure 14**, the customers served by six LDCs are not provided with DRP bill relief, even though they are paying monthly base distribution charges above the current DRP cap.

Figure 14: Number of Customers Served by Local Distribution Companies (LDCs) with Monthly Base Distribution Charges Above the Monthly Distribution Rate Protection (DRP) Cap of \$38.08 (Effective July 1, 2022)

Prepared by the Office of the Auditor General of Ontario

LDCs	Monthly Base Distribution Charge (\$)	Monthly Base Distribution Charge in Excess of \$38.08 DRP Cap (\$)	Number of Residential Customers Served	Eligible for DRP
1 Algoma Power Inc.	60.27	22.19	9,173	✓
2 Atikokan Hydro Inc.	50.73	12.65	1,371	✓
3 Canadian Niagara Power Inc.	40.16	2.08	26,944	
4 Chapleau Public Utilities Corporation	55.21	17.13	1,054	✓
5 Espanola Regional Hydro Distribution Corporation	40.00	1.92	2,900	
6 Halton Hills Hydro Inc.	39.43	1.35	20,401	
7 Hydro One Networks Inc. (R1 class) ¹	64.44	26.36	473,917	✓
8 Hydro One Networks Inc. (R2 class) ¹	76.44	38.36	330,498	✓
9 Hydro One Networks Inc. – Norfolk Power	39.10	1.02	18,365	
10 Innpower Corporation	46.55	8.47	18,199	✓
11 Northern Ontario Wires Inc.	40.32	2.24	5,093	✓
12 Sioux Lookout Hydro Inc.	51.26	13.18	2,425	✓
13 Toronto Hydro-Electric System Limited	40.70	2.62	607,011	
14 Wellington North Power Inc.	41.98	3.90	3,341	

Note: The analysis is based on data from the OEB. Apart from these 14 LDCs and their respective customer classes, Lakeland Power (Parry Sound service area) customers are also eligible for the DRP. Lakeland Power is not included in the figure because its monthly base distribution charge (\$36.55) is below the DRP cap. Hydro One Remote Communities Inc., which has a monthly base distribution charge above the DRP cap, is also excluded from this figure as the majority of its customers are eligible for the On-Reserve First Nations Delivery Credit. Delivery charges are waived entirely for customers receiving the On-Reserve First Nations Delivery Credit.

Appendix 6 shows the monthly base distribution charges of all LDC residential customers.

1. Hydro One Network Inc. divides its residential service areas into three classes as below. Only R1 and R2 are eligible for the DRP.

- UR: Urban density zone, which are areas that contain 3,000 or more customers, with at least 60 customers for every kilometre of power line used to supply energy in the zone. These customers are not eligible for the DRP.
- R1: Medium density zone, which are areas that contain 100 or more customers, with at least 15 customers for every kilometre of power line used to supply energy in the zone.
- R2: Low density zone, which are areas not covered by (UR) Urban or (R1) Medium density zones.

The Ministry completed a review of the DRP program in 2021 that also identified the need for more dynamic eligibility criteria. As a result, the Ministry anticipates it will conduct an analysis of options for more robust eligibility criteria in 2022/23. There is currently no timeline set for completing the assessment and implementing any suggested changes.

4.4.2 Despite Distribution Charge Increases, the Monthly DRP Cap Remained Unchanged for Four Years

The monthly DRP cap is set by the OEB once per year based on parameters set out in the DRP regulation (O. Reg. 198/17). The regulation provides that the cap is the greater of the lowest monthly base distribution charges among eligible LDCs and the previously approved cap.

At the program's inception on July 1, 2017, the DRP cap was set at \$36.43, which was the lowest monthly base distribution charge among eligible LDCs at the time. The cap was raised to \$36.86 on July 1, 2018 but remained unchanged over the next three annual reviews because the monthly base distribution charge for Lakeland Power (Parry Sound service area) has dropped and stayed below the DRP cap since July 1, 2018.

The monthly base distribution charges for all other eligible LDCs (besides Lakeland Power) have increased since the introduction of the program. However, because of the limitations imposed by the cap-setting mechanism set out in the DRP regulation, the DRP cap cannot be adjusted to keep up with the rising distribution rates or, at a minimum, to align with inflationary increases. The result is an increase in DRP program cost by about 40%, from \$254 million in 2018/19 to \$354 million in 2021/22, all of which was borne by taxpayers because the DRP is a taxpayer-funded subsidy program.

As a result of the DRP program review conducted in 2021, the Ministry introduced an amendment to the DRP regulation, which came into force on April 5, 2022, to allow for a gradual increase in the DRP cap by applying an inflationary adjustment to

the previously determined cap. Without the inflationary adjustment, the July 1, 2022 DRP cap would have remained at \$36.86 as this was greater than Lakeland Power's monthly base distribution charge. However, based on the amended parameters, after applying a 3.3% inflationary adjustment to the previously determined cap, effective July 1, 2022 the DRP cap was set at \$38.08 (see **Figure 15**). This recent change in DRP cap-setting methodology helps contain program costs, which in turn will alleviate the burden on taxpayers.

RECOMMENDATION 6

So that the Distribution Rate Protection (DRP) program continues to meet the intent of protecting Local Distribution Company customers in areas with comparatively high distribution costs, we recommend that the Ministry of Energy, with input from the Ontario Energy Board, within the next year:

- complete the DRP program analysis to identify and evaluate options that can improve the robustness of the mechanism in determining program eligibility; and
- implement changes identified from the analysis.

MINISTRY RESPONSE

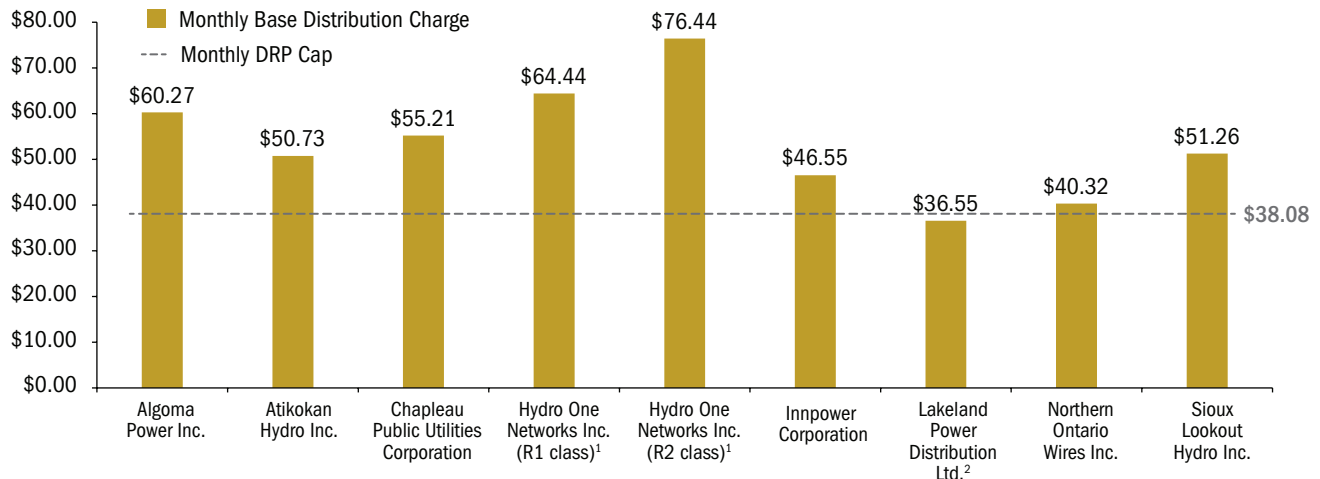
The Ministry of Energy (Ministry) thanks the Auditor General for these recommendations. The Ministry recently amended O. Reg. 198/17: *Distribution Rate-Protected Residential Customers*, to include an annual inflationary adjustment to the methodology for setting the Distribution Rate Protection cap.

The Ministry intends to study the impact of the 2022 regulatory amendment through additional cap setting cycles, before finalizing any recommendations relating to program eligibility.

The Ministry will continue to work collaboratively with the Ontario Energy Board to interpret trends that could impact the program's performance and cost, as well as analyze options for future program reform.

Figure 15: Comparison of Monthly Distribution Rate Protection (DRP) Cap and Monthly Base Distribution Charge of Eligible Local Distribution Companies (LDCs), 2022

Source of data: Ontario Energy Board



Note: The portion of the monthly base distribution charge, as billed, in excess of the DRP cap, represents the cost borne by taxpayers.

1. Hydro One Network Inc. divides its residential service areas into three classes as below. Only R1 and R2 are eligible for the DRP.

- UR: Urban density zone, which are areas that contain 3,000 or more customers, with at least 60 customers for every kilometre of power line used to supply energy in the zone. These customers are not eligible for the DRP.
- R1: Medium density zone, which are areas that contain 100 or more customers, with at least 15 customers for every kilometre of power line used to supply energy in the zone.
- R2: Low density zone, which are areas not covered by (UR) Urban or (R1) Medium density zones.

2. Parry Sound service area.

4.5 Use and Effectiveness of Low-Income and Emergency Subsidy Programs Are Not Sufficiently Evaluated

The OEB and the provincial government have introduced a number of subsidy programs targeted at assisting customers who face financial hardship when paying their electricity bills. These special programs, which customers must apply for, include the Low-income Energy Assistance Program (LEAP), the Ontario Electricity Support Program (OESP) and the time-limited COVID-19 Energy Assistance Program (CEAP). **Figure 16** provides a description of these programs.

4.5.1 Funding Mechanism and Eligibility Criteria for LEAP Have Not Been Sufficiently Reviewed to Optimize Its Benefits to Eligible Electricity Customers

LEAP is a grant program that provides emergency financial assistance to eligible low-income customers that are behind on their electricity bills. Electricity customers whose accounts are in arrears and who have met certain “low-income” criteria (see **Figure 17**) may be eligible for LEAP.

Every LDC maintains a LEAP budget to support its own customers, as well as USMP customers who live within the area it serves. Each LDC’s annual budget for LEAP is funded through the distribution rates that must be approved by the OEB. In addition to the annual budget, each LDC can also make additional contributions (for example, donations from its shareholders) to its LEAP funds in any given year. Unused funds in a calendar year are rolled over to the following year.

Figure 16: Low-Income and Emergency Financial Assistance Programs

Sources: Ontario Energy Board and Ministry of Energy

Program	LEAP	OESP	CEAP
Who establishes the program?	OEB	OEB (Ministry of Energy took over funding and decision-making for the program)	Ministry of Energy
Source of funding	Ratepayer-funded (through distribution charges collected by each Local Distribution Company to fund the program in its service area)	Taxpayer-funded	Taxpayer-funded
How does the program support electricity ratepayers?	Provides eligible low-income customers with emergency grants to pay off electricity bill arrears to avoid service disconnections.	Provides eligible low-income electricity customers with on-bill credits (ranging from \$35/month to \$113/month).	Provided eligible customers with emergency grants to pay off electricity bill arrears that arose during the COVID-19 pandemic (limited-time program from July 2020 to October 2021).
Who is eligible?	Residential electricity customers whose household size and after-tax income meet program requirements.	Residential electricity customers whose household size and after-tax income meet program requirements. ¹	Residential and small business electricity customers. Eligibility requirements changed over time but, at a minimum, to qualify for the program a customer's electricity bill had to be in arrears since the provincial COVID-19 emergency was declared.
How does it apply on the bill?	Applies directly to the balance in arrears. Not an ongoing support and it is subject to an annual cap per customer as well as funding availability.	Monthly credit applies directly on customer's bill. Re-apply every two years or as personal circumstances change. If a customer is 65 years or older, or receiving a Canada Pension Plan disability pension, re-apply every five years.	Applied directly to balance in arrears. Not an ongoing support and it is subject to a cap per customer as well as funding availability.
Number of recipients	5,534 ²	218,418 ²	65,995 ³
Total amount disbursed	\$2,481,353 ²	\$159,040,323 ²	24,793,163 ³

Note: LEAP and CEAP also apply to natural gas customers. However, information and statistics indicated in Figure 16 (for example, number of recipients and total amount disbursed) relate to electricity customers only.

1. OESP benefits vary depending on household size and income.
2. LEAP and OESP numbers are based on information available for 2021.
3. CEAP numbers cover the full length of the program from July 2020 to October 2021.

LEAP's funding mechanism is based on each LDC's distribution revenue. The prescribed funding formula does not account for demographic differences in customers between LDCs, nor does funding consider prior years' application trends—that is, funding is not adjusted based on changing needs or differences in need. While LDCs may propose for a higher funding amount if greater need could be justified, the OEB informed us that most LDCs have adopted

the prescribed funding formula. Our analysis of LEAP fund usage between 2016 and 2021 indicated that while certain LDCs have LEAP funds remaining at year-end, others deplete their funds in some years (see Figure 18). Also, based on the 2019 LEAP report on program results (the most recent one published by the OEB), two LDCs had depleted their annual funds as early as February and about 25% of LDCs ran out of funds by end of June. This indicates that customers

Figure 17: Eligibility Criteria for Ontario Electricity Support Program (OESP) and Low-income Energy Assistance Program (LEAP)

Sources: Ontario Energy Board and Ministry of Energy

Household Income (After-Tax)	Household Size						
	1	2	3	4	5	6	7+
\$28,000 or less							
\$28,001–\$39,000	✓						
\$39,001–\$48,000	✓	✓					
\$48,001–\$52,000	✓	✓	✓	✓			
Over \$52,000	✓	✓	✓	✓	✓	✓	✓

	Eligibility criteria apply to both OESP and LEAP applicants.
	Eligibility criteria that apply to OESP applicants but not to LEAP applicants.
✓	Eligibility criteria that apply only to those OESP applicants who have been approved for support under the Ontario Works or the Ontario Disability Support Program.

served by different LDCs may not have the same opportunity to access LEAP funds. Specifically, a customer of one LDC could have their LEAP application approved while another customer with similar needs who also meets program eligibility criteria but who lives in an area served by a different LDC could be denied due to a lack of available funds.

As shown in **Figure 18**, the number of LDCs that had fully depleted their LEAP funds has been decreasing (from 39 LDCs in 2016 to 3 LDCs in 2021). The decrease in the level of depleted funding may have been affected by certain short-term COVID-19 relief measures that were available to electricity customers in recent years. For example:

- In 2020, the OEB extended the winter disconnection ban from April 30 to July 31 for residential customers.
- From July 2020 to October 2021, the Ministry of Energy introduced a time-limited COVID-19 Energy Assistance Program (CEAP). Although CEAP was primarily intended to help those customers who suffered financially due to pandemic-driven job losses, its rollout may well have reduced the demand for LEAP due to certain overlaps in the two programs' eligibility criteria.

The lifting of these temporary measures may increase the demand for LEAP funding.

Since the introduction of LEAP in 2011, other programs have also been introduced to aid low-income electricity customers. For example:

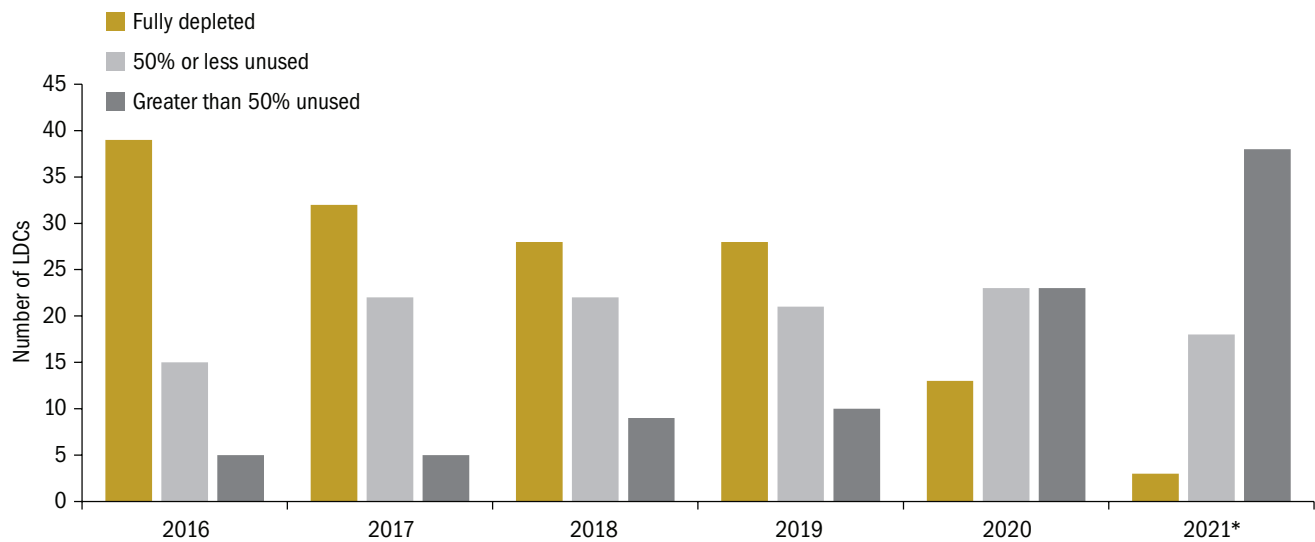
- OESP was implemented in January 2016 to provide continued financial assistance to eligible low-income electricity customers through on-bill credits.
- A disconnection ban was implemented since February 2017 to prohibit LDCs from disconnecting residential customers due to non-payment during winter months.

Figure 19 shows that the number of LEAP applicants has declined since the implementation of OESP and the winter disconnection ban, indicating that these new measures have reduced the need for customers who are eligible for LEAP grants to seek them.

Given the significant changes that have occurred over the past few years, it is important for the OEB to perform a LEAP review to ensure that the program remains effective in benefiting its target audience, and that the current LEAP criteria are still appropriate and operate optimally with other low-income assistance programs, such as OESP. For example, when the OESP was introduced in 2016, it has the same eligibility criteria as LEAP. However, the program's eligibility has expanded since 2017 and is now benefiting a greater population (see **Figure 17**).

Figure 18: Availability of Low-income Energy Assistance Program (LEAP) Fund at Year-end, by Number of Local Distribution Companies (LDCs), 2016–2021

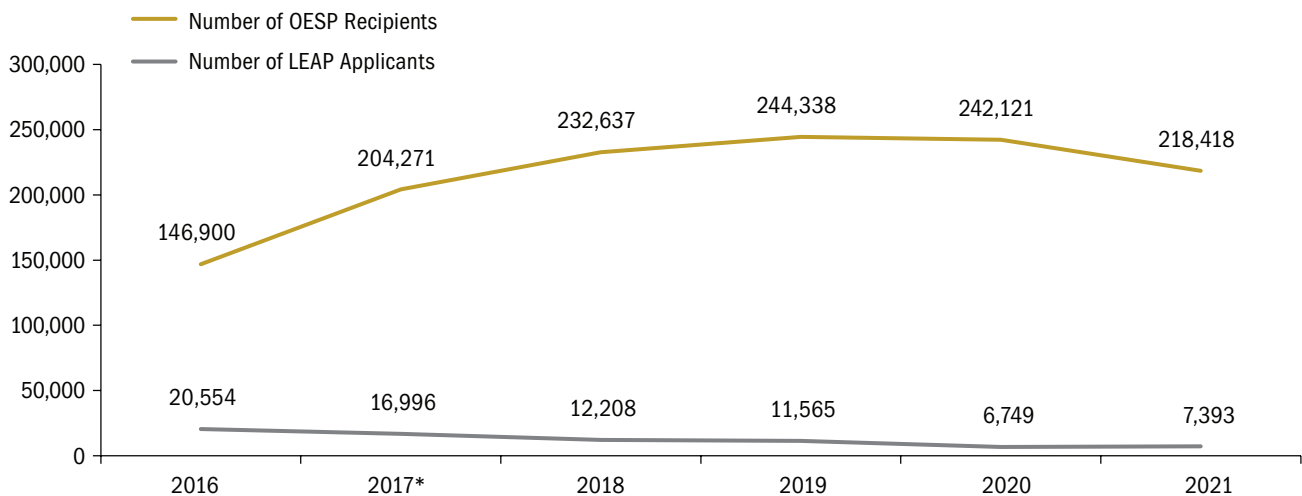
Source of data: Ontario Energy Board



* In 2021, LDCs supplemented their LEAP budgets by the one-time credit amount that the OEB applied against each LDC's cost assessment invoice (total of \$1.6 million). The credit amounts were provided to the LDCs in light of the COVID-19 pandemic and were funded by the administrative monetary penalties the OEB collected over time from licensees through its compliance and enforcement activities. The credit amount applied to each LDC was determined based on two criteria: (i) each LDC's proportion of the overall 2019 LEAP budget; and (ii) an additional amount provided to LDCs that generally run out of LEAP funds before year-end, based on the LDC's history of depletion of LEAP funds. This increase in LEAP budgets, along with other factors (for example, the time-limited COVID-19 Energy Assistance Program) may have contributed to more LDCs having unused LEAP funds by year-end in 2021.

Figure 19: Ontario Electricity Support Program (OESP) Recipients and Low-income Energy Assistance Program (LEAP) Applicants, 2016–2021

Source of data: Ontario Energy Board



* Introduction of winter disconnection ban in February 2017.

While we noted that OEB staff performed a LEAP review in 2019, the review was not finalized (that is, not published for consultation) and no follow-up actions were taken because the Ministry planned to conduct its own review of all low-income energy programs at that time. The OEB informed us that it is planning to resume the review in due course.

RECOMMENDATION 7

To assess and confirm whether the Low-income Energy Assistance Program (LEAP) effectively benefits those who need assistance most while containing program costs, we recommend that the Ontario Energy Board:

- evaluate LEAP's funding mechanism and historical trends in funding availability, and implement changes as warranted to ensure that the program is meeting its objectives; and
- review LEAP's eligibility criteria and implement changes as warranted, taking into consideration program objectives and implementation costs.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) thanks the Auditor General for this recommendation. We have already commenced planning to resume the Low-income Energy Assistance Program (LEAP) emergency financial assistance review that was suspended in 2019. The OEB's review had considered the issues identified by the Auditor General, including the funding and eligibility criteria for emergency financial assistance along with other aspects of the program. Any program changes will be considered with regard to the purpose of the program in supporting low-income customers facing disconnection for non-payment, historical trends in funding availability, and the cost implications for ratepayers who fund the program through their distribution rates in each service area.

4.5.2 Effectiveness of Low-Income and Emergency Subsidy Programs Has Not Been Sufficiently Evaluated

While OESP, LEAP and the COVID-19 Energy Assistance Program (CEAP) have clearly stated intentions, they do not have specific performance measures and targets. Such measures and targets would allow for ongoing assessment of the programs' performance and effectiveness in achieving desired outcomes.

Ontario Electricity Support Program (OESP)

Although the OESP was launched by the OEB in 2016, we found that no performance measures and targets have ever been developed to assess its effectiveness. It was not until 2021 that the Ministry of Energy reviewed the effectiveness of the OESP as part of the Ministry's 2021/22 Multi-Year Plan. The review noted that the OESP did not have a performance measurement framework. Based on the outcomes of the review, the Ministry developed a preliminary framework that sets out the OESP's intended outcomes, key performance indicators and targets.

However, in its report back to the Treasury Board Secretariat as part of its 2022/23 Multi-Year Plan, the Ministry of Energy indicated that the framework had not yet been implemented due to issues with data availability. The Ministry informed us that the program's partners (including the OEB) are engaged to obtain the essential data to implement the performance framework.

Low-income Energy Assistance Program (LEAP)

The OEB collects information related to LEAP from LDCs and publishes program results on an annual basis. The annual report includes trends on program funding, applications, payments, rate of depletion of funds, average grant per recipient and administration costs. However, apart from this statistical data, there is no reporting of program targets or performance against targets.

In the LEAP review performed in 2019 (refer to **Section 4.5.1**), the OEB staff evaluated the design and delivery of LEAP and drafted recommendations on ways to improve the program (for example, increasing the grant amount for certain eligible customers, better training for LDC and USMP customer service staff on LEAP-related tasks). The need to develop performance targets, however, was not identified in the recommendations.

COVID-19 Energy Assistance Program (CEAP)

When the Ministry introduced the CEAP in July 2020 to provide relief during the COVID-19 pandemic, the CEAP's eligibility criteria required applicants to be laid off (or receiving the Canada Emergency Response Benefit), have accounts in good standing pre-pandemic, and have been unable to pay off multiple bills during the pandemic while also not receiving OESP or LEAP assistance. The uptake rate for CEAP was lower than expected in the first three months, with only 1,705 electricity customer applications approved across the province.

To expand the program's eligibility to a larger population, at the Ministry's request, the OEB amended the eligibility criteria twice: first in September 2020 and again in January 2021. This eventually extended coverage to also include any customer whose account

was in arrears after the Province declared a state of emergency due to COVID-19. These amendments increased the CEAP's uptake rate, as evidenced by the noticeable increase in approved applications following each amendment—there was a 265% increase from September–October 2020 and a 155% increase from January–February 2021 (see **Figure 20**).

During the time-limited offer of the CEAP from July 2020 to October 2021, about \$24.8 million was disbursed to almost 66,000 electricity residential and small business customers. While the CEAP's uptake rate increased significantly each time the eligibility criteria were amended, no analysis has been done to assess the effectiveness of the program after its wrap-up to determine whether the CEAP benefited those hit hardest by the pandemic.

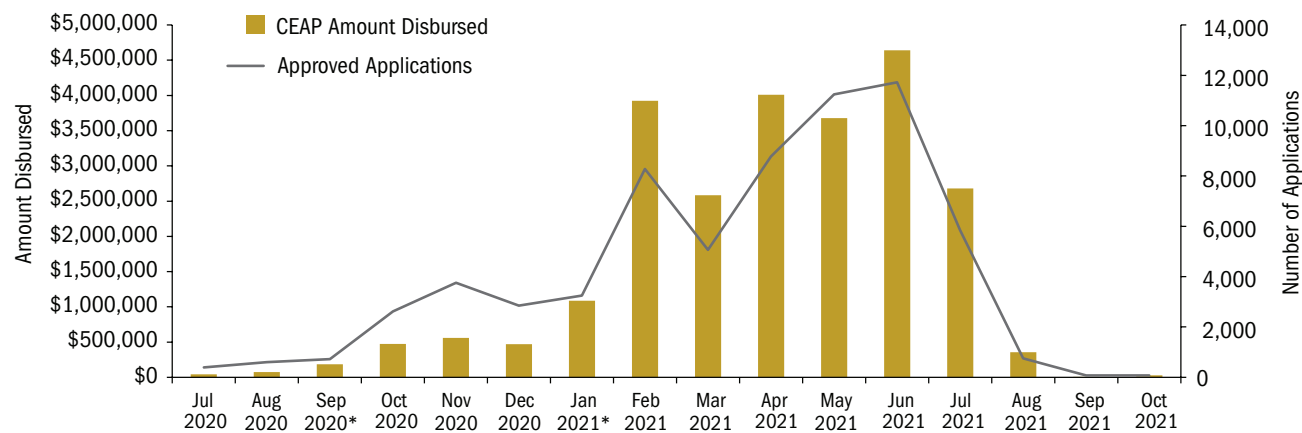
RECOMMENDATION 8

To assess and confirm whether low-income energy programs effectively benefit those who need assistance most while containing program costs, we recommend that the Ministry of Energy and Ontario Energy Board:

- develop performance metrics and targets to evaluate the effectiveness of the programs within their responsibility; and

Figure 20: COVID-19 Energy Assistance Program (CEAP) Uptake and Disbursement, July 2020–October 2021

Source of data: Ontario Energy Board



* Months when CEAP eligibility criteria were amended.

- measure program performance against established targets at defined intervals and develop action plans if performance targets are not met.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) will develop performance targets for the Low-income Energy Assistance Program (LEAP) as part of the review of the program discussed in our management response to **Recommendation 7**, and thanks the Auditor General for this related recommendation. Following the completion of the review, the OEB will monitor and report on the LEAP performance targets.

MINISTRY RESPONSE

The Ministry of Energy (Ministry) thanks the Auditor General for these recommendations. The Ministry is committed to continuous program improvement. The Ministry has developed a preliminary performance measurement framework, and will continue to refine performance metrics and targets for the Ontario Electricity Support Program and commits to measuring performance regularly.

4.6 Regulatory Cost of Major Rate Applications for Very Small LDCs Is Disproportionately High

One of the core functions of the OEB is the adjudication of rate applications. The OEB is mandated under the OEB Act to set “just and reasonable rates,” guided by its statutory objectives, which include protecting consumer interests and maintaining a financially viable electricity industry. However, our review of the OEB’s rate-setting process found that the costs associated with this process may outweigh certain benefits when it comes to very small LDCs (that is, those LDCs with fewer than 5,000 customers).

As detailed in **Section 2.2.1**, rate-regulated LDCs typically file a Cost of Service (COS) rate application with the OEB every five years. LDCs are required to

provide information about their historical financial and operational performance, forecasts of electricity demand, estimated costs and capital assets required to service this demand. COS rate application decisions are made by a panel of Commissioners, based on evidence that is examined by both OEB staff and intervenors (that is, participants that represent consumers or other interest groups, and in some cases individuals) during the proceedings.

The OEB surveyed industry stakeholders in 2020 and 2021 to solicit feedback on its performance in various areas. Results from both surveys indicated that stakeholders have concerns over the amount of documentation required for rate applications and the efficiency of the intervenor process. The survey results in 2020 showed that only about 19% of respondents were satisfied with the amount of documentation required and 27% were satisfied with the efficiency of the OEB’s management of the intervenor process. The latest survey results in 2021 showed only very slight improvements, with about 22% and 28% of respondents satisfied with the OEB’s performance in these two areas respectively. The largest category of respondents to the OEB’s stakeholder survey were rate-regulated electricity distributors.

We performed a cost-benefit analysis of the adjudication process by reviewing the COS rate applications from 2019 to 2021. During this period, 20 LDCs of varying sizes filed COS rate applications. In adjudicating these applications, the OEB denied about \$70 million in revenue sought by these LDCs. This represents an estimated \$350 million of avoided costs to customers over the typical five-year term covered by the COS applications. **Figure 21** shows the costs and benefits associated with COS adjudication for LDCs of different sizes, based on these 20 applications. Costs include identifiable expenses related to the proceedings (such as intervenor costs and regulatory process costs incurred by the OEB in relation to specific proceedings); benefits are measured by rate increases avoided through revenue disallowance as a result of adjudication. While we acknowledge that the OEB’s rate-setting process brings various qualitative benefits to customers (for example, to incentivize rate-regulated entities

to prudently manage their costs and to improve on operational performance), our cost-benefit analysis is focused on certain quantitative aspects of the process.

As **Figure 21** illustrates, the costs related to the proceedings for all 20 applications represent only 1% of the total estimated five-year avoided rate increases (or savings) resulting from the OEB's adjudication process. However, the costs related to applications of very small LDCs (those with fewer than 5,000 customers) are disproportionately high. For these very small LDCs, the costs represent 25% of the total estimated consumer savings resulting from the proceedings. In one case involving an LDC with only about 1,200 customers, the costs of the proceeding represented 130% of the estimated consumer savings. **Figure 21** only includes the costs related to the proceedings without including the separate costs incurred by LDCs (for example, in preparing the applications) and the costs incurred for OEB staff and Commissioner time (for example, in

reviewing the applications), because this cost data is not available. If these additional costs were included in the analysis, the cost-to-benefit ratio of the adjudication process would have been even less favourable for very small LDCs. LDCs pass these costs on to customers.

In the past, the OEB had one set of filing requirements for rate applications regardless of the LDC's size—whether it is Hydro One, the largest LDC with over 1.4 million customers, or an LDC with fewer than 5,000 customers. To help alleviate the regulatory burden of rate applications on LDCs with fewer than 30,000 customers, with the resulting costs passed on to customers, the OEB has undertaken various initiatives, including reviewing and amending filing requirements for COS applications and the intervenor process, as described in **Figure 22**. However, the impact of these initiatives is not known yet, as they are either recently implemented or still in progress.

Figure 21: Cost-Benefit Analysis of Cost of Service (COS) Adjudication Process by Size of Local Distribution Company (LDC), 2019–2021¹

Prepared by the Office of the Auditor General of Ontario

LDC Size ²	Number of Applications	5-Year Savings	Costs		Costs as a Percentage of 5-Year Savings (%)
		Total Avoided Rate Increases ³ (\$)	Total Intervenor Costs (\$)	Total OEB Expenses ⁴ (\$)	
Large	1	232,950,340	827,228	776,904	1
Medium	9	100,663,277	1,142,953	392,637	2
Small	5	15,363,857	265,324	75,680	2
Very Small	5	585,130	108,420	35,263	25
All	20	349,562,604	2,343,924	1,280,484	1

1. These are rate years (that is, the years for which rates are set), which may be different from the year the applications are filed or decided.

2. "Large" LDCs are defined as those with distribution revenue >\$500 million. "Medium" LDCs are those with more than 30,000 customers, but distribution revenue <\$500 million. "Small" LDCs are those with fewer than 30,000, but at least 5,000 customers. "Very Small" LDCs are those with fewer than 5,000 customers.

3. This represents the 5-year projected customer savings. Avoided rate increases represent revenue requirement disallowances.

4. OEB expenses include certain limited expenses incurred by the OEB that are specific to proceedings (for example, consulting and publication expenses) and do not include overall OEB costs (for example, Commissioner and OEB staff time spent on proceedings), which are not tracked.

Figure 22: Selected Ontario Energy Board (OEB) Regulatory Efficiency Initiatives

Prepared by the Office of the Auditor General of Ontario

Initiative	Updates to Filing Requirements for Electricity Distribution Cost of Service Applications for Smaller Local Distribution Companies (LDCs)	Review of Intervenor Processes and Cost Awards
Purpose	- Improve regulatory efficiency for rate applications filed by smaller LDCs (i.e., those with fewer than 30,000 customers). - Update filing requirements to allow smaller LDCs to focus on evidence the OEB requires to set just and reasonable rates.	Improved the intervenor processes and cost award practices to ensure that the cost of intervention is commensurate with the value that is brought to the OEB's proceedings.
Status	Completed consultation and updated filing requirements for small LDCs in December 2021.	- Completed jurisdictional review of intervenor processes and cost awards in December 2021. - Developed a "Framework for Review of Intervenor Processes and Cost Awards" in March 2022 and received stakeholder comments on the Framework in April 2022. - Identified projects to be undertaken. Projects have target completion dates ranging from 2022/23 to 2023/24.

RECOMMENDATION 9

To help reduce the regulatory burden of filing major rate applications on very small Local Distribution Companies (LDCs), we recommend that the Ontario Energy Board:

- evaluate the impact of its relevant regulatory efficiency initiatives on very small LDCs as soon as sufficient information is available and identify areas for improvement within an established timeline; and
- develop procedures to continuously monitor the impact of relevant regulatory efficiency initiatives on very small LDCs, and implement further actions as warranted.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) will assess and monitor the impact of its amendments to filing

requirements and its review of the Intervenor Framework on very small Local Distribution Companies (LDCs) and will continue to balance regulatory requirements against the need to ensure that the OEB has the evidence it needs to fulfil its statutory and administrative law obligations in setting just and reasonable rates. Based on this assessment, the OEB will take further actions if there is opportunity to reduce the regulatory burden of major rate applications for very small LDCs.

4.7 Review of Capital Structure and Rate of Return for Rate-Regulated Entities Is Overdue

As noted in **Section 2.2.1** and **Figure 3**, the OEB sets rates to allow the rate-regulated entities, including Ontario Power Generation (for the nuclear stations that it owns and operates and most of its hydroelectric fleet), transmitters and LDCs, to recover their

prudently incurred costs in carrying on their regulated business and provide them with the opportunity to earn a fair return on their invested capital. These entities are allowed to earn a fair return to support their continued financial viability and the viability of the electricity industry as a whole.

The OEB determines the allowed return for rate-regulated entities through rate applications. Among other factors, the return is affected by: the capital structure of the entity (that is, its debt-to-equity ratio) and its permitted rate of return on equity (ROE). An increase in the level of equity or the ROE rate would result in increased earnings for the rate-regulated entities and their shareholder(s), all else being equal. And the converse is true: a decrease in the level of equity or ROE would result in a decrease in earnings for the rate-regulated entities and their shareholder(s), all else being equal.

Given the large number of rate-regulated entities in Ontario's electricity industry, the OEB has simplified the process by establishing for rate-setting purposes a common deemed capital structure (60% debt and 40% equity). Currently, rate-regulated electricity entities have adopted the common deemed capital structure, with the exception of Ontario Power Generation and a small number of LDCs that serve customers in the First Nations and remote communities. These entities have their own deemed capital structures, customized based on their unique risk profiles and operating circumstances. The same ROE rate applies to rate-regulated entities and it is implemented for each at the time of rebasing (that is, a more extensive review that typically takes place every five years) and then held constant until the next rebasing. The OEB sets the ROE rate annually based on a pre-established formula.

The deemed capital structure and ROE rate, as part of the OEB's cost of capital policy, were first established for rate-regulated LDCs in 1999. Since then, the policy has undergone several reviews and was also adopted, with modifications, by rate-regulated transmitters and Ontario Power Generation. Specifics of each review, in relation to the capital structure and ROE rate, are summarized below:

- In 2006 the OEB performed a policy review to address all components of the cost of capital methodology, taking into consideration staff's research, expert advice and stakeholder comments. The review concluded that the formula used in setting the ROE rate was appropriate, but updated the deemed capital structure to 60% debt and 40% equity for all LDCs.
- In 2009 the OEB initiated another consultation to review the cost of capital policy, as the existing ROE rate formula was producing anomalous results in light of the global economic crisis (for example, it lowered the allowed ROE when market risk was increasing). The review resulted in changes to the ROE rate formula. The deemed capital structure (60% debt and 40% equity), however, was not the primary focus of the consultation and remained unchanged.
- In 2016 the OEB issued a report on its staff's review of the cost of capital policy. The review concluded that the cost of capital policy issued in 2009 was producing expected outcomes with respect to rate-regulated entities' opportunities to earn allowed returns. However, the review was not meant to be a comprehensive review of individual components within the cost of capital policy.

The deemed capital structure and ROE formula were last subject to comprehensive review in 2006 and 2009, respectively. Given the amount of time that has passed and changes that have occurred, these factors are due for a comprehensive review to confirm that they still reflect the risk profile of electricity transmitters and LDCs in Ontario, and that they result in a fair—but not excessive—return for these rate-regulated entities. For example, the OEB introduced changes in 2015 on how distribution charges were calculated by moving to a fixed distribution charge for residential customers for each LDC, as opposed to having part of the charge based on consumption. The changes were intended to, among other things, provide greater revenue stability—and less risk—for LDCs.

Keeping the deemed capital structure and the ROE formula current is critical, as even a slight adjustment

to these factors would have a significant financial impact on the rate-regulated entities and electricity ratepayers. For example, if applied to all rate-regulated electricity distributors and transmitters in the same year, a 1% change in the deemed equity level could result in an estimated aggregate change of \$30 million in annual revenue to electricity transmitters and LDCs (or annual cost to customers).

We noted that the cost of capital policy is examined more frequently in certain other jurisdictions. For example, the Alberta Utilities Commission initiates a proceeding and sets the deemed capital structure and ROE rate for its regulated entities every two to three years. The British Columbia Utilities Commission sets the benchmark for these parameters every three to five years.

RECOMMENDATION 10

To regularly confirm that rate-regulated entities are financially viable and earn a fair—but not excessive—return, we recommend that the Ontario Energy Board:

- review the deemed capital structure and return on equity (ROE) formula and thereafter at defined intervals (for example, every three to five years); and
- adjust the deemed capital structure and ROE formula as informed by the review, so that they reflect the risk profile of rate-regulated entities.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) supports this review, and notes that the cost of capital policy is already on the OEB's draft work plan for 2023–2025. As determined by the outcome of the review, the OEB will update or confirm the validity of the deemed capital structure and the ROE formula (along with other components of the cost of capital policy) and define the frequency of future reviews. The OEB appreciates the Auditor General's reference to the practices of other regulators and their approaches within their unique regulatory contexts.

4.8 The OEB Does Not Sufficiently Monitor Performance of LDCs After Approving Consolidations

While the number of LDCs in Ontario has decreased over the years through a series of mergers and acquisitions (collectively referred to as “consolidations”), Ontario still has a large number of LDCs: 61 as of September 2022. **Appendix 7** provides a list of consolidations of LDCs with separate distribution systems since 2011.

LDCs file a Mergers, Amalgamations, Acquisitions and Divestitures application (referred to as a “consolidation application”) with the OEB to seek approval for consolidation. The OEB uses a “no harm” test in deciding consolidation applications. In applying the “no harm” test, the OEB primarily focuses on impacts of the proposed transaction on price and quality of service to customers, and the cost-effectiveness, economic efficiency and financial viability of the electricity distribution sector. As discussed in **Section 4.6**, LDCs typically file a Cost of Service (COS) rate application every five years to “rebase” their rates (that is, to re-establish the distribution rates they bill customers based on updated forecasts of costs and electricity consumption profiles). To encourage consolidations, beginning 2015, consolidated entities have been permitted to defer rebasing for up to 10 years from the closing of the transaction (up to five years prior to 2015) so that they have a longer period to recuperate the transaction costs of consolidation. To balance customer interests, consolidated entities that chose to defer rebasing for greater than five years are required to implement an earnings sharing mechanism to share the benefits from consolidation with customers for the period beyond five years.

4.8.1 The OEB Does Not Sufficiently Monitor Post-Consolidation Activities to Confirm Projected Benefits Are Realized During the Deferred Rebasing Period

Proactive monitoring is important to confirm that after consolidation, LDCs are adhering to any conditions of approval set by the OEB and that post-consolidation

integration activities are progressing as planned to generate long-term value for customers. However, the OEB's existing framework does not include standardized monitoring of post-consolidation activities before the end of the deferred rebasing period, which can be up to 10 years after transaction close. Instead, specific filing or tracking requirements during the deferral period are imposed on consolidated entities on a case-by-case basis only.

Hydro One's Acquisitions from 2013 to 2015

Hydro One made successive acquisitions from 2013 to 2015 to take ownership of three LDCs: Norfolk Power, Woodstock Hydro and Haldimand County Hydro. In its consolidation applications, Hydro One proposed for customers of the acquired LDCs a 1% rate reduction, with rates frozen at that level for a period of five years. Evidence in the proceedings also included analysis of the potential operational and capital savings for the 10 years following the acquisitions. Based on the evidence presented, the OEB concluded that Hydro One had satisfied the "no harm" test and in turn approved the consolidations.

In 2017 Hydro One filed a Cost of Service (COS) rate application for the period from 2018 to 2022, which included proposed new rates for its acquired customers from Norfolk Power, Woodstock Hydro and

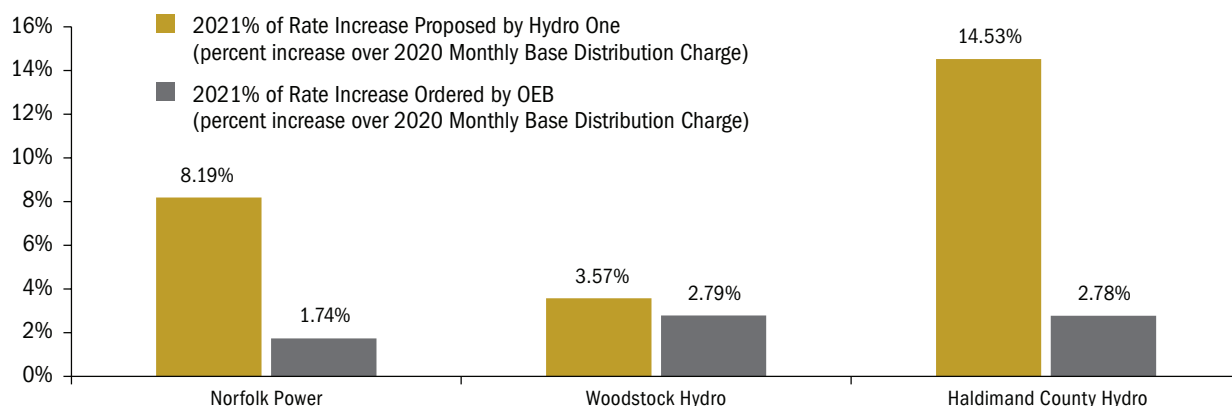
Haldimand County Hydro for 2021 and 2022, as their rates were up for rebasing. In the COS application, however, Hydro One could not provide sufficient evidence to demonstrate that the acquisitions had led to a lower cost structure and that the acquired customers were unharmed.

As illustrated in **Figure 23**, Hydro One's proposed base distribution rates for 2021 were higher than the rates in effect in 2020 by 8.19%, 3.57% and 14.53% for residential customers of Norfolk Power, Woodstock Hydro and Haldimand County Hydro, respectively. Hydro One also failed to separately track and report costs incurred to serve customers of the acquired LDCs post-consolidation to justify the proposed rate increases, when the separate tracking of costs was one of the key conditions the OEB imposed when it approved Hydro One's consolidation applications.

In the end, the OEB upheld the "no harm" principle in its rate decision, ultimately limiting the rate increases for customers of the three acquired LDCs to below 3% (see **Figure 23**), and ordered Hydro One to absorb any revenue shortfall associated with the cost to operate the acquired LDCs to avoid passing those costs to its customers. However, this shows a need for more active monitoring from the OEB before acquired entities are up for rebasing.

Figure 23: Proposed and Approved Increase in 2021 Monthly Base Residential Distribution Charges for Hydro One's Norfolk Power, Woodstock Hydro and Haldimand County Hydro Customers

Source of data: Ontario Energy Board



Hydro One's Acquisitions in 2018

In 2018, Hydro One filed consolidation applications to acquire Orillia Power and Peterborough Distribution respectively. The OEB approved both acquisitions, with a number of conditions imposed on Hydro One to protect customers. For example, one of the conditions requires that actual costs in excess of projected costs subsequent to the deferred rebasing period be borne by the shareholders of Hydro One and not the ratepayers. Though these conditions helped minimize the negative rate impact for customers of the acquired LDCs, the OEB still lacks a standardized process to consistently monitor post-consolidation integration activities during the deferred rebasing period to assess that these activities were progressing as planned to generate long-term value to customers.

The OEB informed us that while there are no standard filings required specifically of consolidated entities to enable regulatory monitoring, it can require a consolidated entity to file information during its deferred rebasing period and has done this in the past on a case-by-case basis. However, given the government's priority in advancing efficiency in the electricity distribution sector (see **Section 4.8.3**), it is necessary to develop a standardized monitoring process to assess in a timely manner that approved consolidations are delivering long-term value for customers through sustained operational efficiencies.

4.8.2 Performance Metrics Are Not Separately Tracked and Reported After Consolidations

As noted in **Section 2.2.3**, the OEB annually publishes scorecards to report the performances of individual LDCs. However, once a consolidation transaction is approved and closed, performance of the involved entities is no longer required to be tracked and reported separately. Instead, their individual performance is merged and reported as part of the consolidated entity.

Given the size differential between entities involved in acquisitions, as well as the expanded and potentially more geographically dispersed service areas created by mergers, reporting performance at the consolidated level may not provide customers with adequate insight

into the service quality and reliability of the local distribution networks that directly support them. It would also make it difficult to assess whether the projected benefits have materialized post-consolidation.

4.8.3 Consolidations Do Not Necessarily Translate to Reduced Electricity Rates or Improved Efficiency

In its mandate letter to the OEB in November 2021 (publicly available on the OEB website), the Ministry of Energy asked the OEB to have small LDCs (that is, LDCs with fewer than 30,000 customers) report in their COS rate applications on the extent to which they have investigated potential opportunities for consolidation or collaboration, as the Ministry noted that efficiencies were found in the past through consolidations and innovative partnerships between LDCs. However, as discussed in **Section 4.8.1**, Hydro One's acquisition of three LDCs—Norfolk, Haldimand and Woodstock—shows that consolidation may not lead to lower cost structures that translate to reduced electricity rates or efficiency gains.

Furthermore, the 2021 Cost Benchmarking Report, prepared for the OEB by a third-party consultant, showed a greater percentage of small-sized LDCs received higher efficiency ratings in comparison with the larger LDCs, suggesting that smaller LDCs tend to be more efficient (see **Figure 24**).

RECOMMENDATION 11

To protect electricity customers from negative impacts of Local Distribution Company (LDC) consolidations, and to facilitate the maintenance of a cost-effective and economically efficient electricity distribution sector, we recommend that the Ontario Energy Board:

- implement effective and timely monitoring of post-consolidation activities during deferred rebasing periods to obtain periodic status updates from LDCs on steps taken toward integration and to verify that consolidated entities are adhering to approval conditions for consolidations and maintaining necessary records; and

- require acquired and merged entities to continue to report on key performance measures (for example, reliability metrics) separate from the consolidated entities during deferred rebasing periods to create greater transparency.

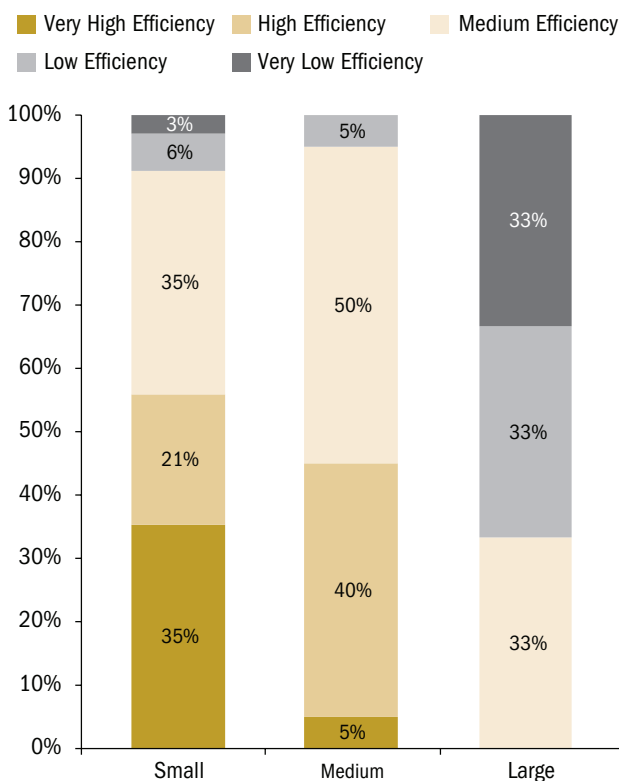
RESPONSE FROM THE ONTARIO ENERGY BOARD

The OEB will establish a minimum standard for reporting requirements during deferred rebasing periods that will balance the regulatory and

financial requirements on utilities with increased transparency for customers. Subject to further analysis and consultations with stakeholders, those requirements might include steps taken toward integration of the consolidating Local Distribution Companies and performance reporting for legacy service areas. The OEB notes that conditions of approval and certain reporting requirements may be key issues in consolidation applications adjudicated by independent panels of OEB Commissioners.

Figure 24: Efficiency Rating by Local Distribution Company (LDC) Size, 2021

Source of data: Ontario Energy Board



Note: "Large" LDCs are defined as those with distribution revenue of >\$500 million. "Medium" LDCs are those with 30,000 or more customers, but distribution revenue <\$500 million. "Small" LDCs are those with fewer than 30,000 customers.

4.9 Transparency and Performance Monitoring of the OEB's Compliance Program Can Be Improved

In general, from 2017/18 to 2021/22 greater than 90% of the respondents to OEB surveys were satisfied with the OEB's inquiries and complaints handling process (refer to **Figure 25** in **Section 4.9.2**). The OEB's compliance and inspection activities have also resulted in refunds to customers of almost \$3 million from licensed electricity entities over the same period. While the OEB's actions have resulted in positive results, more should be done to improve awareness, efficiency and oversight of these processes.

4.9.1 Consumer Education and Transparency of the Complaints Process Need Improvement

A critical element in the OEB's consumer protection regime is a complaints process that provides customers with assistance when their electricity service providers (such as LDCs, USMPs and retailers, as noted in **Figure 3**) fail to resolve issues satisfactorily. To make the complaints process effective and efficient, the OEB needs to provide electricity customers with clear information regarding the roles and responsibilities of the OEB, electricity service providers and customers, as well as the process of handling and resolving complaints. In navigating the OEB's website, we noted that while such information is often provided, in some instances it is fragmented and unclear.

Roles and Responsibilities of the OEB, Electricity Service Providers and Customers Regarding Complaints Can Be Better Clarified

Before reaching out to the OEB, electricity customers are encouraged to first contact their service providers (for example, their LDC or USMP) to work through their issues, as those providers are primarily tasked with handling customer complaints in a fair, reasonable and timely manner. It is also the most direct and efficient way to resolve issues, allowing the OEB to dedicate its resources to systemic cases that require the regulator's assistance.

The fact that electricity service providers should serve as the customers' first point of contact, however, is not clearly communicated on the OEB's "Make a complaint" web page. Our review of customer inquiries also showed that some customers have mistakenly called the OEB when they meant to call their electricity service providers. These inquiries made up about 3% of all the OEB's electricity-related customer interactions over the five-year period from 2017/18 to 2021/22.

The OEB has developed a Consumer Charter, which summarizes the rights and responsibilities of customers, the responsibilities of different electricity service providers and ways to reach out to the OEB for information or to file a complaint. It also lays out the expectation for customers to contact their electricity service providers first. The Consumer Charter is a useful document for consumer education, but it is not placed in an obvious spot on the OEB's website to catch customers' attention. The "Make a complaint" page, for example, does not provide a link to this document.

In contrast, we noted that the British Columbia Utilities Commission's website makes it clear that customers should "contact the regulated entity" as the first step in the complaints process. In Manitoba, the Public Utilities Board's online complaint form starts by asking if the customer contacted the electricity service provider and directs customers to contact the service provider if they answered "no" to the question.

Complaints Resolution Process Can Be Clearer

The complaints process described on the OEB's "Make a complaint" web page indicates that the OEB sends complaint information to the customer's electricity service provider, and provides the timeline as to when customers can expect to hear from them. It further indicates that if a complaint is resolved, no further action is required and the file will be closed. It is unclear, however, when and how the OEB will consider a complaint "resolved." More transparency is necessary to help customers understand the complaints process and what they can expect from the OEB.

As a comparison, we noted that the British Columbia Utilities Commission has published a Customer Complaints Guide that clearly outlines the entire complaints process and what the Commission staff do with a complaint.

4.9.2 Performance Metrics Need to Be Developed or Updated to Better Assess the Efficiency of Complaints Management, Compliance and Enforcement Activities

Complaints and Inquiries

The OEB has established customer service metrics to measure the performance of its complaints and inquiry intake and handling processes, with a focus on the timeliness of response and customer satisfaction. Performance against these metrics is published in the OEB's annual report.

The OEB has maintained the same customer service metrics for a number of years, until 2021/22 when it made some changes based on review by its management. As illustrated in **Figure 25**, the OEB has consistently exceeded the target set for each metric. In most categories, the performance was above target by a margin of more than 10%. While it is important to set achievable goals and recognize performance, it is also important to ensure that targets are providing sufficient challenge to drive improvements. Except for new measures introduced in 2021/22, the customer service targets had not been raised for at least five years.

Figure 25: Customer Service Metrics, 2017/18–2021/22

Source of data: Ontario Energy Board

Metric	Target (%)	2017/18	2018/19	2019/20	2020/21	2021/22
Answer incoming calls within 20 seconds	90	99	98	97	95	96
Respond to general correspondence within 10 business days	85	100	100	100	100	n/a
Answer incoming online chats within 90 seconds	90	n/a	n/a	n/a	n/a	95
Respond to voicemail received by 12:30 p.m. within the same day	80	100	97	98	94	94
Respond to voicemail received after 12:30 p.m. by the next business day before 12:30 p.m.	80	98	98	100	96	n/a
Respond to voicemail received after 12:30 p.m. by the next business day	80	n/a	n/a	n/a	n/a	97
Overall satisfaction survey score	80	97	92	92	92	n/a
Overall consumer satisfaction survey score – post-call	80	n/a	n/a	n/a	n/a	93
Overall consumer satisfaction survey score – post-chat	80	n/a	n/a	n/a	n/a	90
Send complaint follow-up letters to consumer within two business days	80	99	92	97	94	97
Send follow-up letter to consumer after receiving licensee response within two business days	80	97	97	92	89	94
Send answer or acknowledgement letter to consumer in response to enquiry within two days	80	98	98	97	98	97
Respond to Industry Relations enquiries within 10 days	90	92	95	94	93	93

Note: The reference to n/a reflects changes to the metrics introduced in 2021/22.

Compliance and Enforcement

Other than setting internal goals on the number of compliance reviews and inspections to complete in a year, the OEB has not established any metrics to measure the performance of its compliance and enforcement function. Cycle times for compliance reviews and inspections are not tracked and assessed against explicit targets to measure the efficiency of these activities.

The last traceable and publicly reported metric in relation to compliance and enforcement was noted in the OEB's Chief Compliance Officer Report for 2007/08, where a target was set to have 85% of compliance cases closed within 150 days. Since then, the OEB has stopped issuing the quarterly Chief Compliance Officer Report and no measures on compliance and enforcement activities have been reported on for

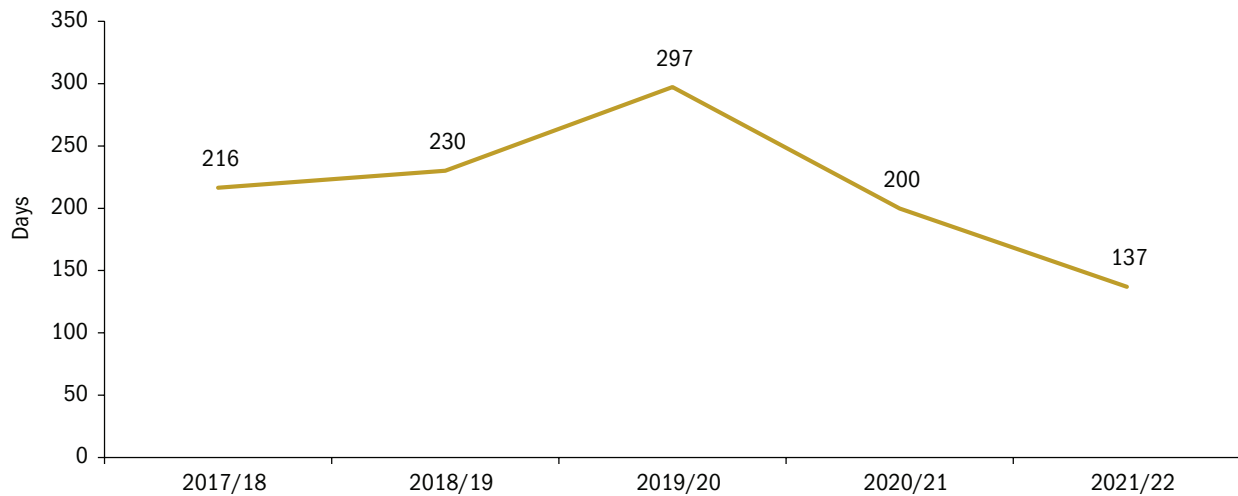
12 years. It was not until 2020/21 that the OEB issued the Holding Utilities to Account – OEB Compliance and Enforcement Activity Report, which provides information similar to what used to be included in the Chief Compliance Officer Report (for example, statistics related to compliance activities and highlights of selected compliance issues).

Based on available records, we calculated the annual average cycle time for inspections completed within the five-year period from 2017/18 to 2021/22 (see **Figure 26**) and found that it took from about 130 days (2021/22) to 300 days (2019/20), on average, to complete inspections.

OEB staff informed us that they are currently working toward the development of metrics for compliance reviews and inspections to be proposed for approval for 2022/23.

Figure 26: Average Length of Time for Completing Inspections, 2017/18–2021/22

Source of data: Ontario Energy Board



Note: Inspections are formal assessments of regulated companies' compliance with legal and regulatory requirements. This figure only includes inspections where information on completion time is available. Completion time information is unavailable for some inspections conducted prior to 2018/19 when a different system was used to maintain records.

RECOMMENDATION 12

To improve the transparency and performance monitoring of its complaints and inquiries process, as well as its compliance and enforcement activities, we recommend that the Ontario Energy Board:

- reorganize and update its website to provide customers with clearer information regarding the complaints process;
- review the customer service metrics and targets and update them as needed to ensure they remain relevant and appropriate; and
- develop performance metrics to measure the efficiency of compliance activities.

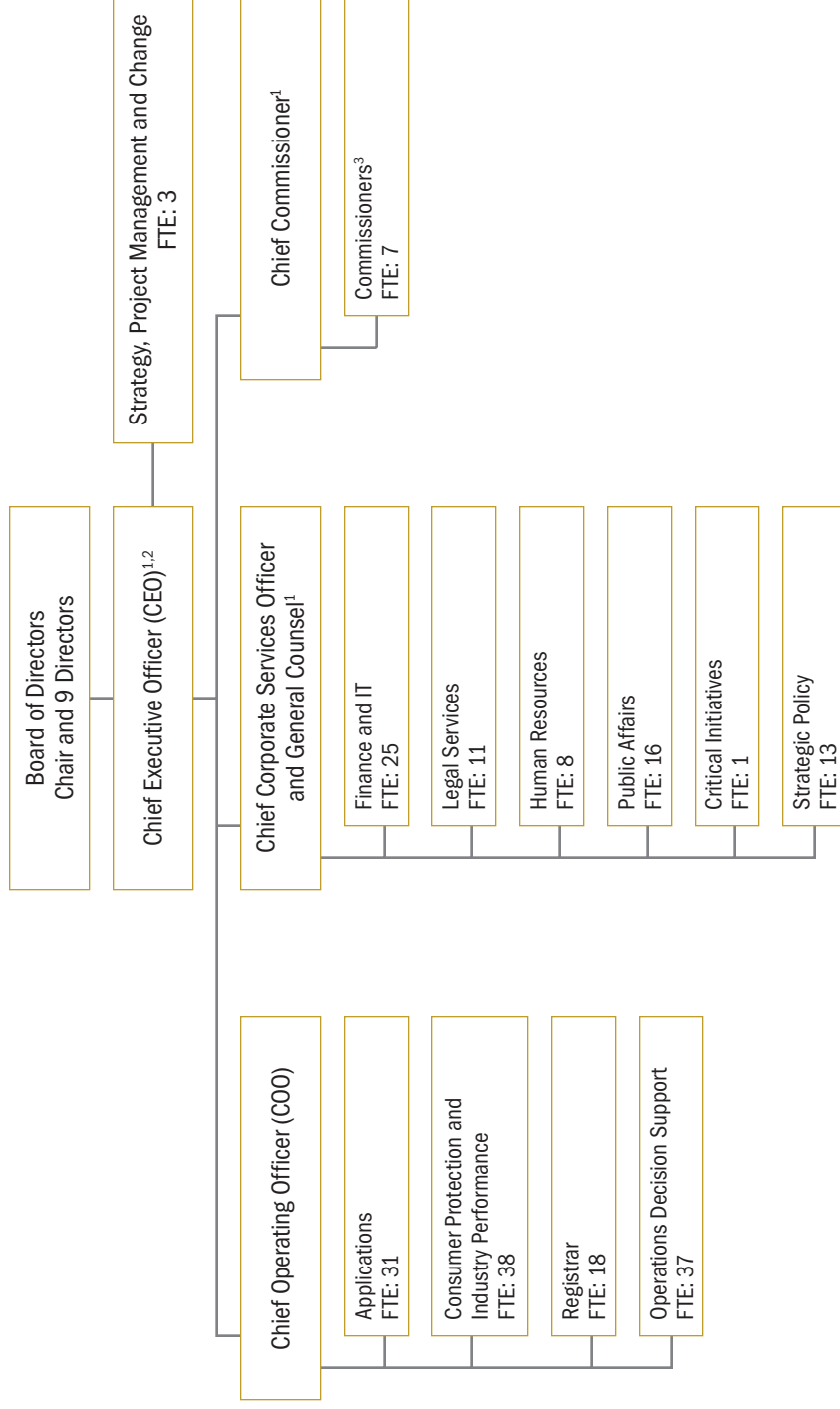
The OEB's Strategic Plan highlights the importance of a strong performance measurement framework for all of the OEB's activities, and the OEB commits to a review of existing consumer service metrics to ensure they remain appropriate. We have already commenced the work to develop metrics and measures for the efficiency of our compliance and inspections activity and will complete that work.

RESPONSE FROM THE ONTARIO ENERGY BOARD

The Ontario Energy Board (OEB) appreciates the Auditor General's recommendation, which is aligned with the OEB's objectives and strategic goals. The OEB strongly supports the goal of increasing consumer awareness and understanding regarding the complaints process and will make the necessary improvements to its website.

Appendix 1: Organizational Chart of Ontario Energy Board

Prepared by the Office of the Auditor General of Ontario



Note: FTE stands for Full-Time Equivalents. This appendix reflects the new governance structure that came into force on October 1, 2020 through changes in legislation in response to the OEB Modernization Review Panel's recommendation (see [Section 2.3](#)). Under the old structure, the OEB did not have a Board of Directors and the CEO and Chair roles were combined and assumed by the same individual. Under the new structure, a Board of Directors (led by the Chair and made up of members independent of OEB management) is responsible for governance of the OEB and for overseeing the management of the OEB's business and affairs, including approving the OEB's strategic direction and priorities. The CEO is responsible for efficient and effective management of the operations of the OEB. The Chief Commissioner, a position created as part of the governance changes, is responsible for the efficiency, timeliness and dependability of the OEB's adjudicative work and reports to the CEO in that capacity. Directors are appointed by the Lieutenant Governor in Council, who was also responsible for appointing the Chief Commissioner and Commissioners until the end of a two-year transition period after the October 1, 2020 governance changes. Thus, effective October 1, 2022, the Board of Directors, on the recommendation of the CEO, is responsible for appointing the Chief Commissioner and Commissioners.

1. There are three Executive Assistants: one reporting to the CEO, one to the Chief Corporate Services Officer and General Counsel, and one to the Chief Commissioner.

2. There is a Corporate Secretary reporting to the CEO.

3. In addition to the seven FTEs, there is one part-time Commissioner.

Appendix 2: Key Events of Ontario's Electricity Sector

Prepared by the Office of the Auditor General of Ontario

Period	Key Events
1900–1970s	The Hydro-Electric Power Commission of Ontario, a publicly owned electricity utility in the Province of Ontario, was established in 1906 and renamed Ontario Hydro in 1974.
1970s–1980s	Ontario Hydro constructed the Bruce, Pickering and Darlington Nuclear Generation Stations. Construction delays stretched to 10 years and cost overruns reached billions of dollars.
1990–1992	Ontario experienced a recession that reduced electricity demand. Electricity rates increased by 40%, while generation capacity exceeded demand by 50%.
1993	The Ontario government froze electricity rates for almost the next 10 years, causing Ontario Hydro's debt to rise.
1995	The government embarked on a program to transform the electricity industry from a government-owned Ontario Hydro to a competitive market-based structure. The program coincided with what was happening in several jurisdictions around the world, including the United States, with electricity wholesale markets starting to be created as electricity became viewed as a commodity that could be bought and sold. The vision was that private-sector involvement in these competitive markets would lead to efficiencies, which in turn would result in lower electricity prices.
1996	The government's Advisory Committee on Competition in Ontario's Electricity System delivered a report recommending the breakup of Ontario Hydro and a move toward a competitive electricity market.
1998	With the passage of the <i>Energy Competition Act, 1998</i> , Ontario Hydro ceased to exist and was replaced by five entities: • Ontario Power Generation (OPG), an electricity generator; • Hydro One Inc., responsible for the transmission and distribution of electricity to consumers; • the Ontario Electricity Financial Corporation (OEFC), responsible for retiring Ontario Hydro's debt; • the Independent Electricity Market Operator (IMO), the Independent Electricity System Operator's (IESO's) predecessor, responsible for operating the new electricity market; and • the Electrical Safety Authority, responsible for regulating electricity inspections.
1999	The Ontario Energy Board (OEB), established in 1960, was mandated to regulate the electricity sector. Prior to 1999 the organization's mandate focused on the province's natural gas sector.
2002	Ontario's electricity market opened on May 1, 2002. Following market opening, with a shortage of supply and an increased demand for electricity during the summer of 2002, electricity rates began to increase significantly. The government passed the <i>Electricity Pricing, Conservation and Supply Act, 2002</i> on December 9, 2002 to freeze electricity rates for most consumers until 2005.
2003	The Electricity Conservation and Supply Task Force was set up to create an action plan to attract new generators in Ontario. The task force projected that as early as 2006, Ontario might not have enough power to meet peak demand. It recommended a future electricity sector that relied less on the competitive market price of electricity and more on long-term contract pricing.
2004	The government passed the <i>Electricity Restructuring Act, 2004</i> , to create the Ontario Power Authority (OPA), which became responsible for long-term planning and procurement of power under long-term contracts. The Act required the OPA to prepare an Independent Power System Plan (IPSP) and the OEB to review and approve the plan.*
2005	In May 2005 the government ended the electricity price freeze and the OEB's Regulated Price Plan took effect; the plan was designed such that the rate charged to residential and small-business consumers approximately reflected the full cost of electricity. The government established the Global Adjustment, which is mostly made up of the difference between the market price and the guaranteed prices paid to regulated and contracted generators.

Period	Key Events
2006	The Ministry of Energy (Ministry) instructed the OPA to plan for coal phase-out at the earliest practical time, but still ensure adequate system capacity and reliability.
2007–2008	Through the passage of the Cessation of Coal Use Regulation, the government ordered the closing of coal-fired plants by December 31, 2014. The OPA filed the IPSP with the OEB but review stopped when the Minister of Energy (Minister) asked the OPA to revise the IPSP. The revised IPSP was not filed with the OEB.*
2009	The <i>Green Energy and Green Economy Act, 2009</i> empowered the OPA in the renewable energy field.
2010	The government announced the cancellation of a proposed Oakville gas-fired electricity power plant. The Ministry released a Long-Term Energy Plan (LTEP) after public consultation. The OEB had no authority to review the LTEP.*
2011	The OPA was directed by the Ministry to prepare another IPSP but the OPA did not file any documents with the OEB for review and approval.* The government announced its intention to relocate a Mississauga gas-fired electricity power plant, which was under construction, if re-elected.
2013	In April and October 2013 the Auditor General reported that the decisions to cancel and relocate the Oakville and Mississauga power plants would cost an estimated \$950 million (Oakville: \$675 million; Mississauga: \$275 million). The reviews were performed at the request of the Premier of Ontario and the Standing Committee of Public Accounts for the cancellation in Oakville and Mississauga, respectively. The Ministry released the second LTEP. The OEB had no authority to review and approve the plan.*
2014	The last coal-fired plant, Thunder Bay Generating Station, was closed.
2015	The IESO merged with the OPA and assumed responsibility for long-term planning, procurement and conservation efforts. The <i>Ending Coal for Cleaner Air Act, 2015</i> was passed, stipulating that coal cannot be used in future to generate electricity in Ontario. The <i>Building Ontario Up Act, 2015</i> was passed, permitting the sale of up to 60% of the Province's common shares in Hydro One (that is, privatization). The first phase of sale began in November 2015, with Hydro One and the Province of Ontario completing an initial public offering on the Toronto Stock Exchange of 15% of Hydro One's common shares.
2016	The <i>Energy Statute Law Amendment Act, 2016</i> was passed to formalize the LTEP process. The Ministry became responsible for energy planning.*
2017	The Ministry released another LTEP. The OEB's role is developing implementation plans in response to Ministerial directives after LTEP release, as opposed to reviewing and approving the LTEP.* Privatization of Hydro One completed with the final offering from the Province in May 2017. Following the completion of the offering, the Province directly held approximately 49.9% of Hydro One's common shares.
2021	The Ministry began its review of the long-term energy planning process. The Ministry revoked the requirement to release an LTEP every three years to allow more time for review.*
2022	The Ministry announced the Electrification and Energy Transition Panel to advise the Minister on how to co-ordinate energy planning.*

* Key events related to Ontario's energy planning process are also shown in Figure 9.

Appendix 3: Electricity Rate Subsidy Programs, 2011–2022

Prepared by the Office of the Auditor General of Ontario

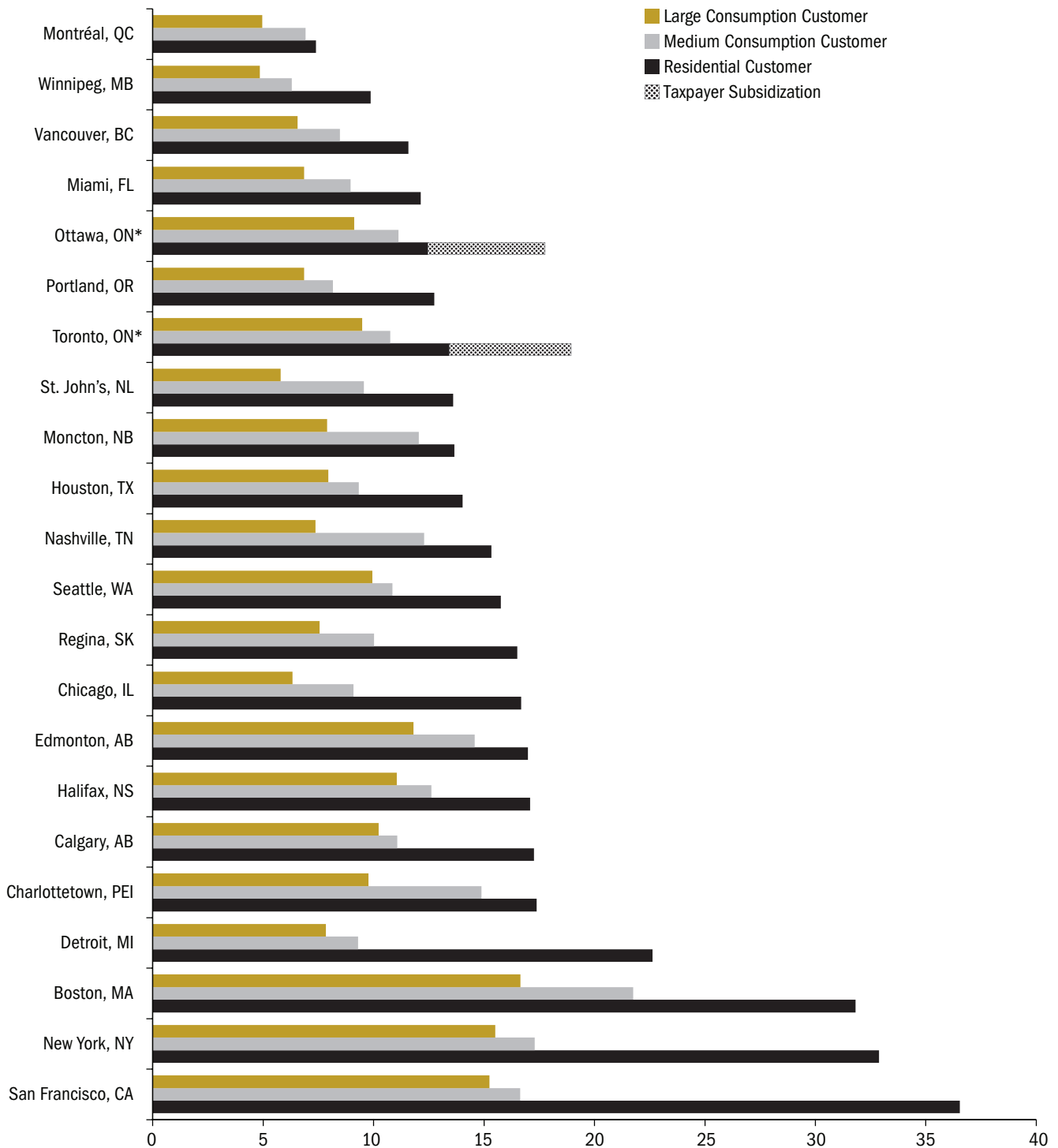
Program	Effective Period	Eligibility	Benefit
Broad-based Programs—No Application Required			
Ontario Clean Energy Benefit (OCEB)	Jan 2011 to Dec 2015	Residential, small business and farm customers.	10% rebate on total bill, including HST. Effective Sept. 1, 2012, the rebate was applied to the first 3,000 kilowatt hours (kWh) of electricity consumption per month.
Ontario Rebate for Electricity Consumers (OREC)	Jan 2017 to Oct 2019	Residential customers, farms, most small businesses, long-term-care homes and condominiums.	8% rebate on pre-tax electricity bill (i.e., equivalent to the provincial portion of the HST).
Fair Hydro Plan – Global Adjustment Refinancing	Jul 2017 to Oct 2019	Residential, farm and small business customers.	Lowered, on a temporary basis, the Global Adjustment (a component of electricity charge), thereby limiting increases in electricity bills to the rate of inflation.
Ontario Electricity Rebate (OER)	Nov 2019 onwards	Residential, small business, farm and long-term-care home customers.	A rebate that limits the increase in electricity bills, which is capped at 2% annually based on current government policy. The OER was initially set at 31.8% of the pre-tax electricity bill and it has been adjusted several times to align with changes in electricity prices. Current rebate is set at 11.7%.
Comprehensive Electricity Plan (CEP) (previously named the “Renewable Cost Shift”)	Jan 2021 to 2040 (when the last contract expires)	All customers.	Removes approximately 85% of the costs of non-hydro renewable energy contracts (i.e., wind, solar and bioenergy resources) from customer electricity bills.
Targeted Programs—No Application Required			
Rural or Remote Electricity Rate Protection (RRRP)	2002 onwards	Residential customers living in rural or remote areas, as outlined in regulation.	A fixed credit of \$60.50/month off distribution costs for Hydro One R2 customers and rate reductions for other eligible customers.
Distribution Rate Protection (DRP)	Jul 2017 onwards	Residential customers served by eight Local Distribution Companies (LDCs), as prescribed in regulation, that have higher distribution rates. Refer to Figure 15 for the eight LDCs.	Monthly base distribution charge cap set based on parameters outlined in regulation. The current monthly cap set at \$38.08.

Program	Effective Period	Eligibility	Benefit
Targeted Programs—Application Required			
Low-income Energy Assistance Program (LEAP)	2011 onwards	Low-income residential customers with overdue electricity and/or natural gas bills.	Currently, and on a temporary basis for 2022, annual maximum of \$1,000 each for electricity and gas accounts (or \$1,200 for electricity accounts for electrically heated homes). Normally, the annual amount of the credit is half that amount. Applies directly against balances in arrears. Funding for LEAP is limited and is available on a first-come first-served basis.
Ontario Electricity Support Program (OESP)	Jan 2016 onwards	Low-income residential customers, determined based on after-tax household income and number of household members.	On-bill credit determined based on household size and after-tax income. Credits increased by 50% in May 2017 and now range from \$35 to \$75. Consumers with electrically heated homes, those who rely on certain energy-intensive medical devices, and lower-income Indigenous Ontarians also qualify for a higher level of assistance.
On-Reserve First Nations Delivery Credit	Jul 2017 onwards	On-reserve customers who are part of a band within the meaning of the <i>Indian Act (Canada)</i> who hold a residential rate account with an LDC.	Eliminates delivery charges from electricity bills of eligible ratepayers.
Time-Limited Pandemic Relief Initiative—No Application Required			
Time-of-Use (TOU) Suspension	Three separate suspensions from 2020 to 2022	Initially all Regulated Price Plan (RPP) Time-of-Use customers, later extended to include RPP Tiered customers.	Temporary electricity rate relief available for RPP customers who paid the off-peak price during the suspension periods, regardless of the time of day or consumption volume.
Time-Limited Pandemic Relief Initiatives—Application Required			
COVID-19 Energy Assistance Program (CEAP) – Residential	Jul 2020 to Oct 2021	Residential customers with overdue electricity and/or natural gas bills during the COVID-19 pandemic.	On-bill credit changed over time and at the end of the program provided up to \$750 toward electricity and natural gas bills (i.e., maximum \$1,500 combined). Funding for the subsidy was limited and was available on a first-come first-served basis.
COVID-19 Energy Assistance Program (CEAP) – Small Business	Aug 2020 to Oct 2021	Small business customers with overdue electricity and/or natural gas bills during the COVID-19 pandemic.	On-bill credit changed over time and at the end of the program provided up to \$1,500 toward electricity and natural gas bills (i.e., maximum \$3,000 combined). Funding for the subsidy was limited and was available on a first-come first-served basis.

Note: All programs are funded through taxes, except for Low-income Energy Assistance Program, Ontario Electricity Support Program (tax-funding enabled in February 2018), Rural or Remote Electricity Rate Protection (pre-July 2017 and a small portion subsequent to that). Subsidies provided in the form of grants or tax credits (such as Northern Ontario Energy Credit, Ontario Energy and Property Tax Credit and COVID-19 Business Supports – Energy Rebate Grant) were excluded because they are not applied on electricity bills.

Appendix 4: Comparison of Electricity Prices in Major North American Cities for Residential, Medium and Large Consumption Customers, 2021 (¢/kWh)

Source of data: Hydro-Québec



Note: Prices are in Canadian currency (excluding taxes) based on a monthly consumption of 1,000 kWh, 1,170,000 kWh and 30,600,000 kWh for residential, medium consumption and large consumption customers, respectively.

* Prices in Ottawa and Toronto are adjusted to reverse the impact of taxpayer subsidization based on our estimates. The electricity prices for residential customers were 12.45 ¢/kWh and 13.43 ¢/kWh for Ottawa and Toronto, respectively. If there had been no taxpayer subsidization the electricity price for residential customers would have been higher: approximately 17.77 ¢/kWh and 18.95 ¢/kWh for Ottawa and Toronto, respectively. (See Figure 6 for Major Taxpayer-Funded Electricity Bill Subsidy Programs.)

Appendix 5: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Non-adjudicative decisions and rules are made to ensure that consumers (customers) are treated fairly and receive reliable and sustainable electricity service at a reasonable cost.
2. Electricity rate subsidy programs are administered in accordance with applicable legislation and made available to eligible customers on a timely basis. Communications are provided to raise awareness of the subsidy programs as needed, including to help eligible customers understand the impact of these programs for their electricity bills.
3. The adjudication process is supported by sufficient staff with the right competencies and by robust guidelines, procedures and policy guidance that support timely decision-making and regulatory efficiency.
4. Accurate and relevant data is regularly collected and analyzed to monitor the performance of rate-regulated utilities against expected service levels and continuous improvement targets.
5. Customer complaints and compliance issues are resolved in a fair, consistent and timely manner.
6. Monitoring of the wholesale electricity market is regularly performed to identify anomalous outcomes. Anomalous outcomes are identified and reported in a timely manner.
7. Governance structures and processes enable the Ontario Energy Board (OEB) to act in the public interest and make decisions in an independent and transparent manner.
8. Appropriate performance measures and targets are established for the OEB, published and continuously monitored against actual results to promote the achievement of desired outcomes. Timely corrective actions are taken when issues are identified.

Appendix 6: Monthly Base Distribution Charges of All Local Distribution Company Residential Customers, July 1, 2022

Prepared by the Office of the Auditor General of Ontario

Local Distribution Companies (LDCs)	Monthly Base Distribution Charge (\$)
Hydro One Remote Communities Inc. ¹	151.13
Hydro One Networks Inc. – R2 ²	76.44
Hydro One Networks Inc. – R1 ²	64.44
Algoma Power Inc.	60.27
Chapleau Public Utilities Corporation	55.21
Sioux Lookout Hydro Inc.	51.26
Atikokan Hydro Inc.	50.73
Innpower Corporation	46.55
Wellington North Power Inc.	41.98
Toronto Hydro-Electric System Limited	40.70
Northern Ontario Wires Inc.	40.32
Canadian Niagara Power Inc.	40.16
Espanola Regional Hydro Distribution Corporation	40.00
Halton Hills Hydro Inc.	39.43
Hydro One Networks Inc. – Norfolk Power ³	39.10
Hydro One Networks Inc. – Urban (UR) ²	38.03
Cooperative Hydro Embrun Inc.	37.44
Hydro One Networks Inc. – Haldimand County ³	37.31
Lakeland Power Distribution Ltd. ³	36.55
Lakeland Power Distribution Ltd. – Parry Sound ³	36.55
Niagara Peninsula Energy Inc.	36.37
Fort Frances Power Corporation	36.01
ERTH Power Corporation – Godrich ³	35.57
Bluewater Power Distribution Corporation	34.18
Hydro 2000 Inc.	34.12
PUC Distribution Inc.	33.72
Waterloo North Hydro Inc.	33.71
ERTH Power Corporation – Main ³	33.65
North Bay Hydro Distribution Limited	33.62
Elexicon Energy Inc. – Whitby ³	33.41
Toronto Hydro-Electric System Limited – Competitive Sector Multi-Unit	33.39
Newmarket-Tay Power Distribution Ltd. – Midland Power ³	33.12
Synergy North Corporation – Kenora ³	32.50
Rideau St. Lawrence Distribution Inc.	31.49
Hydro One Networks Inc. – Woodstock Hydro ³	31.42
Centre Wellington Hydro Ltd.	31.23
Alectra Utilities Corporation – Guelph Hydro ³	31.19
Oakville Hydro Electricity Distribution Inc.	31.19
Greater Sudbury Hydro Inc.	31.01
Niagara-on-the-Lake Hydro Inc.	30.87
Hydro Ottawa Limited	30.77

Local Distribution Companies (LDCs)	Monthly Base Distribution Charge (\$)
Westario Power Inc.	30.27
Grimsby Power Incorporated	30.08
Newmarket-Tay Power Distribution Ltd. ³	29.95
Festival Hydro Inc.	29.93
Milton Hydro Distribution Inc.	29.88
Alectra Utilities Corporation – PowerStream ³	29.84
Tillsonburg Hydro Inc.	29.82
Energy+ Inc.	29.78
Welland Hydro-Electric System Corp.	29.77
Hearst Power Distribution Company Limited	29.44
Burlington Hydro Inc.	29.12
Entegrus Powerlines Inc. – St. Thomas Energy ³	28.70
Essex Powerlines Corporation	28.66
Alectra Utilities Corporation – Horizon ³	28.50
Elexicon Energy Inc. – Veridian ³	28.41
Orangeville Hydro Limited	28.28
Hydro One Networks Inc. – Orillia ³	27.93
Brantford Power Inc.	27.84
ENWIN Utilities Ltd.	27.55
London Hydro Inc.	27.46
EPCOR Electricity Distribution Ontario Inc.	27.24
Kingston Hydro Corporation	27.24
Renfrew Hydro Inc.	27.01
Entegrus Powerlines Inc. – Main ³	26.70
Oshawa PUC Networks Inc.	26.58
Synergy North Corporation – Thunder Bay ³	26.40
Alectra Utilities Corporation – Hydro One Brampton ³	25.94
Alectra Utilities Corporation – Enersource ³	25.88
Ottawa River Power Corporation	25.57
Wasaga Distribution Inc.	24.72
Lakefront Utilities Inc.	24.66
Kitchener-Wilmot Hydro Inc.	23.66
Hydro One Networks Inc. – Peterborough ³	22.62
Hydro Hawkesbury Inc.	18.72
E.L.K. Energy Inc.	18.16

 These 15 LDCs have monthly base distribution charge above the distribution rate protection (DRP) cap \$38.08 (see Figure 14).

Note: Monthly base distribution charges may be affected by a number of factors, such as the age and condition of each LDC's equipment, as well as the size of the LDC's service area, the geographical location of customers and customer density.

- Hydro One Remote Communities Inc. is a subsidiary of Hydro One Network Inc., serving customers in remote areas. The majority of these areas are First Nations communities.
- Hydro One Network Inc. divides its residential service areas into three classes as below. Only R1 and R2 are eligible for the DRP.
 - UR: Urban density zone, which are areas that contain 3,000 or more customers, with at least 60 customers for every kilometre of power line used to supply energy in the zone. These customers are not eligible for the DRP.
 - R1: Medium density zone, which are areas that contain 100 or more customers, with at least 15 customers for every kilometre of power line used to supply energy in the zone.
 - R2: Low density zone, which are areas not covered by (UR) Urban or (R1) Medium density zones.
- These LDCs (including Alectra Utilities Corporation, Elexicon Energy Inc., Entegrus Powerlines Inc., ERT Power Corporation, Hydro One Network Inc., Lakeland Power Distribution Ltd., Newmarket-Tay Power Distribution Ltd. and Synergy North Corporation) have more than one base distribution charge to serve customers in different service areas subsequent to consolidations.

Appendix 7: Consolidations of Local Distribution Companies (LDCs) With Separate Distribution Systems, 2011–2022

Prepared by the Office of the Auditor General of Ontario

Year of Application	Application Description	Year of Decision	OEB Decision	Deferred Rebasing Period*
2010	Amalgamation of Erie Thames Powerlines Corporation with West Perth Power Inc. and Clinton Power Corporation to continue as Erie Thames Powerlines Corp.	2011	Approved	n/a
2011	Amalgamation of Chatham-Kent Hydro Inc. and Middlesex Power Distribution Corporation to form Entegrus Powerlines Inc.	2011	Approved	2 years
2011	Port Colborne Hydro Inc. sale of its distribution system to Canadian Niagara Power Inc.	2012	Approved	n/a
2013	Amalgamation of Lakeland Power Distribution and Parry Sound Power Corporation to continue as Lakeland Power Distribution	2014	Approved	5 years
2013	Hydro One acquisition of Norfolk Power Inc.	2014	Approved	5 years
2014	Acquisition of Brant County Power by Cambridge and North Dumfries Hydro Inc. to form Energy+ Inc.	2014	Approved	4 years
2014	Hydro One acquisition of Haldimand County Hydro	2015	Approved	5 years
2014	Hydro One acquisition of Woodstock Hydro	2015	Approved	5 years
2016	Formation of Alectra Utilities as a result of amalgamation of Horizon Utilities, Enersource Hydro and PowerStream and acquisition of Hydro One Brampton	2016	Approved	10 years
2016	Hydro One acquisition of Orillia Power Distribution Inc.	2018	Denied	n/a
2017	Amalgamation of Entegrus Powerlines Inc. and St. Thomas Energy Inc. to continue as Entegrus Powerlines Inc.	2018	Approved	8 years
2017	Amalgamation of Newmarket-Tay Power Distribution Ltd. and Midland Power Utility Corporation to form NT Power	2018	Approved	10 years
2018	Amalgamation of Veridian Connections Inc. and Whitby Hydro Electric Corporation to form Elexicon Inc.	2018	Approved	10 years
2018	Amalgamation of Thunder Bay Hydro and Kenora Hydro to form Synergy North	2018	Approved	5 years
2018	Amalgamation of EARTH Power Corporation with West Coast Huron Energy to continue as EARTH Power Corporation	2018	Approved	9 years
2018	Amalgamation of Guelph Hydro and Alectra Utilities and continued as Alectra Utilities	2018	Approved	10 years
2018	Dubreuil Lumber Inc. sale of its distribution system to Algoma Power Inc.	2019	Approved	n/a
2018	Hydro One acquisition of Peterborough Utilities	2020	Approved	10 years
2018	Hydro One acquisition of Orillia Power Distribution Inc.	2020	Approved	10 years
2021	Amalgamation of North Bay Hydro and Espanola Regional Hydro to continue as North Bay Hydro	2022	Approved	5 years
2021	Amalgamation of Energy+ Inc. and Brantford Power and operate as Grandbridge Energy	2022	Approved	10 years
2022	Amalgamation of Kitchener-Wilmot Hydro and Waterloo North Hydro to form Enova Power Corp.	2022	Approved	10 years

* Local Distribution Companies (or distributors) typically file a Cost of Service (COS) rate application every five years to “rebase” their rates (that is, to re-establish a distributor’s rate based on updated forecasts on costs and electricity consumption profiles). Consolidated entities are allowed to defer rebasing in order to have sufficient time to recuperate the transaction costs of consolidation. The maximum deferral period was extended to 10 years starting in 2015.

Ontario Lottery and Gaming Corporation: Casinos, Lotteries and Internet Gaming

1.0 Summary

The Ontario Lottery and Gaming Corporation (OLG) is responsible for conducting and managing casinos, charitable gaming, Internet gaming and lotteries, and supporting the horse-racing industry. In 2021/22, OLG generated \$4.5 billion (before deductions of casino operator fees) in revenues from its various lines of business and provided about \$1.5 billion in net profit to the Province.

In 2012, OLG began implementing its Modernization Plan with a key focus on increasing casino revenues by privatizing the operations of its casinos and using private-sector capital investments. OLG used a lengthy procurement process to select casino operators for eight gaming regions that resulted in 20-year contracts for the winning bidders.

The final evaluation of the bids was mainly based on the present value of guaranteed minimum revenue commitments over the first 10 years and the present value of one-half of OLG's 30% share of revenues projected above the guaranteed commitments. According to OLG, only one-half of the revenue projections above the minimum revenue commitments was used to ensure a higher weighting to the minimum revenue commitments in the evaluation of the bids.

Bidders' capital investment plans were not considered in the scoring for any of the eight regions even though OLG acknowledged that capital investments were the main driver of long-term revenue and cash flow growth for both OLG and the casino operator.

As a result of the privatization of casinos, in 2019/20 (the last complete fiscal year revenues were not significantly impacted by COVID-19 as Ontario Casinos were closed for only two weeks), the net profit to the Province from casino gaming revenues decreased for five of the eight regions and increased for three regions, resulting in an overall decrease of \$54 million.

Our audit found that after winning the bids based on revenue projections and guaranteed revenue commitments to OLG, casino operators in three regions reduced their long-term revenue projections and guaranteed revenue commitments in renegotiated agreements with OLG. OLG undermined the credibility of its own procurement process by failing to hold casino operators accountable for their financial commitments made in their winning bids. As one example, OLG renegotiated the contract for the West Greater Toronto Area (GTA) region that lowers OLG's projected revenue share over the first 10 years of the contract (from 2018/19 to 2027/28) by \$1.8 billion based on a projected reduction in overall gaming revenue for the region of \$4.5 billion over the same period. If the adjusted revenue projections had been used to evaluate the casino

operator's bid submission instead of its original projections, then a competing bid would have been selected under the terms of the procurement evaluation process assuming that this bidder had not requested similar relief.

Based on updated revenue projections for the eight gaming regions as of March 2022, total casino gaming revenue projections for the first 10 years of operations were reduced by \$9.1 billion from the projections included in the winning bids, from \$58.3 billion to \$49.2 billion, before accounting for any COVID-19-related reductions. As a result, over the same 10-year period, OLG's share of these projected revenues was reduced by \$3.3 billion, reducing the projected net profit to the Province by \$320 million annually, on average, from 2024/25 to 2028/29. Even though OLG's revenue projections were originally based on the expectation that capital investments would be made, as proposed in the original winning bids, to achieve the projected profits, these capital commitments were not included in any contracts with the casino operators.

OLG's Internet gaming revenues (excluding its Internet lottery) increased by 7% from \$101 million over the three-month period from April to June 2022, to \$108 million in the three-month period ending September 2022 following the launch of the new market for Internet gaming in Ontario, where private-sector gaming companies operate Internet gaming sites under a newly created provincial agency, iGaming Ontario. iGaming Ontario's private-sector operators, which compete directly with OLG Internet gaming, reported an increase in gaming revenue of 65% from \$162 million from April 4, 2022 to June 30, 2022, to \$267 million for the three-month period ending September 2022. Although a part of this growth could be attributed to iGaming Ontario adding six new operators, average monthly spending per active player on iGaming Ontario websites also increased by 25% over the same period.

We also noted that although OLG's internal performance measures track customer satisfaction, relationships with casino operators and players' mental health, OLG does not measure or report on its progress on responsible gambling, job growth, capital

investments, integrity of gaming and anti-money laundering activities.

Our more significant audit findings include the following:

- **OLG renegotiated significantly reduced revenue commitments from certain casino operators despite signed contracts already in place.** As part of the original Casino Operating and Service Agreement (contract), only three things qualify a casino operator for financial relief: an external event ("force majeure") that prevents, delays or substantially hinders either party from performing all or part of its obligations; a labour disruption; and landlord constraints. By June 2019, casino operators in the Ottawa (Hard Rock International), North (Gateway Casinos) and West GTA (Great Canadian) regions had asked OLG for reductions to their guaranteed revenue commitments for reasons not included in the contracts. While OLG had no obligation to accept these reductions, they provided the requested relief to Great Canadian and Hard Rock because OLG told us that not doing so could have led these casino operators to enter bankruptcy protection, resulting in a lengthy and complicated court process. However, OLG assessed the financial viability of these operators based solely on the regional operations without considering the overall financial health of the casino operator and their parent companies.
- **Hard Rock Ottawa requested and was granted a 25% reduction in revenue projections to take effect January 2023.** In August 2022, five years after accepting Hard Rock's original bid for the Ottawa region, OLG informed its Board that Hard Rock's bid had been ambitious, projecting 103% growth in gaming revenue in the first three years backed by capital improvements totalling \$334 million. Hard Rock had projected annual gaming revenue of \$330 million by 2026/27 after completing renovations outlined in its winning bid, but now only expected revenue to reach \$250 million annually (a 25% reduction) after renovations by 2026/27.

- Great Canadian won the contract for the West GTA region with unrealistic financial projections.** Great Canadian's bid had the highest gaming revenue and capital investment projections—gaming revenues were 177% higher than OLG's own estimates for revenues for the region at the time the bids were evaluated. In fact, OLG was expecting West GTA revenues to decrease by 5% due to cannibalization (competition) from other gaming regions. Great Canadian's successful bid included a plan to hire 1,282 full-time employees, 83% higher than OLG's internal expectations. Although the bid contradicted its own reasonable expectations, OLG relied on Great Canadian's unrealistic projections, and bidders whose projections were closer to OLG's were not selected. If Great Canadian's reduced revenue projections had been used by OLG to evaluate the bid instead of the original projections submitted in its winning bid, a competing bid would have been selected assuming that this bidder had not requested similar relief.
- Financial relief for West GTA region reduced OLG's revenue share projections by \$1.8 billion over 10 years.** In November 2019, OLG and Great Canadian acknowledged that the revenue projections in Great Canadian's original bid were overly optimistic and did not adequately consider market size and competition from nearby gaming regions. OLG agreed to reduced revenue projections and financial relief resulted in a \$1.8 billion reduction in the Province's projected share of revenues from 2018/19 to 2027/28. In addition, the capital investment commitments will likely be reduced by \$850 million (77%) from Great Canadian's bid projections of \$1.1 billion. With the financial relief granted to Great Canadian, OLG's revenue share projections associated with the next highest bid (Gateway) would have been higher by about \$640 million over the first 10 years.
- OLG renegotiated guaranteed revenue commitments with the North region after delays in construction due to municipal approvals and legal challenges from First Nations.** Bidders were not required to obtain municipalities' approval in their proposals, and the denial of an approval for a site by a municipality is not included in casino operator contracts as a reason for negotiating adjustments. Since 2013, OLG has experienced problems obtaining municipal approvals for gaming sites, such as the City of Toronto's rejection of a downtown Toronto casino.
- OLG selected the casino operator for Niagara region that proposed the least amount of capital investment.** OLG selected Mohegan Gaming & Entertainment Inc. (Mohegan) as the winning bidder for the Niagara region, even though OLG's independent analyst concluded that Mohegan's bid brought less economic and financial benefit to the province than if OLG had continued to operate the region. Along with projections of significantly higher gaming revenues, the other two bidders (Hard Rock and Caesars) proposed significantly more direct capital investment. Hard Rock's bid included about \$857 million more than Mohegan, primarily focused on rebranding both casinos and adding a hotel to Casino Niagara. Caesars proposed approximately \$140 million more than Mohegan for rebranding. OLG selected Mohegan as the casino operator for the region based on OLG's evaluation criteria that is mainly focused on selecting the operator offering the highest present value of cash flow through guaranteed minimum commitments and revenue share to OLG over the first 10 years. Mohegan offered the highest guaranteed minimum revenue commitments to OLG over this period.
- OLG provided all rights for non-gaming revenue to the new casino operators despite a contract with Ontario First Nations (2008) Limited Partnership to pay a share of OLG's non-gaming revenues.** OLG failed to fulfill this commitment to First Nations to pay them a share of non-gaming revenue. OLG and Ontario First Nations (2008) Limited Partnership (First Nations) entered into a Gaming

Revenue Sharing and Financial Agreement in 2008 under which OLG must pay First Nations 1.7% of its “aggregate gross revenues for agents of the province.” These revenues include gaming and non-gaming revenue from all casinos and non-gaming activities that OLG conducts and manages, such as food and beverage, hotels, etc. OLG failed to make payments related to non-gaming to First Nations from January 2016 to March 2021. Upon discovering this, Ontario First Nations (2008) Limited Partnership sued OLG for breach of the 2008 Agreement by filing a Notice of Dispute under the Agreement in 2016 and initiating arbitration. The courts ruled in favour of First Nations on March 31, 2020 and ordered OLG to pay First Nations, on an ongoing basis, 1.7% of total gross non-gaming revenue. In our discussion with Ontario First Nations (2008) Limited Partnership, we were informed that First Nations has almost no trust in OLG, and that OLG does not treat First Nations like a stakeholder.

- **Neither OLG nor the Alcohol and Gaming Commission of Ontario (AGCO) is monitoring to ensure slot machines are connected to OLG’s central monitoring system, and that slot machines actually pay out 85% in winnings over the life of each machine as per AGCO standards.** According to OLG, casino operators are required to follow AGCO standards of ensuring that a slot payout is set at 85% or above, and the AGCO should have controls to monitor adherence to the standard. However, in our 2020 audit of the Alcohol and Gaming Commission of Ontario, we noted that the AGCO does not monitor slot payouts because it considers this a low risk, and OLG and the AGCO are currently relying on casino operators to monitor and self-report any issues with slot machine payouts. Based on our review of January 2017 to August 2022 payout data for 27,732 slot machines, 639 (2.3%) of slot machines were paying under 85% and 83 were paying under 80%. Two hundred fifty slot machines were still

paying under 85% after more than 100,000 games played. We also noted that OLG’s Gaming Management System has not been implemented at the Windsor casino. Therefore, neither the AGCO or OLG is able to remotely monitor slot payouts at this location, relying instead on reports submitted by the casino operator.

- **A mass slot machine reset by casino operators may have impacted slot payouts.** Generally, slot machines are reset only when software is updated, hardware is replaced, or when technical trouble shooting is needed. However, we noted that casino operators performed an unprecedented mass slot machine reset unrelated to any software or hardware change between October 2021 and April 2022. OLG noted that “specifically changing the payback percentages on those games” was the casinos’ main reason for resetting the slot machines. However, OLG is not tracking these changes to assess whether they had any direct impact on slot payouts and whether those changes would be fair to patrons playing on those machines.
- **The growth of OLG’s Internet gaming revenues have slowed with the introduction of private-sector gaming operators.** OLG’s Internet gaming revenue grew from \$139 million in 2019/20 to \$511 million in 2021/22, but OLG now faces significant competition from private gaming operators that signed an agreement with iGaming Ontario on April 4, 2022 allowing them to legally offer their games to players in Ontario. OLG’s Internet gaming revenues (excluding its Internet lottery) increased by 7% from \$101 million from April to June 2022 to \$108 million from July to September 2022. In contrast, OLG reported Internet gaming revenues (excluding its Internet lottery) of \$83 million in the three-month period from April to June 2021 and \$77 million in the three-month period ending September 2021. In direct competition, iGaming Ontario reported an increase of 65% from \$162 million in private operators’ gaming revenues from April 4, 2022 to June 30,

2022 to \$267 million for the three-month period ending September 2022. Although a part of this growth could be attributed to iGaming Ontario adding six new operators, average monthly spending per active player on iGaming Ontario websites also increased by 25% over the same period. The Province receives approximately 45% of OLG's Internet gaming revenue as profit, compared to only 5.7% of gaming revenue from play on private Internet platforms registered with iGaming Ontario.

- **OLG's responsible gambling tools are not being used by online players.** OLG's Internet gaming customers have grown from 31,000 average monthly players in 2017/18 to almost 257,000 in 2021/22. Despite this significant growth in Internet players, new players are generally not using responsible gaming tools. For example, the use of the player casino loss limits tool dropped from 33% of active players in June 2017 to only 11% of active players in June 2022 despite internal OLG surveys that indicate the risk has increased from 11.5% of players at risk of problem gambling in 2019/20 to 13.4% in 2021/22. We also noted that players who exclude themselves from OLG's website can still access iGaming Ontario's private operator sites.
- **Ontario casinos do not verify the source of funds from patrons using large amounts of cash which risks undetected money laundering activities.** Effective June 2021, the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC), a federal agency responsible for facilitating the detection, prevention and deterrence of money laundering activities, required all financial entities, security dealers and casinos to reasonably establish the source of funds for single transactions over \$100,000 involving persons at risk for financial or political influence or corruption. In May 2021, OLG began requiring casinos to take reasonable measures to assess the source of funds for all patrons for single transactions of \$100,000 or more, but

proof of the source of funds is not required. In contrast to Ontario, in British Columbia casinos are still required to ask for proof of source of funds for casino transactions in cash and cash equivalents of \$10,000 or more.

- **Reporting of suspicious transactions is low and varies among casinos.** Our audit found that the value of suspicious transactions reported was less than 1% of revenues in 19 of 27 casinos, including Casino Niagara. OLG has not conducted any analysis of why these sites have few or no suspicious reports filed. According to OLG's anti-money laundering policies, patron's play must be verified prior to the issuance of any cheque of \$3,000 or more and confirmation that the cheque being issued is for winnings. During our audit, we engaged a firm to conduct mystery shopping assignments at four Ontario casinos to assess the anti-money laundering controls in place. At two casinos, mystery shoppers were able to obtain four casino cheques for between \$4,900 and \$10,750 with limited play and no casino winnings.
- **OLG does not assess employee utilization and efficiency.** While OLG has performance plans in place for employees, it does not track employee efficiency or utilization measures outside of its core operational areas of its call centre (average time per call), distribution centre (packages per hour) and prize centre (cases closed per hour). In 2021/22, the Ministry of Finance requested OLG to identify efficiencies within its workplace. As of March 2022, OLG had approximately 1,340 employees (of which only 400 work in the core operational areas). OLG also does not have a process in place to allocate staffing costs to its various lines of business. Without knowledge of employee workload, it is difficult for management to identify efficiencies or inefficiencies within its workplace.

This report contains 25 recommendations, with 53 action items, to address our audit findings.

Overall Conclusion

OLG has undermined the credibility of its own procurement process by failing to hold casino operators accountable for their financial commitments in the contracts they signed after winning the rights to operate casinos in a competitive bid process. OLG renegotiated the contracts for three regions (Ottawa, North and West GTA) which lowered OLG's projected minimum revenue share over the first 10 years and the committed capital investments. By agreeing to lower financial projections that negatively impacts OLG's revenue share, OLG weakened its ability to achieve the government's objectives of maximizing provincial profits and private-sector capital investments. It also failed to hold casino operators to the contracts they signed and in one case, another casino operator would have won the contract if the unreasonableness of the successful casino operator's bid had been seriously considered during the competitive bid process.

We also noted that OLG and casino operators do not have effective processes to prevent money laundering in casinos and both the OLG and the Alcohol and Gaming Commission of Ontario, the provincial regulator, do not ensure the integrity of slot machines by inspecting for the standard of 85% payout over the lifetime of the machine, and that only slot machines hooked up to OLG's central system are operating in Ontario. This is left to the private-sector casino operators to monitor and self-report.

Lack of transparency and transparent communication led to a relationship-damaging legal dispute after OLG failed to consult a key stakeholder, Ontario First Nations (2008) Limited Partnership (First Nations), around contractual conditions established with casino operators for non-gaming revenues. This resulted in OLG stopping payment to First Nations of First Nations' share of non-gaming revenues committed to under an existing agreement between OLG and First Nations.

OLG has not been sufficiently focusing on its responsible gaming mandate to proactively address players with indicators of problem gambling. In addition, OLG could improve its performance measures by focusing on its core objectives.

OLG'S OVERALL RESPONSE

The Ontario Lottery and Gaming Corporation (OLG) thanks the Auditor General and her team for this comprehensive value-for-money audit report. OLG will continue to work with service providers, vendors and the Alcohol and Gaming Commission of Ontario to implement the Auditor General's recommendations as we continue to drive the growth of our business, supported by our three-year strategic plan.

To combat the risk of illegal activity across all lines of business, we will expand our efforts to ensure compliance with our anti-money laundering framework.

With a continued focus on fiscal management and building value through partnerships, OLG will strengthen its relationships at the local level by striving to increase the profits it returns to gaming host communities, Ontario First Nations, lottery retailers and local charities across Ontario.

Building a sustainable player base is critical to OLG's long-term success. And through continual advancement of our Responsible Gambling programming, OLG will provide more access than ever before to its educational platform, PlaySmart, which supports customers with information, tools, and referrals to community-based services.

OLG welcomes independent review of our business, which help contribute to continuous improvement of our overall operations and performance. As one of the largest non-tax revenue generators for Ontario, OLG welcomes opportunities to further maximize returns in partnership with our many stakeholders, while serving the broader public interest. We appreciate the Auditor General's feedback on how to improve outcomes for land-based gaming modernization. To date, the initiative has resulted in \$1.7 billion in capital infrastructure investments made by the private sector. We look forward to further leveraging gaming to create jobs and contribute to prosperous communities province-wide.

2.0 Background

2.1 Overview

The Ontario Lottery and Gaming Corporation (OLG), a Crown agency of the government of Ontario, was created by the *Ontario Lottery and Gaming Corporation Act, 1999*.

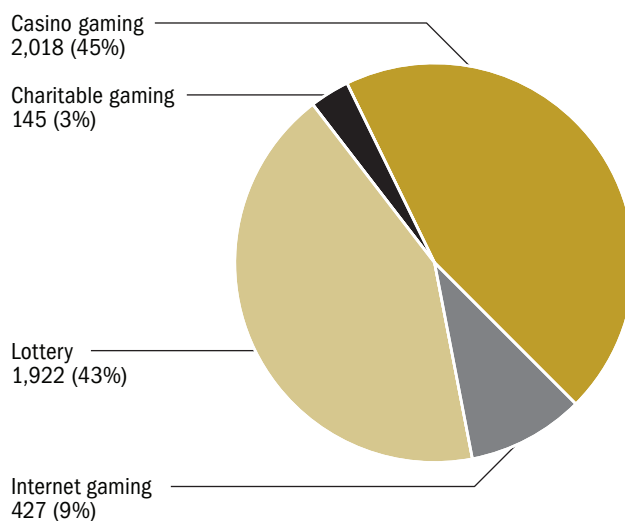
OLG is responsible for conducting and managing casinos, charitable gaming, Internet gaming and lotteries. OLG is also responsible for supporting the horse-racing industry through direct annual funding of about \$120 million. OLG's mission is to generate revenue for the Province, stimulate and enhance economic development, and promote high standards of responsible gambling, all in the best interests of the province of Ontario. In addition to its mission, OLG states that its purpose is to contribute to a better Ontario by delivering great entertainment experiences for its customers.

In 2012, OLG began implementing its Modernization Plan with a key focus on increasing casino revenues through expansion of gaming using private-sector capital investments, and by privatizing operations of its casinos. Ontario's casinos' day-to-day operations are now managed by the following casino operators from the private sector, while OLG is still responsible for ensuring that they conduct and manage their operations in accordance with the *Criminal Code of Canada*: Great Canadian Entertainment; Gateway Casinos and Entertainment; Hard Rock International; and Mohegan Gaming and Entertainment). The exception is the Windsor casino, which is currently operated by Caesars but still owned by OLG. The Windsor casino is expected to be privatized by 2026. **Appendix 1** lists all nine gaming regions and their operators.

As seen in **Figure 1**, for 2021/22 OLG's revenues by line of business were as follows: casinos—\$2,018 million (45% of total); lottery—\$1,922 million (43%); Internet gaming—\$427 million (9%); and charitable gaming—\$145 million (3%). OLG provided \$1,562 million in net profit to the Province for 2021/22. The revenues presented in **Figure 1** are before any deductions of fees paid to private sector operators for operating casinos and charitable gaming.

Figure 1: OLG Revenues by Line of Business, 2021/22 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



Note: OLG does not receive any revenue from supporting the horse-racing industry. All revenues are reported before any service provider fees. Lottery products sold on the Internet are included in Internet gaming.

2.2 Lines of Business

OLG has three main lines of business, each of which is a distinct revenue-generating division: land-based gaming, Internet gaming and lotteries. **Appendix 2** shows OLG's 10-year financial trend for each line of business. From 2012/13 to 2019/20 (last full year before COVID-related closures), casino gaming revenues increased by 21% and net profits increased by 31%. From 2012/13 to 2021/22, lottery revenues increased by 29% and profits increased by 24%.

Revenues from Internet gaming have grown exponentially since its introduction in January 2015. From 2015/16 to 2021/22, Internet gaming revenues increased almost nine-fold to \$427 million, while profits increased almost 15 times over this period.

2.2.1 Land-Based Gaming

Casinos

As of March 2022, OLG's land-based gaming included 29 casinos. Two casinos were under construction. The *Criminal Code of Canada* (Criminal Code) prohibits all commercial gaming unless it is conducted and

managed by a province. To meet this “conduct and manage” requirement, provincial governments many years ago created Crown corporations such as OLG to offer gaming products to consumers. OLG is required under the Criminal Code and the *Ontario Lottery and Gaming Corporation Act* (Act) to conduct and manage casinos in Ontario. Refer to **Appendix 1** for a map of Ontario’s nine gaming regions and the casinos in each region.

In 2012, when OLG launched its Modernization Plan (“privatization”) for its casinos, its goal was to increase profits via private-sector capital investment, and in turn create new jobs by opening new casinos and expanding existing ones, and benefit communities and OLG stakeholders with increased funding. OLG expected that the private-sector capital investment would be used for new casinos, site expansions, renovations, and additional gaming and non-gaming amenities such as live entertainment, retail and hospitality.

In selecting its private casino operators, OLG grouped its casino sites into nine regions and followed the procurement process outlined in **Appendix 3**, giving successful bidders the right to operate casinos in specific geographic areas for a minimum of 20 years. **Appendix 4** outlines the timelines of the procurement process.

As of September 2022, casinos were being operated by private casino operators in eight out of the nine gaming regions. Procurement of a private casino operator under a new agreement for the final gaming region, Windsor, is expected to be completed by 2026. OLG still owns the Windsor casino and its gaming assets, which have been operated by Caesars Entertainment since the casino’s opening in 1994.

Under the new privatization model, OLG became responsible for overseeing the casino operators who are responsible for day-to-day operations. In addition, casino operators acquired OLG’s gaming assets, properties and premises leases at fair market value when they assumed operations of the gaming sites. At the end of each regional agreement (typically 20 years in length), if OLG chooses not to renew the agreement

with the casino operator, OLG has the right to choose to purchase the gaming assets at fair market value. In exchange for exclusive land-based gambling rights within their specific geographic region, these casino operators committed to an annual revenue amount that is guaranteed to OLG as well as 30% of any revenues above the guaranteed amount. In contrast to this new revenue-sharing agreement, the Caesars agreement for the Windsor casino requires payment of a management fee of 2% of gross revenue up to \$480 million, and 4% above \$480 million, plus 5% of profits up to \$200 million and 10% above \$200 million (\$9.4 million in 2019/20) to Caesars without any revenue sharing. OLG retains all revenues aside from the management fee payments.

Charitable Gaming

OLG is required under the Criminal Code and the Act to conduct and manage 37 charitable gaming centres (bingo halls) that use either electronic bingo machines or paper bingo games. Like casinos, bingo hall operations are outsourced to private operators.

Horse Racing

OLG supports the horse-racing industry by administering the 2019 Long-term Funding Agreement for Live Horse Racing. As part of the agreement established between OLG, Horse Racing Ontario, Ontario Racing Management Inc. and Woodbine Entertainment Group, OLG provides Ontario Racing (a non-profit horse-racing industry association) up to approximately \$117 million annually for 19 years. OLG also is required to advise and support the horse-racing industry in areas including responsible gambling, marketing and performance management.

2.2.2 OLG Internet Gaming

The Criminal Code prohibits all commercial gaming unless it is conducted and managed by a province. To meet the “conduct and manage” requirement of the Criminal Code, provincial governments many years ago created Crown corporations such as OLG to offer

gaming products to consumers. OLG is permitted under the Criminal Code and the Act to conduct and manage Internet gaming in Ontario.

OLG launched its first Internet gaming site, PlayOLG.ca, in 2015, offering Ontarians various versions of draw-based lottery games and casino games. In October 2020, OLG launched its current Internet gaming website OLG.ca, which replaced PlayOLG.ca and combined all Internet gaming and lottery offerings into one website. OLG directly operates OLG.ca, which offers online slots and table games as well as online sales of select lottery games. In 2021, OLG added the Internet sports betting site PROLINE+.

Beginning in April 2022, OLG's Internet gaming has been required to directly compete with Canadian and non-Canadian private-sector iGaming operators following the Province's establishment and opening of Ontario's new Internet gaming market.

OLG will continue to provide its own direct Internet gaming offerings. The new provincial agency, iGaming Ontario, entered into operating agreements with private gaming operators that permit these operators to offer their games to players in Ontario. A significant number of private gaming operators were previously operating in the Province without regulatory oversight. As of April 4, 2022, all private-sector gaming operators that have registered with the Alcohol and Gaming Commission of Ontario (AGCO) and have an operating agreement with iGaming Ontario, are allowed by the Province to offer both online casino and sports betting in Ontario.

2.2.3 Lottery

OLG's Lottery Division is responsible for terminal-based lottery and sports games and offers INSTANT lottery products to be sold through approximately 10,000 private-sector retailers across the province. OLG offers four main lottery product categories: National Lotto (operated by Interprovincial Lottery Corporation for all provinces), Regional Lotto (Ontario-only lotteries, such as Lottario and Ontario 49), instant Ontario games (e.g., scratch tickets) and retail sports betting (PROLINE). The Lottery Division is also responsible

for delivering, managing and optimizing customer experiences for OLG Internet players and lottery customers, and for providing technical support to all OLG lottery retailers.

2.3 OLG's Organizational Structure and Operations

OLG's operations are organized under its three main lines of business (land-based gaming, Internet gaming, lottery), with support from OLG's corporate services divisions. As of March 31, 2022, OLG had 1,340 full-time-equivalent employees (FTEs). OLG's organizational structure and FTEs by division are shown in **Appendix 5**.

OLG is governed by a Board of Directors responsible for setting OLG's strategic direction, identifying, managing and monitoring key risks, and overseeing operations. OLG's Board consists of a Chair and eight other members. All Board members are appointed by the Lieutenant Governor in Council following Cabinet approval, and the Lieutenant Governor in Council may also select the Chair and Vice-Chair for the Board. Board appointment terms are generally two or three years. The OLG Chair, acting on behalf of the Board of Directors, is accountable to the Minister of Finance.

A Memorandum of Understanding (MOU) between the Minister of Finance and OLG sets out the roles and responsibilities of the Minister of Finance, Board of Directors, Board Chair, Deputy Minister and OLG's CEO. The MOU also notes annual reporting requirements for OLG, which is to submit an annual report and a business plan to the Minister of Finance. The Chair, through the CEO, is required to ensure that both the business plan and the annual report are made public within 30 days of Minister's approval.

OLG has experienced executive turnover in recent years, with the hiring of a new CEO and Board Chair. The current CEO took charge in October 2020, while the current Board Chair was appointed in December 2021. Both the prior CEO and Board Chair left under controversial circumstances. The former Chair resigned "for personal reasons" in March 2021 after an OPP investigation into allegations of conflict of interest with

his private business. OPP's investigation concluded that allegations against the Chair were not substantiated and no charges were filed. The former CEO resigned in March 2020 after media reports of expensive office renovations, excessive spending and creating a divisive culture. Internal investigation into the CEO's conduct concluded that the CEO's actions and spending were reasonable.

2.4 Responsible Gambling

OLG's mandate includes having responsible gambling programs to mitigate the possible social damage caused by gambling. OLG has 19 PlaySmart Centres staffed and operated by the Responsible Gambling Council, a non-profit organization contracted by OLG, and 10 kiosks in casinos that provide literature and other resources to problem gamblers. All casino, charitable gaming centre and Responsible Gambling Council employees take training on how to recognize, respond to and report signs of problem gambling. Patrons can also enrol in various programs to limit their own gambling (e.g., a self-exclusion program, self-imposed limits on gaming machines). Starting February 2011, casinos began using facial recognition software to prevent individuals on the self-exclusion list from remaining in casinos they have entered.

Facial Recognition Data Access, Storage and Destruction

According to OLG, only OLG and casino staff who require access to photos and personal information of self-excluded individuals to manually detect breaches and verify detected individuals have access to facial recognition data. Facial images of patrons are sent from casino facial recognition cameras to OLG's central identification servers, where they are compared to the self-exclusion database. If there is no match between the facial image and the self-exclusion database, the images are deleted from the servers immediately. If there is a potential match (score of 65% or higher), an alert is generated. Images are deleted after 45 days if a match is found to be invalid. When a self-excluded individual is reinstated after the self-exclusion term

expires, or after seven years without an incident for an individual found to be trespassing on a casino site, all incidents and facial recognition photos are deleted. No data is retained on-site, and the transmission and storage of data are encrypted.

2.5 Money Laundering

2.5.1 *Proceeds of Crime (Money Laundering) and Terrorist Financing Act, 2000*

The federal *Proceeds of Crime (Money Laundering) and Terrorist Financing Act, 2000* (Act) addresses money laundering in Canada. Its objective is to implement measures to detect and deter money laundering and financing of terrorist activities, and facilitate investigation or prosecution of these offences. Money laundering is the process that transforms "dirty" money (proceeds of criminal activity) into "clean" money that has no direct association with the criminal activity.

The Act's regulations prescribe requirements for customer identification, record keeping and reporting, and a compliance regime, among other things. Under the Act, each provincial compliance program must appoint a Chief Compliance Officer, and follow up-to-date anti-money laundering policies and procedures; assess money laundering risks; develop and maintain anti-money laundering training and training plans; and conduct anti-money laundering compliance program effectiveness testing at least every two years.

Before Ontario privatized its casino operations, OLG directly reported all relevant transactions under the Act for the slot facilities and casinos it operated; operators of resort casinos were responsible for submitting reports for their sites. Since privatization, OLG has continued to report directly to the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) for all casinos, except for resort casinos which report directly to FINTRAC.

Since 2019, the Act has undergone a series of amendments. The latest, effective June 1, 2021, included the requirement for casinos to screen for "politically exposed persons," "heads of international organizations," and certain family members and close

associates of both groups. This information is tracked by casino operators and sent to OLG to be forwarded to FINTRAC.

2.5.2 The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC)

The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) is Canada's financial intelligence unit. As an agency of the government of Canada, FINTRAC is required to administer and enforce the federal *Proceeds of Crime (Money Laundering) and Terrorist Financing Act, 2000* and associated regulations. FINTRAC is also required to operate at arm's length from police services and law enforcement agencies and other entities to which it discloses financial intelligence.

Because both OLG and iGaming Ontario are required under the *Criminal Code of Canada* to conduct and manage casinos and Internet gaming (only Internet gaming for iGaming Ontario), they are considered reporting entities subject to FINTRAC regulations. The casinos and iGaming operators are not considered reporting entities under the Act. FINTRAC has issued guidelines, interpretation notices, risk assessment workbooks, and operational briefs and alerts that set out its expectations on how reporting entities, including OLG, are to implement the requirements of the Act.

2.5.3 Alcohol and Gaming Commission of Ontario (AGCO) Regulation of OLG and Its Anti-Money Laundering Standards

OLG is regulated by the AGCO, the provincial agency responsible for regulating gaming in Ontario. The AGCO is required to regulate and oversee all of OLG's gaming operations—casinos, charitable gaming, lotteries and Internet gaming. The AGCO told us they intended to be less prescriptive to offer greater flexibility for OLG and now, private-sector casino operators, to determine the most efficient and effective ways to achieve the desired regulatory outcomes. These outcomes include minimizing unlawful activity related to gaming, and the prevention of suspected money laundering activities. The AGCO established standards

and requirements for the conduct, management and operation of lottery schemes, gaming sites and related businesses, to minimize unlawful activity. OLG's Anti-Money Laundering Program includes all obligations under the AGCO Registrar's Standards for Gaming and Internet Gaming. The AGCO's Standard 6.0 includes:

- Having mechanisms in place to reasonably identify and prevent unlawful activities and conducting periodic risk assessments to determine the potential for unlawful activities, including money laundering, fraud, theft and cheating. The periodic risk assessment requires casinos to identify and assess inherent and residual risks of money laundering. Where the risk is determined to be high, the casino must take measures to mitigate the risks, identify clients, keep records and conduct ongoing monitoring (6.1).
- Implementing and enforcing anti-money laundering policies and procedures to support obligations under the federal *Proceeds of Crime (Money Laundering) and Terrorist Financing Act, 2000*; maintaining copies of all reports filed with FINTRAC; and making supporting records available to the AGCO (6.2).
- Having reasonable measures in place to identify and prevent suspected money laundering activities, including policies, procedures and controls that specify times and situations, based on risk assessment, where the operator will ascertain and corroborate a patron's source of funds (6.3).

2.5.4 OLG's Anti-Money Laundering Activities

Prior to 2017, OLG's anti-money laundering activities consisted mainly of meeting reporting requirements to FINTRAC, and reporting suspicious transactions to the Ontario Provincial Police (OPP) through the AGCO. In 2017, OLG created an escalation process to issue the highest-risk patrons with trespass notices. In 2019, OLG, the AGCO and the OPP developed a Memorandum of Understanding to create an anti-money laundering patron analysis team with regular meetings to exchange patron information, discuss mitigation efforts, and identify and prioritize higher-risk

patrons. Since 2019, OLG consults with the OPP officers housed at the AGCO to discuss patrons that are being considered for trespass notices, and to ensure that OLG's actions do not interfere with any ongoing OPP investigations.

OLG's anti-money laundering unit is responsible for ensuring private-sector casino operators' compliance with FINTRAC reporting requirements. OLG's unit currently consists of 28 FTEs spread between four teams: advisory, reporting, analysis and intelligence. The advisory team supports policies, training and interactions with the private-sector casino operators.

3.0 Audit Objective and Scope

The objective of our audit was to assess whether the Ontario Lottery and Gaming Corporation (OLG) has effective oversight and operational procedures in place to:

- conduct and manage lottery games, Internet gaming and casinos fairly (ensuring game integrity), in a socially responsible manner, and in compliance with legislation and corporate policy;
- deploy its resources efficiently and effectively; and
- measure and publicly report on the effectiveness of its operations.

In planning for our work, we identified the audit criteria (see **Appendix 6**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at OLG reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between January 2022 and September 2022. We obtained written representation from OLG's management that, effective November 24, 2022, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

We conducted audit work primarily at OLG's head office located in Toronto. We also visited gaming sites and met with private-sector casino operators to obtain their views on OLG's oversight and OLG's input on key operational decisions. We met with stakeholder groups on responsible gambling (the Centre for Addiction and Mental Health and the Responsible Gambling Council) and discussed the impacts of COVID-19 and privatization on problem gambling and mental health. In our meetings with key stakeholders that receive a portion of OLG's revenues—namely, host municipalities (Niagara and Pickering) and the Ontario First Nations (2008) Limited Partnership—we heard their views on the private operation of casinos and the impact OLG's contracting with private casino operators has had on their communities. We also met with the Ontario Internal Audit division to discuss their 2020 audit of OLG.

We visited Casino Woodbine and met with supervisors and staff for various casino operations (tables, slots and cashiers) to discuss Casino Woodbine's processes with respect to anti-money laundering and responsible gambling. We also hired a mystery shopping firm to test anti-money laundering controls at four Ontario casinos.

Our audit did not review OLG's oversight of charitable gaming centres and OLG's support of the horse-racing industry. Provincial funding to the horse-racing industry was the subject of a 2019 audit completed by our Office, Provincial Support to Sustain the Horse-Racing Industry.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations—Operations

4.1 Casinos

4.1.1 OLG Renegotiated Significantly Reduced Revenue Commitments from Casino Operators Despite Signed Contracts Already in Place

In 2012, the government stated that its objectives for privatizing Ontario casinos were increased profits to the Province, private-sector capital investments and job creation. Without privatization, OLG expected its annual revenues to remain flat at approximately \$3.4 billion, with minimal capital investment, resulting in a failure to access growth potential in the Ontario gaming market.

By June 2019, OLG had selected private-sector casino operators for eight of its nine gaming regions. At the time of our audit, only a new operator for the

Windsor region under the new private operator model had yet not been selected. As seen in **Figure 2**, casino revenues increased for five of the eight gaming regions from the region's last full year under OLG operations (year varies depending on region) to 2019/20 (the last complete year with limited COVID-19 impacts). Casino revenues decreased for the Central, Niagara and North regions. However, as seen in **Figure 3**, the net profit to the Province decreased for five of the eight regions from the last full year under OLG operations to 2019/20, including three regions where revenues increased—East, Southwest and West GTA.

Our audit found that OLG's willingness to compromise on holding casino operators accountable for their financial commitments undermined its privatization objectives and could appear to unfairly favour some bidders or operators. Its actions reduced its opportunity to maximize revenue from the casino sector for the benefit of taxpayers.

Based on the updated revenue projections for the eight gaming regions as of March 2022, total casino gaming revenue projections for the first 10 years of operations were reduced by \$9.1 billion from the projections included in the winning bids, from \$58.3 billion to \$49.2 billion, before accounting for any COVID-19 related reductions. As a result, over the same 10 years, OLG's share of these projected revenues was reduced by \$3.3 billion, and \$5.8 billion was absorbed

Figure 2: OLG Casino Gaming Revenue, Pre-privatization and 2019/20 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation

Gaming Region	Casino Gaming Revenue – Pre-privatization ¹	Casino Gaming Revenue – 2019/20 ²	OLG's Casino Gaming Revenue Share – 2019/20 ²	Increase (Decrease) in Casino Gaming Revenue
East	124	186	90	62
North	117	114	46	(3)
Southwest	227	259	123	32
Ottawa	117	156	95	39
GTA	1,041	1,365	809	324
West GTA	458	501	299	43
Central	527	400	245	(127)
Niagara	655	609	473	(46)
Total	3,266	3,590	2,180	324

1. Last full fiscal year operated by OLG.

2. Last complete fiscal year revenues were not significantly impacted by COVID-19 as casinos were closed for two weeks at the end of March 2020.

Figure 3: OLG Net Profit to the Province Pre-privatization and 2019/20 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation

Gaming Region	Net Profit to the Province – Pre-privatization ¹	Net Profit to the Province – 2019/20 ²	Increase (Decrease) in Net Profit to the Province
East	71	56	(15)
North	54	32	(22)
Southwest	135	78	(57)
Ottawa	72	101	29
GTA	761	718	(43)
West GTA	303	259	(44)
Central	167	212	45
Niagara	153	206	53
Total	1,716	1,662	(54)

1. Last full fiscal year operated by OLG.

2. Last complete year in which net profit to the Province was not significantly impacted by COVID-19 as casinos were closed for two weeks at the end of March 2020.

by casino operators. The projected net profit to the Province was reduced by \$320 million annually on average from 2024/25 to 2028/29.

Bid Evaluation Process and Casino Operator Payment Model Were Originally Designed to Guarantee Minimum Revenues to OLG

The winning bidders for each gaming region were selected in an evaluation process OLG designed in 2012 with the assistance of an external consultant. OLG staff evaluated all bids. Supplementary evaluators were hired to assist in the process, and OLG hired a fairness monitor to oversee the entire procurement process for all eight regions. **Appendix 3** outlines the key steps of the bid evaluation process.

Each bidder had to commit to an annual revenue amount that would be guaranteed to OLG based on the bidder's revenue projections as well as 30% of any revenues earned above the guaranteed amount. OLG used external consultants to assist it in assessing the market potential and revenue projections for each gaming region, and it compared these revenue projections to the revenues projected by each bidder. According to OLG, the compensation model was designed to grow gaming revenues and to incentivize capital investment by the successful bidders, while guaranteeing the portion of the revenues to be retained by OLG.

Under the model, OLG was to retain 100% of gaming revenues in the guaranteed commitment for the term of the contract. If the operator failed to earn the guaranteed revenue amount for the year (OLG calls this the "threshold"), the operator would still be required to pay OLG its minimum guaranteed commitment. The guaranteed amounts in the bids varied year over year, based on each bidder's gaming revenue projections; they typically increased over the course of the contract as revenue was expected to grow as a result of the operator's capital investments. If gaming revenues exceeded the guaranteed amount, 70% of the gaming revenue above the guaranteed amount was to be kept by the casino operator and 30% was to be paid to OLG.

In addition to the revenue that would be shared above the guaranteed commitment, each casino operator was also to be paid an annual fixed fee (approximately 12% of gaming revenue) to support its basic operating expenses. They would be responsible for all gaming and non-gaming operating and capital costs above the annual fixed fee. Casino operators would receive an annual capital allowance (about 2% of actual gaming revenue) to reimburse them for maintenance of properties and gaming equipment. They could also retain all revenue from non-gaming operations, such as food, accommodations and drink concessions.

The final evaluation of the bids was based on a calculation of the present value of guaranteed revenue commitments over the first 10 years and the present value of one-half of OLG's 30% share of revenues projected above the guaranteed commitments. According to OLG, only one-half of the revenue projections above the guaranteed commitments was used in the evaluation, to ensure realistic bids and to ensure a higher allocation of projected revenues to the guaranteed revenue commitments in the submitted bids.

Contracts with Operators Allowed Reductions in the Guaranteed Minimum Revenue, but Only in Limited Circumstances Related to Events Outside of the Operator's Control

The casino operators were mainly selected based on the revenue projections in their bid submissions, and OLG reviewed each bidder's annual financial projections in the procurement process to assess whether they were reasonably supported. However, as of September 2022, casino operators in three (Ottawa, North and West GTA) of the eight regions had renegotiated with OLG to reduce their initial revenue commitments and lowered their capital investment projections, meaning that less revenue would go to OLG than what they guaranteed in their bids, and actual capital expenditures on their casino operations would be lower.

During the procurement process, OLG noted that revenue commitments could be reduced only under very limited circumstances (described below), because these commitments were based on casino operators' forecast gaming revenue, and each operator had to bear the risk of fluctuations in its gaming revenue.

In OLG's Casino Operating and Service Agreement (contract) with casino operators, only a few things qualify an operator for financial relief: a force majeure event that prevents, delays or substantially hinders either party from performing all or part of its obligations; a labour disruption; landlord constraint that prevents, interrupts or ends the operation of the casino at the location; and qualifying restraints on table or electronic games.

For COVID-19-impacted years (2020/21 to 2023/24), OLG has agreed to relief from minimum guaranteed revenue payments for all casino operators until casino revenues return to pre-COVID levels (expected in 2023/24). During this interim period, OLG will receive about 50% of actual gaming revenues. This amount varies by region.

In addition, OLG is able to terminate the contract at its sole discretion in case of default with a material impact on operations, including a casino operator's failure to perform or comply with any obligations, covenants or agreements; inaccuracy or misrepresentation in any representation or warranty; labour disruption beyond 365 days; operator insolvency; and an operator's conviction on a criminal offence. One of the covenants specified that the casino operator must realize gaming revenue in each operating year that is equal to or greater than the guaranteed minimum commitment for that year, or the operator is to pay for the difference as a "threshold top-up" within seven business days.

Three Operators Requested Contract Renegotiation and Amendments to Minimum Revenue Commitments in 2019

By June 2019, casino operators in the Ottawa (Hard Rock International), North (Gateway Casinos) and West GTA (Great Canadian) regions had asked for amendments to their guaranteed minimum revenue commitments.

The Ottawa and North regions were facing delays due to casino construction issues such as the need for municipal approvals (Ottawa and North), and legal challenges from First Nations to proposed gaming sites (North). Although the West GTA region also faced delays due to municipal approvals, the majority of the West GTA region contract amendments were requested because the operator had overestimated the market potential in its winning bid (detailed in **Section 4.1.3**). OLG expected the North region's contract amendments to guaranteed minimum revenue commitments to be temporary. The amendments include conditions to ensure the casino operator builds sites in a timely

fashion in accordance with OLG's approved development plan and timeline.

For the Ottawa and West GTA regions, OLG decided that the contracted minimum revenue commitments were unsustainable and felt they would jeopardize the financial viability of these casino operators, due to potential negative cash flows and their potential breaches of loan covenants. OLG management recommended to the Board that it was in OLG's best interest to review each request for revenue commitment adjustments on a case-by-case basis and renegotiate to secure the casino operators' ability to carry through on their planned capital projects and to protect OLG's long-term revenues and profits over the remaining term of the 20-year contracts.

4.1.2 Ottawa Region Operator Requested and Was Granted a 25% Reduction in Revenue Projections

In its bid submission for the Ottawa region, Hard Rock projected significant and immediate gaming revenue increases after taking over operations on September 12, 2017: \$43 million for 2017/18, and another \$35 million for 2018/19. Actual increases were only \$11 million in 2017/18 and \$18.5 million in 2018/19—collectively \$48.5 million lower than Hard Rock expected. As a result, its guaranteed minimum revenue commitment to OLG reached 75% of gaming revenue—a significant percentage of its revenue—instead of the intended 40% to 50% sharing of overall gaming revenue.

For 2018/19, Hard Rock's Ottawa region operations showed a net loss of \$16 million before interest and amortization. In April 2019, Hard Rock was also projecting losses in operations until 2020/21 and that it would turn profitable only by 2021/22. The parent company, Hard Rock International, is a globally recognized company with venues in 75 countries that likely would have had the ability to absorb the short-term losses.

Casino operators are required to provide OLG with annual financial statements of their regional operations

within 45 days after the close of an operating year, but are not required to provide financial statements of their parent companies. OLG assessed the financial viability of Hard Rock's regional operations in Ottawa and noted that it lost money on its regional operations and cash flows from regional operations were also negative. OLG provided financial relief on the financial performance of Hard Rock Ottawa without consideration of the financial support its parent company could provide.

As of August 2022, five years after accepting Hard Rock's bid for the Ottawa region, OLG presented to its Board that Hard Rock's bid, which projected 103% growth in gaming revenue in the first three years backed by capital improvements totalling \$326 million, was ambitious. Hard Rock had projected annual gaming revenue of \$330 million by 2026/27 after \$334 million in renovations, but now expected the revenue to be only \$250 million annually after the renovations, a 25% reduction. OLG recently agreed with Hard Rock that the potential market revenue for the region is around \$250 million and agreed to the reduction. OLG also agreed to a reduction in capital investments, from \$334 million to \$307 million. Although this is not a reason to support the reduction, after the revenue reductions, Hard Rock would still have been the highest bidder when it was awarded the original 20-year contract.

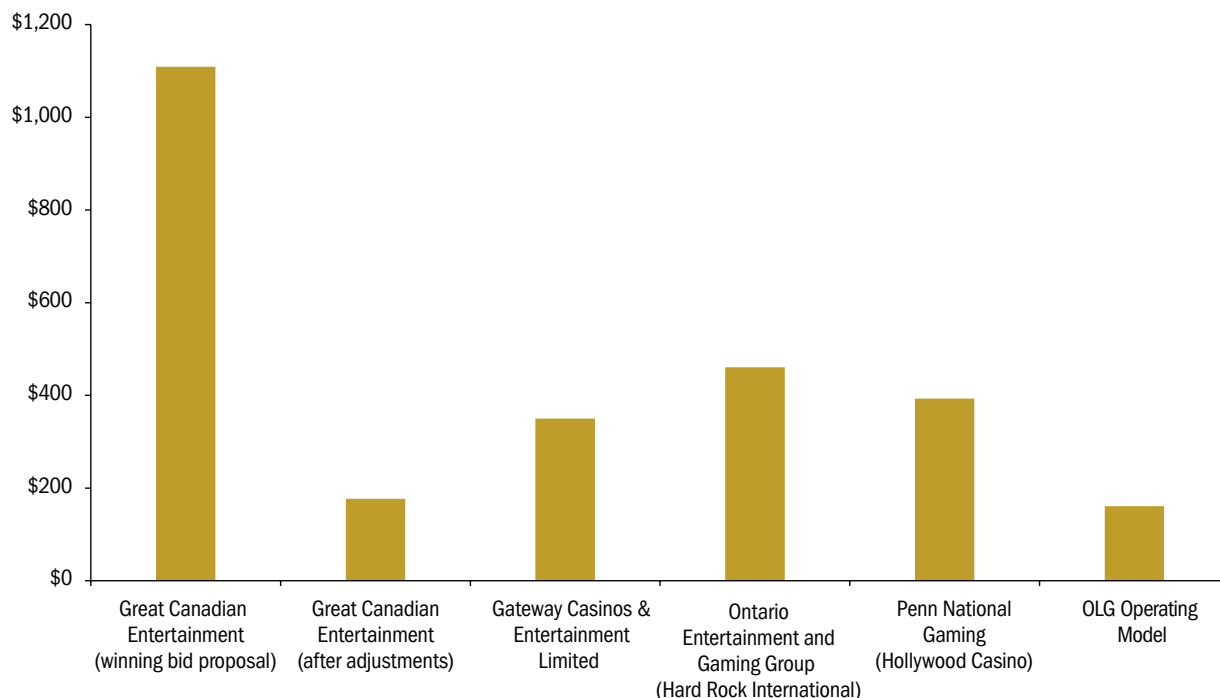
According to OLG, the lower revenues are a result of operating in a province experiencing significant gaming expansion in a relatively short period. However, we note that OLG was already aware of this when it planned to expand gaming across the province, and when it evaluated Hard Rock's bid in 2017.

4.1.3 West GTA Region Operator Selected Based on Unrealistic Financial Projections, and after Selection Reduced Its Capital and Revenue Projections

In July 2017, OLG received four bids for the West GTA gaming region. Two of the bids contained forecasts materially above OLG's own projections. After its

Figure 4: Projected 10-Year Capital Investments for the West GTA Gaming Region by Bidder (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



evaluation process, OLG selected Great Canadian Entertainment (Great Canadian) as the casino operator for the region. As seen in **Figures 4 and 5**, Great Canadian had the highest gaming revenue and capital investment projections—76% higher than OLG’s internal projections for the region’s guaranteed revenue commitments at the time of evaluation. Over the first 10 years of operations, capital investments proposed by Great Canadian would be \$1.1 billion, or almost seven times OLG’s internal projections of \$161 million.

In May 2018, Great Canadian assumed operation of the West GTA region’s four casino sites (Mohawk, Flamboro Downs, Grand River and Brantford). Its winning bid included proposed capital investments of \$1.1 billion in the first 10 years across all four gaming sites and forecast annual gaming revenue of \$1.2 billion by 2022/23, after full development of gaming and non-gaming facilities. At the time of the bid evaluation, Great Canadian’s bid included a plan to hire 1,282 full-time employees, 83% higher than OLG’s internal expectations. Its projected revenue of

\$1.2 billion by 2022/23 was 177% higher than OLG’s projection. In fact, OLG was expecting West GTA revenues to decrease by 5% due to cannibalization (competition) from other gaming regions.

With Great Canadian being the landlord at the Flamboro site, OLG expected that Great Canadian would be able to move quickly on its capital investment plans without requiring landlord negotiations. However, Great Canadian was unable to obtain municipal approvals needed to add table games at two properties and faced restraints from the landlord at Mohawk in further developing the property. Flamboro Downs, Grand River and Mohawk planned developments were 97% of the proposed \$1.1 billion four-year capital investment in the original bid.

In June 2019, within 14 months of taking over operations, Great Canadian significantly reduced its capital investment and gaming revenue projections after reassessing the region’s market potential. It asked for and OLG granted it reductions in its annual guaranteed minimum commitment of \$70 million per

year for the next nine years to remain financially viable and to deploy the capital needed to reach the revised gaming revenues.

Great Canadian indicated in its bid that it had performed significant due diligence in municipal considerations and was confident in its bid projections. However, after receiving Great Canadian's financial relief request, OLG hired an advisory firm specializing in the gaming industry, and paid \$80,000 in September 2019 for it to perform an independent reassessment of market potential in the West GTA region. The consultant's report confirmed that Great Canadian's financial projections in its original bid were optimistic. It also noted that the impact of new competition in

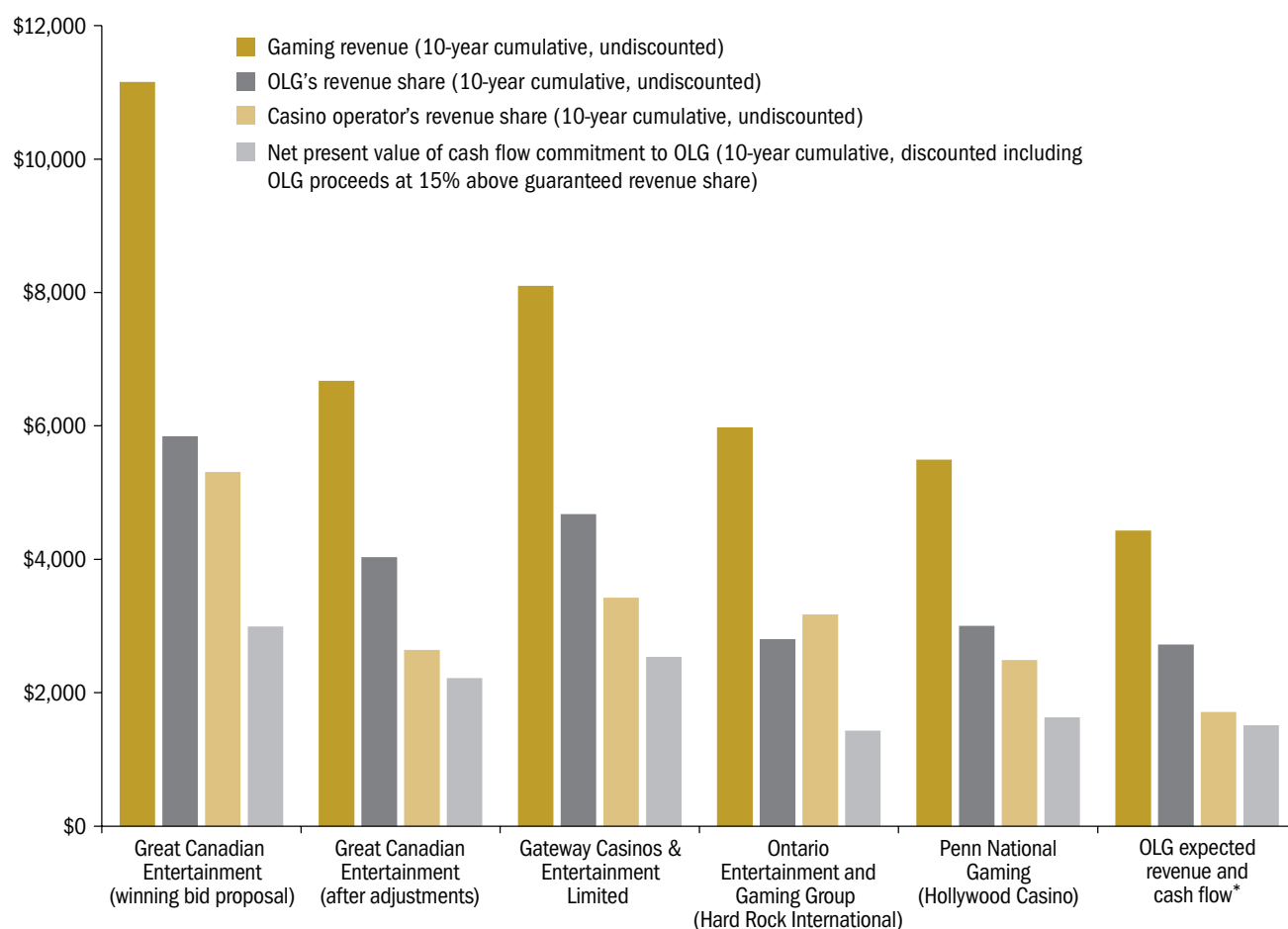
the Ontario market had not been factored into Great Canadian's bid.

Financial Relief Provided to the Operator of the West GTA Region and Lower Revenue Projections Reduced OLG's Revenue Share Projections by \$1.8 Billion over 10 Years

As seen in **Figure 5**, from 2018/19 to 2027/28, the impact of reductions in revenue projections granted to Great Canadian will be a \$1.8 billion decrease in the projected share of revenues for OLG, or \$1.5 billion in net profit that would likely have been paid to the Province by OLG. In addition, the capital investment commitments will likely be reduced by \$850 million

Figure 5: 10-Year Cumulative Present Value of Revenue Commitments to OLG for the West GTA Region by Bidder (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



* Represents OLG's expected revenue and net present value of cash flow commitments from bids.

(77%) from Great Canadian's original bid projection of \$1.1 billion (**Figure 4**). Of note, accounting for the financial relief granted to Great Canadian, OLG's revenue share projections associated with the next highest bid (Gateway) would have been higher by about \$640 million, as seen in **Figure 5**.

OLG's Rationale for Renegotiating Minimum Revenue Commitments

OLG told us that the risk of not providing the requested relief to Great Canadian could have led this operator to enter bankruptcy protection, resulting in:

- a lengthy and complicated court process with uncertainty as to the outcome for OLG and other creditors;
- negative impact on casino assets, customer experience and revenue;
- significant impact on relationship with Great Canadian, which also operates the GTA (OLG's largest gaming region) and East regions; and
- negative impacts on OLG's key stakeholders (municipalities and First Nations).

We asked OLG for evidence to support this representation and OLG shared documents showing ongoing financial projections of the operator. According to OLG, its concern for the operator's financial viability was based on its losses to date for the regional operations and the operator's borrowing capacity in light of these losses, and outstanding debt at its West GTA locations contracted with OLG. According to documents shared with OLG, in June 2019, Great Canadian's financial projections for the West GTA region were showing negative earnings before deducting interest, taxes, depreciation, and amortization, ranging from \$1.4 million to \$11.5 million per year from 2019/20 to 2024/25.

However, Great Canadian as a company was not facing a financial viability concern. As of December 31, 2020, Great Canadian had assets of \$3.1 billion with casinos in Ontario, British Columbia, New Brunswick and Nova Scotia. In 2019, Great Canadian generated \$1.35 billion in revenues with a net income of \$297 million. In our view, it could have sustained the negative impact from its Ontario operations, which

could have further incentivized it to increase work to improve revenue generation as required under its original contract. In our discussion with Great Canadian, over the four years of experience in the West GTA region, the operator is challenged by increased competition and an inability to relocate a gaming facility which is causing challenges in hitting revenue projections.

OLG and Successful Bidder for West GTA Region Misjudged Impact of Having One Operator for Adjacent GTA and West GTA Regions

Although Great Canadian would eventually be selected as the winning bidder for both GTA and West GTA, two adjacent regions, it had not been notified of its selection as the operator for the GTA region when it submitted its bid for the West GTA region. However, in its original 2017 bid, Great Canadian stated that it had fully considered the impact of competition from the GTA region in its revenue projections for the West GTA region. In 2019/20, GTA and West GTA regions accounted for 48% of the \$3.87 billion of casino gaming revenue in Ontario. Each region's bids were evaluated separately by OLG.

In evaluating bids, OLG had considered the risk that Great Canadian, if it had controlling interest in both GTA and West GTA regions, might not make decisions to optimize the outcome for each region, as it might maximize revenues in one region through greater capital investments and marketing. OLG senior management noted in its recommendation to the Board that the compensation model with revenue commitments was designed with this type of outcome in mind, and that this was its reason for including minimum revenue guaranteed commitments in all contracts.

We note that when Great Canadian was signing its contract with minimum revenue commitments in May 2018, it was fully aware of its own operations and financial commitment for the neighbouring GTA region. Great Canadian could have realistically expected competition from the GTA region it had operated since January 2018 and could have updated its revenue projections for West GTA before finalizing the West GTA contract. However, it did not raise any

concerns when the contract was executed and it committed to the revenue commitments included in its bid. Yet only 14 months after it started operating, it asked for significant relief from its original commitment.

If Great Canadian's adjusted revenue projections had been used to evaluate the bid submissions instead of its original projections, then a competing bid would have been selected assuming that this bidder had not requested similar relief, as shown in **Figure 5**. According to OLG's internal evaluations at the time, Great Canadian's bid had the highest financial risk proposal for OLG. As mentioned earlier, the winning bid's projected revenues were almost three times higher than OLG's internal projections at the time.

4.1.4 OLG Plans to Address Future Risks Associated with Casino Operators' Projections

In June 2019, OLG management told the Board that it planned to secure commitments to capital investment and development on reasonable timelines as a condition for future deferral or relief of an operator's guaranteed minimum revenue commitments. From lessons learned after completing the procurement for eight regions, OLG stated that its internal market projections need improvement to mitigate similar risks in the future, and to increase its accuracy in forecasting revenue and net profit to the Province. It, therefore, planned to obtain updated market assessments from a third-party consultant. This seems unusual given the long-term contracts now in place, and that re-negotiating even lower revenue commitments, if this is contemplated, would disadvantage OLG and ultimately the Province.

We note that each awarded contract is for a minimum of 20 years, and only the operator for the Windsor region is left to be procured. Also, the internal projections that OLG used at the time it was procuring casino operators were already more realistic than the bids it accepted. However, it did not rely on its own projections when awarding contracts, as the private sector operators would have a contractual responsibility to fulfill their bid commitments in the final agreements made with OLG.

RECOMMENDATION 1

To hold private-sector casino operators accountable for their contracted minimum revenue commitments, we recommend that the Ontario Lottery and Gaming Corporation:

- avoid further reducing contracted revenue and capital commitments made by operators; and
- in the future re-procure casino operators if the current operators are unable to deliver on the revenue and capital investment commitments included in their existing contracts.

OLG RESPONSE

OLG's objectives under modernization continue to be focused on private-sector capital investment, job growth and increased net profit to province.

OLG agrees with the Auditor General that operators should be held accountable for their contractual commitments. A value-for-money test will be required prior to approving any contractual amendment and thoroughly documented in its underlying business case. Further, OLG agrees that a re-procurement alternative to any contractual amendment should also be formally assessed as an alternative scenario. This will also be thoroughly documented in an underlying business case and recommendation, which must be approved by the Board.

4.1.5 OLG Selected the Casino Operator for Niagara Region that Proposed the Least Amount of Capital Investment

OLG selected Mohegan Gaming & Entertainment Inc. (Mohegan) as the winning bidder to be the casino operator for the Niagara region, even though OLG's independent analyst concluded that Mohegan's proposed capital expenditures were 50% lower than OLG's projections of what was needed to maximize revenues. The independent analyst estimated that during its capital expenditure phase, Mohegan's plan is expected to generate 1,525 fewer jobs (FTEs), \$105.7 million lower annual GDP, and \$83.4 million less in labour

income for Ontario in its first 10 years than OLG continuing to directly operate the casinos. OLG selected Mohegan as the casino operator for the region because its bid offered the highest present value of cash flows to OLG by offering the highest amount of guaranteed revenue commitments.

OLG's evaluation process was designed to select the bidder that offered the highest net present value of cash flows to OLG over the first 10 years. For the Niagara gaming region, "understanding the uniqueness of the region" accounted for only 10% of proposals' scores, while the remaining 90% was based on the present value of the cash flows over the first 10 years. Proponents' capital investment plans were not considered in the scoring for any of the eight regions even though OLG acknowledged that capital investments

were the main driver of long-term revenue and cash flow growth for both OLG and the casino operator.

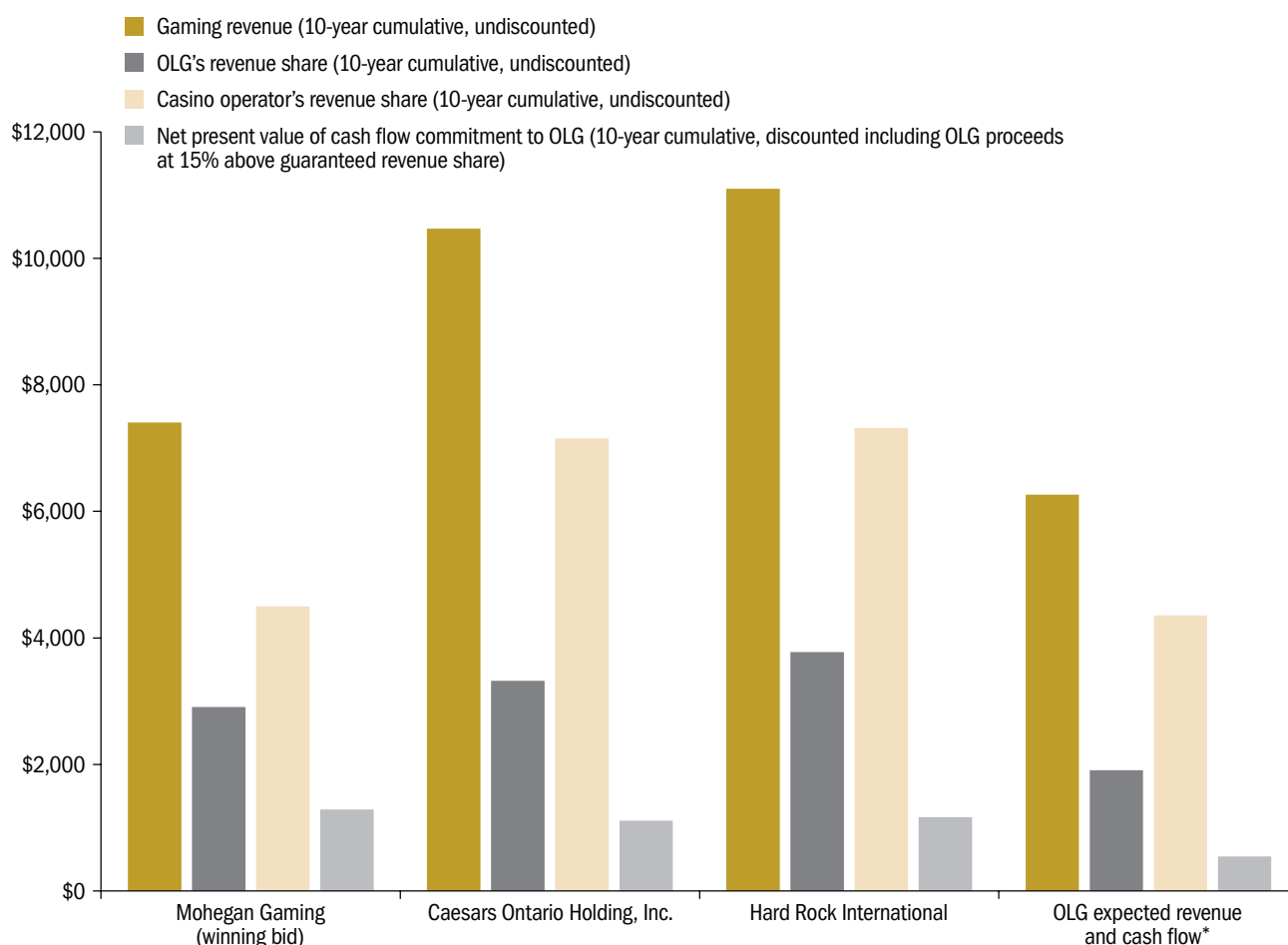
As seen in **Figure 6**, the net present value of Mohegan's cash flows to OLG was higher than that of other bidders. Part of the reason for this was that Mohegan's minimum revenue commitment to OLG was the highest over the entire 10-year evaluation period.

As seen in **Figure 7**, Hard Rock proposed significantly more direct capital investment, \$857 million more than Mohegan, primarily focused on rebranding both casinos and adding a new hotel to Casino Niagara. Caesars also proposed approximately \$140 million more capital than Mohegan.

Mohegan had also projected generating greater losses from non-gaming operations by \$27 million annually than OLG's estimates. The other bidders did

Figure 6: Projected 10-Year Cumulative Gaming Revenue for the Niagara Region by Bidder (\$ million)

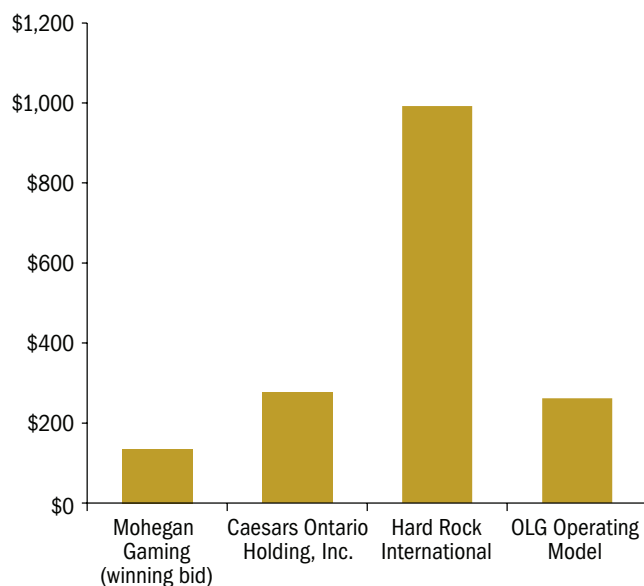
Source of data: Ontario Lottery and Gaming Corporation



* Represents OLG's expected revenue and net present value of cash flow commitments from bids.

Figure 7: Projected 10-Year Capital Investments for the Niagara Gaming Region by Bidder (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



not plan similar losses. OLG nevertheless concluded that Mohegan's bid had the optimal financial value most closely aligned with OLG's internal estimates. OLG also noted the City of Niagara Falls would benefit from Mohegan's selection because of Mohegan's alignment with the city's vision to increase economic development and maximize profits for its region through maintaining Fallsview Casino Resort (Fallsview) and Casino Niagara over the long term. However, in our discussion with the City of Niagara Falls, we were told that the city was not involved in the selection process and would prefer an operator willing to make the greatest non-gaming capital investments to increase tourism to the region.

4.1.6 OLG Casino Contracts Do Not Require Casino Operators to Make the Capital Investments They Proposed

We noted that the contracts with casino operators did not require the operators to make the capital investments that they had committed to making in their bids. The 2020 internal audit report prepared for the Treasury Board also noted this as a concern.

According to OLG senior management, contractual obligations for capital investments are not necessary because the operators themselves need these investments to achieve their projected revenue commitments to OLG. However, OLG, as we noted in prior sections, renegotiated for lower minimum revenues even when capital investments were not made.

We compared the amount of capital investments proposed by the winning bidders, expected to have been invested as at March 31, 2022, to the actual amounts invested. As seen in **Figure 8**, seven of eight regions were behind schedule by a net total of about \$3.326 billion.

As of March 31, 2022, the casino operator for the GTA region (Great Canadian) had reduced its capital investment projections by 48% from a maximum of \$3.68 billion in its original bid down to \$1.92 billion, to be spent by 2026/27 as projected by OLG.

Job Growth Lower than Expected after Privatization

In 2012, when the privatization plan was approved, OLG had expected casino privatization to add even more gaming jobs—about 2,300 net new gaming jobs—and an additional 4,000 net new jobs in the hospitality, entertainment and retail sectors. OLG does not track the results of non-gaming jobs.

In September 2016, OLG estimated that as a result of contracting out the management and operation of casinos to private-sector casino operators, there would be approximately 1,700 new gaming jobs in the industry by March 2022.

OLG has monitored the number of new jobs created in each gaming region since privatization started, receiving this data from casino operators on a quarterly basis. Casino jobs increased by only 610 by December 2019 before the COVID-19 pandemic was declared. However, as seen in **Figure 9**, as of March 31, 2022, even after staff were rehired once the casinos reopened, casino jobs were down by over 60%. It is unknown when and if casino operators will re-employ staff to the pre-COVID-19 levels or achieve the additional 1,700 new gaming jobs projected, as ongoing staffing levels are not stipulated in the contracts with private-sector casino operators. The contracts stipulate that casino

Figure 8: Initial Casino Operator Capital Investment Projections and Actual Operator Capital Investments by Gaming Region

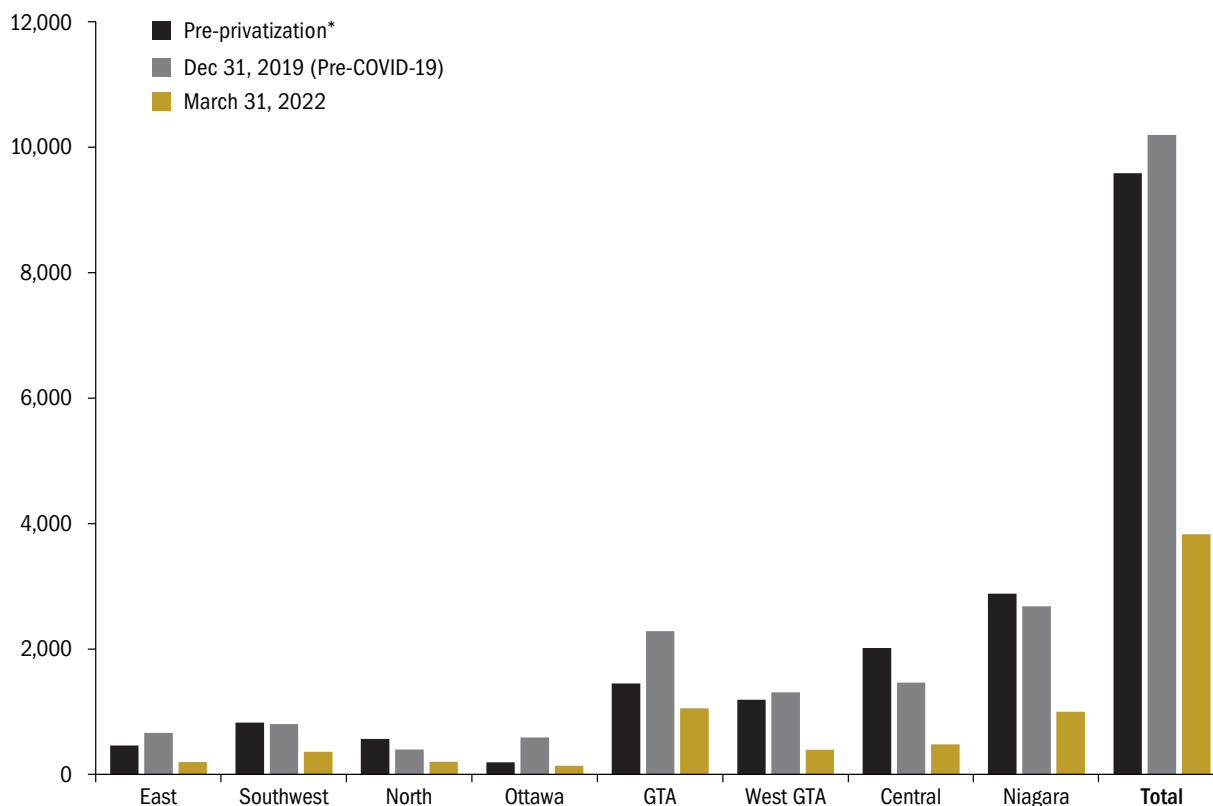
Source of data: Ontario Lottery and Gaming Corporation

Gaming Region	Casino Operator	Casino Operating Contract Effective Date	Casino Operating Contract End Date	Capital Investment Projections* (\$ million)	Revised Capital Investment Projections* (\$ million)	Capital Expenditures Expected (as of Mar 31, 2022) (\$ million) (A)	Actual Capital Investments (as of Mar 31, 2022) (\$ million) (B)	Variance (Expected Less Actual as of Mar 31, 2022) (\$ million) (B) - (A)	% of Projected Investments Completed as of Mar 31, 2022 (B) / (A)
East	Great Canadian Entertainment	11 Jan 2016	31 Mar 2040	137	n/a	123	97	(26)	79
Southwest	Gateway Casinos	9 May 2017	31 Mar 2037	256	n/a	222	144	(78)	65
North	Gateway Casinos	30 May 2017	31 Mar 2037	149	169	131	62	(69)	47
Ottawa	Hard Rock	12 Sep 2017	31 Mar 2037	334	307	277	52	(225)	19
GTA	Great Canadian Entertainment	23 Jan 2018	22 Jan 2039	3,680	1,922	3,082	1,082	(2,000)	35
West GTA	Great Canadian Entertainment	1 May 2018	31 Mar 2038	1,109	177	1,004	131	(873)	13
Central	Gateway Casinos	18 Jul 2018	31 Jul 2041	144	n/a	85	30	(55)	35
Niagara	Mohegan Gaming	11 Jun 2019	31 Mar 2040	136	n/a	40	56	16	140

* For the first 10 years of operations.

Figure 9: Change in Full-Time Casino Employees for the Eight Gaming Regions, January 2016–March 2022

Source of data: Ontario Lottery and Gaming Corporation



* Last full fiscal year operated by OLG.

operators must only maintain the same FTE levels at their gaming facilities for 12 months after they start operating in the awarded region.

4.1.7 Significant Portion of the Increase in Casino Revenue Is Being Kept by Private Casino Operators

Figure 2, as noted earlier, shows the increase in casino revenues for five of the eight gaming regions from the last full year where the casinos were operated directly by OLG, up to 2019/20 (the last fiscal year with limited COVID-19 impacts). Casino revenues decreased for the Central, Niagara and North regions during that same period. In contrast, as seen in **Figure 3**, over the same period the net profit to the Province decreased for five of the eight regions. These five regions include three regions where casino revenues increased, the East, Southwest and West GTA regions. **Figure 10** shows

the 10-year cumulative gaming revenue projections and adjustment for all eight regions.

Appendix 7 compares the pre-privatization and post-privatization compensation models. OLG was previously responsible for all operating and capital costs at the facilities it operated. It paid a management fee to resort casino operators, but kept all gaming and non-gaming revenues.

In exchange for exclusive land-based gaming rights within their geographic regions, casino operators have committed to an annual revenue amount that is guaranteed to OLG as well as a 30% of any revenues above the guaranteed amount. After privatization, overall casino gaming revenues grew to \$3.872 billion in 2019/20 from \$3.532 billion in 2016/17, a 9.6% increase. However, net profit to the Province from casino gaming dropped by \$15 million over the same period. OLG received 58% of the \$3.872 billion in casino gaming revenues (see **Figure 11**). OLG also

Figure 10: Projected 10-Year Cumulative Casino Gaming Revenue for All Gaming Regions (\$ million)

Source of data: Ontario Lottery and Gaming Corporation

Region	Private Operator Contract Bid Proposals	Amended Revenue Projections ²	Change Increase (Decrease)
East	1,713	1,683	(30)
Southwest	2,996	3,112	116
North	1,764	1,676	(88)
Ottawa	2,858	1,990	(868)
GTA ¹	25,892	24,335	(1,557)
West GTA	11,109	6,676	(4,433)
Central	4,999	3,641	(1,358)
Niagara	7,017	6,080	(937)
Total Gaming Revenue	58,348	49,193	(9,155)

Overall Impact on OLG's Revenue Share and Casino Operators Share

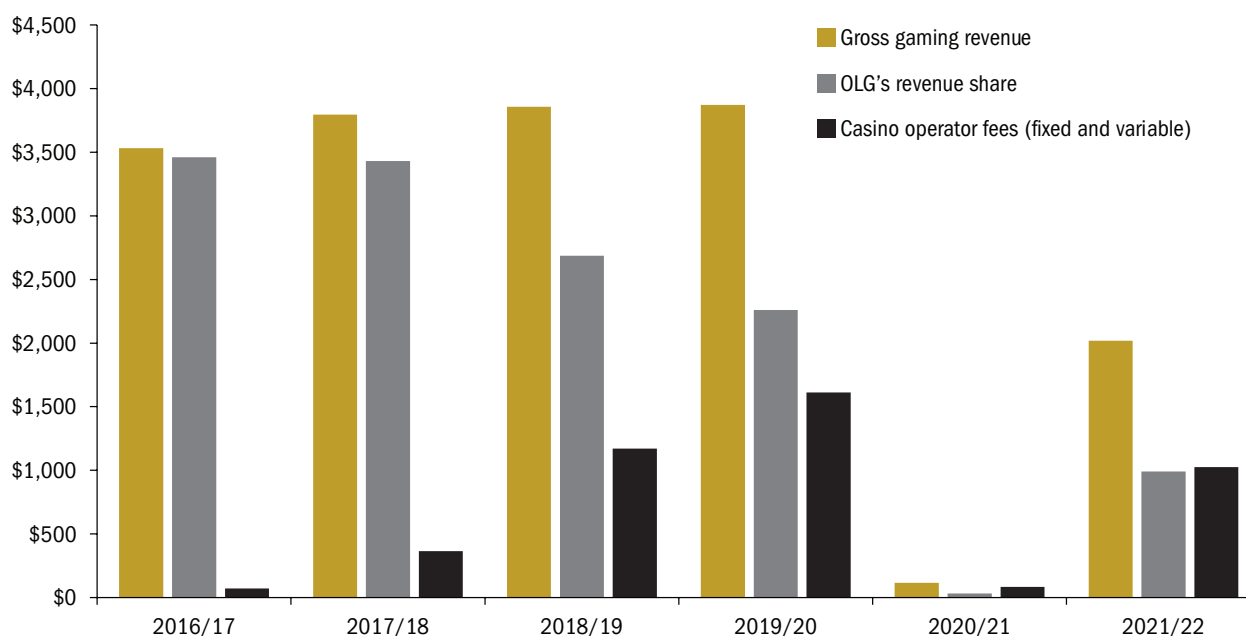
OLG's Revenue Share	30,400	27,118	(3,282)
Casino Operators' Revenue Share	27,948	22,075	(5,873)

1. For the GTA region, the first year of the bid projections was used for the 2017/18 partial year and 2018/19 first full year of operation.

2. Amendments were based on revenue projections prior to the onset of the COVID-19 pandemic. In August 2022, OLG approved another reduction of the minimum revenue guaranteed commitments for the Ottawa region for a total of \$80 million in 2025/26 and 2026/27 and, as a result, OLG's revenue share was reduced by \$56 million for the two years.

Figure 11: OLG and Casino Operating Gaming Revenue Shares, 2016/17–2021/22 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



does not now receive any non-gaming revenues, which grew from \$100 million in 2012/13, when OLG earned these revenues, to \$313 million (a 213% increase) in 2019/20, of which OLG received \$34 million from its Windsor casino.

RECOMMENDATION 2

To maximize its casino revenues and the economic benefits to the Province of having casinos in Ontario, we recommend that the Ontario Lottery and Gaming Corporation:

- seek to obtain capital investment plan commitments as addenda to existing Casino Operating and Service Agreements and hold casino operators accountable for their proposed capital infrastructure investments; and
- incorporate capital expenditure commitments in any new agreements.

OLG RESPONSE

OLG agrees with the Auditor General that capital investment is required to maximize casino revenues and economic benefits to the Province. Under OLG's modernization program, Casino operators have invested \$1.7 billion to date.

OLG agrees it should identify opportunities to obtain capital investment commitments for any outstanding or future capital development. OLG also agrees with the Auditor General that it will seek to obtain the inclusion of specific capital investments in future procurement process, or other new agreements as they may arise.

4.1.8 OLG Failed to Fulfill Its Contractual Commitment to Pay a Share of Non-Gaming Revenue Annually to the Ontario First Nations (2008) Limited Partnership

OLG and Ontario First Nations (2008) Limited Partnership (First Nations) entered into a Gaming Revenue Sharing and Financial Agreement (Agreement) in 2008. Under the Agreement, OLG is required to share with First Nations 1.7% of its "aggregate gross revenues." The gross revenues under the Agreement

include gaming and non-gaming revenue from OLG and any other agents of the Province. The Agreement notes that non-gaming revenues include hotel, food and beverage and other services, including the retail value of accommodation, food and beverage services and other services provided to gaming patrons on a complimentary basis.

In OLG's new agreements with casino operators, all non-gaming revenue is to be retained by the casino operators. OLG did not attempt to communicate or disclose the planning and decision-making on non-gaming revenues to First Nations or to involve them. The Minister of Finance and OLG did not grant First Nations a seat on the OLG Board from 2008 to 2015, although this was a contractual obligation under the Agreement. According to OLG, it expected that its decision to transfer responsibility for non-gaming operations to private casino operators would benefit First Nations financially, as growth in the gaming revenues that First Nations share in would far exceed the loss of any non-gaming revenues. The annual payments to First Nations increased from \$137 million in 2015/16 to \$149 million by 2019/20 due to the increase in gaming revenue.

However, First Nations were not aware they would lose their share of non-gaming revenue due to OLG's contracting with private-sector casino operators and were caught by surprise when they stopped receiving payments related to non-gaming revenue starting in 2016, when the first agreement with Great Canadian for the East Region came into effect. Upon discovering this, Ontario First Nations (2008) Limited Partnership sued OLG for breach of the 2008 Agreement by filing a Notice of Dispute under the Agreement in 2016 and initiating arbitration. The courts ruled in favour of First Nations on March 31, 2020 and ordered OLG to pay First Nations, on an ongoing basis, 1.7% of total gross non-gaming revenue. In November 2021, OLG paid \$7.4 million in missed payments and interest plus \$2.6 million for reimbursement of legal costs, to the First Nations. In our discussion with Ontario First Nations (2008) Limited Partnership, we were informed that First Nations has almost no trust in OLG, and that OLG does not treat First Nations as a stakeholder.

As OLG did not contractually require casino operators to pay First Nations the percentage of non-gaming

revenue that they were entitled to under the Agreement with OLG, OLG not only transferred 100% of its non-gaming revenue to casino operators, it now also incurs an additional expense equal to 1.7% of non-gaming revenue that it no longer receives, estimated at about \$5.3 million annually. As noted earlier, from 2011/12 to 2015/16, OLG generated a loss from its non-gaming operations each year.

RECOMMENDATION 3

To ensure that the Province and the Ontario Lottery and Gaming Corporation (OLG) transfer the costs of non-gaming related payments for Ontario First Nations (2008) Limited Partnership to casino operators, we recommend that the Ontario Lottery and Gaming Corporation:

- include this requirement in the casino operating and service agreements with operators when negotiating any future contract amendments; and
- include this requirement in any future new agreement with private casino operators.

OLG RESPONSE

OLG will incorporate the transfer of costs for non-gaming related payments to casino operators in new agreements and will consider this as a requirement in future contract amendments. OLG will also ensure uninterrupted and ongoing payments to the Ontario First Nations (2008) Limited Partnership consisting of 1.7% of revenues from the non-gaming amenities. In addition, OLG is developing an approach to renew the relationship with First Nations partners to resolve outstanding disputes related to the Gaming Revenue Sharing and Financial Agreement.

4.1.9 Neither OLG Nor the Alcohol and Gaming Commission of Ontario (AGCO) Monitor to Ensure Slot Machines Actually Pay Out 85%, Relying on Casino Operators to Self-Monitor and Self-Report

According to the AGCO's Casino Electronic Gaming Devices and Gaming Systems Minimum Technical

Standard, the minimum theoretical payout (known as the "theoretical hold") of a game is to be set at 85% or above in Ontario. This represents the theoretical minimum payback for a machine over the machine's lifetime. The theoretical hold is set directly in the settings of each slot machine, and can be confirmed only by examining the machine itself. Currently, casino operators decide the payout on all slot machines, i.e., whether it is to be greater than or equal to 85%, and hire their own technicians to set up the machines on-site. However, OLG does not ensure that slot payouts meet the gaming standard of 85% or above to be paid out to players.

OLG's Gaming Management System (GMS) has the ability to remotely monitor certain slot machine interactions with the GMS, such as a machine going offline or a software failure. Although the actual machine payout data is uploaded automatically to the GMS, the system cannot detect whether the theoretical payout percentage set at the machine for a specific game meets the gaming standard.

According to OLG, casino operators are required to follow AGCO standards of ensuring that a game's theoretical percentage is set at 85% or above. Under the current system, casino operators are responsible for conducting their own regular reviews of payout percentages (daily, weekly and monthly) and for ensuring the payouts are within the acceptable percentage. Under the Registrar's Standards for Gaming, casino operators are required to notify the AGCO immediately of any issues with the "integrity or security of the gaming system or gaming supplies." Any instance of not meeting the expected payout percentage would be considered an issue of integrity.

Starting in December 2021, the AGCO required OLG to provide them with quarterly machine payout data. The AGCO compares the operator's payout data to OLG-reported data, analyzes the operator's action plans regarding machines that are potentially non-compliant, and takes appropriate compliance actions as required. However, as of September 2022, the AGCO had not taken any compliance actions.

Based on our review of January 2017 to August 2022 payout data for 27,732 slot machines, 639 (2.3%) of slot machines were paying under 85% and 83 were

paying under 80%. Two hundred fifty slot machines were still paying under 85% after more than 100,000 games played. **Appendix 8** shows payout percentages by casino.

The expectation is that over longer periods of time, gaming machines will pay out the theoretical 85% amount; however, a machine may be removed from the floor before it reaches its theoretical payout. According to OLG, it does not monitor or ensure whether slot machines taken off the floor have met the payout requirement, as it sees this as a responsibility of the AGCO. In our 2020 audit of the AGCO, we noted that the AGCO does not monitor slot payouts because it considers this a low risk. We noted that we found this to be unusual given AGCO's role as the gaming regulator in Ontario and that the public would expect it to be doing this work.

In April 2022, the AGCO updated its notification requirement for casino operators to include the requirement to provide quarterly reports to the AGCO on machine payout data and any associated actions taken by the operator. As part of this policy, we found that the AGCO has developed a template for casino operators to self-report their machine payouts quarterly along with any action plans. However, the AGCO does not provide any guidance on when a casino operator is expected to provide an action plan for a particular slot machine. In our follow-up of our 2020 report on the AGCO, we noted that casino operators do not provide action plans for all slot machines paying under 85%. For example, one casino provided action plans for only five of the 31 slot machines that had paid out below 85%.

Windsor Casino's Slots Not Connected to OLG's Gaming Management System for Remote Monitoring

We noted that OLG's Gaming Management System (GMS) has not been implemented at the Windsor casino. Therefore, neither the AGCO or OLG is able to remotely monitor slot payouts at this location, relying instead on reports submitted by the casino operator. According to OLG, the existing agreement with the Windsor casino operator does not allow OLG to dictate the system used for slot operations, but it will implement the GMS in August 2025 after procuring a new long-term agreement for the Windsor location.

Mass Slot Machine Reset by Casino Operators That May Impact Slot Payouts

Based on the gaming algorithm, the payouts of slot machines will fluctuate below or above the theoretical hold in the early life of the game; the expectation is that over a longer period of time, payouts will level out and reach the theoretical hold. Therefore, it is possible for certain slot machines to have payouts less than 85% in the early life of the game and only later reach the theoretical hold. However, if a slot machine is continuously reset before it reaches its theoretical payout, the casino may retain more than 15% of the money wagered.

In our 2020 audit of the AGCO, we noted that, from 2015/16 to 2017/18, gaming machines with integrity or security issues (incorrect payouts or jackpots displayed) more than tripled, and the number of machines requiring repairs more than quadrupled. Over this same period, the number of AGCO inspections decreased by 40%.

In addition, in January 2018, the AGCO moved to a standards-based model for electronic gaming compliance that allows private-sector gaming operators to repair or make changes to machines and add machines to the gaming floor without requiring an AGCO inspection.

In February 2020, as part of our 2020 audit of the AGCO, the AGCO had noted that casino operators reported 686 gaming machines on the casino floors that were not connected to the OLG's gaming management system, meaning these machines could be vulnerable to software tampering affecting payouts to clients. The AGCO's practice is to follow up with casino operators only when 15% or more of a casino's gaming machines are not connected to the system. We noted that the AGCO did not conduct any inspections to verify the reasons for machines being offline. The AGCO developed a plan in June 2022 to improve its oversight of offline electronic gaming machines, which includes requiring OLG to provide AGCO with biweekly data reports on electronic gaming machines that include information about offline machines. A July 2022 OLG report to the AGCO noted 638 incidents of slot machines being offline, with 173 (27%) indicating the machines were disabled due to a failure

of the record-keeping software. For the remaining 465 (73%) incidents, the report notes communication failures where machines are offline or unresponsive to system queries. According to the AGCO, the system is working as intended if a machine is disabled when its record-keeping software fails. The AGCO also considers unresponsive and offline machines as low risk, and does not inspect these machines for anomalies.

We found that the AGCO had developed a Casino Gaming Monitoring System (GMS) in July 2022. Under this system, casino operators are required to perform a GMS software verification every three months and report the results to OLG. Similarly, operators are expected to monitor the health and connection reliability of their GMS and report to OLG every six months. However, the onus is on casino operators to perform testing and self-report to OLG.

Generally, slot machines are reset when software is updated, hardware is replaced, or when technical trouble-shooting is needed. However, we noted that casino operators performed an unprecedented mass slot machine reset unrelated to any software or hardware change between October 2021 and April 2022. Upwards of 75% of slot machines in the GTA region, the West GTA region and the East region casinos were reset during that period. A machine may be reset for other reasons as well, including to modify its credit limit, jackpot limit, printer or attendant pay limit, maximum limit per game, or to change game options and configurations, such as its theoretical payout. OLG noted that “specifically changing the payback percentages on those games” was the casinos’ main reason for resetting the slot machines. However, OLG is not tracking these changes to assess whether they had any direct impact on slot payouts and whether those changes would be fair to patrons playing on those machines.

RECOMMENDATION 4

To ensure that slot machines are paying out appropriate amounts to customers in line with the Alcohol and Gaming Corporation of Ontario’s (AGCO’s) Casino Electronic Gaming Devices and Gaming Systems Minimum Technical Standards we recommend that:

- the AGCO require credible explanations for all slot machine resets and allow resets only for software and hardware updates;
- the Ontario Lottery and Gaming Corporation support the AGCO in monitoring slot machine payout reports on a regular basis and take any required corrective actions to ensure that minimum payout standards are met;
- the Ontario Lottery and Gaming Corporation implement the Gaming Management System for the Windsor casino to allow for remote monitoring as soon as possible, instead of waiting until 2025; and
- the AGCO strengthen its oversight of electronic gaming machines in casinos, including payouts of slot machines, and conduct inspections of slot machines that are offline.

OLG RESPONSE

OLG provides slot payback reports to the AGCO on a quarterly basis for review and any required follow-up. OLG will work with the AGCO to determine whether any adjustments are required or if increasing the frequency of the reporting will meaningfully mitigate risk.

OLG will also explore the feasibility of implementing the GMS for Windsor sooner than 2025. Earlier implementation would prevent the current operator from using their current enterprise systems.

AGCO RESPONSE

The AGCO is committed to ensuring effective oversight of electronic gaming machines. In light of recent enhancements to its slot machine compliance program, the AGCO will continue to look for opportunities to strengthen its oversight of electronic gaming machines in casinos.

Slot machine resets by operators primarily occur when software is updated, game options or configuration is changed, or hardware is replaced. As noted by the Auditor General, the AGCO compares operators’ payout data to OLG reported data.

Additionally, the AGCO requires immediate notification of any suspected problem with the integrity or security of the gaming system or gaming supplies, and/or sensitive data.

Regarding offline machines, the AGCO monitors unresponsive and offline machines on a biweekly basis and requires operators to promptly provide evidence that these machines are connected to the gaming management system, responsive and online.

When certain integrity or security incidents involving slot machines are identified that warrant an in-person inspection, an AGCO inspector will attend a casino to conduct an inspection.

4.2 Internet Gaming

4.2.1 Province Retains More than 45% of OLG's Internet Gaming Revenues as Opposed to Only 5.7% from iGaming Private-Sector Operators

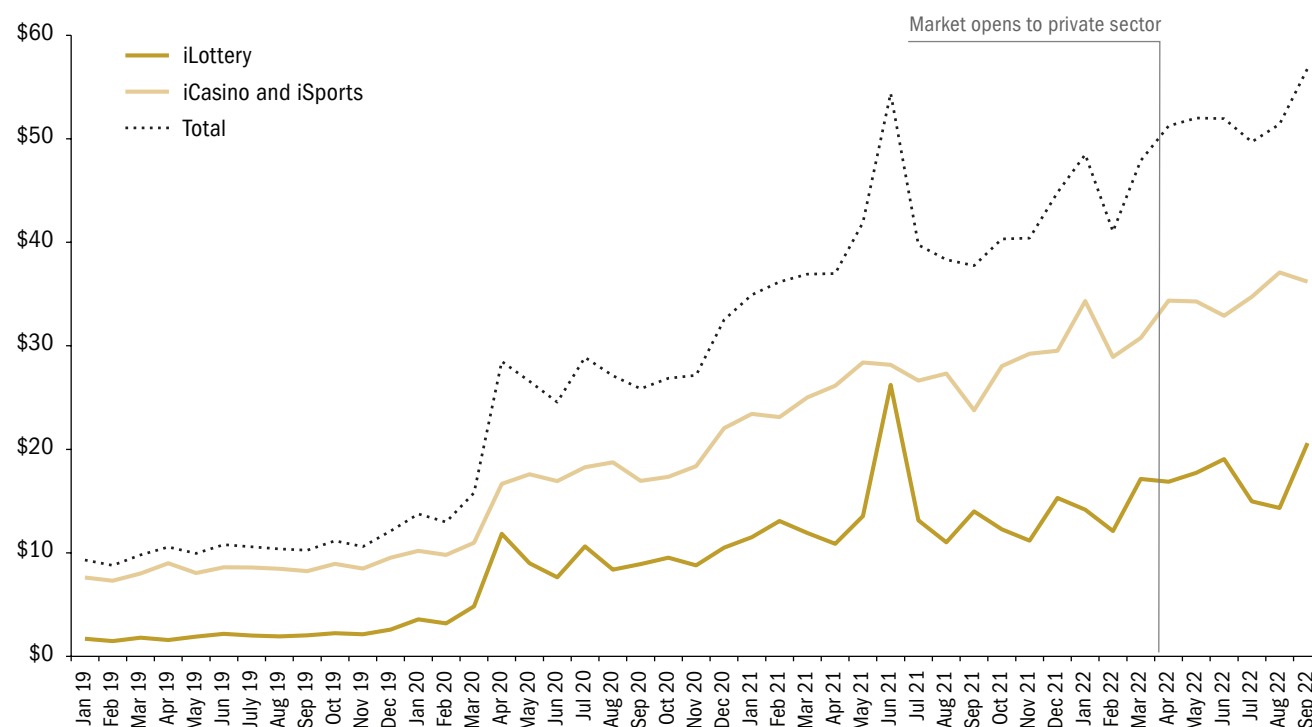
OLG's Internet gaming revenue grew from \$139 million in 2019/20 to \$511 million in 2021/22, but OLG now faces significant competition from Ontario's privately

operated Internet gaming sites. As of April 4, 2022, private operators that registered with the AGCO entered into operating agreements with iGaming Ontario to offer both online casino and sports betting in Ontario. This competes directly with OLG's Internet gaming products. Before April 4, 2022 OLG was the only legal and authorized provider of Internet sports betting and online gambling in the Province.

As seen in **Figure 12**, OLG's Internet gaming revenues (excluding its Internet lottery) increased by 7% from \$101 million over the three-month period from April to June 2022 to \$108 million in the three-month period ending September 2022. In direct competition, iGaming Ontario reported an increase of 65% from \$162 million in private operators' gaming revenues from April 4, 2022 to June 30, 2022 to \$267 million for the three-month period ending September 2022. Although a part of this growth could be attributed to iGaming Ontario adding six new operators, average monthly spending per active player on iGaming Ontario websites also increased by 25% over the same period.

Figure 12: OLG Internet Gaming Revenues, 2019–2022 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation

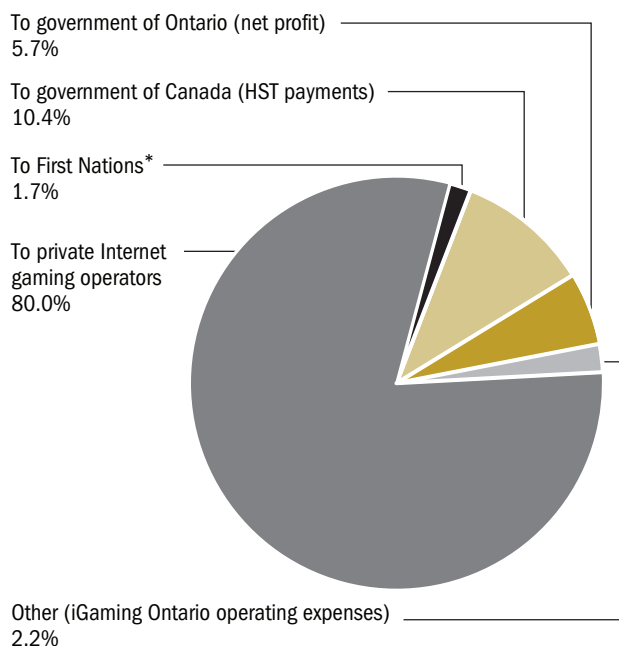


There would be a significant revenue advantage for the Province if OLG's Internet gaming revenues could be maximized. As seen in **Figure 13a** and **13b**, the Province receives approximately 45% of OLG's Internet gaming revenue, compared to only 5.7% of gaming revenue from play on private Internet platforms registered with iGaming Ontario.

OLG expects to maintain approximately 25%–30% market share and forecasts that its Internet gaming revenue will reach \$530 million (excluding Internet lottery sales) by 2025/26, a 56% increase over the \$340 million (excluding Internet lottery sales) generated in 2021/22 (**Figure 14**). Strategic initiatives on which OLG bases its forecasts include quicker releases of new products; table wagering with a live dealer dealing cards or spinning the roulette wheel; direct pay for iLottery; and other customer acquisition and retention activities.

Figure 13a: Portion of Gross Gaming Revenues Retained by the Province from Private Internet Gaming Operators, 2022/23 Forecast

Prepared by the Office of the Auditor General of Ontario



Note: The 80% private Internet gaming operator's share of Gross Gaming Revenue reflects the initial terms and conditions of operating agreements and is subject to change and reduction.

* Estimate based on the Gaming Revenue Sharing and Financial Agreement that is subject to negotiations with the Ontario First Nations (2008) Limited Partnership.

OLG is also currently working with British Columbia, Quebec and Alberta to offer live table games on its Internet platform.

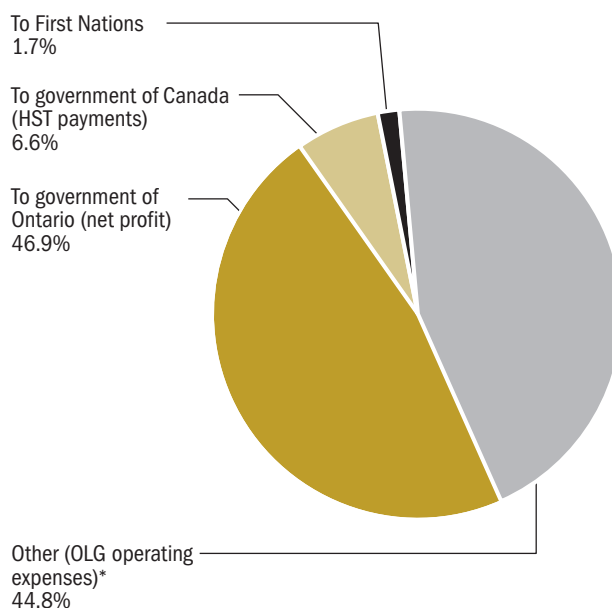
As of December 31, 2021, 56% of OLG's Internet players were playing only the lottery, which only OLG can offer. This is an advantage that OLG could leverage to bring more Internet players to its Internet casinos and sports offerings. The increased provincially authorized online competition from private operators has made it important for OLG to ensure that its strategies are sound to achieve the growth that it has projected.

RECOMMENDATION 5

To achieve its projected growth rates and remain competitive within the new gaming model, which includes significant private-sector competition, we

Figure 13b: Portion of Gross Gaming Revenues Retained by the Province from OLG's Internet Gaming Revenues, 2022/23 Forecast

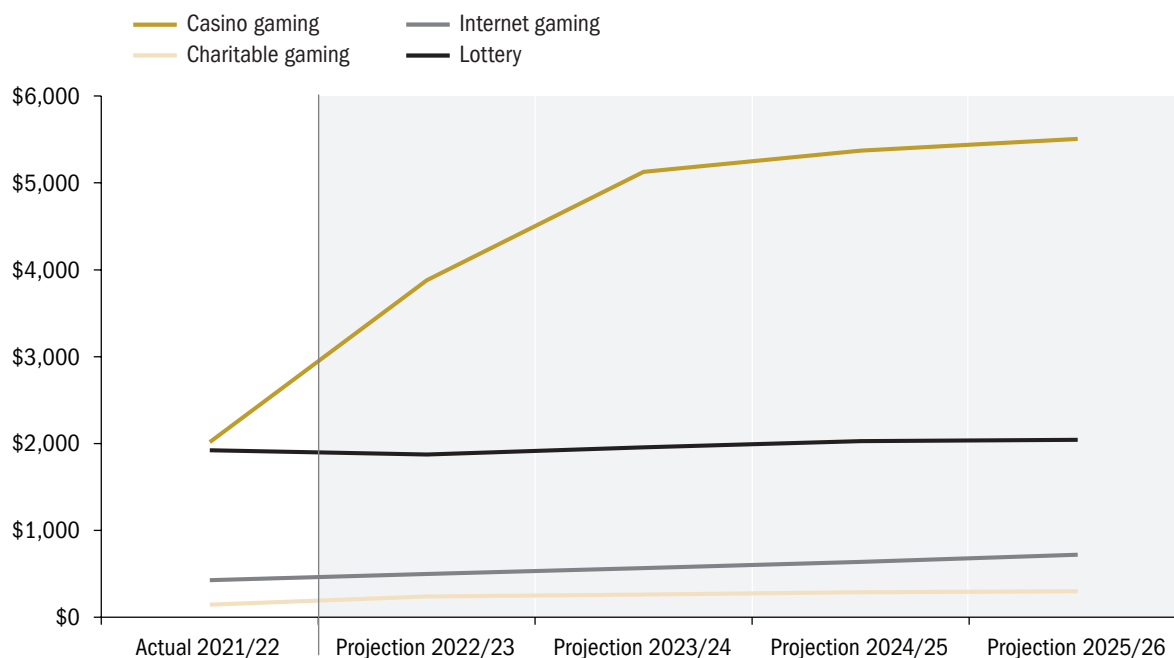
Source of data: Ontario Lottery and Gaming Corporation



* Does not include allocation of corporate overhead costs to Internet gaming.

Figure 14: OLG Revenues by Line of Business—Actual and Projections, 2021/22–2025/26 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



recommend that the Ontario Lottery and Gaming Corporation:

- develop a comprehensive strategy on the introduction of new products and the timeline for their introduction;
- continue to explore options to offer more real-time games (such as poker, blackjack, etc.) in collaboration with other provinces and then implement chosen options;
- maximize the advantage of its unique position as provider of lottery products to create a stronger customer base and integrate these players into other Internet offerings; and
- follow up regularly on progress toward projected growth and make necessary adjustments to respond to market conditions to retain and grow its customer base.

OLG RESPONSE

OLG agrees that it is important to maintain a competitive OLG online gaming offering in the new Ontario online gaming market. This fiscal year we

have continued to improve our digital sports betting product with more markets and betting options, and we have implemented new live dealer games, new live games shows, new payment methods for lottery transactions, expanded our casino games library with multiple new game providers and have continued to improve our overall customer experience.

OLG agrees with the Auditor General's recommendations to focus on a comprehensive strategy and make necessary implementation adjustments based on changing market conditions. This will include the continued implementation of new products and experiences.

OLG plans to expand its live dealer category and is currently exploring the implementation of new products such as peer to peer poker. OLG will also seek to further expand by introducing its core lottery players to other online gaming products that are offered by OLG, and will include this 'cross play' metric as a key performance indicator for performance management purposes next fiscal year.

4.2.2 Internet Gaming Slot Machines Provide a Greater Return to Consumers but Information Is Not Publicly Available

As discussed in **Section 4.1.9**, we reviewed slot payouts between January 2017 and August 2022 and noted that they paid out, on average, around 91%, and about 2.3% of the slot machines were paying under 85%. The minimum theoretical payout, known as the “theoretical hold” of a game, is set at 85% or above in Ontario. In contrast, from January 2021 to August 2022, Internet slot machines on OLG’s website paid out, on average, about 95%.

We noted that none of the slot machine payouts are reported publicly by casino or by region. OLG also does not publicly report the payout for its internet gaming, for slots and table games. In comparison, other jurisdictions, including the state of New Jersey, make actual slot machine payout percentages publicly available. New Jersey presents this information by casino property name and wager amounts, which offers transparency to patrons and accountability for casino adherence to payout standards.

RECOMMENDATION 6

To provide greater accountability and transparency to casino and Internet patrons, we recommend that the Ontario Lottery and Gaming Corporation (OLG) publicly disclose game payout data by casino, and for OLG’s Internet gaming, for slots and table games.

OLG RESPONSE

OLG supports the Auditor General’s recommendation and agrees that transparency of payouts can be improved. Casino slots are required to meet the minimum required 85% payout. The odds for table games are included in brochures at each casino. As actual payout is achieved over the life of the game (which often is achieved over 10+ years), the payout varies widely when games are new or have limited play. To improve transparency, OLG will report annually on the actual provincial wide slot and table payout percentage.

To improve transparency, OLG will collaborate with the Casino Operators to determine a public disclosure of payout information that supports transparency and protects the interests of the Province.

OLG will review disclosure of payout information for its Internet gaming platform and consider its implementation. OLG is compliant with AGCO standards by disclosing theoretical returns for each game and would be the only site out of 42 sites in the province to do so.

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In light of this, we will look at these concerns as part of the iGaming Ontario audit next year.

4.3 Lottery

4.3.1 Lottery Participation Rate by Ontarians Continues to Decline

OLG’s lottery revenue projections are ambitious for a market with declining interest in lotteries and an aging demographic. In December 2021, OLG forecast that new lottery initiatives would deliver a cumulative \$100 million more in net profits to the Province by 2024/25. However, player participation in lotteries has been declining since 2018/19, and the percentage of Ontario adults that purchase a lottery ticket weekly decreased from 33% in 2018/19 to 30% in 2020/21. OLG conducts an annual poll of about 3,600 Ontarians to assess their lottery buying patterns, and as seen in **Figure 15**, the percentage of respondents that do not play lotteries has increased from 33% in 2012/13 to 43% in 2021/22.

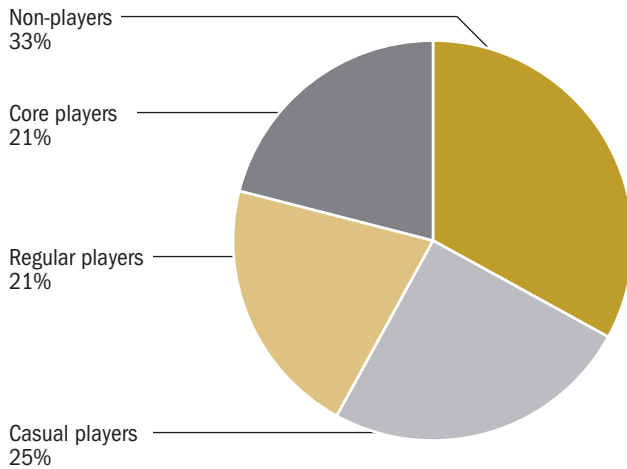
The age of the lottery players has also increased over the last 10 years. As shown in **Figure 16**, the percentage of lottery players over 55 years of age has increased to 48% in 2021/22 from 36% in 2012/13.

There is a risk of declining revenues and returns to the Province if OLG is not able to add younger players to maintain and grow its proceeds from its important lottery division. In 2021/22, the lottery business

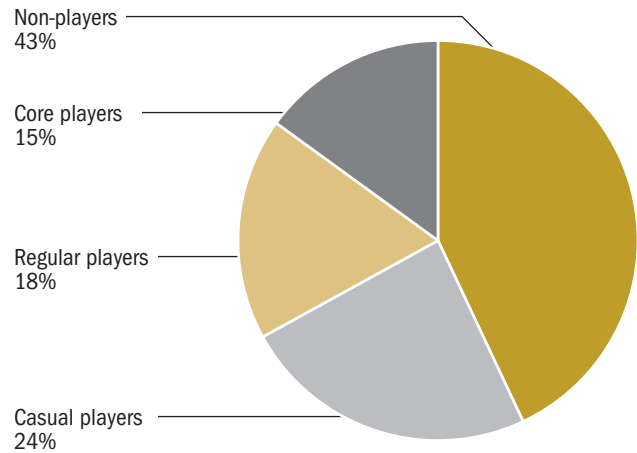
Figure 15: Lottery Players' Frequency of Play, 2012/13 and 2021/22

Source of data: Ontario Lottery and Gaming Corporation

Lottery Players – Play Frequencies (%)
2012/13



Lottery Players – Play Frequencies (%)
2021/22



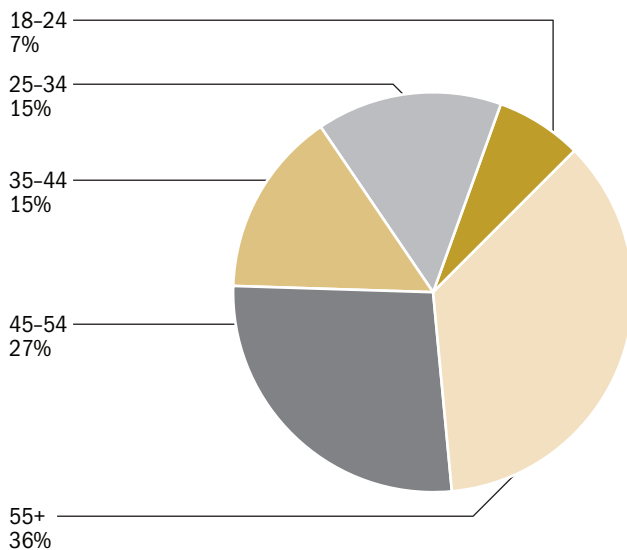
Category	Definition
Core players	Buy lotteries once a week or more on average
Regular players	Buy lotteries once every 2 months or more on average (but are not core players)
Casual players	Buy lotteries 1–4 times a year
Non-players	Buy lotteries less than once a year, or never

Note: This data is based on a sample of about 3,600 respondents per year.

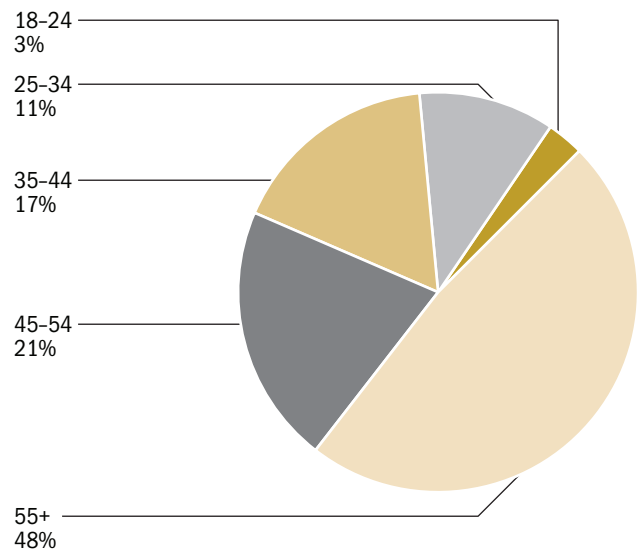
Figure 16: Age of Lottery Players, 2012/13 vs 2021/22

Source of data: Ontario Lottery and Gaming Corporation

Age of Lottery Players (%)
2012/13



Age of Lottery Players (%)
2021/22



contributed \$1,922 million (43%) of the total OLG revenues of \$4,512 million. In comparison, for 2021/22, British Columbia Lottery Corporation's lottery product generated \$590 million in revenues, accounting for 61% of overall revenues.

The percentage of total proceeds from casino gaming was much smaller than usual during the COVID-19 pandemic. OLG was heavily dependent on its lottery segment to deliver on its mandate to provide a return to the Province.

In its 2022/23 business plan, OLG still forecasts that new lottery initiatives will deliver a 10% increase in lottery sales by 2024/25 from \$4.47 billion in 2021/22.

In its new strategic initiative, OLG plans to deploy self-serve terminals to new and existing retail locations, and introduce a five-minute Quick Draw Keno game. By March 31, 2025, OLG plans to place self-serve terminals in 1,400 new and existing retail locations. OLG has not yet conducted a study to assess whether all of these locations will agree to have self-serve lottery products and whether its lottery revenue estimates are reasonable.

RECOMMENDATION 7

To assist the Ontario Lottery and Gaming Corporation (OLG) in achieving its lottery product performance targets, we recommend that OLG implement a plan to lower the average age of its lottery customer base by:

- conducting a study to assess the level of interest in self-serve lottery products and the reasonableness of OLG's projections of their revenue impacts;
- introducing lottery products aimed at younger demographics eligible to play lotteries; and
- cross-promoting lottery products with Internet casinos and sports wagering.

OLG RESPONSE

OLG supports the recommendation regarding the need to attract new customer segments to lottery play, including cross promotion of lottery and internet gaming products. The Lottery line of business

is investing in research and analysis to identify the next generation of players and their gaming interests.

The company has a number of product and marketing initiatives under development and intends to present its three-year lottery plan to the Board of Directors early in 2023, which emphasizes new audience acquisition, operational excellence, and use technology to enhance its overall customer experience. This will include objectives, performance targets and key actions.

OLG is undertaking a self-serve terminal pilot beginning in November 2023 and will use this data to harmonize projections in the next budget cycle. Rollout of the terminals will be phased, and include a pilot to gather learnings to optimize the selected locations based on researched store location demographic profiling, which further indicates demand. Following a stabilization period after deployment of the Terminals, performance thresholds will be set to redeploy terminals that are under performing.

4.3.2 Consumers Can Purchase Scratch Tickets with All Top Prizes Already Gone

From April 2018 to June 2022, approximately 88% of all instant scratch tickets printed were sold, bringing in net sales of approximately \$6.4 billion. We noted that OLG is not ensuring that Ontarians are aware of whether any top instant scratch ticket prizes are still available at the time of purchase of open packets of scratch tickets (a pack includes around 10 scratch tickets). Previous consumer research conducted by OLG showed that a prize amount of \$100,000 or greater was considered by the public to be a life-changing amount, and that consumers were less likely to purchase instant scratch tickets once all top prizes had been claimed.

OLG has a process in place to prompt retailers to withdraw all remaining instant scratch tickets once all top prizes for a specific game have been won. That is, OLG sends internal emails to trigger retailer notification and sends lottery terminal display notifications for three consecutive days to remind retailers. In addition, OLG

removes any advertising for that scratch ticket game and asks the manufacturer to collect the remaining tickets from retailers. The manufacturer then reconciles the tickets returned to the main list and identifies variances before destroying the tickets. This reconciliation process can take up to six months.

There is nothing stopping retailers from continuing to sell open packets of scratch tickets after OLG has sent the notifications. Customers purchasing tickets may not be aware that major prizes may not be available, although they may win other prizes. OLG has confirmed that any tickets sold after the call to terminate sales will still be honoured if they are winning tickets, until the expiry date of the ticket.

Currently, OLG posts publicly on its website the number of prizes per instant scratch ticket game, and how many remain unclaimed.

RECOMMENDATION 8

To prevent consumers who are unaware that the top prizes have all been won from continuing to purchase scratch tickets, we recommend that the Ontario Lottery and Gaming Corporation:

- implement a process to track instant scratch tickets more closely by requiring bar codes that retailers must scan for inventory tracking purposes; and
- disable bar codes once the top prizes have all been won to prevent the remaining tickets from being sold.

OLG RESPONSE

OLG accepts the recommendation and will review current ticket deactivation practices to identify improvement opportunities. In the near term, our focus will be on increasing retailer education on the process. This will be accomplished with the support of our retail sales network but also through enhanced communication.

OLG will explore options and develop a business case to expand centralized inventory management including systematically managing single ticket activations. OLG will ensure enforcement of Retailer penalties if they are non-compliant with

their obligations to remove instant tickets when instructed.

4.3.3 Lottery Retailers Who Sell Lottery Products Continue to Win Significant Prizes

According to OLG's policy, OLG employees, Board of Directors, consultants of OLG and AGCO employees (including OPP Investigation and Enforcement Bureau) are considered related parties that are ineligible to play or win lottery games in Ontario.

Owners of OLG retail locations and their employees who handle lottery tickets are considered both related parties and insiders, and are not allowed to play at their own location, but may participate at other stores or on OLG's website. From April 1, 2017 to December 31, 2021, 202 employees who sell lottery products won prizes of \$10,000 or more, totalling \$19.2 million. Over this period, lottery retailers accounted for 1.0% of the eligible Ontario population but claimed 1.4% of the lottery wins over \$1,000. This means that lottery retailers who sell lottery tickets won at a 40% greater rate than when compared to the general eligible population of 18 years or above. OLG indicated that it checks that tickets cashed were not scratch tickets issued directly to that retailer location for sale and that tickets were purchased at a different location.

RECOMMENDATION 9

In order to protect the integrity of its lottery products, we recommend that the Ontario Lottery and Gaming Corporation (OLG):

- regularly monitor the frequency and prize share amounts of insiders (including retailers) in comparison to the general public; and
- review its controls around OLG lottery retailer wins and take corrective actions.

OLG RESPONSE

OLG agrees that ensuring the integrity of its games is paramount. Our Insider program has strict controls to identify and investigate prize claims by eligible players whom it considers "Insiders" prior to the payment of any prize.

We are committed to better understanding the relationship retailers have with our games and to that effect will commission a study to examine play habits, frequency and preferences to better interpret our prize claim data as it relates to this subset of winners.

OLG relies on its retail partners to drive customer awareness and sales growth of its lottery games. OLG will undertake a review to evaluate the effectiveness of controls in place specific to retailer participation and prize claims in the current environment and make efforts to fortify them, as required.

4.4 Corporate Services

4.4.1 OLG Is Using Recommendations Based on Unreasonable Comparisons to Decide Corporate Staffing Levels

One of the goals of selecting private casino operators was to outsource day-to-day operations of gaming facilities to the operators and reduce direct personnel costs across all OLG divisions. When private operators

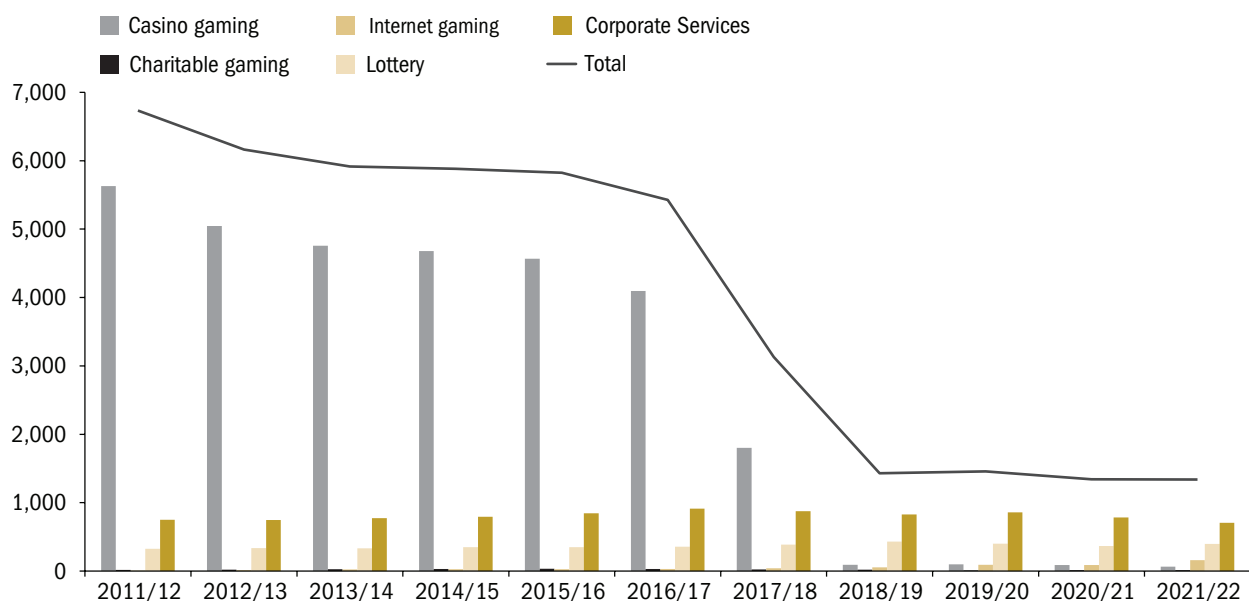
began to operate Ontario casinos in 2016, OLG's staffing significantly decreased as OLG-operated casino staff were transferred to these operators. As seen in **Figure 17**, the number of OLG's casino gaming employees decreased by 99% between 2011/12 and 2021/22.

In June 2021, OLG management engaged an external consultant to perform a capacity assessment and forecast OLG's optimal future workforce and team size to meet its business strategy. The consultant analyzed the demand and supply of talent in comparison with relevant benchmarks to identify gaps in skills and personnel surpluses, using benchmarking data and market insights relating to the different business units at OLG. The data reviewed included costs, full-time-equivalent employees (FTEs) and productivity.

Using OLG's 2021 employee count, the consultant's capacity assessment concluded that OLG has a lower number of FTEs per \$1 billion revenue than industry benchmarks. The report recommended that OLG hire an additional 558 FTEs by 2023 to account for a reduction of 393 FTEs from attrition, for a net increase of 165 FTEs. We noted, however, that the industry average used in the assessment is not an appropriate basis for comparison as it includes data from other

Figure 17: OLG Staffing by Lines of Business, 2011/12–2021/22

Source of data: Ontario Lottery and Gaming Corporation



Note: Based on full-time-equivalent employees (FTEs).

provincial gaming agencies such as Loto-Québec and the Atlantic Lottery Corporation, which operate their own casinos. Reasonable FTE counts for their operations would be much higher in comparison. According to OLG, historical revenue was the criteria used for selecting the organizations used for industry benchmarks in the assessment, as the size of the organization denotes the business model and staffing needs.

According to OLG, in examining the options presented by the external consultant, an option was decided based on whether OLG was directly involved in the operation and the importance the operation had in revenue generation. For example, headcount was increased in Internet and lottery based on their heavy operational component and corresponding information technology (IT) requirements. OLG's human resources department has been using this document for planning purposes, and it has informed the FTE/headcount numbers used in the budgeting process. The external consultant suggested growth of about 160 FTEs, up to approximately 1,500 FTEs from 1,340 as at March 31, 2022. According to OLG, it plans to use this figure as a benchmark for its 2024 budget process.

4.4.2 OLG Does Not Track Utilization and Efficiency for All Employees

While OLG has performance plans in place for employees, it does not track employee efficiency or utilization measures outside of its core operational areas of its call centre (average time per call), distribution centre (packages per hour) and prize centre (cases closed per hour). In 2021/22, the Ministry of Finance requested OLG identify efficiencies within its workplace. As of March 2022, OLG had approximately 1,340 employees (of which only 400 work in the core operational areas). In 2021/22, OLG spent \$243 million on personnel costs, which includes \$176 million in OLG staff salaries and benefits, and \$67 million in reimbursements for personnel costs to the operator at the Windsor casino. As staffing levels are determined based on the needs of each project, OLG is not able to determine if all employees are fully utilized and productive in all cases.

Without knowledge of employee workload and utilization, it is difficult for management to identify efficiencies or inefficiencies within its workplace.

RECOMMENDATION 10

To support the Ontario Lottery and Gaming Corporation's (OLG's) efforts in using its resources efficiently, we recommend that OLG:

- assess whether the number of its staff is reasonable in relation to OLG's current mandate and responsibilities; and
- track and monitor employee utilization and efficiency for all employees.

OLG RESPONSE

OLG is committed to building a performance-focused organization. OLG will monitor its staffing levels as mandates and projects change and will adjust accordingly to ensure the most efficient use of human resources possible. FTE counts will continue to be submitted to the Board of Directors as part of the annual budget process, and the corporation will monitor and manage its headcount based on this annual approval.

With regard to employee productivity, every OLG team member will have a comprehensive performance plan with key performance indicators and efficiency measures by which their performance is assessed.

4.5 Public Reporting

4.5.1 OLG Publicly Reports Incomplete Performance Measures

OLG revised the performance indicators in its Integrated Strategic Plan—GameON, and approved them in 2021/22 (see **Appendix 9**). Although the new internal performance measures track net profit to the Province, customer satisfaction, relationships with casino operators and players' mental health with respect to responsible gambling, OLG does not measure

and publicly report on its progress on responsible gambling, job growth, capital investments by gaming regions and sites, integrity of gaming and anti-money laundering activities.

We noted that the British Columbia Lottery Corporation reports performance measures relating to potential criminal activity, responsible gambling (percentage of players assessed as being at high risk for problem gambling) and public confidence in the integrity of its gaming. We also found that Loto-Québec reports on patrons' use of responsible gambling tools and services.

In its privatization of casino operations beginning in 2012, OLG projected \$3 billion in private capital investments, 2,300 new lottery and gaming jobs and \$1.3 billion in additional net profits to \$3 billion overall to the Province by 2017/18. As of 2019/20, OLG had reached \$2.3 billion in net profit to the province and \$600 million (46%) of the 1.3 billion projected originally in 2012. Aside from reporting on the net profit to the Province, OLG did not report publicly on overall private capital investments in its latest annual report and does not measure progress of capital investments against capital plan projections of casino operators by gaming region or against OLG's privatization goals for capital investments. Similarly, OLG does not report publicly on job growth or job decline against job growth projections by gaming region.

There is a requirement for OLG to update and report publicly on its business plan annually. OLG has produced annual business plans for 2020/21, 2021/22 and 2022/23.

RECOMMENDATION 11

To effectively monitor its performance against its mandate and inform the public of its effectiveness and the impact of the privatization of casino operations, we recommend that the Ontario Lottery and Gaming Corporation:

- develop meaningful performance indicators on all key objectives (including integrity of gaming and anti-money laundering);

- set reasonable targets on all key objectives to compare actual results against; and,
- report the results publicly.

OLG RESPONSE

OLG supports the Auditor General's recommendation that measuring and reporting on performance is important.

OLG has formalized performance metrics and reporting, which is widely communicated across the organization. OLG's Board of Directors is regularly updated on OLG's strategic goals and performance. OLG will revisit its performance measures and targets and their disclosure for next year.

RECOMMENDATION 12

To demonstrate the impact of its Modernization Plan (privatization) on the financial position of the Ontario Lottery and Gaming Corporation (OLG), we recommend that OLG summarize and publicly report the additional financial benefits to the Province that have been achieved through privatization.

OLG RESPONSE

OLG supports the recommendation and will implement enhanced reporting on the benefits of Modernization.

4.5.2 OLG's New Financial Statements Less Transparent Regarding Casino Operator Fees

Prior to 2021/22, in OLG's audited financial statements, gross casino gaming revenue was shown separately before any deduction of casino operator fees. It was clear to Ontario taxpayers what revenue was earned and what money was going annually to the private casino operators. However, starting with the 2021/22 financial statements, casino gaming revenue was presented net of all casino operator fees. The new financial statement presentation does disclose how much money is being paid to casino operators

each year. This information is needed for inclusion in the Province's consolidated financial statements. Although this information is presented in the Management's Discussion section of the annual report, it is not part of the audited financial statements.

RECOMMENDATION 13

To inform Ontario taxpayers of the fees paid to private operators, we recommend that in its financial statements for the year ending March 31, 2023, and going forward, the Ontario Lottery and Gaming Corporation present gross casino gaming revenues before deducting fees to private casino operators and show the fees as a separate item under Expenses on the Consolidated Statement of Comprehensive Income.

OLG RESPONSE

OLG supports the goal of fiscal transparency in its public disclosures including payments made to casino operators, which manage the day-to-day business of land-based gaming sites. OLG will disclose Proceeds from Lottery and Gaming (representing gross gaming revenue) less Service Provider fees (being the private casino operator fees) to arrive at gaming revenue.

4.5.3 OLG Does Not Allocate All of Its Corporate Costs to Its Main Lines of Business

We noted that OLG does not allocate its corporate costs to its three lines of business when calculating net profit to the Province. Without allocating all of the costs to each line of business, the net profit to the Province from each line of business is likely overstated. We asked OLG management to allocate the corporate costs to the various lines of business for the last five fiscal years and we were told that this was not something that they could provide at this time. This also makes it harder to compare the net return to the Province from OLG's Internet gaming with iGaming operators. In 2021/22 financial statements, \$455 million of corporate costs

were not allocated to the lines of business to allow an assessment of profitability by line of business.

RECOMMENDATION 14

To accurately inform Ontario taxpayers of the net profit to the Province from the Ontario Lottery and Gaming Corporation's (OLG's) lines of business, we recommend that, in its financial statements for the year ending March 31, 2023 and going forward, OLG disclose an allocation of all corporate costs to its three lines of business when calculating net profit to the Province.

OLG RESPONSE

OLG will review this recommendation and consider the best approach to implementation.

4.6 Responsible Gambling

4.6.1 OLG's Responsible Gambling Tools Not Being Used by Online Players

OLG's Internet gaming customers have grown from 31,000 average monthly players in 2017/18 to almost 257,000 in 2021/22. The popularity of Internet gaming surged during the COVID-19 pandemic when casinos were shut down.

Unlike with land-based gaming, where casino staff interact with patrons in person, OLG staff cannot recognize symptoms of problem gambling online to be able to approach individuals to offer appropriate gambling resources.

OLG informs players via email of limit-setting options and other responsible gambling content on its website, OLG.ca. However, the limit-setting tools are optional, and there is no requirement for players to set limits on their play. Despite the significant increase in Internet players since 2019/20, new players are generally not using the limit options available. The percentage of active players using the casino loss limits tool dropped from 33% in June 2017 to only 11% in June 2022.

OLG uses BetBuddy, a responsible gambling analytics platform that identifies and manages at-risk gambling behavioural patterns, to perform risk analytics for OLG.ca. BetBuddy assigns risk categories to online players based on their patterns of play and their self-assessment test results, and by using a predictive problem gambling risk algorithm. The platform performs daily analysis of individual players and assigns risk categories, provides OLG with risk ratings of players, and customizes responsible gambling programming responses for each player. In August 2021, OLG expanded its use of the ratings by piloting responsible gambling messages directly to high-risk Internet casino players. According to OLG, 14 of 444 (3.2%) players who received a responsible gambling message set a Casino Loss Limit within 28 days.

Players may also set limits on their OLG.ca account, including limits on deposits, play time, casino loss, casino spending, lottery purchases and sports spending. OLG notifies players electronically when they are approaching their limits and places a hard lock on the players' accounts once the limits have been reached. The play time limit is the one exception. Players can continue playing after they reach their play time limit, but they receive notification of the amount of time by which they have exceeded their limit.

According to OLG, a time limit that puts a hard stop on play time—for instance, forcing a player to stop mid-bet or before a bonus round is complete—can have adverse and unintended impacts on the player and the fairness of the game. According to the Centre for Addiction and Mental Health (CAMH), limiting time of play along with a cooling off period, in which a player cannot log into their account, is one of the best controls to prevent problem gambling.

4.6.2 Gaps Exist in Offering Responsible Gambling Tools in Charitable Gaming Halls

Although our audit did not focus on OLG's charitable gaming operations (bingo halls), we noted that OLG's self-exclusion program is not integrated with charitable

gaming. Problem gamblers who self-exclude from casinos and Internet gaming would still be able to play at bingo halls.

OLG has recently introduced electronic gaming machines for charitable gaming that look and behave like slot machines. According to OLG, these are not considered slot machines because their payment algorithm uses bingo math and not a random number generator as a slot machine does. We noted, however, that patrons would see these machines as slot machines, which still could contribute to problem gambling. In our discussions, CAMH told us that it strongly believes that similar responsible gambling controls should apply to charitable gaming electronic machines. According to CAMH, electronic bingo machines allow a player to play unlimited hands and be at risk of losing money at a greater rate.

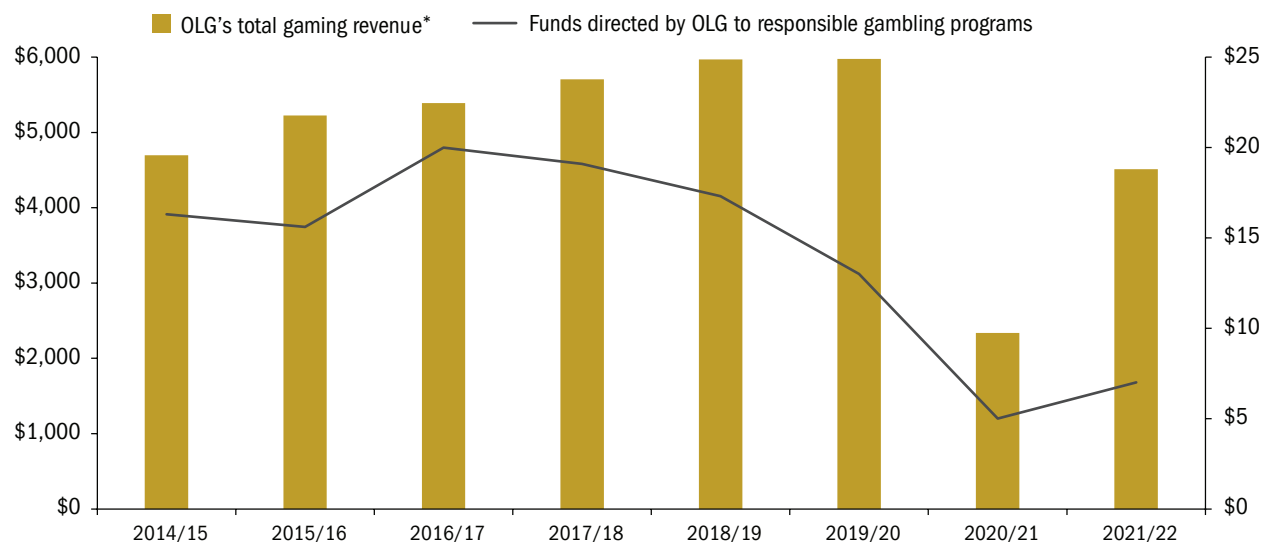
4.6.3 Player Health Index Indicates Problem Gambling Risk Increased during Pandemic

As seen in **Figure 18**, OLG's funding for responsible gambling programs has decreased significantly from \$20 million in 2016/17 to only \$7 million in 2021/22. OLG uses the Player Health Index, a survey-based tool, to measure the health of active OLG players across each line of business from a problem gambling perspective. The Player Health Index is an estimate of the percentage of OLG players who are not at serious or high risk of problem gambling for the time frame surveyed.

OLG measures the Player Health Index by line of business based on responses from academically validated screening questions and surveys of a sample of its patrons. It does not maintain data by site and gaming region. According to the Player Health Index for Internet players, OLG Internet players who are considered at serious or high risk of problem gambling increased from 11.5% in 2019/20 to 13.4% in 2021/22. For Internet gaming, OLG has set the 2022/23 Player Health Index goal of 20% of players being considered as serious or high risk for problem gambling, despite the actual results of 13.4% in 2021/22.

Figure 18: OLG Total Gaming Revenue and Funding for Responsible Gambling Programs, 2014/15–2021/22 (\$ million)

Source of data: Ontario Lottery and Gaming Corporation



* Includes gaming revenue from casino gaming, charitable gaming, internet gaming and lottery (after deduction of lottery prizes) and before deduction of service provider fees.

According to a study published by the Responsible Gambling Council in March 2022, 32% of online gamblers in April 2020 and August 2020 (Waves 1 and 2 of the COVID-19 pandemic) and 45% of the online gamblers in December 2020 (Wave 3 of the COVID-19 pandemic) reported gambling online due to COVID-19 restrictions. The study also noted that those at high risk of problem gambling were more likely to gamble online. The prevalence of high-risk gambling among online gamblers doubled from 12% in August 2020 to 24% in December 2020.

We also noted that the Player Health Index for land-based gaming (casino and charitable gaming) has worsened considerably. For casino gaming, the percentage of players considered as at serious or high risk for problem gambling increased from 5.5% in 2018/19 to 16.7% in 2021/22. Similarly, for charitable gaming, the percentage increased from 17.5% in 2018/19 to 29.6% in 2021/22.

According to OLG, “these fluctuations in Casino and charitable Gaming Player Health Index can be partly explained by the shifts in player bases and the impact of the COVID-19 pandemic, where the decline of casual

players at land-based gaming sites left a more regular player base that likely accounted for a declining Player Health Index.”

RECOMMENDATION 15

To effectively address and reduce problem gambling, we recommend that the Ontario Lottery and Gaming Corporation (OLG):

- integrate self-exclusion programs across OLG products, including charitable gaming; and
- encourage the use of limit-setting tools for players rated at high risk for problem gambling and monitor the use of limit-setting tools.

OLG RESPONSE

OLG supports the recommendation to encourage the use of limit-setting tools for players. Tool use will contribute to the enterprise player health index, which is already showing positive gains since April 2022. In addition, OLG agrees with the goal of facilitating self-exclusion uptake and integration across OLG channels. OLG will review and determine the

best approach for more fully integrating self-exclusion across casino, charitable gaming and OLG.ca channels.

4.6.4 OLG's Efforts to Prevent Individuals on the Self-Exclusion Lists from Gaming Lack Co-ordination between Platforms and with iGaming Sites

OLG offers a responsible gambling program, rebranded as MyPlayBreak, to allow individuals to sign onto a self-exclusion list and ban themselves from casino gaming sites, charitable gaming sites and/or Internet gaming. Players who self-exclude from a casino gaming site are automatically self-excluded from all other casino gaming sites, as well as from OLG's Internet gaming platforms. However, players who self-exclude from OLG's Internet gaming platform are not automatically self-excluded from casino gaming sites. They can also still access Internet gaming platforms operated by iGaming's private Internet gaming operators.

As of August 2022, iGaming Ontario is in the process of establishing a centralized self-exclusion platform for all iGaming sites, including the OLG website. However, as of November 2022, there was no timeline for completion of the centralized self-exclusion program.

RECOMMENDATION 16

To support problem gamblers, we recommend that the Ontario Lottery and Gaming Corporation work with iGaming Ontario to share information to prevent self-excluded individuals on the OLG.ca site and iGaming Ontario-approved operators' sites from accessing gaming activities on each of the two sites.

OLG RESPONSE

OLG agrees with the goal of establishing a centralized self-exclusion program administered by iGaming Ontario that helps prevent self-excluded individuals from playing on OLG.ca and any of Ontario's licensed gaming sites. OLG will actively contribute to this outcome with the sharing of appropriate self-exclusion data and expertise with

iGaming Ontario and the Alcohol and Gaming Commission of Ontario.

5.0 Money Laundering

5.1 Money Laundering

5.1.1 Money Laundering Continues to Be an Issue in Ontario Casinos

Money laundering is the process that transforms "dirty" money (proceeds of criminal activity) into "clean" money that can be used freely without having an association to any criminal activity. Common types of money-laundering activity in casinos are described in **Figure 19**.

From 2017/18 to 2019/20 (the last complete year before the COVID-19 pandemic), casinos submitted over 10,000 suspicious transaction reports in total (**Appendix 10**). Suspicious transactions are casino patron transactions that casino employees have reasonable grounds to suspect may be related to money laundering or terrorist financing, such as when patrons' occupations do not justify the amounts being wagered. As seen in **Figure 20**, over the same three-year period, suspicious transactions reports over \$100,000 nearly doubled from 406 in 2017/18 to 774 in 2019/20.

In July 2022, the Hamilton-Niagara RCMP, with the assistance of the OPP within the AGCO and FINTRAC, reported uncovering a sophisticated drug trafficking and money laundering scheme that led to multiple charges involving several individuals. Large amounts of cannabis with an approximate value of \$24,282,112, and \$1,029,020 in Canadian currency, were seized. The investigation started in 2017 when the RCMP began gathering information about a potential money laundering scheme that was operating in Ontario, including through casinos in the GTA and Niagara regions (mainly Casino Woodbine and Fallsview). As a result of the investigation, it was discovered that over \$3 million had been laundered from the illegal sale of over 8,000 pounds of cannabis.

OLG was unaware of the investigation until March 2021 when the OPP advised OLG of nine individuals

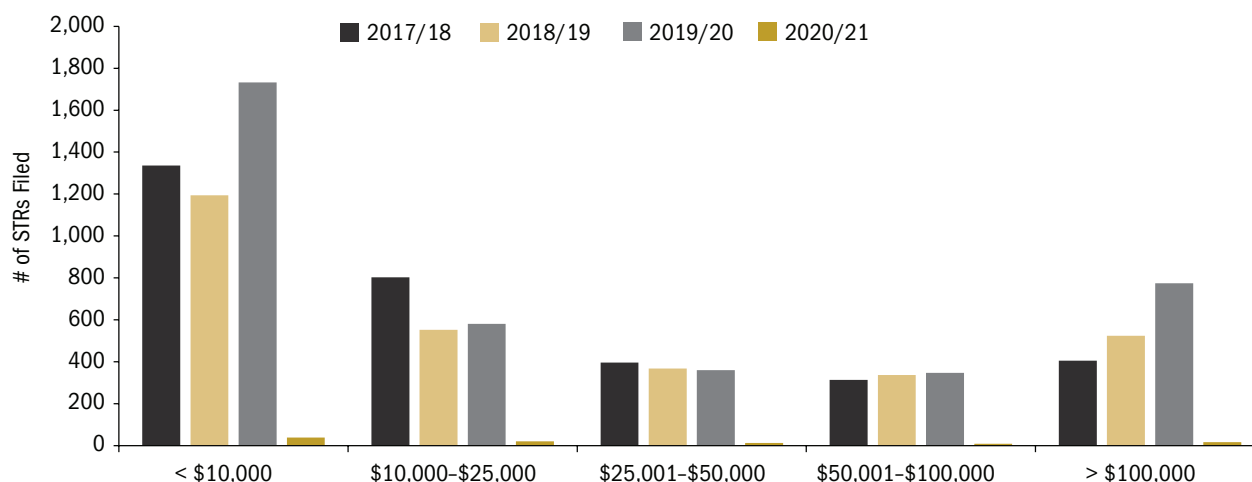
Figure 19: Common Money-Laundering Activities in the Gaming Industry

Source of data: Alcohol and Gaming Commission of Ontario

Activity	Description
“Vancouver model”	High-rollers or VIP casino attendees transfer funds to organized crime syndicates in China. In exchange, these attendees receive illegal funds or cash for gambling upon arrival in Canada from local organized crime groups in order to circumvent the need to transfer the funds internationally. The Chinese and Canadian organized crime groups use this cash transfer as payment for other illegal services or drug exchange.
Loan sharking	Loan sharks use proceeds of crime to advance to patrons. The patrons may be instructed to pay the loan back (plus interest) in gaming chips, which will be exchanged by the loan sharks as “winnings” at the casinos, or they may be told to pay the funds back in the form of a bank draft or e-transfer.
Fraud	An individual may obtain illegal bank draft(s) using funds in the victim’s account through identity theft. The fraudster uses these drafts to purchase gaming chips. The bank drafts may be for large amounts (often \$100,000+), although the fraudster will typically engage in minimal play before attempting to exchange the chips for cash or a casino cheque.
Currency refining	A patron will feed multiple bills, usually small denominations (\$5 to \$20), into one or more slot machines. The patron will engage in minimal or no play and then “cash out” to receive large denomination bank notes. This method is commonly associated with drug trafficking.
Structuring	A patron uses multiple transactions to keep each transaction below the FINTRAC reporting thresholds so the patron does not have to produce identification.
Credit	Patrons that qualify may apply for a casino line of credit and use the funds to engage in minimal gaming. The casino line of credit is then repaid with the proceeds of crime.

Figure 20: Suspicious Transaction Reports (STRs) by Number and Value, 2017/18–2020/21

Source of data: Ontario Lottery and Gaming Corporation



that were subjects of an investigation with allegations of laundering money in Ontario casinos. Based on the information provided, OLG immediately issued trespass notices to seven of the nine individuals (one of the nine did not have a casino footprint, and one

had already been issued a trespass notice). Four of the nine individuals, although not charged, had significant player profiles with cash buy-ins and payouts by cheque after limited play—a sign of suspicious activity. From January 2012 to March 2021, these four

players' transaction amounts showed cumulative cash buy-ins ranging from approximately \$1.5 million to \$12 million.

OLG ran these analyses after the OPP advised it of the charges against these players. Based on its review, OLG issued trespass notices to 32 others who were found to be connected with the charged individuals, either buying or redeeming chips for the suspects. OLG analyzed suspicious transaction reports relating to two of the charged individuals and identified individuals with interactions with the charged individuals and FINTRAC-reportable casino transactions in the past. OLG used this information to issue trespass notices to these individuals.

Trespass notices are issued when it is believed that a patron presents a significant risk to OLG of fraud, money laundering or financial crime. An OLG trespass notice bans individuals from attending any OLG casinos and charitable gaming centres, and from playing on OLG's Internet gaming platform. Information on individuals issued a trespass order, such as name and date of birth, is shared with all casinos, and casino security is expected to deny them entry or remove them if they are found on any gaming site. OLG did not conduct any additional reviews of the casinos that were identified through the investigation. However, the AGCO did initiate a review and, as of November 2022, the AGCO investigation had not concluded.

In our discussions with OLG Board members identified that money laundering was one of the first items on their list of issues "that kept them up at night."

According to the 2020 Report on Organized Crime in Canada by the Criminal Intelligence Service Canada, over 2,000 organized crime groups operate in Canada. More than half of them operate across multiple Canadian jurisdictions, and 30% also operate internationally. Based on a study of 506 major criminal groups, the report noted that Ontario had the most criminal groups operating in Canada, and although 29% of these groups were known to be involved in money laundering, the actual proportion is likely much higher. The report also highlighted that criminal groups can launder money through various means, including gaming. However, criminal groups may also use professional money launderers, some of whom may

be in trusted professions such as lawyers, accountants or other financial positions with access to networks and information. The report estimated that between \$45 and \$113 billion is laundered in Canada each year.

5.1.2 Ontario Casinos Do Not Verify the Source of Funds from Patrons Using Large Amounts of Cash

Effective June 2021, FINTRAC required all financial entities, security dealers and casinos to reasonably establish the source of funds for all politically exposed persons and heads of international organizations for single transactions of over \$100,000. According to FINTRAC, the access, influence and control that politically exposed persons and heads of international organizations have can make them vulnerable to corruption, and the potential targets of criminals who could exploit their status and use them, knowingly or unknowingly, to launder money or finance terrorist activity. FINTRAC requires casino operators to identify politically exposed persons and heads of international organizations at four points: when opening an account; during a periodic review of existing account holders; upon detecting a fact about an existing account holder; and when processing transactions of \$100,000 or more.

In response to the FINTRAC requirement, in May 2021, OLG began requiring Ontario casino operators to take reasonable measures to establish the source of their funds for all patrons who conduct single transactions of \$100,000 or more.

Although reasonable measures need to be taken to establish the source of funds, there is no requirement to obtain proof or a receipt for the source of funds. In contrast to Ontario, British Columbia casinos are required to obtain proof of the source of funds for casino transactions, in cash and cash equivalents, of \$10,000 or more. In 2022, British Columbia's Cullen Commission recommended lowering the proof of funds threshold in casinos to \$3,000 from \$10,000.

In January 2018, based on Peter German's reports on money laundering in British Columbia, that province began to require proof of source of funds for \$10,000 or above. The BC Commission noted that, between 2014 and the end of 2019, the number of

suspicious transaction reports fell dramatically from a high of 1,649 in 2016 to a low of 222 in 2019. The corresponding dollar values of these suspicious transactions also dropped dramatically from \$195 million in 2014 to \$54 million in 2019. The Commission stated that the drop was due to either the changed requirement for proof of source of funds or the requirement to report all cash transactions over \$10,000.

Despite these improvements, the Commission found that there was an increase in money laundering under \$10,000, including suspicious packaging, and that BC casino patrons appeared to have been deliberately avoiding reaching the \$10,000 threshold for having to prove the source of funds and for FINTRAC reporting.

As seen in **Figure 21**, from January 2017 to March 2020, as suspicious transaction reports were significantly declining in British Columbia, Ontario saw an increase. In Ontario, the number of suspicious transactions under \$10,000 rose significantly (30%) from 1,336 in 2017/18 to 1,732 in 2019/20 (**Figure 20**).

Recent AGCO Gaming Standards Require Casinos to Implement Money Laundering Policies

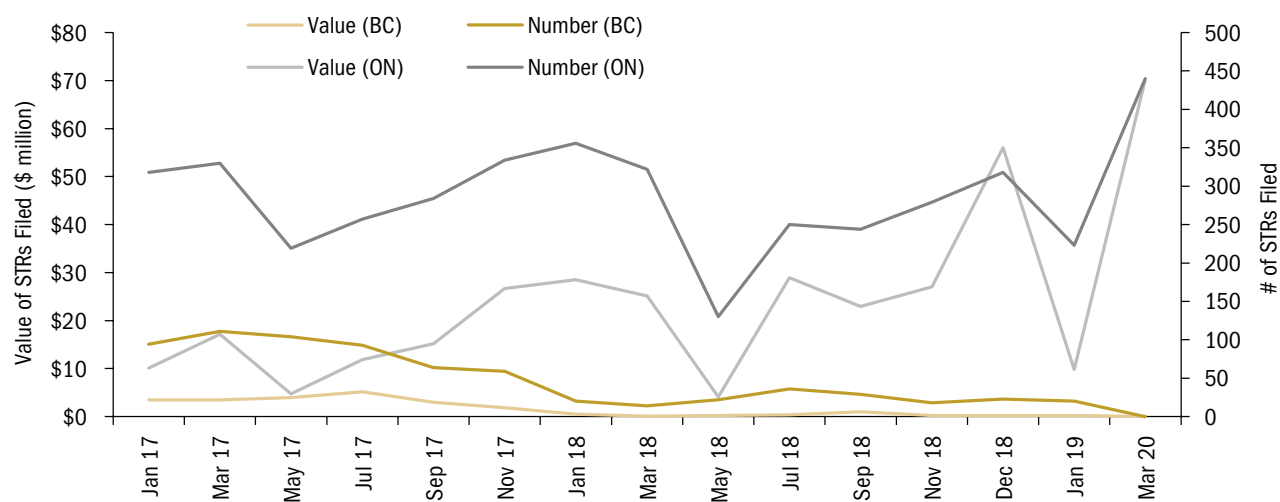
In July 2021, the AGCO announced new gaming standards that require Ontario casinos to request

identification for any single transaction (for example, getting cash from the cashier window, purchasing or cashing out chips, cashing out slot vouchers, etc.) of \$3,000 or more. The casino is required to note the patron's name, home address, date of birth, occupation, the date identity was ascertained, ID number and the type of ID document reviewed. The new standards also require casinos to implement policies, procedures and controls that specify times and situations, based on the assessment of risk, where the operator will ascertain and reasonably corroborate a patron's source of funds. According to the AGCO, verbal corroboration is acceptable and there is no requirement for patrons to provide proof of the source of their funds unless the operator determines it has doubts about the information supplied. In contrast, British Columbia casinos require proof of the source of funds. The standards also require casinos to implement risk-based procedures that provide for escalating measures to deal with patrons who engage in behaviour consistent with money laundering activities, including the refusal of transactions or exclusion of the patron.

However, as the new standard allows each casino site to set its own risk-based procedure to corroborate the source of funds, refuse a transaction or exclude

Figure 21: Number and Value of Suspicious Transaction Reports (STRs) Filed, Ontario versus British Columbia, January 2017–March 2020*

Source of data: Source of Data: British Columbia Lottery Corporation, Ontario Lottery and Gaming Corporation



* Comparison was done for months where monthly data was publicly available from British Columbia Lottery Corporation.

patrons, it may lead to inconsistencies across various casinos. The AGCO told us that it does not intend to be prescriptive and wants OLG and the casinos to consider their own risks. According to the AGCO, this does not preclude a casino or OLG from establishing a threshold. The AGCO told us that it does not see an issue with differing approaches amongst gaming operators, so long as their internal controls adequately achieve the outcome of the prevention of unlawful activity. It is our view that, as the regulator, the public would expect the AGCO set a prescriptive standard to ensure that private-sector casino operators are consistent, and that OLG is also instilling consistency through guidance to private operators to reduce money laundering through the casinos in Ontario.

OLG's Guidance on Issuing Casino Cheques Inconsistent and Unclear

OLG's Money Laundering/Terrorist Financing Risk Assessment Framework notes that there is an inherent risk that casino cheques can give the appearance that the money comes from legitimate casino winnings. In order to address this risk, OLG has an anti-money laundering policy that states "Patron gaming activity (play) must be verified prior to the issuance of any cheque of \$3,000 or more and document that verified/certified wins for cheques are confirmed." However, according to OLG, the casino operators are only required to verify play of the patron before issuing a cheque. OLG told us that the need for documenting verified wins was only added to accommodate a practice that Great Canadian has of issuing cheques only for verified wins. Without clear guidance on issuing cheques for casino wins, OLG allows an inconsistent practice across Ontario casinos.

In cases where play cannot be verified, the casino must not issue a cheque and may consider submitting a suspicious transaction report to both OLG and FINTRAC. Guidance on red flags for money laundering include schemes where a patron buys in to a game with the proceeds of crime, plays for a short while or not at all, and has a cheque issued for the amount in hand. OLG's review of casino cheques issued between April 2018 and March 2020 found that casinos do not

always verify play according to requirements. In its review, OLG found 257 cheques for \$3,000 or more were issued, totalling \$2.6 million, without evidence of play verification in the OLG's anti-money laundering system. OLG followed up on 83 of these cheques of more than \$10,000, totalling \$1.6 million. Based on its review, OLG found the casino sites were not able to provide evidence of play verification in 42 instances, totalling \$792,000.

Section 5.1.4 provides details on mystery shopping assignments undertaken by a firm with which we contracted. The purpose of the mystery shopper assignment was to test whether the casinos verified the mystery shoppers' play and casino wins before issuing cheques of \$3,000 or more. Shoppers were able to obtain casino cheques of over \$3,000 with limited play and no proof of winnings from two of the four casinos visited. The mystery shoppers entered with amounts ranging from \$5,000 to \$11,000 in cash at the two casinos, played at table games and slots for a short while (usually 10 to 15 minutes per table or slot machine), and then proceeded to be cashed out with cheques. The shoppers were able to obtain two casino cheques of \$4,900 after entering with \$5,000 cash, and \$10,600 after entering with \$11,000 cash at one casino on two separate occasions. Although the casino attempted to verify whether the mystery shopper had played at the casino, the casino failed to verify whether the funds were coming from legitimate casino wins. Similarly, the shoppers obtained cheques of \$10,500 after entering with \$10,600 cash, and \$10,750 after entering with \$11,000 cash at the other casino on two separate occasions. However, this second casino did not attempt to verify play or whether the money was coming from casino winnings. We repeated the test at these two casinos on separate occasions to ensure these were not one-time occurrences. The mystery shoppers should not have been able to receive payouts in cheques because they did not win \$36,700. They were able to leave these casinos with almost 98% of the funds they had originally brought in as cash—now these funds could be considered "laundered" because the cheque could be represented as casino winnings as

the source of funds for deposit at a bank. The mystery shoppers were appropriately denied cheques at the other two casinos and left with only cash.

RECOMMENDATION 17

To reduce the risk in Ontario of money laundering through casinos run by private sector operators, we recommend that the Ontario Lottery and Gaming Corporation, in conjunction with the Alcohol and Gaming Commission of Ontario, implement for all casino operators the requirements to:

- obtain proof of source of funds at buy-in for cash and cash-equivalent transactions for amounts of \$10,000 or more; and
- issue casino cheques only when the funds are verified as a casino win and clearly indicate on the cheques that the amounts are for verified casino wins.

OLG RESPONSE

OLG agrees with the need to continuously address money-laundering risks in land-based gaming sites. OLG is expanding its current source of funds requirements to include a requirement to obtain source of funds for all cash buy-ins above \$10,000 consistent with federal requirements that are coming into force in June 2023. OLG currently has requirements for verification of play or winnings prior to issuing cheques in excess of \$3,000. We will work with casino operators to evaluate additional cheque issuance restrictions.

5.1.3 OLG's Enforcement Actions on Money Laundering Are Not Proactive

OLG's anti-money laundering unit is responsible for general casino oversight and ensuring compliance with legal and regulatory requirements (**Section 2.5.4**). The unit currently consists of 28 FTEs spread between four teams: advisory, reporting, analysis and intelligence. The analysis and intelligence teams conduct reviews and analyses of FINTRAC reports, transactions, patron information and other data to detect suspicious activity

and identify trends. The intelligence team currently addresses priority investigations and reviews, and manages the patron trespass program.

OLG's trespass program prohibits patrons from accessing gaming sites and services if it is believed that a patron presents a significant risk to OLG of fraud, money laundering or financial crime. When a patron is under review, casinos are notified and are to provide additional information to OLG as needed. OLG's analysis and intelligence teams identify patrons for on-site interviews that are conducted by OLG's investigators.

From July 2019 to June 2022, OLG issued 232 trespass orders. Only 7% of these trespass orders issued to 16 individuals can be considered proactive based solely on OLG's own patron transactional analysis to identify suspicious activity. The other 93% were issued to 216 people already charged by law enforcement agencies with money laundering, illegal gaming or other criminal offences, and their associates.

The orders that OLG issued proactively to the 16 individuals were due to these individuals' negative media coverage (4), political exposure or sanctions (3), and suspicious gaming behaviour with limited play and no source of funds (9). We noted that, from July 2019 to December 2021, casinos reported over 5,600 suspicious transaction involving almost 2,700 individuals.

Since January 2022, the intelligence team within OLG's anti-money laundering unit has conducted 86 investigations, of which 51 have been completed, resulting in trespass recommendations in all cases. Patrons that have been flagged for trespass consideration are reviewed with the OPP and the AGCO before a trespass notice is issued.

Individuals issued a trespass notice have an opportunity to request reconsideration. Since the program started in 2019, there have been 41 requests for reconsideration. Only three patrons, whose criminal charges were dropped, have had their trespass notices reconsidered.

Resort Casinos Still Reporting Directly to FINTRAC after Privatization

Before Ontario privatized its casino operations, OLG directly reported all relevant transactions under the

federal *Proceeds of Crime (Money Laundering) and Terrorist Financing Act, 2000* (Act) to FINTRAC for the slot facilities and casinos it operated directly; operators of resort casinos were responsible for submitting reports for their sites. However, since the privatization of casinos in 2016, although all casinos are operated by private-sector operators, resort casinos (Casino Rama, Casino Windsor, Casino Niagara and Fallsview Casino) are still directly reporting transactions to FINTRAC. OLG's reporting team reviews and tracks all resort casino filings after they have been filed, and may require re-filing where missing information or errors are found. Suspicious transaction report filings are reviewed daily. Since June 2018, OLG has requested that 358 FINTRAC reports related to resort casinos be re-filed. The majority of errors pertained to missing patron information such as occupations and addresses.

RECOMMENDATION 18

To reduce the risk of money laundering in casinos and to provide accurate and reliable reporting to FINTRAC, we recommend that the Ontario Lottery and Gaming Corporation:

- Collect suspicious transaction reports from resort casinos and file them as part OLG's reports to FINTRAC; and
- proactively investigate and issue trespass notices to individuals who have been involved in multiple suspicious transactions reported by casino operators.

OLG RESPONSE

OLG agrees with the recommendation to develop one centralized province-wide suspicious transaction reporting approach. This year, OLG launched a project to implement a new province-wide anti-money laundering reporting system to centralize the reporting of suspicious transaction reports from all gaming sites.

OLG has established an anti-money laundering Intelligence & High-Risk Patron team that investigates patrons who present higher levels of money laundering risk based on an evaluation of

the number and nature of suspicious transaction reports. We will review and continue to improve our trespass program.

5.1.4 Reporting of Suspicious Transaction Reports Varies among Casinos

British Columbia's Cullen Commission noted that some of the establishments of choice in Ontario when it comes to money laundering are Casino Niagara, Casino Rama and Caesars Windsor, and that money launderers will generally visit more than one casino in the same area.

As seen in **Appendix 11**, suspicious transactions and activities are reported on a regular basis at Fallsview, Casino Woodbine, Casino Rama and Caesars Windsor and Casino Niagara. The value of suspicious transactions reported was less than 1% of revenues in 19 of 27 casinos, including Casino Niagara. OLG has not conducted any analysis on why these sites have few or no suspicious reports filed despite the large number of patron visits. According to OLG, Mohegan (Niagara region operator) aggregates transactions for both Fallsview and Casino Niagara where the patron has activity at both sites and reports them under Fallsview. The two casinos have one surveillance room at Fallsview that is responsible for monitoring suspicious activity for both casinos. However, according to Mohegan, Fallsview and Casino Niagara offer two different customer experiences and have two different customer bases. Mohegan told us that Fallsview and Casino Niagara use the same criteria across both properties when determining when to file a Suspicious Transaction Report and each property files the required reports and information with authorities separately.

During our audit, we engaged a firm to conduct mystery shopping assignments at four Ontario casinos to assess the anti-money laundering controls in place. As noted earlier, the purpose of the mystery shopper assignment was to test whether the casinos verified the mystery shoppers' play and casino wins before issuing cheques of \$3,000 or more. At two casinos visited, where the value of suspicious transactions reported was less than 1% of revenues, the mystery shoppers were able to obtain casino cheques for \$4,900 and

\$10,500 with limited play and without any proof of winning. For these two casinos, we repeated the exercise to ensure they were not one-time occurrences, and we increased the amount of cash to \$11,000 each. The mystery shoppers were again able to obtain casino cheques for over \$10,000 at both casinos with limited play and no proof of winning. In fact, one of the cheques included a handwritten notation that the amount was from winnings, even though the mystery shopper confirmed they had actually lost a small percentage of their cash at the casino. While both casinos failed to correctly assess whether the money was from legitimate casino winnings, one of the two casinos did attempt to verify the amount of play of the mystery shopper.

The mystery shoppers were not successful at the other two casino sites visited. One site correctly identified the suspicious activity, denied the shopper's requests for cheques and issued trespass orders barring the individuals from all gaming sites operated by the casino operator. At this casino, the AGCO's OPP officers were notified of the suspicious activity of our mystery shoppers by the casino operator and correctly investigated the mystery shoppers for the potential threat of money laundering. At the other site, the mystery shoppers were told that no cheques are provided by the casino. At these two sites, the shoppers entered with \$22,600 in cash and left with \$22,380 in cash.

RECOMMENDATION 19

To improve the controls that casinos have in place to reduce the risk of money laundering, we recommend that the Ontario Lottery and Gaming Corporation:

- monitor casino operator compliance with the anti-money laundering guidance for issuing cheques; and
- work with the AGCO as the regulator, to have the AGCO inspect casinos that are found to be non-compliant with provincial anti-money laundering requirements, and conduct analysis

around suspicious transaction report filings by casino site to identify outliers and potential areas for training casino staff on the risks of money laundering.

OLG RESPONSE

OLG agrees with the recommendations to continue to strengthen its oversight of casino operators for AML compliance, including issuance of casino cheques. OLG will review the frequency and depth of that monitoring to ensure that it is appropriate.

OLG will work with the AGCO to provide appropriate information and analysis where OLG has concerns about the sites' execution of OLG's Anti-Money Laundering Program.

6.0 Board Governance

6.1 Over the Last Five Years, OLG's Board Has Not Retained Direct Independent Advice on Any Matter

In our review, we noted the following instances where OLG's Board of Directors would have benefited from directly retaining an independent advisor, but instead relied on management or on advisors retained by management:

- An investigation under the direction of the Board Chair into the conduct of the former CEO was led by a senior executive within the internal audit function who had a direct reporting relationship to the CEO being investigated. An employee, even in an oversight function such as internal audit, should never conduct any investigation involving the individual they report to directly. According to OLG, given the nature of the investigation, based on media reports, it was deemed most effective use of resources to conduct this review internally as opposed to hiring a third party. OLG spends about \$6 million on

consulting expenses each year and did not lack the resources to have this review conducted by a third party according to best practices.

- All compensation reviews for the CEO and the executive team have been led by advisors hired by OLG management. External advisors retained by management are not considered independent of management and therefore are not seen to provide independent advice to the Board. OLG's CEO compensation, executive pay and bonus payments have already been a topic of public and media scrutiny.
- The former Board Chair resigned in April 2021 during an investigation into his conduct by the OPP based on allegation of conflict of interest with his private business. While the OPP did not identify any wrongdoing and charges were not laid, the OLG Board never received a report or briefing on the investigation. In May 2021, OLG's General Counsel was advised by the OPP that OLG was not the subject of the investigation and OLG was not involved in the decision to investigate. The OLG Board itself never conducted a review of the situation to find out what actions they should have taken, or may still need to take. An independent governance advisor has not been retained by the Board to facilitate the evaluation of the Board, each Board Committee and each Director.

The Board has relied on OLG management, with some assistance from OLG General Counsel when required, in facilitating Board reviews. Without an independently facilitated governance evaluation from time to time, effective and emerging best practices in governance practices that are absent may not become introduced or embedded.

We also noted that the external auditors are over-tenured, having been retained since OLG's inception in 2000, and may not be reasonably perceived to be independent. OLG issued a request for proposal in 2015 for external audit services, but only the incumbent external auditor applied. Board members and OLG management believe that other audit firms are hesitant

to apply for the external auditor position because these firms earn greater revenues from OLG as consultants.

Over the last five years, from 2017/18 to 2021/22, OLG senior management spent approximately \$30 million on consulting and audit expenses with the major accounting firms PricewaterhouseCoopers (\$13.7 million), Ernst & Young (\$7.8 million), KPMG (\$7.3 million) and Deloitte (\$1.1 million). Along with external audit services, KPMG also provided consulting services such as advising and assisting OLG with the casino operator procurement process and helping OLG to become more effective and efficient. Other firms provided the following services:

- Deloitte provided mainly consulting services to develop, implement and maintain OLG's independent audit system.
- PricewaterhouseCoopers provided consulting services relating to information technology (IT) and network assessment, implementation advice on OLG's Internet gaming platform and performance assessment of the Windsor casino. It also led a review of the lottery network among other services.
- Ernst & Young provided consulting services, advising and assisting with OLG's strategic plan implementation for digital transformation, retail expansion strategy for its lottery business, and change management (leadership coaching and workforce planning).

RECOMMENDATION 20

To improve its Board's oversight with independent advice, we recommend that the Ontario Lottery and Gaming Corporation Board:

- directly hire its own independent advisors that report to the Board to facilitate the evaluation of the Board, and to assist on issues such as investigations, executive compensation reviews, and related-party transactions involving senior management or directors of the Board;
- review OLG staffing needs and consultant use to assess why internal senior management and

staff rely heavily on external consultant advice; and

- oversee the implementation of staffing plans to strengthen OLG's ability to conduct their own operational projects.

OLG RESPONSE

OLG accepts the recommendations and values continuous improvement to strengthen board oversight. The Board will retain its own independent advisors as required to assist in its decision-making, ensuring that it follows government procurement processes in doing so.

The Board of Directors will provide oversight of Executive compensation decisions including pay bands and variable pay.

The Board will engage an external consultant to conduct the Board Evaluation scheduled for 2023. In addition, in 2023, the Board will review its policy on Board evaluations as part of its bi-annual Board governance review to ensure that the policy supports effective Board evaluation. Where an investigation involves a member of the OLG Board or ELT, the Board will retain and instruct an independent investigator.

OLG agrees that consultants should be used judiciously and be well managed. To provide a greater window into its use of consultants as well as the business cases for procuring external assistance, all contracts above the \$10 million amount will be presented to the Board of Directors for approval prior to the request for proposal stage. The OLG Board will work with management to hire staff with expertise in areas of strong business need where the expertise is not currently available in the staffing complement.

RECOMMENDATION 21

To ensure independent financial auditing advice is received from its external auditor, we recommend that the Ontario Lottery and Gaming Corporation Board:

- discontinue contracting for non-audit related services with the incumbent external auditor; and
- to address over-tenuring for external audit services, direct its Audit and Risk Committee, prior to the expiration of the current agreement with their incumbent external auditor, to issue a request for proposal for audit services to be provided by an external auditor with the necessary independence, breadth, resources and capabilities, in the judgment of the Audit and Risk Committee.

OLG RESPONSE

OLG agrees to procure for an independent external auditor to ensure value for money. OLG will also develop a minimal allowable threshold of less than \$200,000 per year for the provision of non-audit services.

6.2 Oversight Functions Not Properly Reporting Directly to the Board

As of May 2018, OLG's risk and internal audit functions were combined and overseen by one individual. In early 2021, the risk and internal audit functions started reporting into the Audit and Risk Management Committee of the Board along with a reporting relationship to the CEO. However, the compliance function does not have a direct reporting relationship to the Audit and Risk Management Committee of the Board. In corporate governance best practice, these functions are independent of one another and should report directly to the audit committee of the Board. Based on our suggestion and OLG's restructuring in October 2022, OLG's risk and internal audit responsibilities are now handled by separate individuals.

A key mandate of internal audit is to test the design and operational effectiveness of internal controls over material financial and non-financial risks. The risk management function provides recommendations on the design of the internal controls. Internal audit

should not test the operational effectiveness of internal controls which it has participated in designing as part of the risk management function.

Through our work, we also noted that OLG's assessment of its financial and non-financial risks and the related risk mitigation policies are not formally reviewed and approved by the Board. Ensuring that an effective risk management framework is in place is a key Board responsibility. As part of good governance practice, a Board reviews and approves elements of each material financial and non-financial risks in the organization governed. This includes the definition of the risk, ensuring management develops governance structures and internal controls to mitigate the risk, and ensuring that there is independent assurance on the effectiveness of risk management practices and controls.

According to OLG, risk assessments and mitigations do not go to the Board for approval as it is management's responsibility to assess, prioritize and manage each risk to OLG's strategy and operations. OLG also noted that the Audit and Risk Management Committee Chair provides highlights of these risks in the Committee's summaries to the Board. However, the terms of reference for the Audit and Risk Management Committee require the Committee to review and make a recommendation to the Board for approval of OLG's Risk Appetite Framework.

Audit and Risk Management Committee at each regularly scheduled meeting to provide updates on risks, compliance and internal controls.

OLG RESPONSE

OLG agrees that appropriate interactions between the Board and risk, compliance and internal audit oversight functions is important to maintain strong risk governance.

The Audit and Risk Management Committee as well as the full Board periodically review and approve OLG's Risk Management Framework, Risk Appetite Framework and Risk Policy. The Board will now annually approve the Risk Appetite Framework.

Internal Audit will be independent of management, maintaining a functional reporting relationship to the Audit and Risk Management Committee of the Board. Compliance and risk management functions will report into management functionally and maintain unfettered access to the Audit and Risk Management Committee of the Board.

Internal audit, risk management and compliance functions will meet in camera with the Audit and Risk Management Committee at each regularly scheduled meeting.

RECOMMENDATION 22

To improve risk governance, we recommend that Ontario Lottery and Gaming Corporation (OLG) Board:

- review and annually approve the Risk Appetite Framework, including risk assessment and mitigation for all material financial and non-financial risks;
- ensure that risk, compliance, and internal audit functions, on a go-forward basis, have a direct reporting relationship to the Audit and Risk Management Committee and to the OLG Board; and
- require compliance, internal audit and risk oversight functions to meet in camera with the

6.3 OLG Board Competencies Not Validated and Board Continues to Lack Certain Skills

Based on our review, OLG's director competency analysis is inadequate, consisting of informal internal email exchanges to ascertain expertise. The analysis lacks sufficient validation or calibration of competencies, or the submission of resumes. According to OLG, it relies on the Public Appointments Secretariat to validate each director's competencies. However, in our discussion with Public Appointments Secretariat, the Secretariat does not validate the competencies of any appointed directors. OLG maintains a board competency/skills matrix, but the matrix does not include relevant operational experience in, for example, cybersecurity or

anti-money laundering. The Board member selection process also lacks analysis or actionable planning that can be shared with the Ministry of Finance to request the necessary expertise or to provide evidence of required expertise.

Current Board members have legal and consulting backgrounds, but the Board does not have members with expertise in cybersecurity or anti-money laundering—areas important to OLG. With the expansion of Internet gaming and with the amount of sensitive customer data OLG and its casino operators have access to, cybersecurity is a significant risk. In December 2021, a casino operator had a cybersecurity breach that impacted 20 individuals whose names, dates of birth and addresses were exposed.

We noted as well that the disclosure of governance standards and practices on OLG's public website is inadequate. The website does not include any information about Board committee membership or about who chairs each committee.

RECOMMENDATION 23

For the Ontario Lottery and Gaming Corporation Board to have the level of expertise needed to be effective in its oversight, we recommend that the Board update the Board director competency/skills matrix to include cybersecurity, anti-money laundering and other relevant operational experience.

OLG RESPONSE

OLG agrees with clarifying Board skills and will update the Skills Matrix to explicitly refer to “anti-money laundering” and “cybersecurity.”

RECOMMENDATION 24

To improve the transparency and accountability of Ontario Lottery and Gaming Corporation (OLG) Board governance, we recommend that OLG publish on its website:

- the composition of each committee, including the names of each Committee Chair and the Committee members; and

- the areas of expertise for each committee and Board member.

OLG RESPONSE

OLG supports the recommendation and will update its website to more prominently present details of our Board Committees and membership. OLG will also provide additional details on Board member expertise.

6.4 CEO Evaluation, and Executive Compensation and Bonus Awarding Fall Short of Best Practices

CEO's Performance Not Independently Evaluated by Each Board Member

We found that there was no documented evidence that each Board director assesses the CEO's performance annually and that the provision of incentive pay is linked to the results of such an assessment.

Assessing the CEO is one of the most important roles that any board (or individual director) performs. Management may dominate a board over time by having such a review become informal, oral, or conducted only by a board chair or a committee of the board. As part of governance best practice, having each director assess the CEO annually in writing establishes and confirms accountability by a CEO to the entire board, and can be very helpful to a CEO for mentoring, coaching and development.

Incentive Pay for Executive Management and CEO May Be Provided on OLG Results Without Linkage to Individual Performance

Bonuses by their nature are not guaranteed, but are discretionary amounts designed to reward outstanding performance. Based on our review, from 2019/20 to 2021/22, we noted that all OLG executives (vice-presidents, senior vice-presidents and the CEO) received bonuses without a direct link to outstanding performance. For 2021/22, all 36 executives received at least 100% of their individual performance-related

bonus and 85% of their financial bonus based on company performance totalling \$1.2 million. Further, performance ratings for all employees have been based on a three-point scale. Achievement of two of the three ratings leads to the awarding of 100% of performance bonus pay, which limits flexibility to reward high performance or remediate poor performers.

Executive bonuses are meant to be a tool for a board of directors to incentivize certain types of behaviour by rewarding executives that exhibit that behaviour. However, if all executives are consistently achieving targets and expecting a bonus, then it becomes less of a tool for rewarding exceptional performance.

Furthermore, we noted that the basis for executive incentive pay became heavily weighted to financial targets between 2020 and 2022. For example, 80% of the bonus pay for the CEO (and 70% below for other management and employees) is based on net profit over the four lines of business. However, OLG's five strategic priorities are non-financial in nature:

- building a fun, diverse and performance-driven culture that is a destination for top talent;
- dominate the Internet gaming industry space and accelerate speed to market;
- re-open Land-based Gaming operations and consider new opportunities for growth;
- remove barriers to expand lottery and aggressively leverage it as a competitive advantage; and
- obsess over understanding our customers across all products and channels—and how they integrate.

Lastly, according to best practice, independent risk, compliance and internal audit functions should not be compensated based on company results. All of these oversight functions at OLG are currently rewarded for financial results such as net profit to the Province. The independence of these functions could be undermined by an incentive pay structure based on company results and outputs, because these functions should not be disincentivized to advise management to take actions that

may have an adverse impact on the company's financial results and outputs. The incentive pay structure for these functions should be role- or assurance-based, and should be unaffected if their work finds concerns with OLG results and outputs.

RECOMMENDATION 25

To enable the Ontario Lottery and Gaming Corporation (OLG) Board to provide effective oversight for OLG's Chief Executive Officer (CEO) and executive compensation structure, we recommend that:

- each director assess the performance of the CEO annually in writing;
- the OLG Board set appropriate incentive pay for executive employees based on exceptional performance; and
- the risk, compliance and internal audit functions be compensated primarily on the basis of base salary, and that any incentive compensation be based solely on assurance responsibilities.

OLG RESPONSE

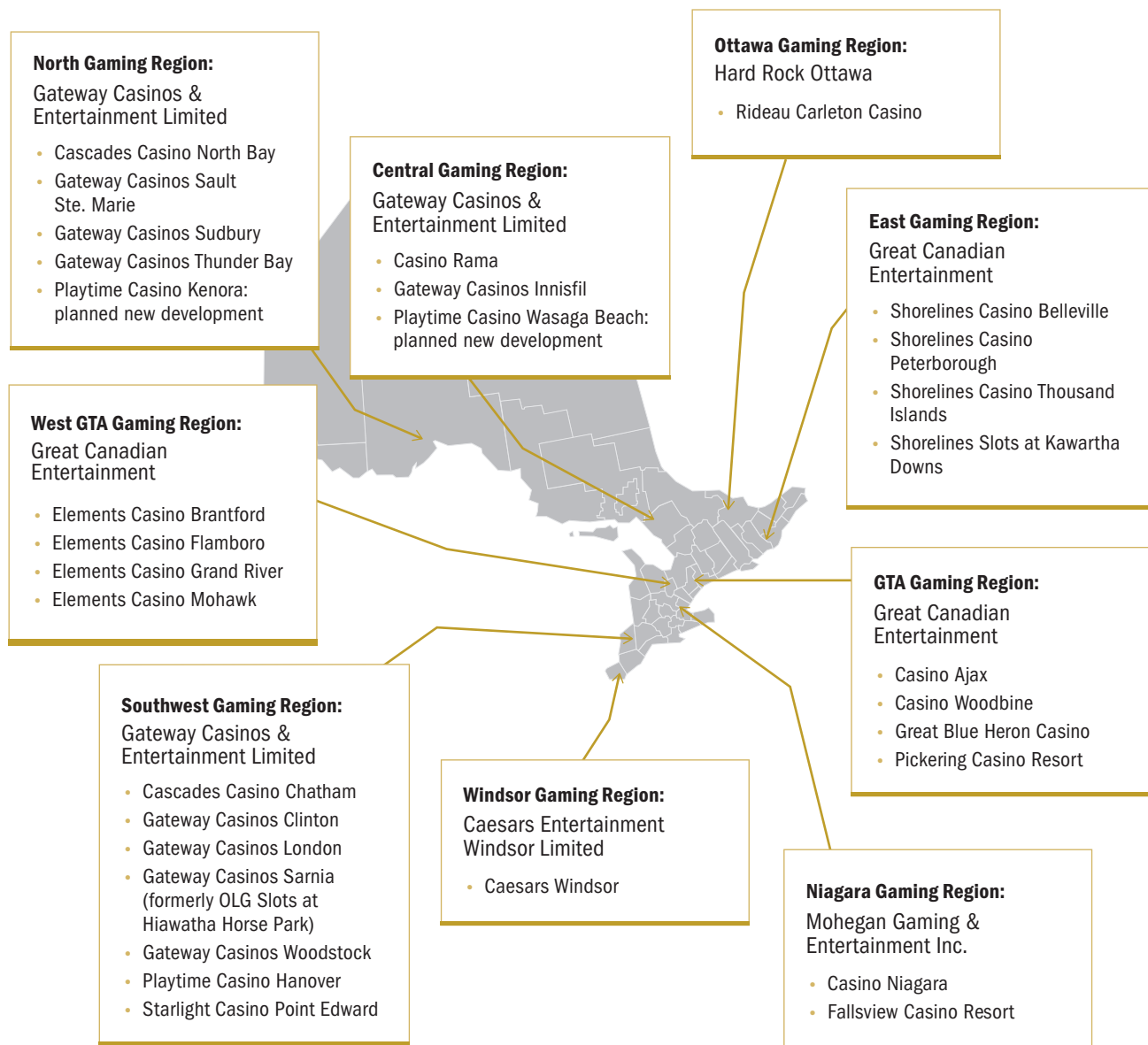
OLG agrees that the Board should have effective oversight of compensation and performance evaluations of the CEO. OLG will implement enhanced CEO performance assessments involving each director assessing the CEO's performance in writing.

The Board will continue to provide final approval for incentive pay. Payments will continue to be performance based. To introduce more rigour in its performance assessment process for executive employees for 2022/23, OLG will implement a five-point rating scale to ensure that incentive pay is focused on rewarding exceptional performance.

The Board will review the Executive Variable Pay Program for 2023/24 and ensure the advice is aligned with the expectations of the Ministry of Finance and Treasury Board Secretariat. OLG will review the compensation framework of risk, audit, and compliance staff according to best practices.

Appendix 1: OLG's Gaming Regions along with Their Private Sector Casino Operators

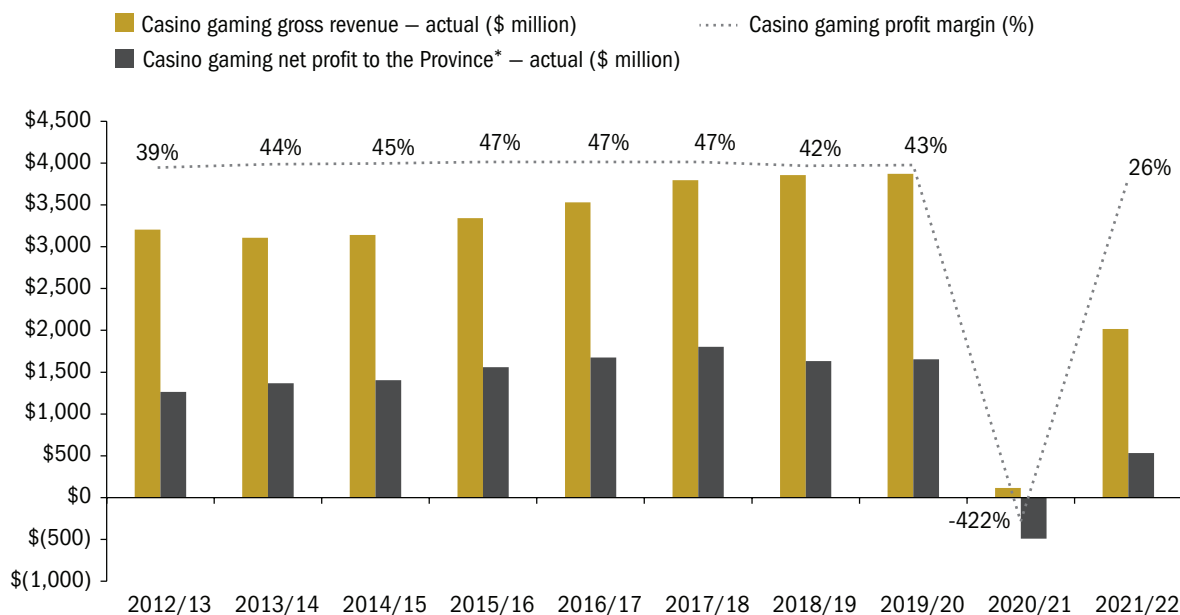
Source of data: Ontario Lottery and Gaming Corporation



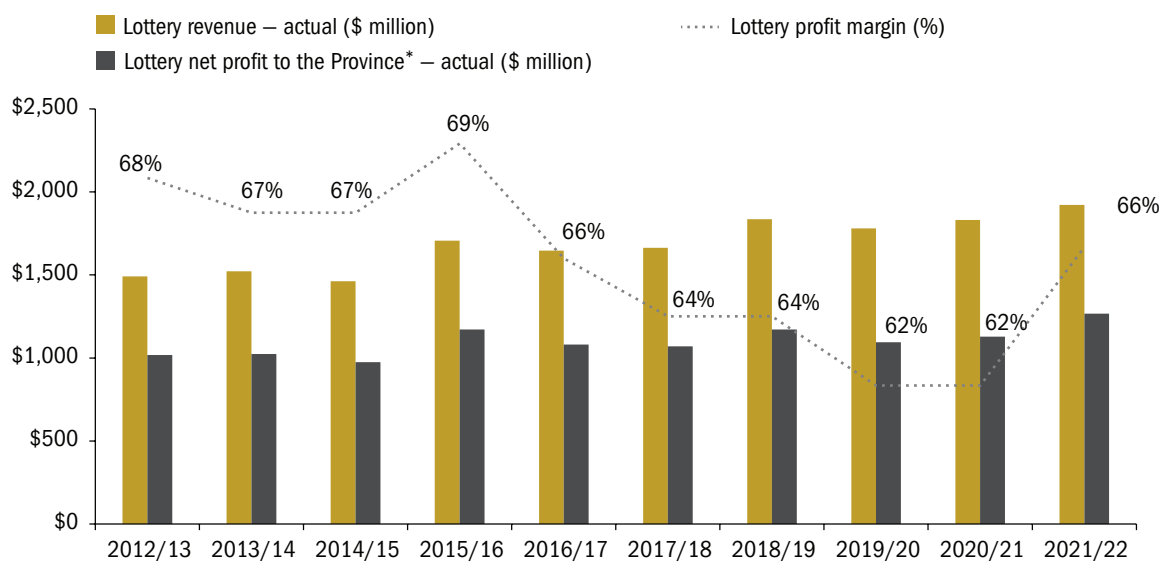
Appendix 2: OLG's 10-Year Financial Trends by Lines of Business

Source of data: Ontario Lottery and Gaming Corporation

Casino Gaming



Lottery

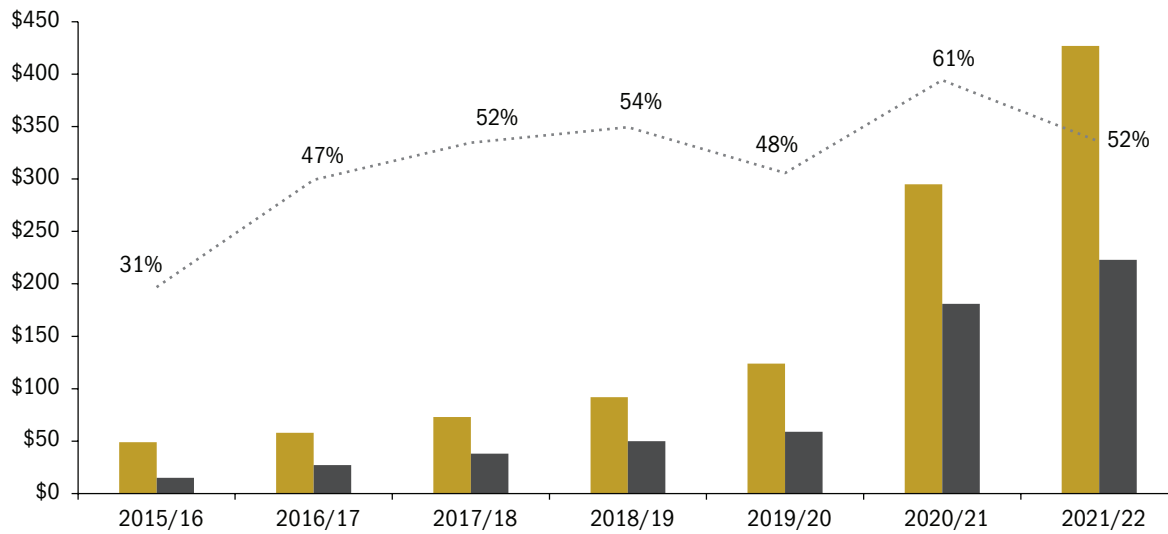


Internet Gaming

■ Internet gaming revenue – actual (\$ million)

..... Internet gaming profit margin (%)

■ Internet gaming net profit to the Province* – actual (\$ million)



* All net profit to the Province is before corporate services expense allocation.

Appendix 3: OLG's Privatization of Casinos—Procurement Process

Source of data: Ontario Lottery and Gaming Corporation

Request for Information (RFI)

To review respondent input and decide on gaming zone changes and compensation model, and acquire information regarding the anticipated procurement process. Non-binding; answers will not influence future competitive process.

Request for Pre-qualification (RFPQ)

To pre-qualify bidders for selection of a casino operator for gaming regions. Information on financial and technical attributes and capabilities, including proof of successful experience with similar projects and evidence of their ability to obtain a letter of credit, performance security and AGCO application are required to move to request for proposal stage. Successful respondent registers as approved casino operator registrant with the AGCO, which charges \$100,000 non-refundable application fee.

Request for Proposal (RFP)

OLG financial business submission team and external evaluator conduct independent financial evaluations and test accuracy of data and assumptions used during evaluation. Independent Fairness Monitor oversees process, as follows:

Compliance of Proposals with terms and conditions.

Evaluation of Business Submission; Financing Plan; Financial Projections and Supporting Explanations: Submission of Gaming Management System (GMS), Marketing, Operations, Site Development and Governance Plans; Understanding OLG's Responsible Gambling Policies, Information Technology Policies, Ontario First Nations Plan, Horse-Racing Sustainability Plan, Financing Plan and Financial Projections and Supporting Explanations. Pass or fail evaluation only, points awarded not considered in Final Proposal Score. Bidders that pass these three stages considered viable operators.

Proponent Presentations: To Evaluation Team and/or OLG senior management and Fairness Monitor.

Evaluation of Variable Fee Threshold (Guaranteed Cash Flow to OLG): Present value of guaranteed revenue commitments over the first 10 years and the present value of one-half of OLG's 30% share of revenues projected above the guaranteed commitments.

Final Proposal Score based on 100% of Variable Fee Threshold Score for all gaming regions except GTA (Variable Fee Threshold Score – 75% and Site Development Plan – 25%) and Niagara (Variable Fee Threshold Score – 90% and Understanding Unique Features of Niagara – 10%). Variable Fee Threshold cannot be less than 10%–40% (varies by region) or greater than 100% of Total Gaming Revenue in any year. Bidder with highest final proposal score and passes OLG's value for money assessment (described below) is deemed to be winner of the region.

Value for Money (VFM) and Economic Impact Assessment: VFM assessment conducted by OLG financial scoring team compares net present value of cash flows to OLG under current business model with bidder's proposal; uses financial information provided by each bidder and assumptions provided by OLG. Pass or fail evaluation only. Scoring depends on region: pass is 95%–105% of OLG current business model. Supplementary evaluator also conducts VFM assessment, sensitivity analysis and internal rate of return analysis for certain bundles.

Economic impact study done by third-party consultant for top-ranked bidder. OLG Enterprise Risk Management team conducts bid rigging, conflict of interest and collusion analysis on all submissions, evaluates likelihood of fraudulent activity and financial strength before winning bidders selected.

Ranking the Proponents: Based on the Final Proposal Scores; top-ranked bidder identified by OLG procurement team. RFP Recommendation for Award Memo, prepared by OLG procurement team with analysis of top-ranking bid, presented to Executive Committee and then to Board of Directors for approval. Fairness Monitor submits attestation of process. Winning and unsuccessful bidders notified in writing. Unsuccessful bidders may request debriefing sessions about their proposals.

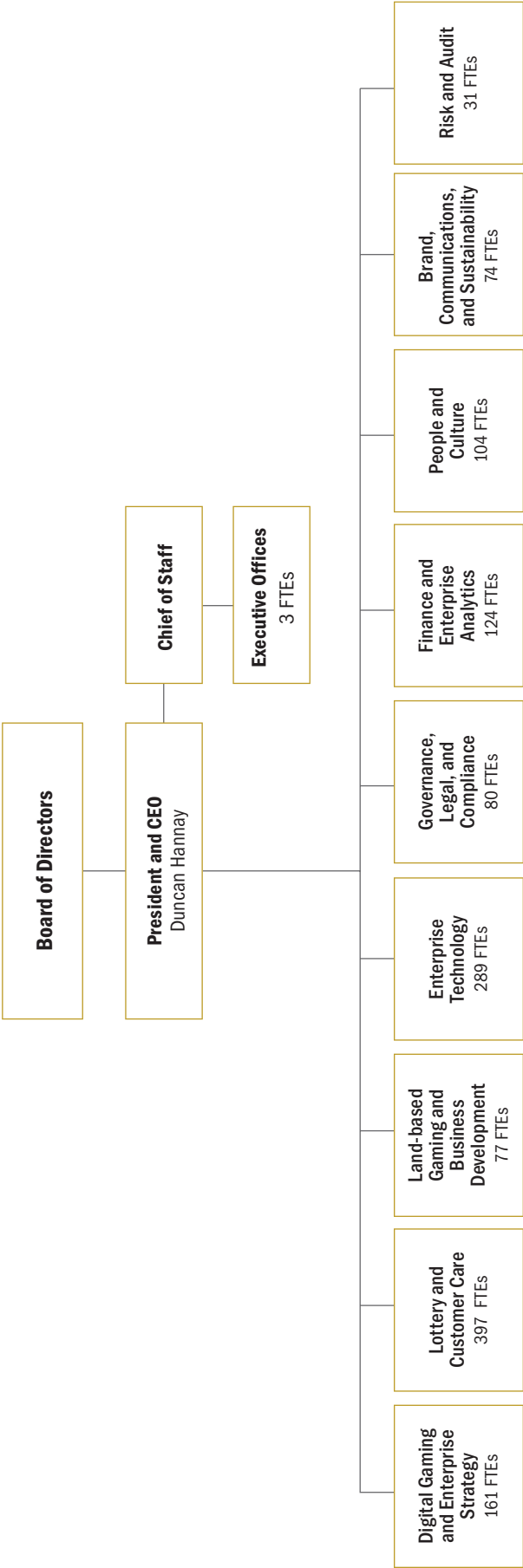
Appendix 4: Casino Operator Selection and Contract Amendment Timelines by Region

Source of data: Ontario Lottery and Gaming Corporation

Gaming Region	Request for Proposal (RFP) Issuance Date	Request for Proposal (RFP) Submission Deadline Date	Contract Award and Public Announcement Date	Operating Contract Effective Date	Initial Financial Relief Contract Amendment Date
East	25 Apr 2014	14 May 2015	8 Sep 2015	11 Jan 2016	n/a
Southwest	23 Nov 2015	8 Sep 2016	12 Dec 2016	9 May 2017	n/a
North	23 Nov 2015	22 Sep 2016	12 Dec 2016	30 May 2017	7 Aug 2019
Ottawa	27 Oct 2016	9 Feb 2017	15 May 2017	12 Sep 2017	24 Jul 2019
GTA	11 Feb 2016	20 Apr 2017	7 Aug 2017	23 Jan 2018	18 Jul 2018
West GTA	20 Oct 2016	20 Jul 2017	18 Dec 2017	1 May 2018	30 Jun 2019
Central	31 Mar 2017	11 Jan 2018	14 Mar 2018	18 Jul 2018	n/a
Niagara	10 Apr 2017	31 May 2018	10 Sep 2018	11 Jun 2019	n/a

Appendix 5: OLG Organizational Chart as of March 31, 2022

Prepared by the Office of the Auditor General of Ontario



Note: Total FTEs (full-time-equivalent employees) – 1,340.

Appendix 6: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. OLG has effective governance and accountability structures, which are aligned with best practices, and ensure that OLG achieves its legislative mandate and complies with applicable government requirements and guidelines.
2. Competitive, fair and transparent procurement processes are followed in awarding contracts to casino operators.
3. OLG effectively manages and oversees casino operators to ensure compliance with gaming standards (including Integrity of gaming), and performance and accountability requirements.
4. OLG manages human resources, including the use of consultants and contractors, efficiently and effectively to fulfill its mandated responsibilities.
5. Processes are in place to proactively monitor product mix, market trends and emerging risks to enable OLG to maximize its revenues in a socially responsible manner.
6. OLG has effective processes in place to support the prevention of money laundering in casinos.
7. OLG has effective systems in place to monitor and ensure lottery and gaming payouts to consumers are fair and in compliance with provincial gaming standards.
8. OLG effectively promotes social responsibility by providing consumers with evidence-based education and information on responsible lottery and gaming consumption. Individuals under 19 years of age are prevented from accessing gaming products through the e-commerce platform OLG.ca.
9. Performance measures and targets are established, monitored and compared against actual results and industry best practices, and publicly reported, and corrective actions are taken on a timely basis when issues are identified.

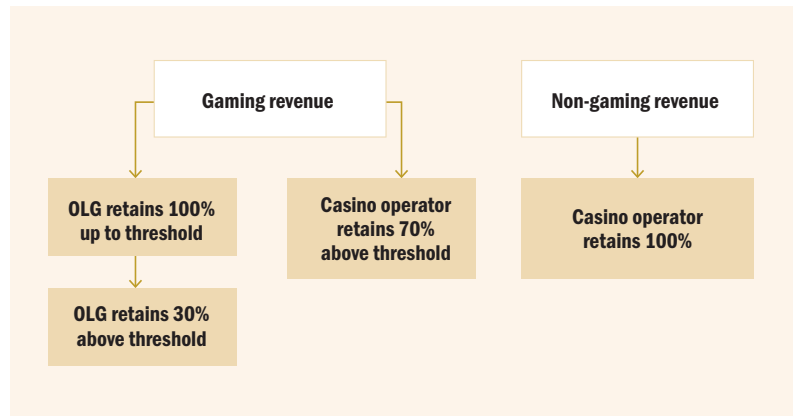
Appendix 7: Compensation Models Prior to and after Privatization of Casinos

Source of data: Ontario Lottery and Gaming Corporation

Compensation Model Prior to Privatization of Casinos¹



Compensation Model after Privatization of Casinos²



1. Under the compensation model prior to privatization, which is currently in effect only for the Windsor casino, OLG is responsible for all operational and capital costs while the casino operator is paid a fee (% of gaming revenue) for their management services.
2. Under the new compensation model after privatization, OLG sets and pays a fixed fee to casino operators to support basic operating expenses. Casino operators also receive an allowance for capital expenditures incurred, as reimbursement for maintenance of capital assets.

Appendix 8: Slot Machine Payout Data by Casino, January 2017 to August 2022

Source of data: Ontario Lottery and Gaming Corporation

Casino Location	Slot Machines (#)	Slot Machines Below 85% (#)	Slot Machines at 85% or Above (#)	Slot Machines at 85% or Above (%)	Average of Actual Payout (%)
Casino Rama	2,190	121	2,069	94.5	90.6
Gateway Casinos Innisfil	1,140	1	1,139	99.9	91.3
Central Region – Gateway Casinos	3,330	122	3,208	96.3	91.0
Cascades Casino North Bay	171	5	166	97.1	90.4
Gateway Casinos Sault Ste Marie	370	2	368	99.5	90.9
Gateway Casinos Sudbury	457	1	456	99.8	90.9
Gateway Casinos Thunder Bay	636	0	636	100.0	91.2
North Region – Gateway Casinos	1,634	8	1,626	99.5	90.9
Cascades Casino Chatham	321	1	320	99.7	90.6
Gateway Casinos Clinton	163	0	163	100.0	90.7
Gateway Casinos Dresden (closed in July 2019)	18	1	17	94.4	90.8
Gateway Casinos London	997	4	993	99.6	90.9
Gateway Casinos Sarnia	157	1	156	99.4	90.0
Gateway Casinos Woodstock	390	2	388	99.5	90.9
Playtime Casino Hanover	336	2	334	99.4	90.8
Starlight Casino Point Edward	537	1	536	99.8	90.9
Southwest Region – Gateway Casinos	2,919	12	2,907	99.6	90.7
Shorelines Casino Belleville	482	21	461	95.6	89.6
Shorelines Casino Peterborough	492	32	460	93.5	89.7
Shorelines Casino Thousand Islands	483	30	453	93.8	89.7
Shorelines Slots at Kawartha Downs	150	10	140	93.3	90.0
East Region– Great Canadian Entertainment	1,607	93	1,514	94.2	89.8
Casino Ajax	504	13	491	97.4	89.4
Casino Woodbine	4,015	20	3,995	99.5	91.3
Great Blue Heron Casino	751	2	749	99.7	99.3
Pickering Casino Resort	2,380	159	2,221	93.3	89.0

Casino Location	Slot Machines (#)	Slot Machines Below 85% (#)	Slot Machines at 85% or Above (#)	Slot Machines at 85% or Above (%)	Average of Actual Payout (%)
GTA Region – Great Canadian Entertainment	7,650	194	7,456	97.5	92.4
Elements Casino Brantford	661	1	660	99.8	91.1
Elements Casino Flamboro	1,058	1	1,057	99.9	90.9
Elements Casino Grand River	540	0	540	100.0	90.6
Elements Casino Mohawk	1,582	9	1,573	99.4	91.0
West GTA Region – Great Canadian Entertainment	3,841	11	3,830	99.7	90.9
Rideau Carleton Casino	1,673	14	1,659	99.2	90.3
Ottawa Region – Hard Rock	1,673	14	1,659	99.2	90.3
Casino Niagara	1,436	86	1,350	94.0	89.7
Fallsview Casino Resort	3,642	99	3,543	97.3	90.3
Niagara Region – Mohegan Gaming	5,078	185	4,893	96.4	90.0
Total	27,732	639	27,093	97.7	90.7

Appendix 9: OLG's GameON Strategy and Enterprise-Wide Performance Indicators, June 2022

Source of data: Ontario Lottery and Gaming Corporation

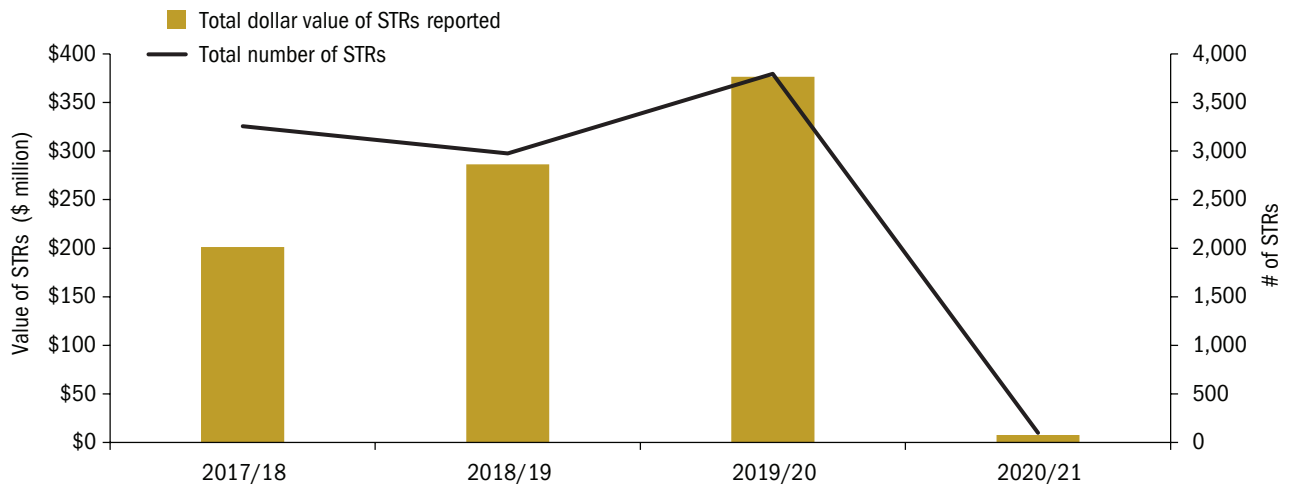
Strategic Priority	Performance Indicators of Integrated Strategic Plan, as of June 2022	2021/22 Target	2021/22 Actual
Overall OLG financial	Net Profit to the Province	\$1.266 billion	\$1.562 billion
Build a fun, inclusive performance-driven culture that is a destination for top talent	Net Profit to the Province per FTE (full-time-equivalent OLG employee)	\$0.94 million	\$1.17 million
	Employee Engagement Score (measures OLG employee sentiment)	58%–60%	73%
	Inclusion Score (measures OLG organizational diversity, leveraging the Diversion tool)	57%–59%	62%
	Risk Culture Score (measures employee awareness, capability and comfort in taking and managing risks)	n/a ¹	n/a ¹
Drive share growth in digital gaming space and accelerate speed to market	Average Monthly Active Digital Customers	224,321	253,000
	Average Monthly Digital Gross Gaming Revenue per Digital Customer	\$113	\$143
Restore land-based gaming operations and identify new opportunities for growth	Casino Gaming Gross Gaming Revenue	\$2.19 billion	\$2.02 billion
	Casino Operators (Service Providers) Relationship Score	n/a ²	13.5
Remove barriers to expand lottery and aggressively leverage it as a competitive advantage	Average Weekly Active Retail Lottery Customers	3.28 million	3.85 million
	Average Weekly Sales per Retailer	\$8,434	\$8,932
Obsess over understanding our customers across all products and channels. Become an exceptional partner to our stakeholders.	Customer Net Promoter Score (measures OLG's customer sentiment using surveys)	n/a ¹	n/a ¹
	Customer Satisfaction Score	n/a ¹	n/a ¹
	Enterprise Player Health Index (measures OLG's player health using surveys)	92%–95%	96.6%
	High-Risk Player Monitoring (Anti-Money Laundering)	n/a ¹	n/a ¹

1. These performance indicators were introduced in 2022/23 and therefore no targets or actual results were available for 2021/22.

2. No target for 2021/22 was available.

Appendix 10: Total Suspicious Transaction Report (STR) Filings, 2017/18-2020/21

Source of data: Ontario Lottery and Gaming Corporation



Appendix 11: Suspicious Transaction Reports Filed by Casino, 2019/20

Source of data: Ontario Lottery and Gaming Corporation

Casino	# of Suspicious Transactions	Value of Suspicious Transactions (\$ 000)	Revenue (\$ million)	# of Patrons (000)	Suspicious Transactions as % of Revenues
Casino Rama	700	45,641	246.9	2,328	18.49
Gateway Casino Innisfil	30	1,126	153.2	1,216	0.73
Central Region – Gateway Casinos	730	46,767	400.1	3,544	11.69
Gateway Casinos Sault Ste Marie	24	62	27.5	502	0.23
Gateway Casinos Sudbury	6	335	38.4	370	0.87
Gateway Casinos Thunder Bay	16	213	48.2	659	0.44
North Region – Gateway Casinos	46	610	114.1	1,531	0.53
Cascades Casino Chatham	6	44	27.6	428	0.16
Gateway Casinos Clinton	0	0	12.5	156	0
Gateway Casinos London	53	574	114.3	1,087	0.50
Gateway Casinos Sarnia	0	0	1.9	28	0
Gateway Casinos Woodstock	38	4,765	29.9	290	15.94
Playtime Casino Hanover	4	3	26.7	422	0.01
Starlight Casino Point Edward	11	33	45.9	610	0.07
Southwest Region – Gateway Casinos	112	5,419	258.8	3,021	2.09
Shorelines Casino Belleville	26	87	63.1	1,177	0.14
Shorelines Casino Peterborough	18	324	60.4	939	0.54
Shorelines Casino Thousand Islands	16	393	53.8	562	0.73
Shorelines Slots at Kawartha Downs	3	12	8.8	142	0.14
East Region – Great Canadian Entertainment	63	816	186.1	2,820	0.44
Casino Ajax	47	1,694	234.8	1,988	0.72
Casino Woodbine	794	131,263	988.7	7,791	13.28
Great Blue Heron Casino	121	7,708	141.8	1,195	5.44
GTA Region – Great Canadian Entertainment	962	140,665	1,365.3	10,974	10.30
Elements Casino Brantford	61	2,502	120.4	1,246	2.08
Elements Casino Flamboro	32	546	125.3	1,140	0.44
Elements Casino Grand River	6	3	51.9	762	0.01
Elements Casino Mohawk	52	3,323	203.7	1,405	1.63
West GTA Region – Great Canadian Entertainment	151	6,374	501.3	4,553	1.27
Rideau Carleton Casino	38	810	155.9	1,490	0.52
Ottawa Region – Hard Rock	38	810	155.9	1,490	0.52
Casino Niagara	15	386	86.2	1,703	0.45
Fallsvue Casino Resort	878	151,045	522.7	5,826	28.90
Niagara Region – Mohegan Gaming	893	151,431	608.9	7,529	24.87
Caesars Windsor	781	23,282	280.9	3,411	8.29
Windsor – OLG/Caesars	781	23,282	280.9	3,411	8.29
Total	3,776	376,174	3,871.4	38,873	9.72

 Shade indicates casinos where the value of suspicious transaction reported was less than 1% of casino revenues.

Ontario Power Generation: Management and Maintenance of Hydroelectric Generating Stations

1.0 Summary

Electricity is an essential part of Ontarians' daily lives and important to the economy. From heating and lighting our homes to running our fridges, vehicles and computers, electricity enhances our safety, quality of life and productivity.

Electricity can be produced from various sources, including nuclear, fossil fuels (such as coal and natural gas) and renewable energy (such as hydroelectric, wind, solar and bioenergy). To address growing concerns about climate change, Ontario has transitioned from its reliance on fossil fuels, which release large amounts of greenhouse gases that cause global warming, to using cleaner and renewable energy sources to generate electricity. In 2009, the Province enacted the *Green Energy Act*, which led to Ontario gradually closing all of its coal-fired power plants and building renewable and gas-fired resources.

More than half of the electricity generated in Ontario is produced by Ontario Power Generation (OPG). OPG is an Ontario-based corporation whose principal business is generating and selling electricity. It was established under the *Ontario Business Corporations Act* in 1999 and is wholly owned by the Province of Ontario. OPG produces electricity from its various energy sources, including hydroelectric, nuclear, gas and biomass.

As of March 31, 2022, OPG had approximately 14,700 megawatts (MW) of in-service generating capacity (the maximum capacity that a facility is designed to run at) across all of its generation facilities, excluding subsidiaries. Hydroelectric generation represents 7,500 MW (or 51%) of the total capacity at OPG. Nuclear is second with 4,850 MW (or 33%).

Hydroelectric (or hydro) power is Ontario's foundational electricity source, accounting for approximately 23% to 25% of Ontario's electricity supply since 2007. Hydro energy is considered a form of renewable energy because water flowing through a hydroelectric generating station is not consumed in the process of electricity generation and is typically returned to its waterway. Once the electricity is produced, it is sent along power lines to be used by consumers.

OPG owns and operates 66 hydroelectric generating stations, many of which have been operating for over 50 years, while some of the oldest ones have been operating for 100 or more years.

Over the last five years (2017–2021), annual revenue from OPG's hydroelectric generation has remained relatively stable in the \$1.8 to \$1.9 billion range, while annual operating costs have ranged from \$950 million to \$1.03 billion. In the same time frame, costs for capital projects to, for example, replace aging equipment have increased by 215%, from \$208 million in 2017 to \$656 million in 2021.

During our audit, we found that OPG's hydroelectric generating stations have not been effectively utilized over the last seven years because of having to curtail the production of electricity. In addition, OPG recorded over \$700 million in revenue since 2015 for spilling (or releasing) water from its stations without generating any power due to Ontario's electricity supply exceeding demand.

We also noted that OPG incurred steadily increasing maintenance work orders in recent years partly due to the aging of stations and equipment. It also has experienced a continuous backlog of maintenance work orders since at least 2017. Although its generating units have typically been available for use (between 88% and 91% of the time), the number of forced (or unplanned) outages of these units increased between 2014 and 2019; since then, such outages have been slowly declining but are still higher than they were in 2014.

Given the forecasted increase in electricity demand and predicted future shortfall due to the potential closure of Pickering Nuclear Generating Station (which has an installed capacity of 3,100 MW of generation) in 2024/25, as well as the challenges of building new hydroelectric generating stations, it is important that OPG adequately maintain and manage its existing stations to allow for cost-effective and efficient electricity production. OPG estimates that there is unbuilt hydroelectric generation capacity of 3,000 to 4,000 MW in northern Ontario, and up to an additional 1,000 MW in unbuilt capacity in southern Ontario.

The following are some of our significant findings:

- **OPG has not been able to fully utilize its hydroelectric generating capacity over seven years.** We reviewed OPG's total installed generating capacity and compared it to the actual generation over the seven-year period from 2015 to 2021. We found that over this period, OPG was only using between 48% and 51% of the stations' total installed capacity. We also reviewed OPG's actual hydroelectric generation and compared it to what it could have produced, considering factors such as water availability, electricity demand and outages. We found that over the seven-year period from 2015 to

2021, OPG could have generated approximately 269 million megawatt hours (MWh) of electricity but only generated 226 million MWh, meaning about 43 million MWh of generating capacity went unused. In 2021 alone, OPG could have generated an additional 4.6 million MWh of electricity, or enough to power over 540,000 Ontario households for a year. We found that OPG has not conducted a detailed analysis of why there is a significant difference between installed capacity and actual generation, but informed us that this is due to multiple reasons. For example:

- Ontario does not have the amount of water required to run all hydroelectric generating units at full capacity for 24 hours a day, seven days a week, and water availability and flow depend on seasonal factors that could also vary from year to year.
- Some OPG generating stations were built as intermediate or peaking facilities, meaning that they were designed and constructed to generate only during periods of higher demand. There was no intention of having them generating consistently and it would not be possible based on water availability.
- The installed capacity does not consider that units have to be taken down for maintenance and repairs, and could also be impacted by outages.
- There are certain environmental and recreational water management considerations that OPG must adhere to.
- **OPG needs to strengthen its working relationship with the Independent Electricity System Operator (IESO) in exploring new hydroelectric opportunities to meet future electricity demands, given the challenges and uncertainties of building new stations.** While OPG is Ontario's largest power generator, the IESO is responsible for managing and planning for the province's electricity supply from various energy sources (including hydroelectric power) to meet future needs. Therefore, it is critical that OPG

and the IESO have a strong working relationship, especially when both parties are exploring additional hydroelectric opportunities in northern Ontario. In January 2022, the Ontario government asked OPG to examine opportunities for new hydroelectric development in northern Ontario, and also asked the IESO to identify the transmission infrastructure required and the associated costs. While unbuilt capacity (approximately 3,000 to 4,000 MW) in northern Ontario provides opportunities for building new stations, developing such capacity poses many challenges and uncertainties in terms of timing and costs. For example, OPG senior management informed us that it could take many years, in some cases over 10 years, to develop these stations, which includes conducting environmental assessments, consulting with Indigenous communities, constructing the stations and installing transmission lines. OPG also estimated that the costs of developing hydroelectric generation stations will be significant, ranging from \$5 million to \$22 million per MW of power for a potential station, depending on location and site conditions. Estimated costs will become even higher after considering additional transmission-related costs for stations.

- **OPG recorded approximately \$730 million in revenue since 2015 for spilled water without generating any power due to excess power supply in Ontario.** When electricity supply exceeds demand in Ontario, OPG may be instructed by the Independent Electricity System Operator to decrease generation by spilling (or releasing) water when there are no practical options to store hydroelectric energy for future use. For 54 of OPG's 66 hydroelectric generating stations, OPG is compensated at a rate (currently \$43.88 per megawatt hour [MWh]) that does not consider any forgone production due to spilling water under surplus electricity supply conditions. We found that the amount of surplus electricity lost as a result of spilled water in 2021 amounted to 1.9 million MWh, which

is enough electricity to power approximately 220,000 households for a year. We also noted that since 2015, OPG spilled the equivalent of 25 million MWh of electricity and still recorded approximately \$730 million in revenue related to the spilled water. The current compensation method (which takes both OPG's fixed costs and variable costs of operating these stations into account) does not appear to be fully achieving value for money for ratepayers. To illustrate, when OPG's hydroelectric stations are on spilling conditions without generating any power, OPG incurs limited variable costs of operating these stations. Therefore, the compensation method should consider fixed costs while variable costs should be limited.

- **Aging of hydroelectric stations and equipment has led to a continuous backlog of work orders, which could result in increased maintenance costs.** Between 2015 and 2021, the number of maintenance work orders for OPG's hydroelectric stations increased by 83% (from approximately 18,400 in 2015 to 33,800 in 2021). The related cost of these work orders increased by 48% (from \$48.2 million to \$71.2 million), although OPG informed us that part of the increase is a result of more accurately and consistently capturing costs in its work management system. We found that most of these work orders were for preventative maintenance, which is typically done to keep equipment in well-working order and avoid potential issues such as equipment failure that can lead to unplanned outages. We also found that OPG has had a continuous backlog of work orders over the last five years, and the backlog was approximately 9,500 work orders at the end of 2021.
- **Conditions of hydroelectric stations were not always assessed at regular intervals, with about 20% of stations not assessed in over 10 years.** One of the key tools OPG uses to assess and monitor the conditions of its hydroelectric generating stations is a Plant Condition Assessment (PCA), where an engineer(s) assesses the

condition of a station and its related equipment and processes. While OPG does not have a set time frame on how frequently PCAs must be completed, we noted that it would be prudent to conduct a PCA at least every 10 years to assess the completion status of recommended work because PCAs typically indicate specific work to be completed within a 10-year time frame. Our review of practices in other jurisdictions also identified that the United States Bureau of Reclamation (the second-largest producer of hydropower in the United States that operates 53 hydroelectric powerplants) indicates in its manuals that a comprehensive facility review of a station should be completed every six years. However, we found that OPG did not complete a PCA for approximately 20% (or 13) of its 66 hydroelectric generating stations within the last 10 years. We also found that the timing between PCAs was inconsistent across OPG's stations. For example, for both Sir Adam Beck I and Sir Adam Beck II Generating Stations (two of OPG's largest generating stations), 18 years passed between their most recent PCA and the prior one, but for Cameron Falls Generating Station, the gap was 10 years.

- **Insufficient planning has led to delays on some capital projects and cost overrun on one project.** We reviewed estimated and final costs for large hydroelectric capital projects completed over the last 15 years, and found that OPG experienced project delays and cost overrun on one project as a result of insufficient planning. For example, in OPG's Niagara Tunnel Project, sub-surface geotechnical investigations carried out prior to the project's commencement did not adequately note the rock conditions and work required. As a result, OPG later revised its project budget from the original \$985 million to \$1.6 billion, an increase of 62%. The project was originally scheduled to be completed by 2010 but was delayed to 2013 because of the changes in

work. Given OPG's potential involvement in new hydroelectric generation projects in the future, it is critical for OPG to ensure its capital projects are effectively assessed, planned, overseen and executed to reduce the risk of significant project cost increases and delays.

- **OPG has not always addressed engineering recommendations for station maintenance on a timely basis.** As part of OPG's Plant Condition Assessment (PCA) process, contracted or staff engineers provide OPG with recommendations of what work is required to maintain its generating stations and address any issues found. We reviewed a sample of 10 PCAs and found that OPG did not always follow or address these recommendations on a timely basis. For example, for Abitibi Canyon Generating Station, the most recent PCA was completed in 2021 and the previous one was completed in 2016. Of the 37 major recommendations noted in the 2016 PCA, only three had been fully addressed, another three were in the process of being addressed, and 31 had either been scheduled only or not yet addressed at the time of the 2021 PCA.
- **Rate-setting process is not regulated for 12 OPG hydroelectric stations.** Of OPG's 66 hydroelectric stations, 12 stations are not subject to the Ontario Energy Board's rate regulation process. Instead, they contract with the IESO and thus negotiate their rates directly with the IESO. As such, their rates are significantly higher than those for rate-regulated stations. The rates for non-rate-regulated stations vary (from about \$65 to about \$250 per MWh), meaning they are at least 1.5 to almost six times higher than the rate for rate-regulated stations (\$43.88 per MWh).
- **Public safety events remain high while dam safety events have gone down.** Based on our review of data on safety events that occurred at OPG's hydroelectric stations and dams over the last seven years, we found that

while events related to dam safety (involving the dam structure or station itself) have gone down (from 41 events in 2015 to 19 events in 2021), events related to public safety were high in recent years (145 events in 2021). We found that most of these public safety issues arose because the public either ignored or did not notice warning signs about trespassing on OPG property or waterways. We also confirmed that OPG took adequate steps to address issues such as contacting and sharing information with law enforcement and local authorities. However, it is important for OPG to continue to review and assess whether it has sufficient processes in place across all of its dams and generating stations, including those that are easily accessible by the public.

- **OPG's rate of return from its investment in its United States-based hydroelectric generation assets is lower than expected.** In addition to owning generating stations in Ontario, OPG has invested in generation assets in the United States through a series of subsidiaries operating as Eagle Creek. When OPG completed its acquisition of these subsidiaries, it had estimated that it would earn a certain return on its investment. However, a recent strategic review completed in 2022 found that the expected return had decreased by about 1.2%, primarily due to the COVID-19 pandemic.

This report contains 12 recommendations, consisting of 24 action items, to address our audit findings.

Overall Conclusion

Our audit found that opportunities for developing Ontario's future supply of hydroelectric power have not yet been fully explored to address the forecasted increase in electricity demand and predicted future shortfall due to the potential closure of Pickering Nuclear Generating Station in 2024/25. As the province's largest energy producer, OPG also plays a critical role

in actively planning and exploring opportunities for expanding its hydroelectric operations in Ontario to help address those needs. Thus, it should work more effectively with its partners, especially the IESO, to better manage the projected supply challenges ahead. We noted that OPG's hydroelectric current generation capacity has remained underutilized, and can be more effectively used to meet the province's future electricity needs.

OPG has been a reliable provider of hydroelectric power to the province, but there is still opportunity to improve its incapability factor, which measures the percentage of time a generating unit is unavailable over a specific time frame for outages within OPG's control. Given the increasing age of many of OPG's hydroelectric generating stations, maintenance work orders have significantly increased over the last seven years, which in turn has resulted in a continuous backlog of work orders. Its increased focus on preventative maintenance has contributed to an improvement in its forced outage rate.

OPG has completed and is currently working on several major capital projects to maintain or develop greater generation capacity, but insufficient or inadequate upfront knowledge and planning have caused some significant project delays and additional costs. It could better follow and address engineering assessments, recommendations and any lessons learned on a timely basis to avoid future risks and increased costs.

While OPG has a strong dam safety program in place, it should continue to review its dam safety practices to prevent or reduce the high number of public safety events.

OVERALL RESPONSE FROM ONTARIO POWER GENERATION

As a learning organization, continuous improvement is fundamental to OPG's performance. The recommendations presented by the Auditor General create new opportunities for targeted improvements across OPG's Hydroelectric Operations and will further support the value these assets provide to Ontario ratepayers.

Hydroelectric power has served Ontario's electricity needs for well over a century and remains a critical contributor to the provincial energy mix.

Together with our predecessor companies, OPG has more than 115 years of experience as developers and stewards of hydroelectric power. We continue to do this job safely and with the greatest attention to delivering value for money for Ontario ratepayers.

OPG is committed to supporting Ontario's economic growth and its pathway to a clean energy future by:

- maintaining a productive and transparent relationship with market regulators in the operation of its facilities and in a manner that complies with market requirements within the province;
- exploring new hydroelectric development opportunities in partnership with Indigenous communities which serve the needs of Ontario;
- implementing enhanced engineering processes and tools to monitor, identify and document asset system health issues along with corrective actions and recommended timelines to minimize risk and improve fleet/station performance;
- appropriately monitoring, tracking and completing maintenance work on its hydroelectric generating assets to strengthen reliability and operational efficiency;
- identifying further opportunities to improve the reliability of OPG's hydroelectric facilities;
- managing its project portfolio and executing hydroelectric projects safely, on time, and on budget; and
- ensuring its existing and future assets provide the greatest value to Ontario taxpayers and ratepayers.

OPG's greatest priority is the safety of its employees and the public. Underpinning this commitment are strong safety systems, robust emergency plans and continuous efforts to keep the public informed of its many dam safety controls.

2.0 Background

2.1 Overview of Hydroelectric Generation

2.1.1 Hydroelectric Generating Stations

Hydroelectric generation is the process of using hydro (water) flow to produce electricity. Specifically, hydroelectric generating stations use flowing water to spin a turbine, which in turn spins a generator that produces electricity. The generated electricity is then sent along power lines to be used by consumers to power their houses, businesses, and vehicles, among other things.

Each station can house multiple turbines (or generating units) depending on the station design and if there is sufficient water to run multiple units at once.

Appendix 1 provides a layout of a typical hydroelectric generating station, including the pieces of equipment and components it comprises.

2.1.2 Hydroelectric Generation in Ontario's Energy Supply Mix

Hydroelectric energy (also known as waterpower), like solar and wind power, is considered a form of renewable energy because water flowing through a hydroelectric generating station is not consumed in the process of generating electricity and is typically returned to its waterway.

In 2009, the *Green Energy Act* was enacted with an aim to increase Ontario's use of renewable energy. Since then, renewable energy sources (including hydro, wind, solar and biofuel) along with nuclear and gas-fired resources have replaced Ontario's coal-fired power plants for electricity generation, with the last one in Thunder Bay shut down in 2014. **Figure 1** shows the change in Ontario's energy supply mix from 2007 to 2022 in five-year intervals. Hydroelectric power accounted for about 23% to 25% of Ontario's energy supply mix over that period.

Figure 2 provides a jurisdictional comparison of the energy supply mix of selected provinces in Canada.

Ontario has a more diversified energy supply mix than other provinces, with no one resource type comprising more than 35% of Ontario's total installed capacity, which is the maximum amount of electricity that can be produced by generators.

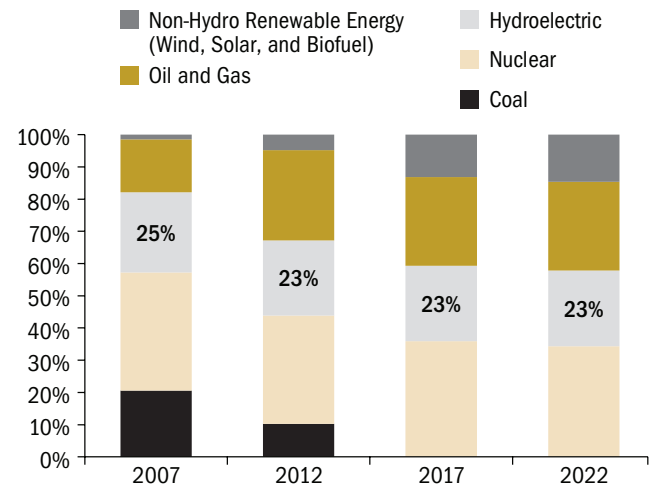
Ontario, and Canada in general, has seen a continued push toward using both nuclear and renewable energy sources to reduce reliance on fossil fuels, oil and gas in order to decrease carbon emissions. While hydroelectric power is considered as a form of renewable energy, the construction of generating stations and dams still produce carbon emissions and impact local wildlife species that rely on the waterways. Thus, such construction is subject to environmental assessments by various parties like the Ministry of Environment and the Ministry of Natural Resources and Forestry.

In April 2022, Ontario released its Low-Carbon Hydrogen Strategy, which aims to use electricity from low-carbon sources (such as hydroelectric and nuclear energy) to generate hydrogen gas for transportation, industrial, commercial and residential purposes. As such, an increasing demand for renewable energy, including hydroelectric generation, is expected to continue into the future. The future of hydroelectric generation is discussed in **Section 4.1**.

Furthermore, the future electrification of Ontario's transportation sector—which OPG estimates accounted for approximately 30% of carbon emissions in the province in 2021—will increase Ontario's demand for

Figure 1: Ontario's Energy Supply Mix by Fuel Type, 2007, 2012, 2017 and 2022

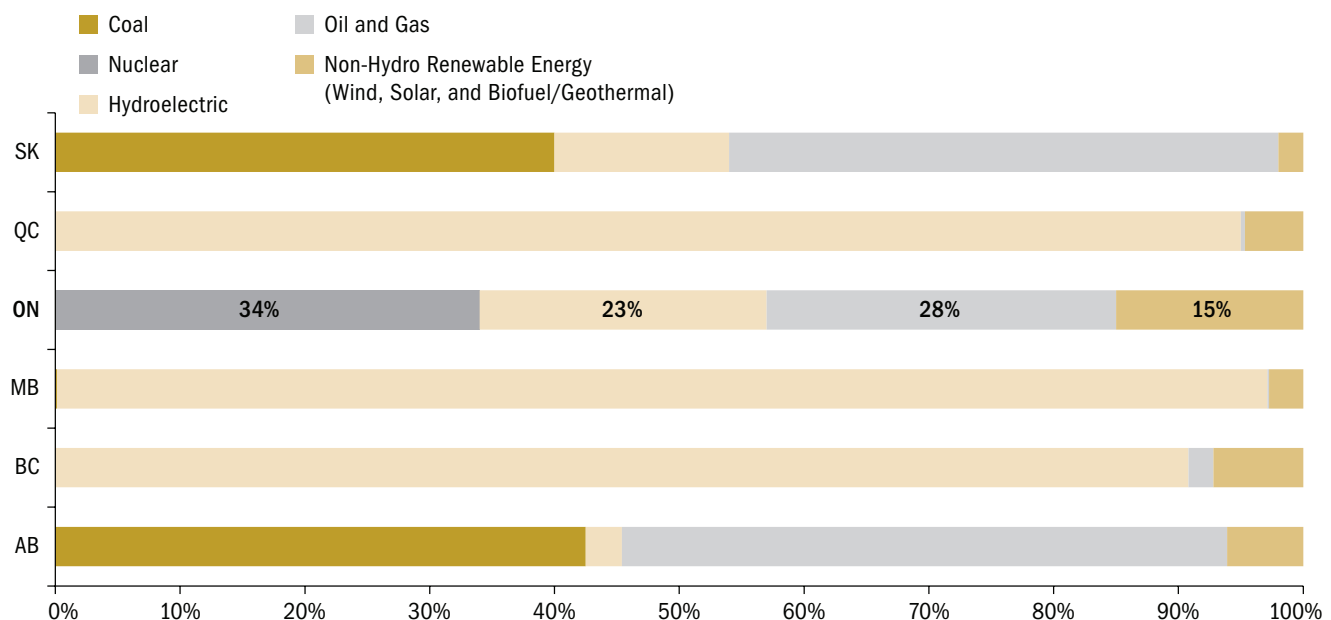
Source of data: Independent Electricity System Operator



Note: The percentages were calculated based on installed capacity, which is the maximum amount of electricity that can be produced by generators. The data was reported based on calendar year.

Figure 2: Energy Supply Mix of Selected Provinces in Canada by Fuel Type, 2022

Prepared by the Office of the Auditor General of Ontario



Note: The percentages were calculated based on installed capacity, which is the maximum amount of electricity that can be produced by generators. The data was reported based on calendar year.

electricity. As such, more electricity will be needed to support the province's increasing transition from fossil-fuelled vehicles to electric vehicles.

2.2 Overview of Ontario Power Generation (OPG)

2.2.1 OPG's Role and Organizational Structure

Ontario Power Generation (OPG) is an Ontario-based corporation whose principal business is to generate and sell electricity. OPG was established under the *Ontario Business Corporations Act* in 1999 and is wholly owned by the Province of Ontario.

OPG produces more than half the electricity in Ontario from its various energy sources, including hydro, nuclear, gas and biofuel. OPG defines its purpose as providing low-cost power in a safe, clean, reliable and sustainable manner for the benefit of its customers and sole shareholder (the Province of Ontario). **Appendix 2** provides OPG's organizational chart. As of December 31, 2021, OPG had approximately 8,800 employees with about 1,250 (or 14%) of them involved with OPG's hydroelectric operations, many of them being tradespeople and operators.

Figure 3: OPG's Generation Facilities and Capacity by Energy Source, as of March 31, 2022

Source of data: Ontario Power Generation

Energy Source	Number of Stations	Installed Generating Capacity in Megawatts (MW) ¹	% of Total
Hydroelectric	66	7,483 ²	51
Nuclear	2	4,850	33
Gas	1	2,100	14
Biomass	1	205	1
Solar	1	44	<1
Total	71	14,682	100

1. Installed capacity is the maximum amount of electricity that can be produced by generators when they are all in service.
2. See **Appendix 3** for a breakdown of installed capacity by hydroelectric generating station.

2.2.2 OPG's Generation Facilities

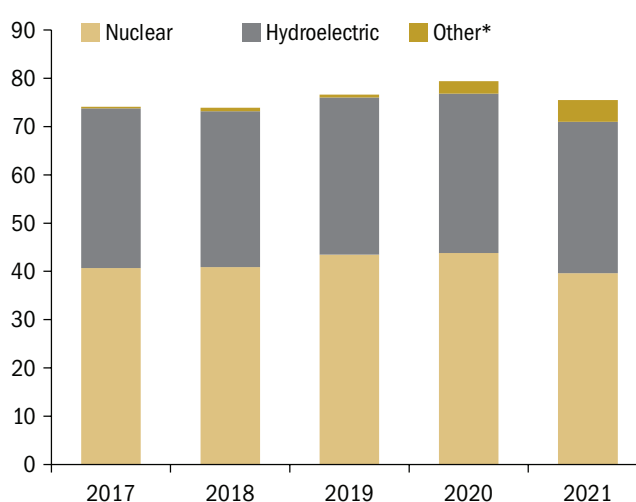
Figure 3 provides a breakdown of OPG's generation facilities and generating capacity (or installed capacity), which is the maximum amount of electricity that can be produced by a generating station if it was running 100% of the time at its maximum ability. As of March 31, 2022, OPG had a total of approximately 14,700 megawatts (MW) of in-service capacity across all of its generation facilities, excluding subsidiaries. Hydroelectric generation represents the largest installed capacity at almost 7,500 MW (or 51%) of OPG's total capacity, and nuclear is second at 4,850 MW (or 33%), as shown in **Figure 3**.

Most of OPG's 66 hydroelectric generating stations have been operating for a number of years; many have operated for over 50 years, while some of the oldest ones have operated for 100 or more years. These stations vary significantly in size and generating capacity. **Appendix 3** provides additional details related to each generating station.

Figure 4 provides a breakdown of OPG's actual generation of electricity by energy source from 2017 to 2021. In 2021, OPG generated approximately 78 million megawatt hours (MWh) of electricity in

Figure 4: OPG's Annual Electricity Generation by Energy Source, 2017–2021 (millions of megawatt hours)

Source of data: Ontario Power Generation



* Other generation includes thermal and solar.

Ontario. Nuclear accounted for the largest amount of OPG's actual generation, approximately 51% (or almost 40 million MWh), while hydroelectric accounted for 37% (or about 31 million MWh). The breakdown between nuclear and hydroelectric generation has been relatively consistent each year.

While hydroelectric has the largest production capacity at OPG, nuclear accounts for a higher amount of OPG's actual generation (see **Figure 4**) because OPG's nuclear reactors are designed to operate consistently at full power and are not suitable for reacting to rapid or frequent changes in demand. As such, they provide a base level of electricity to the province while other sources (like hydro) are used to alter production depending on demand. Hydroelectric generation is one of the most flexible forms of generation because it can use available water to meet varying system needs, and can be ramped up or down fairly quickly relative to most other forms of generation, typically within minutes.

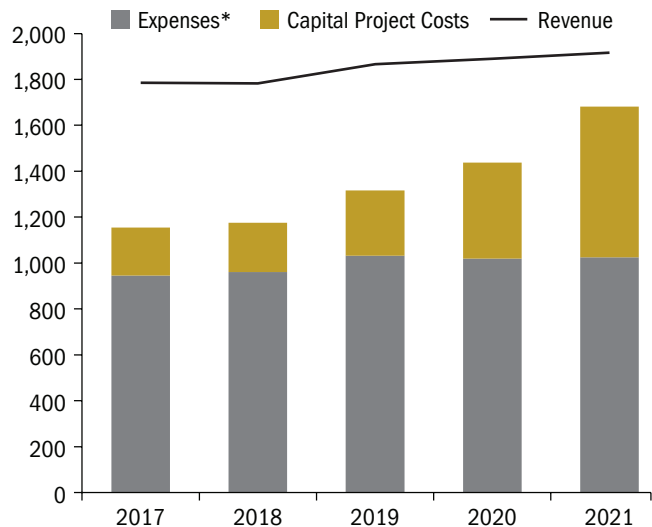
2.3 OPG's Revenue and Expenditures for Hydroelectric Generation

Figure 5 shows OPG's revenue and expenditures related to its hydroelectric operations over the last five years. OPG earns most of its revenue from ratepayers (electricity consumers) in Ontario, mainly based on rates approved by the Ontario Energy Board (OEB) or prices specified in its long-term energy contracts with the Independent Electricity System Operator (IESO). Between 2017 and 2022, OPG's annual hydroelectric revenue has been fairly stable in the \$1.8 to \$1.9 billion-dollar range.

Annual hydroelectric expenses have also remained relatively consistent in the \$950 million to \$1.03 billion-dollar range over that period. However, OPG's capital costs related to its hydroelectric operations have increased by 215%, totalling \$656 million in 2021. Capital costs accounted for about 39% of OPG's total hydroelectric expenditures (excluding interest expenses and income taxes) in 2021, an increase from

Figure 5: OPG's Hydroelectric Generation Revenue and Expenditures, 2017–2021 (\$ million)

Source of data: Ontario Power Generation



* Hydroelectric generation expenses include fuel expenses and charges, operations, maintenance and administration costs, and depreciation expenses. Income taxes and interest are excluded.

18% in 2017. Major contributors to capital costs in 2021 were:

- \$215 million for an ongoing dam safety project at the Little Long reservoir dam, which is located in the same area as Little Long Generating Station (north of Kapuskasing), to increase the amount of water that can be released;
- \$53 million at Sir Adam Beck I Generating Station (in the Niagara region) for an ongoing project to overhaul and replace generating units that are near their end of life; and
- \$59 million to redevelop Calabogie Generating Station (in Greater Madawaska) that will more than double the capacity of generation from the original station, which was significantly damaged in 2018 due to a tornado in the region.

Maintenance work orders and capital projects are discussed further in **Section 4.3** and **Section 4.6**, respectively.

Appendix 4 contains a glossary of terms related to OPG and hydroelectric generation.

3.0 Audit Objective and Scope

Our audit objective was to assess whether Ontario Power Generation (OPG) has effective systems and procedures in place to:

- plan hydroelectric asset management and maintenance processes in an efficient, cost-effective and timely manner;
- execute and manage hydroelectric assets, maintenance projects, and dam and public safety programs in accordance with applicable policies, standards, regulatory requirements and best practices; and
- monitor, measure and report on the performance and effectiveness of hydroelectric operations and activities.

In planning our work, we identified the audit criteria (see **Appendix 5**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. OPG senior management reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit from January 2022 to October 2022, and obtained written representation from OPG management that, effective November 21, 2022, they have provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

We performed procedures at OPG including but not limited to the following:

- interviewing senior management responsible for overseeing hydroelectric asset management and maintenance processes;
- interviewing operations staff and engineers responsible for managing and completing ongoing maintenance and capital projects;
- reviewing applicable policies, guidelines, legislation and regulations related to hydroelectric operations in Ontario;

- reviewing OPG Board of Director meeting minutes and packages;
- analyzing hydroelectric generation, outage, capacity and spilling data;
- analyzing maintenance and operation work order data;
- reviewing a sample of inspection and assessment reports related to generating stations and dams, including reports on recently completed and ongoing capital projects; and
- reviewing strategic plans, annual reports, and internal and external performance measure targets and results.

We also conducted site visits at seven hydroelectric generating stations in Ontario (as specified in **Appendix 3**), where we toured the stations and nearby dams and interviewed management, operations staff and station engineers. The sites we selected include those that have recently undergone or are undergoing capital projects, generate a significant amount of hydroelectric power, and are spread across different regions and waterways of the province.

As well, we met with various stakeholders that OPG regularly works with, including:

- the Ontario Energy Board (OEB) to discuss rate applications and revenue mechanisms for regulated hydroelectric generating stations;
- the Independent Electricity System Operator (IESO) to discuss non-regulated hydroelectric rate-setting processes and to review provincial electricity grid supply and demand forecasts;
- the Ministry of Energy to discuss hydroelectric strategy and opportunities; and
- the Ministry of Natural Resources and Forestry to discuss dam safety.

In addition, we met with and reviewed information from various individuals and stakeholders involved or familiar with hydroelectric operations in Ontario, including:

- The Ontario Waterpower Association, a not-for-profit member-based organization that promotes

the sustainable development of waterpower resources in Ontario. Membership includes generators (including OPG), engineering firms, environmental consultants and other organizations that share the interest of advancing waterpower in Ontario.

- Hatch Limited, a global multidisciplinary management, engineering and development consultancy. Hatch supplies engineering, project and construction management, business consulting and operational services in the energy, mining and infrastructure sectors.
- Former OPG and IESO staff.

We reviewed relevant research, studies and reports in other jurisdictions to identify risk areas, performance benchmarking, best practices, and opportunities in the areas of hydroelectric asset management and maintenance. Reports include those published by utility-based organizations such as Electricity Canada (formerly the Canadian Electricity Association), the Electric Utility Cost Group, and the Centre for Energy Advancement through Technological Innovation.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

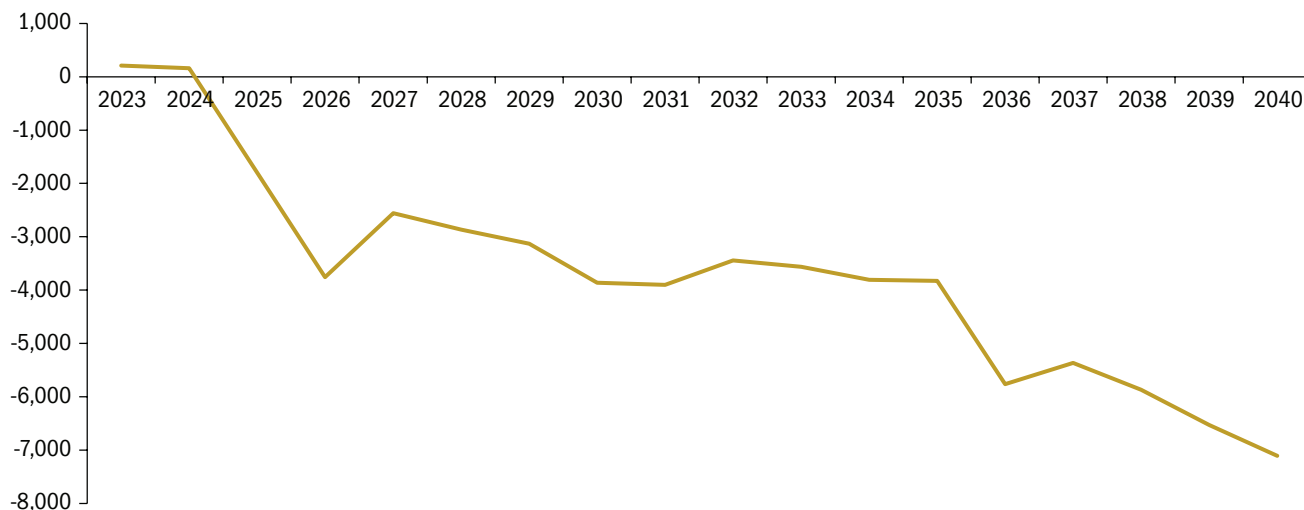
4.1 OPG Has Not Fully Utilized Its Hydroelectric Generating Capacity

In Ontario, demand for electricity, including hydroelectric power, is expected to increase in the future for various reasons, including:

- **Growing reliance on renewable energy sources**—Ontario has been moving toward using more renewable energy generation, which is sustainable and environmentally friendly. Besides wind and solar power, hydroelectric power is also considered as a form of renewable energy.
- **Increasing usage of electricity instead of fossil fuels**—This is generally referred to as the process of electrification, whereby technologies that use fossil fuels (such as coal, oil and natural gas) are replaced with technologies that run on electricity. For example, the automobile industry has been developing and producing electric vehicles that rely on electricity instead of gasoline.
- **The closure of a major nuclear station**—One of the province's major nuclear stations, Pickering Nuclear Generating Station, is scheduled to be shut down in 2024/25, although in September 2022 the province announced it would seek approval from the Canadian Nuclear Safety Commission to extend that to 2026. As well, Ontario might consider refurbishing this station, which could allow the station to remain in service for an additional 30 years. This station has a generating capacity of approximately 3,100 megawatts (MW) and if it is shut down, that lost supply will have to be made up by other stations and energy sources, including hydroelectric generation.
- **Population growth**—Ontario's population is projected to grow by almost 5.6 million people (or 37.7%) by 2046. An increase in population will lead to an increase in demand for electricity.

Figure 6: Forecasted Electricity Generating Capacity, 2023–2040 (megawatts)

Source of data: Independent Electricity System Operator



Note: This figure shows capacity surplus or shortfall, which is assessed based on demand forecast, supply and transmission outlook. Positive means surplus and negative means shortfall. The capacity shortfall represents the total amount of generating capacity that will not be sufficient to meet energy requirements, in which case Ontario will require new resources and/or imports to meet demand.

In December 2021, the Independent Electricity System Operator (IESO) released its annual report which includes a forecast of electricity supply and demand. As seen in **Figure 6**, the IESO predicts that Ontario, which historically has had surplus electricity, will experience a shortfall beginning in 2025 and continuing until at least 2040, meaning Ontario will have to fill the gap through various sources such as importing power from other jurisdictions, utilizing unused capacity from existing generating stations, and/or building new generating stations.

4.1.1 OPG Has Not Fully Utilized Its Hydroelectric Generating Capacity Over Seven Years

Each hydroelectric generating station has an installed generating capacity, which represents the maximum capacity at which a station is designed to generate. However, the actual electricity production of each generating station depends on numerous factors including water availability and flow, demand for electricity, and planned and unplanned outages (that is, generating stations are out of service for a period of time).

We reviewed OPG's total installed generating capacity and compared it to the actual generation over the

seven-year period from 2015 to 2021. The results of this analysis are shown in **Figure 7**. We found that over this period, OPG was only using between 48% and 51% of the stations' total installed capacity.

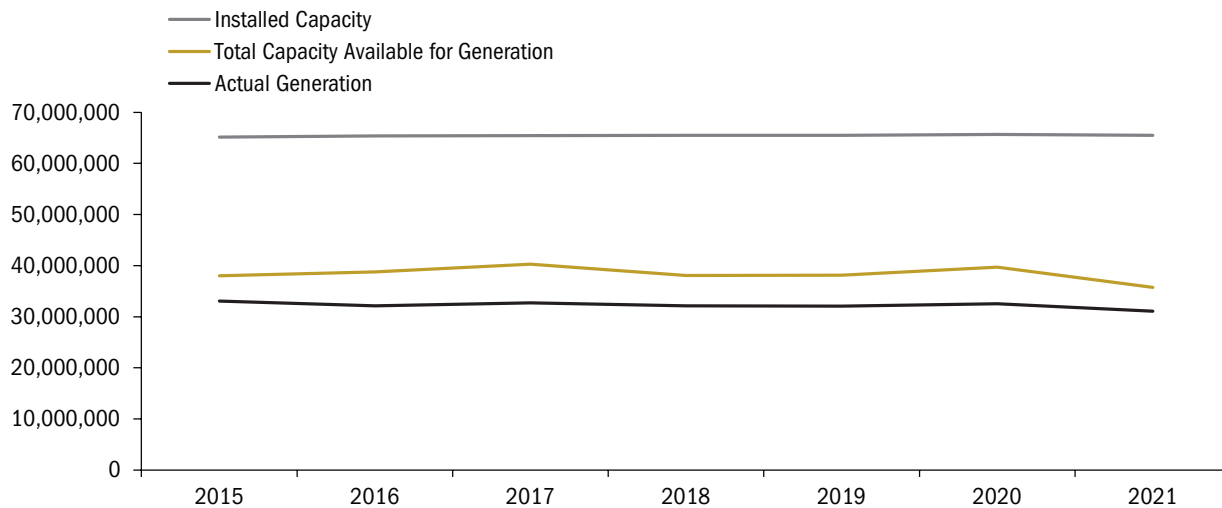
We also reviewed OPG's total hydroelectric generation and compared it to what OPG estimated it could have produced considering factors such as water levels and outages. We found that over the seven-year period from 2015 to 2021, OPG could have generated approximately 269 million MWh of electricity. However, OPG only generated 226 million MWh of electricity, meaning that about 43 million MWh of generating capacity went unused over the last seven years (see **Figure 7**). In 2021 alone, OPG could have generated an additional 4.6 million MWh of electricity, or enough to power over 540,000 Ontario households for a year.

We found that OPG has not conducted a detailed analysis of why there is a significant difference between installed capacity and actual generation. However, OPG informed us that there are multiple reasons for why actual generation is lower than the installed capacity. For example:

- Ontario does not have the amount of water required to run all hydroelectric generating units at full capacity for 24 hours a day, seven days a

Figure 7: Utilization of OPG's Hydroelectric Generating Capacity, 2015–2021 (megawatt hours)

Source of data: Ontario Power Generation



week, and water availability and flow depend on seasonal factors that could also vary from year to year.

- Some OPG generating stations were built as intermediate or peaking facilities, meaning that they were designed and constructed to generate only during periods of higher demand. There was no intention of having them generating consistently and it would not be possible based on water availability, as discussed above.
- The installed capacity does not consider that units have to be taken down for maintenance and repairs, discussed further in **Section 4.3**, and could also be impacted by outages, as discussed in **Section 4.5**.
- There are certain environmental and recreational water management considerations that OPG must adhere to. For example, at its large Sir Adam Beck stations in Niagara region, OPG is required to ensure hydroelectric generation does not impact the ability of ferries to operate during summer months.

OPG also informed us that one of the key reasons for underutilizing its hydroelectric generating capacity is low demand. The Independent Electricity System Operator (IESO) is responsible for determining how much electricity is needed across the province as well as which generators should increase and decrease

production, and the IESO would have directed OPG to limit production over the years mainly due to low demand for electricity in the province.

We asked OPG to estimate the breakdown of how its installed capacity of 7,500 megawatts (MW) was used (see **Figure 8**). OPG noted that about 40% of its installed capacity (or about 3,000 MW) could not be utilized due to insufficient water availability. Another 9% (or 695 MW) could not be utilized due to surplus power conditions or other system constraints that resulted in the spilling of water, and about 2% (140 MW) was not used due to outages.

Figure 8: Utilization of OPG's Installed Capacity of Hydroelectric Generation, Average of 2015–2021

Source of data: Ontario Power Generation

	Megawatts*	%
Actual generation	3,700	49
Not able to generate due to insufficient water availability	3,000	40
Not able to generate due to spilling of water in response to surplus power conditions or other system constraints	695	9
Not able to generate due to outages	140	2
Total installed capacity	7,535	100

* Numbers are approximate and rounded.

While generating stations cannot practically operate at 100%, due to planned and unplanned outages, water availability and fluctuations in demand for electricity in the province, OPG still has a significant amount of unused capacity each year. As such, OPG's hydroelectric generating stations can be more effectively utilized to some extent to help meet future electricity demand, which is expected to increase for various reasons including the potential closure of Pickering Nuclear Generating Station (responsible for approximately 3,100 MW of generation) in 2024/25.

RECOMMENDATION 1

To maximize the use of current hydroelectric generating stations and prepare for increased energy demands in the future, we recommend that Ontario Power Generation work with the Ministry of Energy and the Independent Electricity System Operator to develop both a short-term and long-term strategy to utilize the unused production capacity that exists within its current hydroelectric generating stations while also pursuing new hydroelectric opportunities.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) remains committed to delivering value for money for Ontario ratepayers, and as such, will continue to ensure the safe and efficient operation of its hydroelectric stations.

As a market participant, OPG is required to offer into the market all of the electricity it can produce, which is impacted by factors such as water availability, safety and regulatory requirements, proper maintenance, and station capacity. While OPG strives to ensure its units are available to be offered into the market, it is only one of a number of generators in the province, and it is the Independent Electricity System Operator (IESO), as the market/system operator, that ultimately decides which generation is used by the electricity system based on its dispatch methodology and regulations. Should the

IESO undertake any future review of the unused production capacity that exists within OPG's hydroelectric generating stations, OPG would participate in such a review.

OPG will continue to seek opportunities to improve and maintain the reliability of its hydroelectric stations to ensure its units are available to meet Ontario's rising demand for renewable energy.

As a steward of the province's hydroelectric generating stations, OPG understands the long-lasting benefits this technology can deliver for local communities and economies, for Indigenous partners, for the environment, and for ratepayers. OPG agrees with the Auditor General that there is a need to examine new hydroelectric development opportunities in the province and is committed to working with industry partners and Indigenous communities in this regard.

4.1.2 OPG Needs to Strengthen Its Working Relationship with the IESO in Exploring Ways to Meet Future Electricity Shortfalls, Given the Challenges and Uncertainties of Building New Stations

While OPG is Ontario's largest power generator, the Independent Electricity System Operator (IESO) is responsible for managing and planning for the province's electricity supply from various energy sources (including hydroelectric power) to meet future needs. Therefore, it is critical that OPG and the IESO have a strong working relationship, especially when both parties are exploring additional hydroelectric opportunities in northern Ontario as directed by the Ontario government.

In response to the forecasted shortfall in electricity mentioned in **Section 4.1.1**, in January 2022, the Ontario government asked OPG to examine opportunities for new hydroelectric development in northern Ontario and to share that information with the Ministry of Energy as well as the IESO. The Ontario government also asked the IESO to identify the transmission infrastructure and costs associated with

enabling these new hydroelectric stations along with the value of these to the system.

OPG estimates there is unbuilt hydroelectric generation capacity of 3,000 to 4,000 megawatts (MW) in northern Ontario. OPG also noted there is up to an additional 1,000 MW in unbuilt capacity in southern Ontario. While unbuilt hydroelectric capacity exists in Ontario, developing such capacity is challenging and also involves many uncertainties in terms of timing and cost. Specifically:

- Developing new stations will take many years because of the significant amount of work involved, which includes preparing environmental assessments and designs, consulting with Indigenous communities, constructing stations and related infrastructure such as dams, and installing transmission lines to connect the generating stations to the provincial electricity grid. For example, one of the projects OPG recommends for consideration would only provide approximately 80 MW of daily peaking power, but it would likely take over five years to put the station in service. As a result, this project would only be a small step toward addressing the predicted power shortfall in Ontario. Other, larger projects offering over 1,000 MW of daily peaking power could take 10 or more years to complete.
- Developing hydroelectric generation in northern Ontario will be costly. OPG estimated that such costs can vary significantly, from \$5 million to \$22 million per MW of power from a potential station, depending on location and site conditions. Estimated costs will become even higher after considering additional transmission-related costs for stations.
- Working on multiple projects simultaneously is challenging because the sector has limited vendors for OPG to choose from.

With recent government direction for OPG to collaborate with the IESO on hydroelectric opportunities in northern Ontario, it is critical for OPG and the IESO to have open two-way communication to avoid repeating an incident where a lack of co-ordination between these two parties resulted in wasted ratepayer money.

We found that in 2015, OPG was looking to develop a small (5.8 MW) hydroelectric generating station south of Timmins. This project was part of the IESO's renewable procurement program, which allowed generators to bid for project funding through an open process. However, OPG's bid for the project was subsequently rejected by the IESO, who cited a lack of transmission capability in the region as the reason. Based on our review of OPG's Board of Director minutes, it appears that both OPG management and its Board of Directors were surprised by the IESO's decision and related rationale. As a result of the bid rejection, OPG had to write off approximately \$6.2 million in costs associated with putting together the bid, including engineering and architectural assessments.

RECOMMENDATION 2

To economically and efficiently pursue new hydroelectric energy projects in the future, we recommend that Ontario Power Generation:

- work with the Independent Electricity System Operator (IESO) to develop a strategy to allow for open communication during the selection of new development projects; and
- consult all potential partners, including Hydro One, the IESO and third-party vendors, regularly to assess the ongoing viability of project development.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General that open communication is essential to support the Province during the selection of any new hydroelectric development projects.

OPG is committed to working with Indigenous communities and industry partners in the development process. OPG has engaged with the Province and the Independent Electricity System Operator (IESO) regarding the development of new hydroelectric projects and will support the development of strategies that will serve the needs of Ontario during this period of energy transition. OPG will

also further engage with industry partners including Hydro One to support the development of a bulk transmission network strategy to enable new generation.

Consistent with the values and priorities outlined in its Reconciliation Action Plan, OPG believes that any strategies to procure new hydroelectric energy must consider how hydroelectric developments can contribute to broader provincial objectives related to Indigenous reconciliation. It must also align with provincial planning as it pertains to Northern Ontario development and Ontario's Critical Mineral Strategy. OPG is committed to sharing information and collaborating with Indigenous communities, the Province and industry partners to work towards securing Ontario's clean energy future through hydroelectric development opportunities.

4.2 OPG Recorded Approximately \$730 Million in Revenue Since 2015 for Spilled Water without Generating Any Electricity Due to Excess Power Supply in Ontario

During periods when the province has low electricity demand and a surplus of electricity supply, OPG may be instructed by the Independent Electricity System Operator (IESO) to reduce hydroelectric generation by spilling water (allowing water to bypass a station without generating any electricity) as there were no remaining options to store hydroelectric energy for future use.

Since at least 2013, Ontario has been experiencing surplus baseload generation (SBG) conditions. These conditions occur when the amount of electricity that could be produced by baseload facilities (which are typically designed to run at a steady output 24 hours a day to meet the minimum demand for electricity) exceeds the demand for electricity, resulting in surplus electricity supply. The amount of SBG related to OPG's hydroelectric generation in 2013 was approximately 1.7 million megawatt hours (MWh); this increased

steadily to 5.9 million MWh in 2017, before decreasing to 1.9 million MWh in 2021. Ontario's hydroelectric baseload facilities include five of OPG's hydroelectric generating stations, including Sir Adam Beck II and RH Saunders which are two of OPG's largest hydroelectric stations.

The IESO manages SBG conditions mainly by instructing some baseload facilities, such as OPG's hydroelectric generating stations, to reduce (curtail) production by spilling water or to completely shut down. Reducing hydroelectric generation is typically used as the first option to respond to SBG conditions in Ontario, as hydroelectric generation facilities can respond quickly, typically within minutes, to meet varying demand (as noted in **Section 2.2.2**).

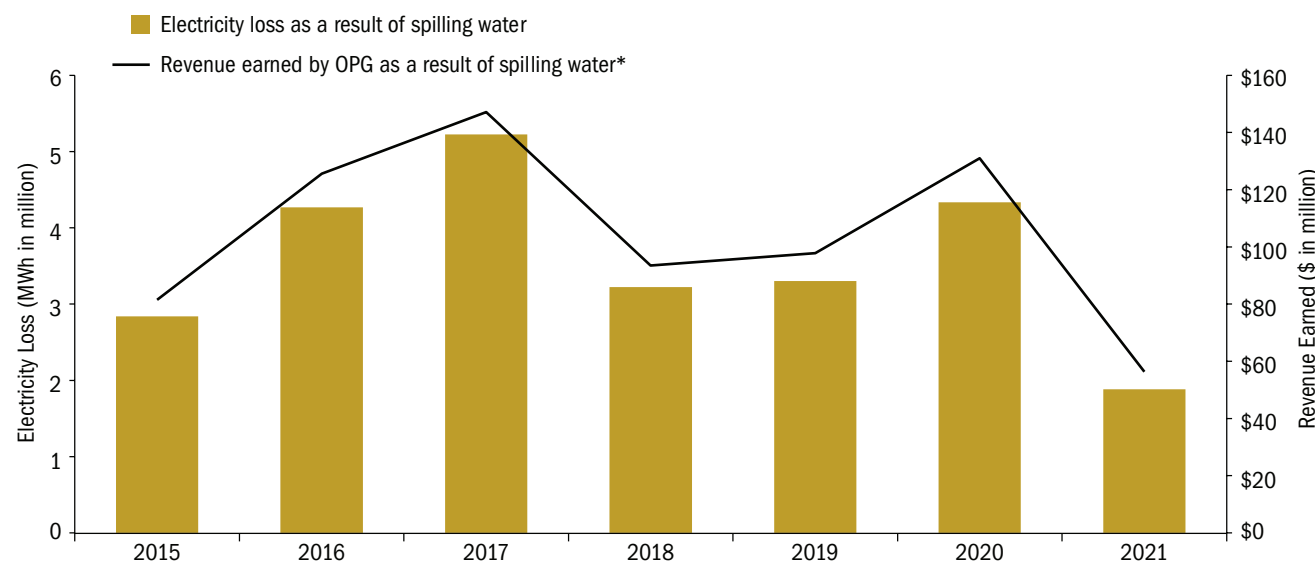
As discussed in **Section 4.7**, of the 66 hydroelectric stations operated by OPG, 54 of them are subject to rate regulation by the Ontario Energy Board (OEB) and are compensated at a rate that is set based on a forecast of the amount of electricity generation, not considering any potential reductions due to SBG. This means that OPG receives a fixed rate (currently \$43.88 per megawatt hour [MWh]) for the forecasted amount of electricity it expects to generate in the year. When OPG has to spill water to reduce or stop its production of hydroelectric generation due to SBG conditions, it still receives the rate for forgone production as compensation because the need to spill water is out of its control.

We reviewed the amount of surplus electricity lost as a result of spilled water at OPG's regulated stations and the amount of related SBG spill revenue earned by OPG for the seven-year period from 2015 to 2021 (see **Figure 9**). We found that over this time frame, the amount of water spilled by OPG could have been used to generate 25 million MWh of electricity. OPG still recorded approximately \$730 million in revenue related to the spilled water as a result of SBG conditions.

While the amount of surplus electricity lost as a result of spilling water has dropped in 2021 due to increasing demand, from the highest of about 5.2 million MWh in 2017, the amount of electricity lost in 2021 still amounted to 1.9 million MWh, which is enough to provide electricity to approximately 220,000 households for a year.

Figure 9: Electricity Loss and Revenue Earned by OPG Related to Spilled Water, 2015–2021

Prepared by the Office of the Auditor General of Ontario



* Revenue for spilled water is only applicable for OPG's 54 regulated hydroelectric generating stations (see Section 4.2) and is net of the gross revenue charge (a set of taxes and charges paid by the organization on gross revenue).

We reviewed rate applications submitted by OPG to OEB as well as documentation related to compensation for spilling water. When OPG submits cost and production forecasts to OEB, it does so on a cost-recovery basis plus a marginal rate of return. That is, OPG estimates both the costs (fixed and variable) of running its regulated hydroelectric stations and the amount of electricity expected to be generated, and then requests the revenue required to cover those costs plus a return on equity (ROE) rate of approximately 9% on its capital investments. The OEB-approved revenue requirement is divided by the forecasted production to establish a per MWh rate. However, there is no separate mechanism that adjusts the revenue rate when water is being spilled to reduce or stop hydroelectric generation.

Therefore, the current compensation method does not appear to be fully achieving value for money for ratepayers. When OPG's hydroelectric stations are on spilling conditions without generating any power, OPG incurs limited variable costs of operating and running its stations. Therefore, it is reasonable that the compensation should consider fixed costs, and there should be a continued examination of limiting variable costs. The built-in approximate ROE rate of 9% for OPG should also be reviewed to see if it is practical to exclude this

when OPG is spilling water. This is especially important given that OPG has consistently been in spilling conditions since at least 2015.

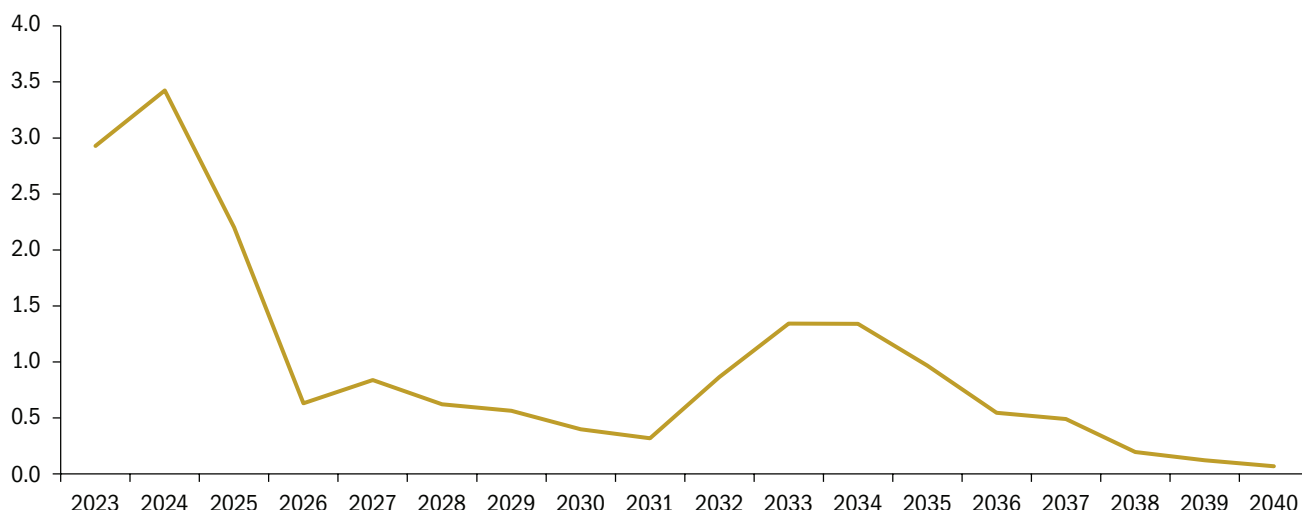
While the IESO expects the amount of SBG to drop in the future, it estimates that the province will continue to experience SBG conditions until 2040 (see Figure 10). These conditions may lead to OPG continuing to reduce hydroelectric generation and spill water in instances where the water cannot be stored. Therefore, it is important to review and reassess the current reimbursement or compensation method related to SBG to ensure ratepayers are receiving value for money.

RECOMMENDATION 3

To protect the interests of Ontario ratepayers, we recommend that Ontario Power Generation collaborate with the Independent Electricity System Operator and the Ontario Energy Board to assess options for more cost-effective ways to be compensated for surplus baseload generation conditions, such as covering only fixed costs when hydroelectric generating stations are requested to spill water in order to curtail production.

Figure 10: Forecasted Surplus Baseload Generation, 2023–2040 (millions of megawatt hours)

Source of data: Independent Electricity System Operator



Note: Surplus baseload generation (SBG) occurs when electricity supply from baseload generating stations (including nuclear stations and certain hydroelectric stations) exceeds demand.

RESPONSE FROM ONTARIO POWER GENERATION

The Ontario Energy Board (OEB) has reviewed and approved the cost-effectiveness and ratepayer value of the methodology used to compensate OPG for its spill as a result of the actions taken by the Independent Electricity System Operator (IESO) in response to Surplus Baseload Generation (SBG) conditions. Should the OEB undertake any future review of the compensation methodology, OPG would participate in any such review. Currently, the compensation OPG receives when it reduces output to help address SBG excludes OPG's variable cost, a water rental charge, which applies only when OPG generates electricity.

SBG is a system condition that is managed by the IESO. When SBG conditions occur, OPG responds to IESO instructions to provide the IESO with flexibility, including instances when OPG hydroelectric facilities reduce output to assist the IESO in managing SBG. By reducing output at its hydroelectric facilities, OPG helps the IESO avoid more inefficient and costly responses to SBG.

4.3 Aging of Hydroelectric Stations and Equipment Has Led to a Continuous Backlog of Work Orders Which Could Result in Increased Maintenance Costs

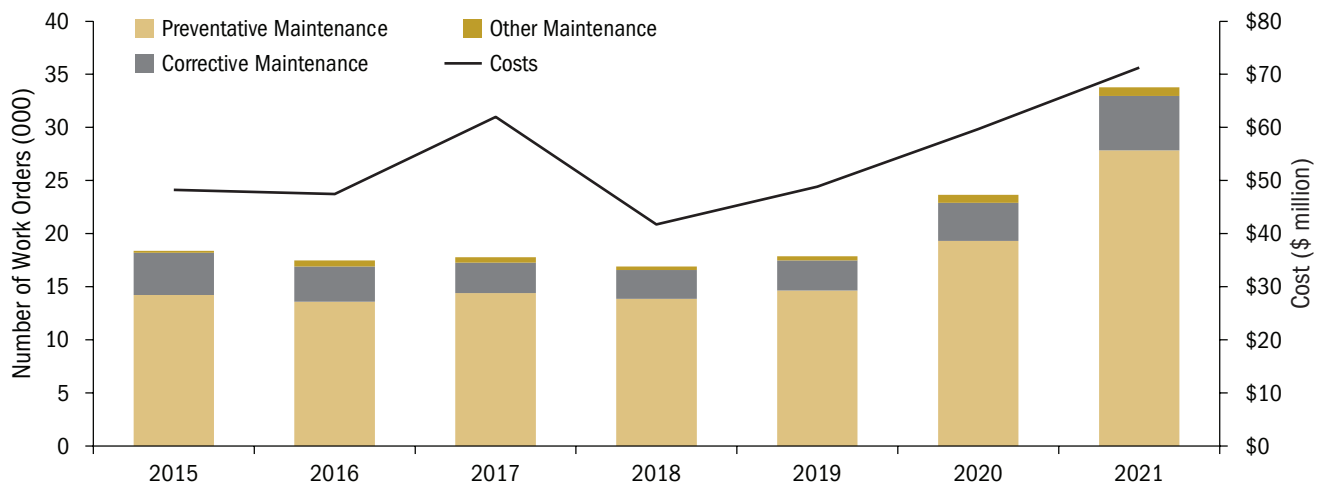
As shown in **Appendix 3**, the majority of OPG's hydroelectric generating stations (86%) have been in service for over 50 years, and in some cases for over 100 years. While a generating station's structure can have an indefinite life, there is an ongoing need to conduct adequate and timely maintenance work on the station's equipment and physical structure to ensure the station can be operated continuously in an economic, efficient and safe manner.

Increase in Maintenance Work Orders and Costs

Maintenance work orders and related costs have increased, which in turn has contributed to a continuous backlog of work orders. OPG uses various data systems and software to track and report on maintenance work, including systems that allow OPG to track work orders and related costs. We obtained and analyzed data related to OPG's hydroelectric generation work orders for the last seven years (2015–2021), which include requests for such work as preventative

Figure 11: Total Hydroelectric Generation Maintenance Work Orders and Costs, 2015–2021

Source of data: Ontario Power Generation



Note: This figure shows data related to Ontario Power Generation's (OPG's) hydroelectric generation work orders that were started in each year based on a report generated through OPG's work order system. This figure includes all types of work orders, including but not limited to preventative maintenance, corrective maintenance, project, and expedited work orders.

and corrective maintenance. Work orders can be initiated by different parties within OPG, including but not limited to its engineers, maintenance staff and/or operations staff.

As seen in **Figure 11**, we found that the number of maintenance work orders increased by 83% over the last seven years (from approximately 18,400 work orders in 2015 to about 33,800 in 2021). The related cost of these work orders increased by 48% (from a total of \$48.2 million to \$71.2 million), although OPG informed us that part of the increase is a result of more accurately and consistently capturing costs in its work management system.

We reviewed the major contributors to these increases and noted that the number and cost of preventative maintenance work orders in particular significantly grew from 2015 to 2021. As seen in **Figure 12**, the number of these work orders increased by over 95% (from about 14,230 to 27,850), with the related cost increasing by 160% (from approximately \$13 million to almost \$34 million), in that period.

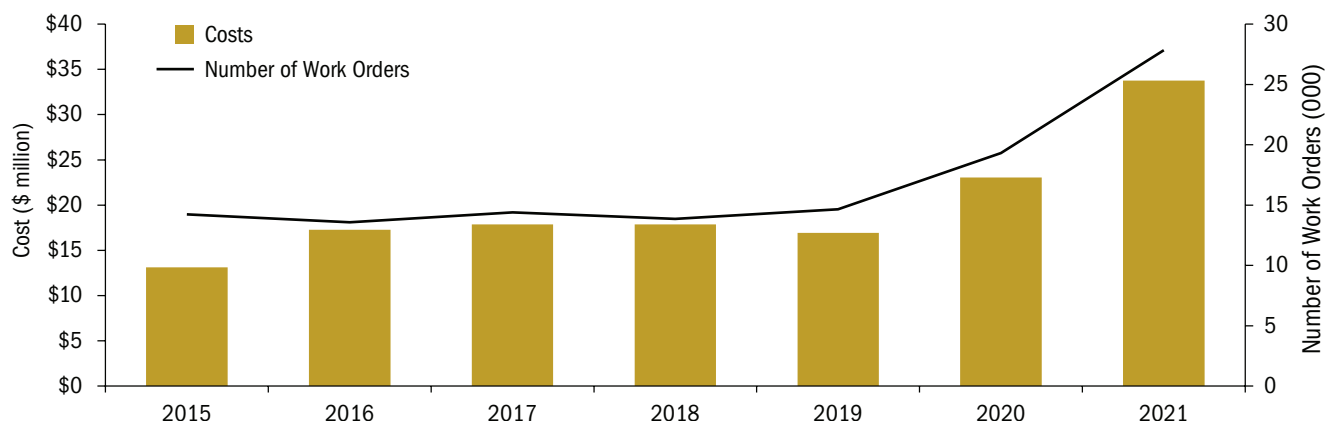
Preventative maintenance work orders are typically created to either prevent or detect equipment problems, or meet prescribed regulatory requirements. Some areas with a high number of work orders in 2021 included:

- work to maintain systems related to sluiceways (sliding gates or other devices for controlling the flow of water), spillways, control dams and water level instrumentation;
- work to inspect and maintain powerhouse buildings as well as station ancillary buildings and sites; and
- work to manage mobile equipment such as vehicles, trucks, tractors, trailers and mobile lifting devices.

Through discussion with OPG maintenance and engineering staff, we found that the significant increase in preventative work orders in 2020 and 2021 was due to a combination of factors, including an increased use of work orders to identify equipment deficiencies as well as increased corrective work due to the aging of various systems and equipment. As noted above, 86% of OPG's hydroelectric generating stations have been in service for over 50 years. As such, OPG expects to complete several major overhaul projects to maintain its hydroelectric stations in the coming years, including projects related to some of its large stations such as Sir Adam Beck II in Niagara and RH Saunders in Cornwall. These overhauls will involve replacing and refurbishing major components (for example, turbines and generators) as well as addressing other worn

Figure 12: Preventative Maintenance Work Orders and Costs, 2015–2021

Source of data: Ontario Power Generation



Note: This figure shows data related to Ontario Power Generation's (OPG's) hydroelectric generation work orders that were started in each year based on a report generated through OPG's work order system.

components. OPG expects to continue conducting preventative and corrective maintenance work leading up to these major overhauls.

We also noted that beginning in 2016, OPG undertook a major redesign of spillway gates as a result of changes in Ontario's energy markets. More specifically, we found that to help manage Ontario's surplus electricity supply (discussed further in **Section 4.2**), OPG has been instructed to spill water (allow water to bypass a station without generating any electricity) more frequently, which involves frequent operation of sluice gates (which are used to control water levels and flows). This, along with aging, has reduced the life expectancy of components and contributed to issues that have impacted their reliability, thereby prompting OPG to improve its design of sluice gates to prevent further maintenance costs due to increased frequency of gate operation.

Continuous Backlog of Maintenance Work Orders

We found that OPG has also incurred a significant backlog of maintenance work orders over the past five years, but does not have policies and procedures for ensuring all work orders are assigned due dates and for addressing overdue work orders.

OPG's system for tracking and reporting maintenance work allows for the capture of due dates for completing work orders. However, we found that the due date field is not consistently used by OPG staff when creating work orders. For example, of the

approximately 34,000 work orders started in 2021, about 5,000 (or 15%) of them did not have an assigned due date in the system.

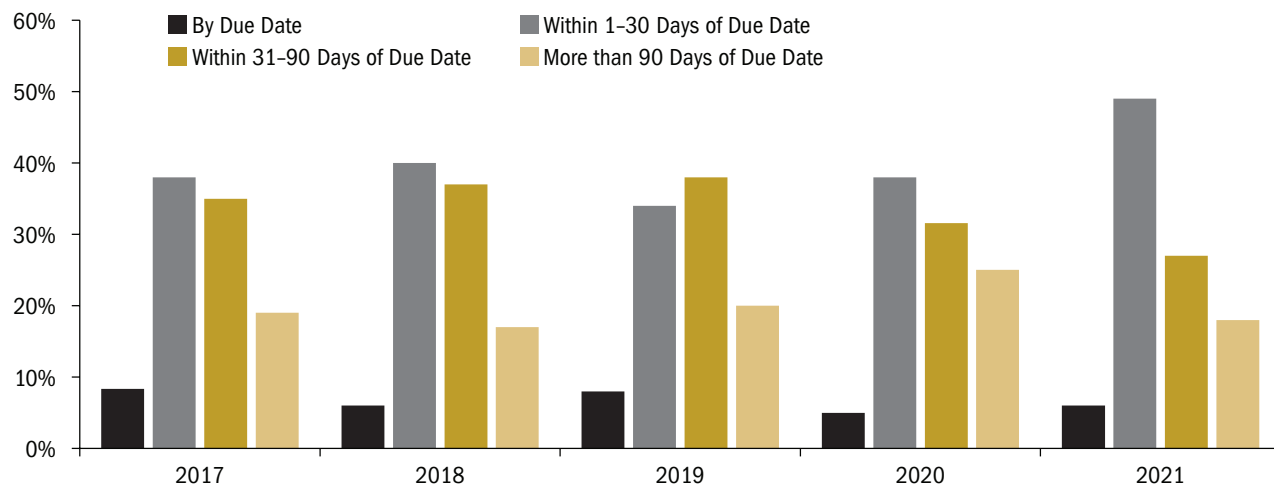
We noted that OPG does not have a documented policy or guideline on when or if a due date should be entered. OPG informed us that the use of the due date field is not mandatory for all types of work orders, although staff can still choose to use it when entering work orders into the system.

We analyzed data for work orders that did include a due date over the last five years (2017–2021), and found that between 2017 and 2021, while the majority (75% to 83%) of work orders were completed within 90 days (or approximately three months) of their respective due dates, roughly 17% (or about 2,500) to 25% (or about 5,300) of work orders were completed over 90 days later than their due date each year, as seen in **Figure 13**. OPG informed us that work orders that progress to a closed status within its work management system within 90 days of the due date are considered to have been completed on time, although this information could not be verified across all work orders as the system does not adequately indicate when the work order was actually completed.

We also noted that OPG tracks and reports on its backlog of work orders annually. We reviewed these reports over the last five years and found there has been a continuous backlog during that period, although OPG made progress on clearing some of it

Figure 13: Work Order Completion Date, 2017–2021

Prepared by the Office of the Auditor General of Ontario



Note: OPG informed us that work orders that have closed within 90 days of the due date within the work management system are considered to have been completed on time, but the work management system does not adequately indicate the actual work order completion date. As such, the data included in this figure uses the due date as presented within the work management system.

in 2021 (as shown in **Figure 14**). The number of work orders in this backlog has remained high, ranging from a low of approximately 9,500 (2021) to over 17,000 (2020). When reviewed together with increasing work orders and costs, the existing backlog, if not addressed on a timely basis, could continue to grow and become more difficult and expensive to clear. Furthermore, delays in maintenance activities increase the risk of a decline in the reliability of OPG's hydroelectric generating stations (as discussed in **Section 4.5.1**).

RECOMMENDATION 4

To better monitor, track and complete maintenance work on its hydroelectric generation fleet, we recommend that Ontario Power Generation:

- establish procedures requiring staff to include due dates for work orders;
- measure and oversee all work orders against due dates to identify whether work orders are being completed on a timely basis and implement corrective action when needed; and
- develop a strategy with a risk-based work prioritization methodology to address increasing maintenance work orders and the work order backlog.

RESPONSE FROM ONTARIO POWER GENERATION

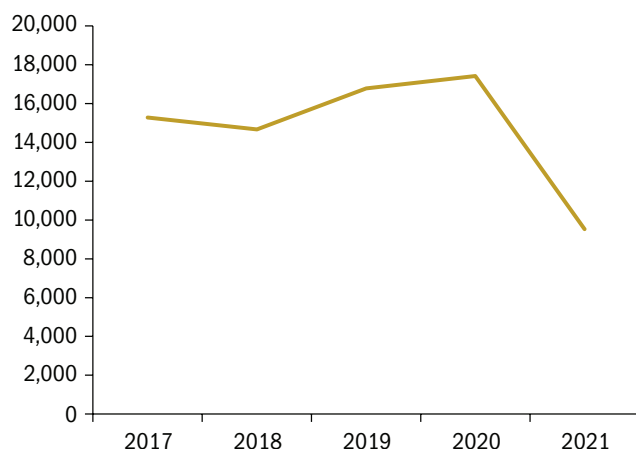
Ontario Power Generation (OPG) agrees with the Auditor General's recommendation. Appropriate work prioritization and completion are integral to the safe and efficient operation of OPG's hydroelectric generating stations, ancillary equipment, and control dams.

OPG strives to continually improve the work management program and practices through enhancements to procedures, development of computer-based tools, and use of performance indicators. OPG will:

- review applicable procedures to clarify guidance on due dates for preventative work orders;
- continue to improve work prioritization for preventative work orders in alignment with equipment criticality;
- identify the performance indicators and oversight requirements for preventative work order due dates; and
- continue to improve work prioritization for corrective work orders in a manner that promotes issue identification and timely resolution.

Figure 14: Work Order Backlog, as of December 2017 – December 2021

Source of data: Ontario Power Generation



OPG remains focused on the safe and reliable operation of its assets for the people of Ontario and will continue to identify opportunities to improve its work management performance in alignment with the Auditor General's recommendation.

4.4 OPG Did Not Always Assess the Conditions of Its Hydroelectric Stations and Address Engineering Recommendations on a Timely Basis

To ensure that its stations can be operated continuously in an economic, efficient and safe manner, OPG has tools in place and hires engineers to assess the conditions of its hydroelectric generating stations (separate from OPG's dam safety reviews and inspections, which are discussed in **Section 4.8**). However, we noted that OPG did not always perform these assessments or implement the recommendations given by the engineers in a timely manner.

4.4.1 Conditions of Hydroelectric Stations Were Not Always Assessed at Regular Intervals, with About 20% of Stations Not Assessed in Over 10 Years

OPG uses a number of assessment tools and techniques to monitor the physical and mechanical conditions of

its hydroelectric generating stations, and to determine what work is necessary to maintain the reliability of the stations. One of the key tools used is a Plant Condition Assessment (PCA), a document completed by OPG engineers or an engineering consulting firm, which includes the following information:

- a technical, engineering-based assessment of the current physical condition of a hydroelectric station, as well as its related equipment and processes;
- a high-level estimate of the life of major components of the generating station, along with investments deemed necessary to maintain the viability of the generating station for up to 30 years; and
- a forward-looking assessment of longer-term factors for a hydroelectric station, such as the aging of equipment, major component replacements, and refurbishment options.

OPG does not have a set time frame for how frequently its engineers (or engineer consultants) should complete PCAs. Instead, we were informed that OPG schedules PCAs on a risk-informed basis, considering factors such as the date of a station's last PCA, the size of the station, and any risks identified through an annual risk assessment program. We reviewed practices in other jurisdictions and noted that timelines and types of assessments can vary. For example, the United States Bureau of Reclamation (the second largest producer of hydropower in the United States that operates 53 hydroelectric powerplants) indicates in its manuals that a comprehensive facility review—a review of the management, operations, mechanical and electrical maintenance of a station—should be completed every six years.

We also noted that many PCAs included recommended work and necessary investments that should be completed within a 10-year time frame. As such, it would be prudent to conduct a PCA at least every 10 years to adequately monitor and manage station conditions and assess the completion status of any recommended work.

However, we reviewed the completion dates of the PCAs for all 66 of OPG's hydroelectric generating stations and found that approximately 20% (or

13 stations) did not have a PCA completed in the last 10 years.

We also reviewed time gaps between the two most recent PCAs for a sample of generating stations and again noticed an inconsistency of timing between PCAs. For example:

- For both Sir Adam Beck I and Sir Adam Beck II Generating Stations (two of OPG's largest generating stations), their most recent PCA was conducted 18 years after the prior one.
- For Abitibi Canyon Generating Station, there was a gap of five years between its most recent PCA issued in 2021 and the previous one in 2016.
- For Cameron Falls Generating Station, its most recent PCA was completed in 2022 while the prior one was completed in 2012, 10 years earlier.

We spoke with OPG staff and noted that OPG is currently revising its PCA process and looking to improve how station conditions are assessed. We were informed that under an updated process, station or equipment conditions would be monitored using a “real-time” process to provide a view of condition at any time rather than a periodic snapshot as per the current PCA process. Action would then be taken on an as-needed basis when a known condition has changed and requires action. However, the revised process has not yet been implemented so the effectiveness of the change cannot be assessed.

RECOMMENDATION 5

To comprehensively monitor hydroelectric generating station conditions as part of its updated assessment process, we recommend that Ontario Power Generation:

- develop and document criteria on how often assessments must be completed and include any rationale for situations where stations are subject to different timelines based on risk factors, if applicable; and
- include a comprehensive assessment aspect that allows senior management to periodically assess

the conditions and risks of the stations in a more fulsome and timely manner.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General's recommendations. OPG is committed to comprehensive monitoring and ongoing assessment of its hydroelectric assets. To date, this has been achieved through periodic Plant Condition Assessments (PCAs) to determine asset condition and required investments. OPG also undertakes an annual Engineering Risk Assessment Program review to assess changes in condition and identify mitigating measures to support plant performance.

In response to the Auditor General's recommendation, and as part of OPG's commitment to continually improving the monitoring and assessment of its assets, OPG will:

- develop a Health Monitoring and Reporting (System Health) process that documents the criteria and timelines for ongoing station assessment, including software-based tools to capture data from various sources and assess asset health and condition;
- implement standard meetings with a cross-functional team to collaboratively review the data gathered; and
- implement a process to enhance senior management's ability to periodically assess station conditions and risks and ensure mitigation plans have been identified as necessary.

4.4.2 OPG Has Not Always Addressed Engineering Recommendations for Station Maintenance on a Timely Basis

As discussed in **Section 4.4.1**, engineers hired by OPG conduct Plant Condition Assessments (PCAs) of hydroelectric generating stations and provide recommendations of work required to maintain the reliability of those stations. The amount of work and cost required are typically reflective of the age of the station and its equipment.

We reviewed a sample of 10 PCAs and found that OPG did not always address these engineering recommendations on a timely basis. For example:

- For Sir Adam Beck I, one of OPG's oldest and largest stations, the most recent PCA was issued in 2020, while the previous one was issued 18 years prior, in 2002. In our review, we found that OPG had addressed 11 of the 29 major recommendations from the 2002 PCA, but the remaining 18 (such as those related to turbine overhauls and generator conversions) were still either in progress or scheduled for a future start date. Furthermore, the PCA in 2002 recommended \$165 million of work over the next 30 years (up to 2032), whereas the most recent PCA in 2020 recommended a total of \$768 million in expenditures over the next 30 years, almost five times higher than the amount recommended in 2002. Most of the major recommendations made in the 2020 PCA had also been made in the 2002 PCA.
- For Abitibi Canyon, a mid-sized generating station, the most recent PCA was issued in 2021, while the previous one was issued in 2016. We noted that of the 37 major recommendations in the 2016 PCA, only three had been fully addressed, three were in the process of being addressed, and 31 had either been scheduled only or not yet addressed. Apart from these major recommendations, the 2016 PCA also identified six additional items related to civil, mechanical and electrical assessments, but we noted that OPG had not taken any action to address these items by the time of the 2021 PCA. With regards to costs, the 2016 PCA recommended approximately \$148 million of work over the next 30 years (up to 2046). The 2021 PCA recommended a total of \$323 million in work over the next 30 years, over two times higher than the amount recommended in the 2016 PCA. The increase was primarily attributed to higher cost estimates for work that was already identified in the 2016 PCA. Most of the

major recommendations made in the 2016 PCA were made again in the 2021 PCA.

- For RH Saunders, a large generating station, the most recent PCA was conducted in 2012, while the previous one was completed in 2005. The 2012 PCA did not provide specific updates on major recommendations made in the 2005 PCA (which was based on visual inspections, historical records and staff knowledge), because providing such updates was not a mandatory requirement at the time. While OPG has completed other assessments as needed since 2012, it has not conducted a PCA for this station over the last 10 years subsequent to the 2012 PCA, which recommended \$236 million in expenditures over the next 30 years.

Through discussion with OPG staff and engineers, we were informed that managing a station's maintenance program and project portfolio sometimes involves shifting priorities, and requires that processes are in place (e.g., the Engineering Risk Assessment Program, business planning) to determine what work is urgent or critical versus what can be delayed safely to accommodate other required work. However, since OPG has no documentation that outlines how and when these discussions between engineers and operations staff happened, who made the decisions and why, and whether engineering recommendations were followed, we were unable to determine the specific reasons for delaying the work outlined within the above-noted PCAs.

In the absence of documentation, no information is currently available to assess whether any significant increases in cost estimates or work required in the most recent PCAs are a consequence of delaying work that past PCAs recommended.

RECOMMENDATION 6

To efficiently address required work as per engineering recommendations made during its hydroelectric generating station inspections and assessments, we recommend that Ontario Power Generation:

- develop timelines for follow-up on the completion of recommendations made;
- document the rationale and approvals for recommended work that is delayed or not completed by expected timelines; and
- investigate and document the rationale for why cost estimates have increased significantly from previous assessments and regularly report that information to its Board of Directors.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General's recommendation. OPG is committed to the reliable operation of its facilities across Ontario by performing the right work at the right time and planning and executing work in accordance with its established asset management programs.

In response to the Auditor General's recommendation, and as part of its focus on continuous improvement OPG will:

- implement enhanced system health monitoring processes and tools to identify and document system health issues along with corrective actions and recommended timelines for implementation;
- establish collaborative meetings with Engineering and Operations leadership to review asset health recommendations and document task prioritization across the fleet; and
- utilize a defined level of accuracy for asset investment estimates and report on significant deviations as part of the established business plan submission to the Board of Directors.

4.5 OPG Can Further Improve the Reliability and Performance of Its Hydroelectric Generating Stations

The reliability of OPG's hydroelectric generating stations has been fluctuating over the last 10 years (2012–2021), with declining reliability from 2012

to 2019 as evidenced by the increase in the total duration of outages occurring at its stations and reduced availability, and then showing improvement in 2020 and 2021. While OPG's generating units have generally been performing at an average compared to peers in Canada, there is still room for improvement.

4.5.1 Fluctuating Reliability of OPG's Hydroelectric Generating Stations Poses Risks for Future When Electricity Demand Is Expected to Increase

OPG uses various measures to assess the performance of its hydroelectric stations. Some key measures relate to the reliability of a station's hydroelectric generating unit(s), a critical set of equipment containing a turbine that spins to produce electricity. A single OPG generating station can have anywhere from one to 16 generating units.

OPG produces a monthly reliability report that shows the performance of its stations' hydroelectric generating units. We reviewed the reliability reports produced over the last 10 years (2012–2022), focusing on the four key performance measures: (1) generating unit availability rate; (2) forced outage factor; (3) scheduled outage factor; and (4) incapability factor.

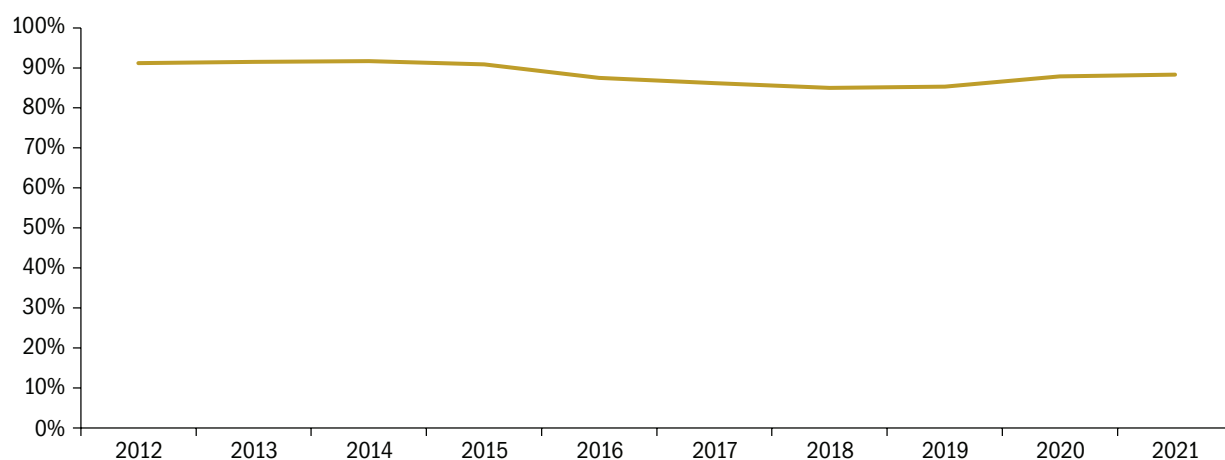
We found that the generating unit availability rate—the amount of time a generating unit is available for service divided by the total unit calendar hours in the period—has remained high over those 10 years (see **Figure 15**). This shows that OPG's hydroelectric generating stations have generally been a reliable source of electricity in the province.

However, the other three performance measures have fluctuated over the last few years when compared to the period between 2012 and 2014 (see **Figure 16**). Specifically:

- OPG's forced outage factor—the percentage of operating time a unit is unavailable due to forced outages within OPG's control (excludes external factors such as an outage across third-party transmission lines)—increased from 2% in 2012 to over 6% in 2019 and 2020. While the rate dropped to 3% in 2021, it was still slightly higher

Figure 15: Hydroelectric Generating Unit Availability Rate, 2012–2021

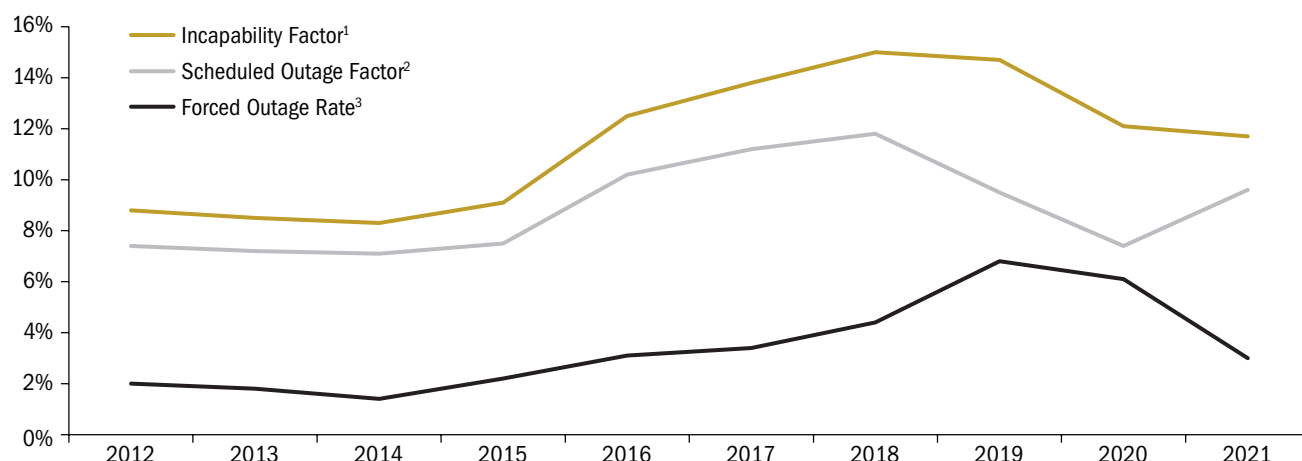
Source of data: Ontario Power Generation



Note: Generating unit availability rate is the amount of time a generating unit is available for service divided by the total calendar hours in the year that the unit was installed.

Figure 16: Hydroelectric Outage and Incapability Factor Results, 2012–2021

Source of data: Ontario Power Generation



1. Incapability factor: the total percentage of time a unit is unavailable (planned and forced) over a specific time frame for outages within OPG's control.

2. Scheduled outage factor: the percentage of time a unit is unavailable due to planned downtime (for example, for preventative maintenance).

3. Forced outage rate: the percentage of operating time a unit is unavailable due to forced outages within OPG's control (excludes external factors such as an outage across third-party transmission lines).

than the rate in 2012. When forced outages are high, it limits OPG's ability to generate electricity.

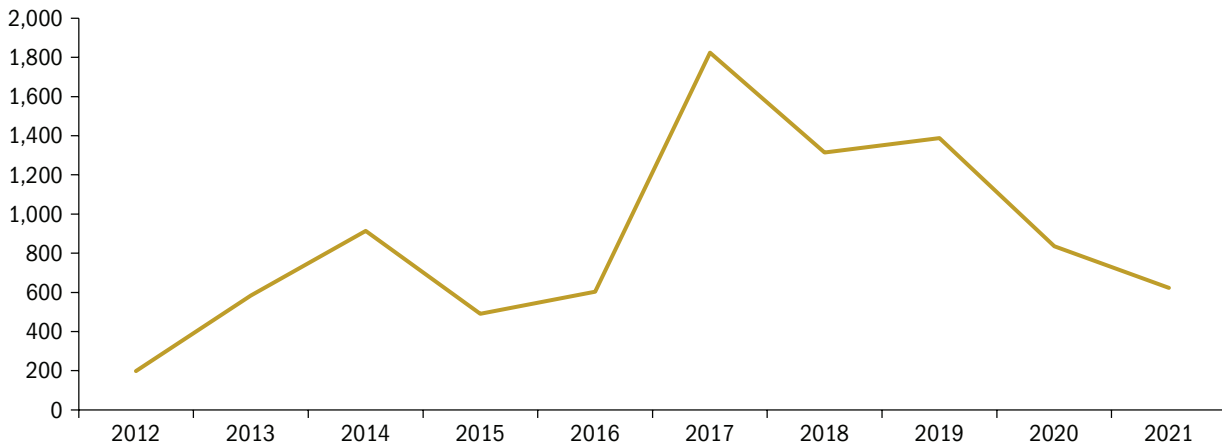
- OPG's scheduled outage factor—the percentage of time a unit is unavailable due to planned downtime (for example, for preventative maintenance)—showed a smaller but noticeable increase, from 7.4% in 2012 to around 12% in 2018 and 9.6% in 2021. Scheduled outages are

typically expected with aging equipment but, like forced outages, can have a negative impact on OPG's ability to generate electricity.

- OPG's incapability factor—the total percentage of time a unit is unavailable (planned and forced) over a specific time frame—increased from 8.8% in 2012 to 15% in 2018, before decreasing to 11.7% in 2021.

Figure 17: Estimated Electricity Loss Due to Planned and Forced Outages, 2012–2021 (thousands of megawatt hours)

Source of data: Ontario Power Generation



We also reviewed the approximate amount of energy production that was lost due to both planned and forced outages and found that energy production loss generally increased up to 2019, then decreased in 2020 and 2021 (as seen in **Figure 17**). However, the electricity lost in 2021 due to outages amounted to 623,000 megawatt hours (MWh), which was enough to power approximately 73,000 Ontario households for a year.

In order to identify the root causes of forced outages, we reviewed materials prepared by OPG's Engineering Risk Assessment Program (ERAP), which is a risk management program that aims to identify hazards and assess/treat risks related to OPG's equipment, systems or structures. As discussed in **Section 4.3**, we found that the aging of hydroelectric stations and equipment has led to a significant increase in maintenance costs and a continuous backlog of work orders, which in turn could lead to forced outages based on our review of the ERAP's 2020 annual presentation. In particular, the ERAP's 2020 annual presentation identified that:

- There was evidence indicating that maintenance on OPG's hydroelectric stations was not being completed.
- Regarding the reliability of turbines or generators, components are coming to the end of their

useful life, resulting in an increase of OPG's equipment failure rate.

- For small hydro plants, equipment continues to age, and forced outages and breakdown maintenance have continued until re-development. Examples of recent failures include Meyersburg and Eugenia hydroelectric generating stations.

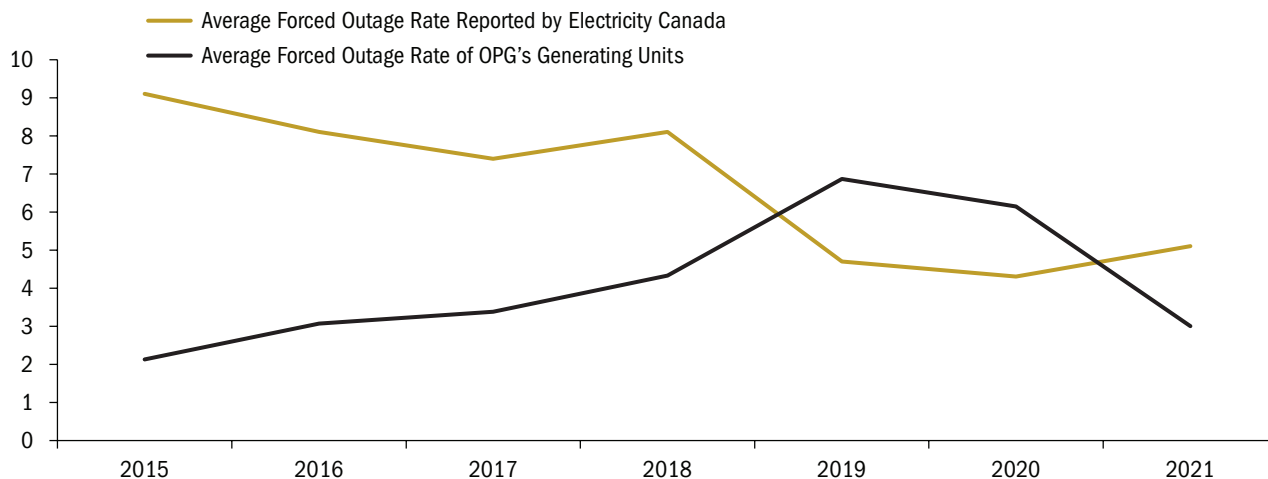
4.5.2 OPG's Performance in Hydroelectric Generation Has Room for Improvement in Comparison with Its Peers in Other Jurisdictions

We reviewed industry reports to compare OPG's performance in hydroelectric generation against similar organizations in other provinces. One of these industry reports, developed by Electricity Canada (formerly the Canadian Electricity Association), allows for reliability benchmarking of participating hydroelectric generation operators including OPG, Manitoba Hydro, SaskPower, BC Hydro and others.

As noted in **Section 2.1.1**, each hydroelectric station can house multiple generating units depending on the station design. One of the measures Electricity Canada reports on is the equivalent forced outage rate, which represents the percentage of time a generating unit is forced unavailable. We reviewed and analyzed OPG's generating units and compared it to the average

Figure 18: Equivalent Forced Outage Rate (%), 2015–2021

Prepared by Office of the Auditor General of Ontario



Note: Equivalent forced outage rate represents the percentage of time a generating unit is forced to be unavailable.

outage rate reported by Electricity Canada for each of the last seven years (see **Figure 18**). Overall, we found that the average of OPG's generating units was better than the Electricity Canada average in some years but worse in others. For example, in 2020, OPG's average forced outage rate among its units was approximately 6% while the average for operators reporting into Electricity Canada was closer to 4%.

Annual measures reported by Electricity Canada also include the following three performance measures, which are used to rank the top 10 best-performing generating units at hydroelectric stations in Canada:

- **Incapability factor**—the percentage of time a unit is unavailable due to total outages (planned and forced), calculated by dividing the total outage time of a unit (within the operator's control, excluding external factors) by the total unit hours in the period.
- **Operating factor**—the operation time of a unit, calculated by dividing the total operating time of the unit by the total unit hours in the period.
- **Availability factor**—the availability of a unit to operate, calculated by dividing the total hours the unit was available for service by the total unit hours in the period.

We found that while OPG's hydroelectric generating units were ranked as having a top 10 performance on occasion, it was not as often as some peer organizations in other provinces.

RECOMMENDATION 7

To further improve and maximize the reliability of its generating stations, we recommend that Ontario Power Generation:

- review why various reliability metrics, such as availability and outage factors, have shown fluctuating results; and
- identify learning opportunities and adopt best practices for improving the reliability of generating stations through, for example, its participation in various peer groups.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General's recommendation. OPG is committed to operational excellence and will continue to identify opportunities to improve its operational performance through enhanced data collection

methods and the application of more advanced analytical techniques like machine learning.

In response to the Auditor General's recommendation, OPG will:

- utilize its Monitoring and Diagnostic Centre to proactively identify degradations in equipment performance;
- evaluate equipment failures that impact station reliability metrics to determine the root cause and identify actions to mitigate the risk of repeat failures; and
- continue to collaborate with industry peer groups and partners to share learnings and contribute best practices for improving asset reliability.

4.6 OPG Does Not Always Complete Capital Projects and Assessments in a Cost-Effective and Timely Manner

As discussed in **Section 2.3**, OPG incurs high capital costs as part of its hydroelectric operations. Capital expenses include refurbishing generating stations and replacing equipment as well as building new stations and related infrastructure such as dams and tunnels. Given that major projects typically include significant uncertainties, such as geotechnical conditions that impact construction, conducting an extensive risk analysis prior to project initiation and periodical reviews during the project are critical to reducing the risk of cost overruns or project delays.

We reviewed details related to a sample of five large capital projects that were completed over the last 15 years to assess OPG's performance in managing its capital projects in a cost-effective and timely manner. We found that insufficient planning by OPG has led to significant costs and delays on some of these projects. We also found that OPG did not always close out projects and complete post-project reviews on a timely basis to ensure lessons learned are applied to ongoing and future projects.

4.6.1 OPG Has Experienced Delays on Some Large Capital Projects with Cost Overrun on One Project Due to Insufficient Assessment and Planning

We reviewed estimated and final costs for a sample of large hydroelectric capital projects completed over the last 15 years (see **Figure 19**), and found that OPG experienced project delays on some projects and cost overrun on one project as a result of insufficient assessment and planning.

Of the five projects shown in **Figure 20**, OPG was able to complete four under budget. However, we noted that as a result of work-order changes, the final costs of some of these projects were higher than what they could have been with more planning and project management processes in place. Furthermore, two of those projects faced significant delays that resulted in their completion three years later than originally expected. Examples of these projects are illustrated below.

Lower Mattagami River Redevelopment Project

We noted that OPG's original budget for the Lower Mattagami River Redevelopment Project was \$2.56 billion, which included a \$425 million project contingency fund (representing over 15% of the total budget) to account for any uncertainties and risk exposure such as geotechnical conditions and weather.

During the project, there were two cases where generating station site conditions (specifically, the state of the underground foundation) were significantly different from what OPG had originally noted in their preliminary assessments. This resulted in significant change orders and additional work at a cost of approximately \$92 million, which was allocated from the project's \$425 million contingency fund. It is possible that some of this additional work and related cost could have been reduced or avoided altogether with additional upfront planning.

Niagara Tunnel Project

Over several years before starting the Niagara Tunnel Project, OPG carried out substantial geotechnical

Figure 19: Sample of Completed Hydroelectric Projects, 2007–2022

Prepared by the Office of the Auditor General of Ontario

Project Name*	Project Description	Original Budget (\$ million)
Lower Mattagami River Redevelopment Project	This project is located on the Mattagami River, approximately 70 kilometres northeast of Kapuskasing, Ontario. The project involved adding a third generating unit to three existing hydroelectric generating stations (Little Long, Harmon, and Kipling) and constructing a new three-unit generating station adjacent to another station (Smoky Falls) that was decommissioned.	2,560
Niagara Tunnel Project	This project involved building a new 10-kilometre-long water tunnel that allowed Ontario Power Generation to use additional water from the Niagara River for generation.	985
Upper Mattagami–Hound Chute Redevelopment Project	This project involved redeveloping three generating stations (Wawaitin, Sandy Falls, and Lower Sturgeon) on the Upper Mattagami River and the Hound Chute station on the Montreal River.	298
Sir Adam Beck Pump Generating Station Reservoir Refurbishment Project	This project involved refurbishing the Sir Adam Beck Pump Generating Station Reservoir to improve the safety of the reservoir.	58
Sir Adam Beck I G7 Frequency Conversion Project	This project involved installing a new generator and other equipment including a transformer, runner and an upgrade to a turbine.	35

* See Figure 20 for details on the cost and timeline of each of these projects.

Figure 20: Costs and Timelines of a Sample of Completed Hydroelectric Projects, 2007–2022

Prepared by the Office of the Auditor General of Ontario

Project *	Original Budget (\$ million)	Final Cost (\$ million)	Surplus (Deficit) (\$ million)	Estimated Completion Year	Actual Completion Year
Lower Mattagami River Redevelopment Project	2,560	2,520	40	2015	2014
Niagara Tunnel Project	985	1,460	(475)	2010	2013
Upper Mattagami–Hound Chute Redevelopment Project	298	285	13	2011	2010
Sir Adam Beck Pump Generating Station Reservoir Refurbishment Project	58	52	6	2017	2017
Sir Adam Beck I G7 Frequency Conversion Project	35	32	3	2009	2012

* See Figure 19 for a description of each of these projects.

investigations to assess the sub-surface conditions of the site and inform the project design. However, within the first year of tunnel mining, OPG encountered unexpected adverse rock conditions, which resulted in significantly more money, work and time spent to

excavate the tunnel than was originally expected. Specifically, OPG had to re-plan the project and revised the project budget from \$985 million to \$1.6 billion, an increase of over 62% (or \$615 million). The project was originally scheduled to be completed by 2010, but

was delayed by about three years. The project was completed in March 2013 at a cost of \$1.46 billion. Again, some of these cost increases and delays could have been avoided with additional upfront planning and project management processes.

Sir Adam Beck I G7 Frequency Conversion Project

OPG had expected the Sir Adam Beck I G7 Frequency Conversion Project, which involved installing a new generator, to be completed and fully operational in 2009. However, the new generator was operated in a derated (decreased capacity) state until 2011 and the project was subsequently completed in 2012.

We noted that this was primarily due to warranty work being needed to address deficiencies caused by a vendor. These deficiencies related to problems with a turbine that resulted in excessive vibration of the generating unit and pressure on the unit's cover, as well as limited operation of the wicket gate (which helps control the flow of water to the generator). These problems became apparent only after the generating unit was put back into service. While some of the work was covered under the warranty as part of the project scope, an additional \$2.9 million in costs was incurred for turbine disassembly and reassembly as this was not covered by the warranty. Although the overall cost of the project was under the original project budget, OPG could have realized further savings had there not been deficiencies caused by the vendor and if the warranty had covered all related costs.

In reviewing OPG's risk register—which identifies, documents and retains information related to risks—we noted one identified risk was that poor workmanship and engineering by external vendors would have a significant financial impact on OPG's renewable generation projects. The risk register also indicated that recent experiences with poor design, workmanship or installation had resulted in equipment damage and/or delays to project schedules. In reviewing the OPG's Board of Director meeting minutes, we also found that the Board raised similar concerns about vendors not meeting OPG's expectations.

Other Ongoing Capital Projects

Besides reviewing the aforementioned capital projects that were completed over the last 15 years, we also reviewed OPG's ongoing capital projects and noted that delays and higher-than-expected costs are also being experienced in these projects. Through discussion with OPG and a review of these projects' details, we noted that the COVID-19 pandemic has also generally contributed to an increase in costs for construction supplies and equipment as well as project delays due to global manufacturing shutdowns, the closure of ports, and transportation delays.

Given that OPG will be involved with new hydroelectric generation projects, it is critical for OPG to ensure its capital projects are sufficiently planned, overseen and executed as well as continuously assessed for timeliness and cost-efficiency.

RECOMMENDATION 8

To plan and complete capital projects efficiently and cost-effectively, we recommend that Ontario Power Generation (OPG):

- work with potential vendors to conduct more thorough pre-project assessments to identify and reduce the risk of possible issues arising that could result in cost increases or project delays;
- oversee and monitor project work more closely on a regular basis to identify and correct any potential delays as soon as reasonably possible; and
- review its contract terms (such as warranty conditions) to ensure they protect OPG in the event of issues caused by vendors.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General that capital projects should be planned and executed in an efficient and cost-effective manner.

OPG will continue to implement its enterprise-wide Project Excellence initiative to strengthen project management and controls, assess and incorporate industry best practices, and facilitate continuous improvement for capital projects including:

- engaging potential vendors as part of front-end engineering design planning, in order to improve early understanding of constructability and site conditions;
- further improving vendor oversight and communication through the Construction Centre of Excellence (CCoE) initiative and enhanced project management proficiency training; and
- reviewing contract template language to ensure OPG is appropriately protected in the event of vendor-related issues.

4.6.2 OPG Did Not Complete Post-Project Reviews in a Timely or Comprehensive Enough Manner

As part of the close-out of a capital project, OPG's policy is to conduct a review to document the effectiveness of the project, including whether it was completed on time and within budget. The level of detail contained in this post-project review is typically aligned with the cost and complexity of a project. A simple equipment replacement project generally has a short post-project review, while a post-project review for building a new generating station is more complex and includes details of how the project progressed and changed over time compared to the original proposal.

We found that OPG did not always close out projects and complete post-project reviews on a timely basis. For example:

- Although the Lower Mattagami River Redevelopment Project was completed in 2014, OPG did not complete the post-project review until 2020, six years later. OPG had originally estimated it would take one year to complete the review but subsequently noted it had underestimated the magnitude of the project close-out scope.

- For the Niagara Tunnel Project, which was completed by 2013, OPG did not complete the post-project review until three years later in 2016. Similar to the reasoning above, OPG had underestimated the project close-out scope based on the amount of work that had to be done.
- The Upper Mattagami–Hound Chute Redevelopment Project was completed by the end of 2010, but OPG did not complete the post-project review until the end of 2012. While OPG noted that a two-year close-out period could be expected for a project of this size, it also noted that poor record-keeping by the contractor resulted in more time spent to complete the post-project review.

We also identified an example where OPG did not conduct a comprehensive post-project review for a large project, specifically the building of Peter Sutherland Sr. Generating Station which involved a large capital cost of approximately \$300 million. The project was completed ahead of schedule (2017 instead of 2018) and slightly under budget (by about \$6 million), but OPG did not conduct a comprehensive post-project review as it had for other large projects we reviewed. Such a review for a successfully completed project of this size would help OPG to identify any best practices and/or lessons learned that could be applied to ongoing and future projects.

Post-project reviews help OPG and its senior management team learn from past projects so that future risks can be better managed. When OPG does not complete these reviews on a timely basis, it faces the increased risk of similar issues going unnoticed until they result in additional costs and project delays.

RECOMMENDATION 9

To evaluate capital projects and apply lessons learned to ongoing and future projects in a timely manner, we recommend that Ontario Power Generation:

- complete post-project reviews within one to two years after a project has been substantially

completed using techniques such as monitoring ongoing record-keeping and/or completing project close-outs in steps throughout the project; and

- conduct comprehensive post-project reviews on all large projects to identify lessons learned and/or best practices, and then apply them to ongoing and future projects accordingly.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General's recommendation. OPG will continue to incorporate post-implementation and lessons learned reviews from ongoing and past projects into future work, in order to realize opportunities to execute projects more efficiently. Throughout all phases of the project lifecycle, OPG engages both internal and external stakeholders to identify opportunities to capitalize on successes and to seek opportunities for continuous improvement. Digital tools are utilized to facilitate the identification and retrieval of past lessons as part of project planning.

OPG is committed to further improving post-implementation review (PIR) practices and timeliness, and will:

- establish standard PIR governance to ensure all projects are reviewed at a level commensurate with their complexity and cost, and lessons learned are identified for application to future projects;
- implement target completion timelines and requirements for ongoing tracking and monitoring of PIR completion status; and
- develop digital tools and leverage existing sources of project information to improve PIR timeliness and streamline documentation management.

As recommended by the Auditor General, OPG will continue strengthening its post-project review processes and tools to identify additional opportunities for project improvements.

4.7 Rate-Setting Process Is Not Regulated for 12 OPG Hydroelectric Generating Stations

Of OPG's 66 hydroelectric generating stations, 54 are rate-regulated by the Ontario Energy Board (OEB) pursuant to the *Ontario Energy Board Act* (Act), meaning OPG submits cost projections for operating these stations to the OEB, which then assesses the reasonableness of the projections as part of its rate approval process. The other 12 stations are not prescribed under the Act and do not have their rates regulated by the OEB. Instead, they contract directly with the Independent Electricity System Operator (IESO) and thus negotiate their rates with the IESO. We found that their rates are higher than those for rate-regulated stations.

The process whereby OPG applies for rates for the 54 generating stations subject to the OEB's rate-regulation process is a transparent one. The OEB has a panel of commissioners, who are responsible for making independent decisions on applications and other hearing matters that come before the OEB. The OEB adjudicates rate applications through a quasi-judicial process, which is similar to a court-like process that involves an oral, written or electronic hearing, providing interested parties from the public an opportunity to comment on the rate applications. Members of the public may want to contribute such input as higher rates for generating stations could mean higher electricity rates for consumers. The OEB also shares the final decisions and rates publicly.

However, the remaining 12 stations that are non-rate-regulated go through a private process with the IESO, which contracts with those stations directly. While the IESO also reviews the reasonableness of cost projections, the commercial terms of the contracts between the IESO and these 12 stations are not made known to the public, similar to contracts between IESO and private sector hydroelectric generators. This means the public is not given any opportunity to provide input, nor are the final rates transparent to the public.

As part of our audit, we reviewed the rates for OPG's non-rate-regulated stations and found they are significantly higher than the rate-regulated stations' rates

which, since January 2021, have been approximately \$43.88 per megawatt hour of electricity produced. As shown in **Figure 21**, the rates for non-rate-regulated stations vary, ranging from about \$65 per MWh to about \$250 per MWh, meaning they are at least 1.5 times to almost six times higher than the rate for rate-regulated stations. We also noted a wide range of rates for private sector (non-OPG) hydroelectric generators who contract directly with the IESO. Rates for these private sector generators ranged from approximately \$70 per MWh to \$154 per MWh.

We noted that the difference in rates between rate-regulated and non-rate-regulated stations is partly impacted by capital expenditures. Specifically, while both processes take into consideration the capital expenditures spent on hydroelectric generating stations, many non-rate-regulated stations are relatively newer and have incurred higher recent capital expenditures, typically contributing to a higher rate.

RECOMMENDATION 10

To consistently and fairly set rates for hydroelectric generation, we recommend that Ontario Power Generation work with the Ontario Energy Board, the Independent Electricity System Operator and the Ministry of Energy to complete a fulsome review of the rate-setting processes for rate-regulated stations and non-rate-regulated stations, and determine whether the current methods of rate-setting are appropriate and in the interests of ratepayers.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) is committed to providing low-cost power in a safe, clean, and reliable manner, however, OPG does not have the authority to establish the form of payments for its generation assets.

The Ministry of Energy (Ministry) has determined which of OPG's facilities will be regulated and which of OPG's facilities will be contracted. Pursuant to section 78.1 of the *Ontario Energy Board Act, 1998* and O. Reg. 53/05, the Ontario

Energy Board (OEB) is solely responsible for developing methods by which OPG is paid for the output of its regulated hydroelectric facilities and the amount OPG is paid. The Independent Electricity System Operator (IESO) has sole responsibility for developing procurement contracts for generation pursuant to sections 25.31 and 25.32 of the *Electricity Act, 1998*.

OPG's opportunity for input into the form of OEB regulation or IESO procurement contracts occurs solely in the context of public consultations convened by these two bodies. Aside from public consultations initiated by the OEB and IESO, OPG has no ability to work with the OEB and IESO on the form of payments for its hydroelectric generation.

Should the Ministry undertake a review of which stations are regulated or contracted, or should the IESO or OEB undertake a review of the compensation methodologies for OPG's hydroelectric assets, OPG would support any such review.

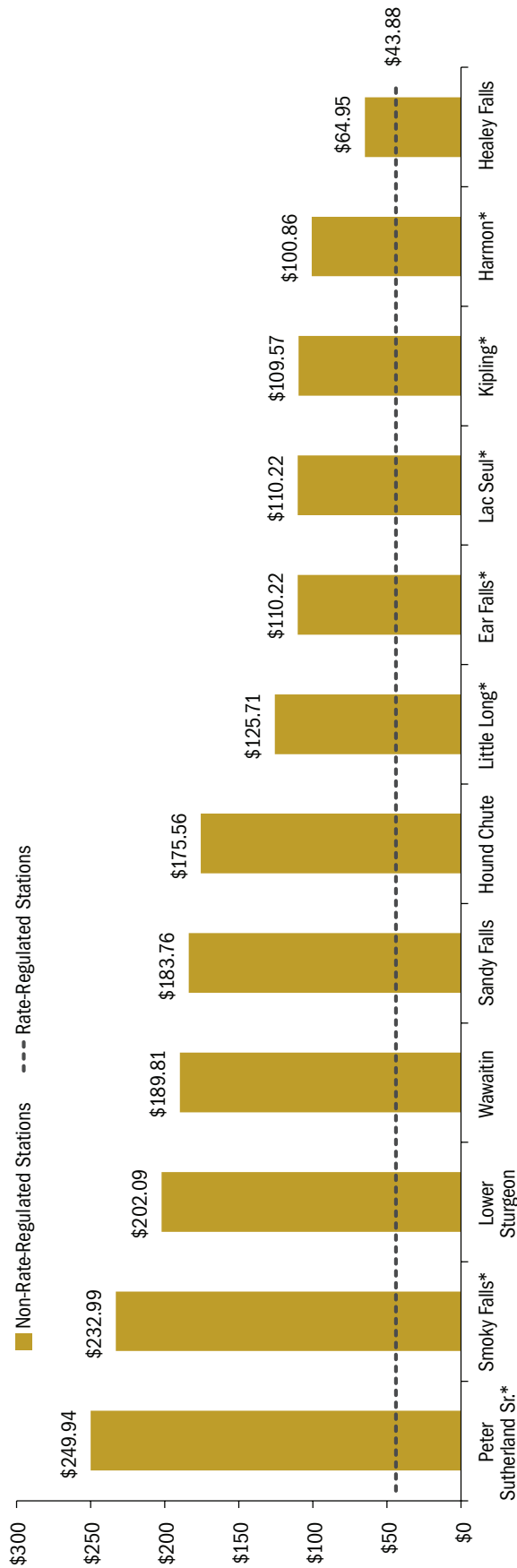
4.8 OPG Has Followed Dam Safety Best Practices, but Should Continue Working to Reduce Public Safety Events

An important part of hydroelectric generation is the use of dams. A dam is a structure or barrier that is constructed across a watercourse to control water levels and flow. In some instances, dams can store water in reservoirs for future use in hydroelectric generation. However, dams also pose a risk if they fail. For example, a dam failure can result in water spills that affect local animal and wildlife populations and, in some situations, can also impact nearby communities with issues such as flooding.

OPG owns and maintains 241 dams in Ontario. While OPG has never had a dam failure, having a strong dam safety program that constantly assesses the dam structure itself and other related aspects such as public safety is crucial in operating and managing hydroelectric stations.

Figure 21: Rates for OPG's Non-Rate-Regulated Stations and Rate-Regulated Stations, 2021 (\$ per megawatt hour)

Prepared by the Office of the Auditor General of Ontario



Peter Sutherland Sr.*	Smoky Falls*	Lower Sturgeon	Wawa	Sandy Falls	Hound Chute	Little Long*	Ear Falls*	Lac Seul*	Kipling*	Harmon*	Healey Falls
Original Date Unit Was Put in Service	1931 (rebuilt 2014)	1923 (rebuilt 2010)	1912 (rebuilt 2010)	1911 (rebuilt 2010)	1910 (rebuilt 2010)	1963-2014	1930-1948	2009	1966-2014	1965-2014	1913-2010
2021 Installed capacity (MWh)	245,280	119,136	134,904	49,056	77,088	1,822,080	255,266		2,014,800	2,049,840	159,169
2021 Actual Generation (MWh)	93,386	40,735	50,111	29,823	40,192	394,846	94,521		451,303	445,851	82,239

Note: The per megawatt hour rates for non-rate-regulated stations were calculated by dividing the 2021 generation revenue by 2021 actual generation in megawatt hours. These rates do not include ancillary service revenue.

* Of OPG's 12 non-rate-regulated stations, these seven stations (Peter Sutherland Sr., Smoky Falls, Little Long, Ear Falls, Lac Seul, Kipling and Harmon) involve First Nations partnerships and ownership.

4.8.1 OPG Dam Safety Program Has Followed Industry Guidelines, but Dam Safety Reviews Were Not Completed on a Timely Basis

Based on our discussion with OPG senior management responsible for dam safety and our review of dam safety governance, we learned that OPG's policy is to operate its facilities in a safe, secure and reliable manner and ensure its dams comply with applicable dam safety legislation and requirements. In managing dam safety, OPG follows industry practices such as those recommended in the guidelines published by the Canadian Dam Association (CDA).

The CDA is an industry association comprised of individuals and organizational members including consulting engineers, dam owners, and regulators. The CDA provides a forum for the exchange of ideas and experiences in the field of dam safety. The CDA also has a Dam Safety Committee with a mandate to provide stewardship for technical publications including dam safety guidelines. Committee members are volunteers acting in their professional capacity and come from various organizations across the country, including OPG, BC Hydro, Hydro-Québec and others.

Through a review of publicly available information and discussion with various organizations and engineers, including dam safety professionals, we noted that the guidelines developed by the CDA are recognized as representing good industry practice in the area of dam safety. OPG's dam safety program is aligned with the CDA's guidelines, for example, by ensuring regular and timely inspections and reviews of all OPG's dams to maintain good functioning and safety.

As part of its dam safety program, OPG conducts two key types of inspection and review:

- **Dam safety general inspection (inspection)**—This is a regular inspection done by OPG's professional engineering staff for all 241 dams OPG owns and maintains. The inspections are scheduled every one to two years based on dam classification. An inspection involves performing detailed observations of the structure to ensure that components of the dam are functioning as designed, monitoring previously identified

issues, and identifying emergent issues that may require monitoring or corrective action.

- **Dam safety review (review)**—This is a more comprehensive review completed by an independent third-party (typically an engineering consulting firm). A review involves confirming the dam's classification based on risks and compliance with current regulations and industry guidance as well as verifying the results of OPG's own dam inspections and assessments such as the above-mentioned dam safety general inspection. The frequency of reviews depends on the risk level of the dam. For example, OPG's policy is that a review should be completed every 10 years for dams that are classified as high-risk (typically meaning where a dam failure could result in a loss of life), while dams that are classified as low-risk (with no risk of loss of life and limited property and environmental impacts) should undergo a review approximately every 15 years.

To determine whether OPG completed dam safety general inspections on a timely basis, we reviewed a sample of 30 reports from these inspections (representing 12% of OPG's 241 dams). We found that OPG was generally completing these inspections on a timely basis. For all 30 dams we reviewed, an inspection was completed within the last two years (2020 or 2021) as scheduled.

We also reviewed a sample of 30 dam safety review reports and noted that while such reviews were comprehensive and reported on areas such as river flow levels, equipment testing and seismic movements that impacted or could impact dams, they were not being completed on a timely basis. For example, of OPG's 241 dams, only 102 (or 42%) were reviewed within the 10- to 15-year period after the last review. While the COVID-19 pandemic did result in a short-term deferral for some dam safety reviews, many had already passed the 10- to 15-year period. For example, 79 (or 33%) of OPG's dam safety reviews were or are in the process of being completed at least five years later than what is required per OPG's policy.

We also reviewed the results of inspections and reviews to determine what kind of issues or concerns were identified. We found that these were mainly related to regular maintenance work required to fix the structure or equipment of the dams (as discussed in **Section 4.3**) or corrections required to avoid reportable public safety events (as discussed further in **Section 4.8.2**).

4.8.2 Public Safety Events Remain High While Dam Safety Events Have Gone Down

OPG's practice is to track and report dam and public safety events. These are regularly reviewed by senior management and reported to OPG's Board of Directors. These events involve risks or issues related to the dams, generating stations, and controls put in place to maintain public safety. Events are categorized by severity, where Categories I, II and III indicate high, moderate and low severity, respectively (see **Figure 22** for more detailed definitions of these event categories).

We reviewed details of the events that occurred over the last seven years and found that while events for dam safety (involving the dam structure and/or station itself) have gone down, from 41 events in 2015 to 19 in 2021 (see **Figure 23**), events related to public safety have fluctuated from year to year but have increased and remained high in recent years, with 145 events occurring in 2021 (see **Figure 24**). OPG informed us that the increase in public safety events could be due to its improvement in monitoring practices, for example by using video cameras to more thoroughly capture public safety events.

We also reviewed details of these events to identify if OPG has taken timely and appropriate actions to address the issues (detailed in **Figure 25**). We found that:

- With regards to dam safety events (as shown in **Figure 23**), OPG did not experience any significant (or Category I) events. Rather, most of the Category II and III events observed were manageable and OPG took adequate steps to correct issues when they were identified.

Figure 22: Classifications of Dam Safety and Public Safety Events

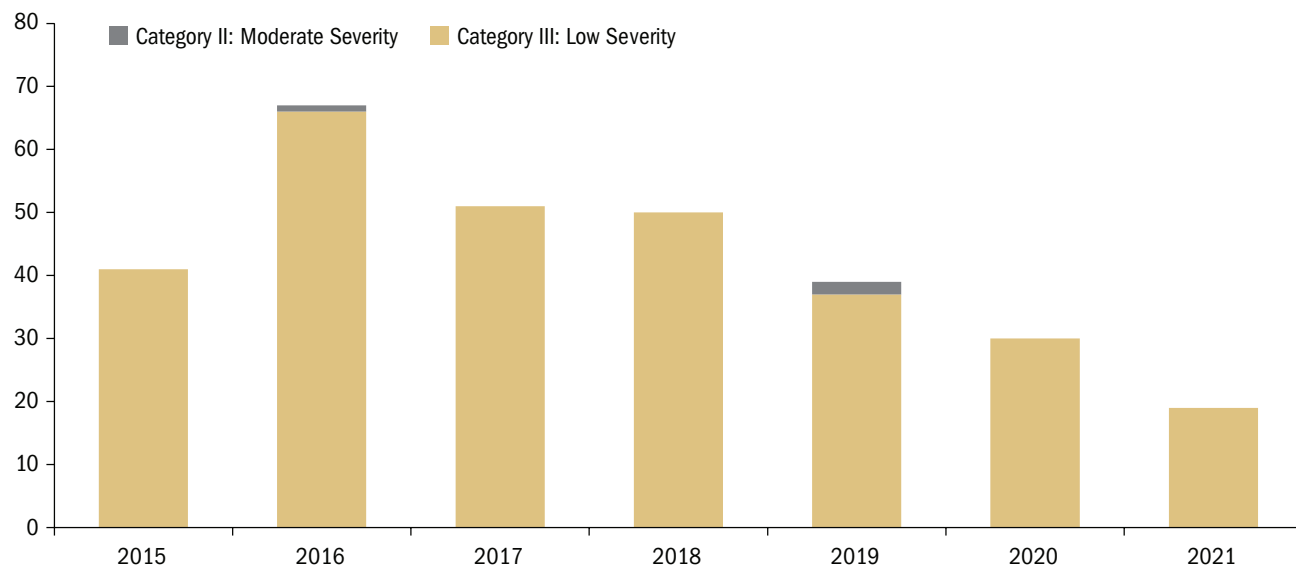
Prepared by the Office of the Auditor General of Ontario

Category	Severity	Dam Safety Event	Public Safety Event
Category I	High	A dam failure, including events created by a dam leading to a community activating an emergency plan for the purpose of evacuation.	An incident involving a dam or its operation that results in a rescue by a first responder, a fatality, or a serious injury.
Category II	Moderate	An event created by a dam that results in downstream communities and other stakeholders being notified to raise their level of awareness in preparing their response, or being given a notice to comply with a legislative dam safety requirement (e.g., a notice of trespassing to prohibit individuals from entering certain areas surrounding a dam).	An incident involving trespassing where there is a significant risk of exposure to potentially dangerous conditions associated with a dam or its operation that could result in a fatality or serious injury.
Category III	Low	Structural deficiencies of a dam that require interim measures to enhance monitoring and response (e.g., increasing seepage), or a spillway gate or other device failing to operate as designed.	An event involving trespassing where there is a risk of exposure to potentially dangerous conditions or the failure of a public safety control measure (e.g., a broken safety boom, which is a barrier that blocks access to certain areas surrounding a dam).

Note: See **Figure 25** for examples of dam safety and public safety events that have occurred at Ontario Power Generation.

Figure 23: Number of Dam Safety Events, 2015–2021

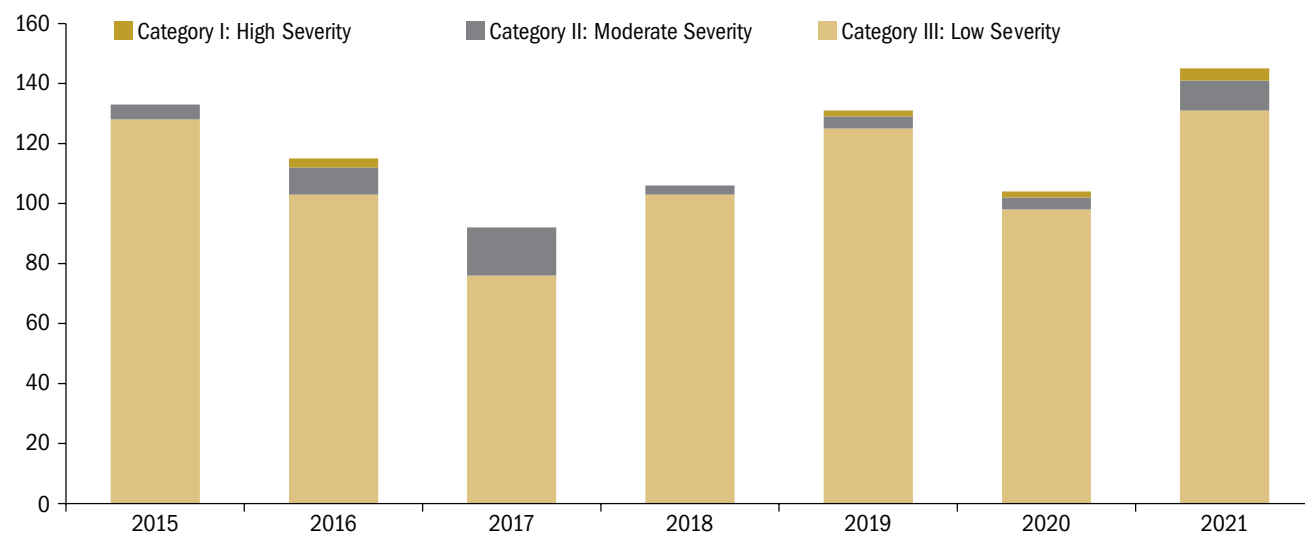
Prepared by the Office of the Auditor General of Ontario



Note: See Figure 22 for more detailed definitions of event categories. No Category I dam safety events occurred between 2015 and 2021.

Figure 24: Number of Public Safety Events, 2015–2021

Prepared by the Office of the Auditor General of Ontario



Note: See Figure 22 for more detailed definitions of event categories.

- With regards to public safety events (as shown in Figure 24), in most cases the issues arose because the public either ignored or did not notice warning signs about trespassing on OPG property or waterways (for example, when a kayaker was paddling in the waterway of a dam). In these cases, OPG generally took adequate steps to address issues, such as

contacting and sharing information with law enforcement and local authorities.

While OPG may not have complete control over some aspects of public safety (such as the public ignoring signage or barriers and getting too close to a dam or generating station), it is important that OPG continue to remain diligent in taking steps to avoid such issues from occurring.

Figure 25: Examples of Dam Safety and Public Safety Events

Prepared by the Office of the Auditor General of Ontario

Type of Event	Category of Event*	Event Details and Response Taken by Ontario Power Generation (OPG)
Dam Safety	II	A sluiceway (a gate that can be opened and closed to control water flow) failed to open while attempting to let water pass. Staff found faulty electrical components and replaced them.
Dam Safety	II	A transmission line faulted, resulting in a generating station going offline. The backup generator overloaded and multiple staff were assigned to get the backup generator up and running.
Dam Safety	III	A headpond boom (floating barrier) was found broken at a dam during winter when ice had covered the water. Given the low risk of boating due to ice, repairs were put on hold and made later prior to boating season.
Dam Safety	III	After significant rainfall, erosion was noticed on the upstream side of a dam. Jersey barriers (barriers similar to those seen on roads during construction) were temporarily placed on nearby roads and a geotechnical engineering firm was contacted to determine a path forward.
Public Safety	I	An individual in a kayak was observed paddling in the waterway of a dam. The fire department was contacted to remove the kayaker and the kayaker was charged for entering a restricted area.
Public Safety	II	OPG security noticed a fishing vessel inside a risk area of a dam tailrace (the area immediately below the exit side of a dam) and contacted additional security to remove the vessel. OPG shared information with the local police service to identify the owner of the vessel to issue a notice of trespassing.
Public Safety	III	During a security patrol, security noticed a cut in a fence that was restricting access to OPG property. Security remained on-site until site services repaired the cut.

* See Figure 22 for definitions of event categories.

While safety practices vary by dam based on site-specific risk assessments, and not every dam and generating station (such as those in very remote areas) requires measures such as a buoy and/or alarm system, it is important for OPG to continue to review and assess whether it has sufficient processes in place across all its dams and generating stations, including those that are easily accessible by the public.

RECOMMENDATION 11

To protect its hydroelectric generating stations, dams and the public, we recommend that Ontario Power Generation:

- complete all dam inspections and reviews on a timely basis in accordance with policies and best practices to assess the safety and operations of its dams; and

- continue to review safety processes across its hydroelectric assets to raise public awareness and identify opportunities to implement additional safety measures, such as buoys or alarm systems, where necessary and feasible.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General on the importance of maintaining a robust dam safety program.

Public safety remains OPG's greatest priority which includes the safe operation of its dams and hydroelectric stations. OPG adheres to all applicable dam safety regulations and actively participates in forums which seek to improve dam safety.

OPG will further streamline its dam safety review process to ensure timely completion of the reports and maintain its ongoing assessments of the control measures in place to protect the public from water-related hazards.

OPG will also further work with local authorities, law enforcement and community stakeholders to raise awareness and build public acceptance of the hazards associated with dams and hydroelectric stations to further strengthen public safety in the province. OPG will also continue its multi-platform water safety campaigns, which change seasonally, and target water recreationists and anglers.

4.9 OPG Needs to Continue to Monitor and Report on Its Foreign Acquisition and Investment Activities

In addition to its own generating stations and operations in Ontario, OPG owns generation assets in the United States through a series of subsidiaries operating as Eagle Creek. In November 2018, OPG first acquired Eagle Creek for an equity value of \$298 million US. In October 2019, OPG acquired Cube Hydro Partners LLC and Helix Partners PF for \$1.12 billion US. The latter two organizations, along with Eagle Creek, are all under joint management as Eagle Creek.

OPG consolidates the operations and assets of Eagle Creek into its financial statements. Eagle Creek operates exclusively in the United States (with no presence in Ontario or Canada) with its own Board of Directors. Eagle Creek's current Board of Directors is comprised of four members, two of whom are executives from OPG.

Eagle Creek is considered a smaller hydroelectric operator when compared to OPG. Although Eagle Creek owns 87 hydroelectric generating stations in the United States, compared to OPG's 66 stations in Ontario, Eagle Creek's stations have a total installed capacity of 688 megawatts, almost 12 times less than the installed capacity of approximately 7,500 megawatts at OPG's 66 stations.

We spoke with senior management at OPG and noted that the investment in Eagle Creek was a

strategic decision meant to act as a platform for long-term sustainable growth in United States markets. OPG's decision to look outside of Ontario for investment opportunities was due to limited growth opportunities available in Ontario at the time. Because the potential closure of Pickering Nuclear Generating Station in 2024/25 will result in a loss of nuclear generation, which in turn will create a gap in OPG's revenue, the investment in Eagle Creek was also made to provide a revenue source for OPG to partially fill this future revenue gap.

4.9.1 OPG and the Ministry of Energy Did Not Have an Acquisition Framework in 2018 When Acquiring Eagle Creek

We reviewed documents on the decision-making process of OPG's investment in Eagle Creek, and found that OPG and the Ministry of Energy (Ministry) did not have a formal acquisition framework or process in place to assess the potential acquisition of Eagle Creek in November 2018.

OPG has a mandate to pursue business opportunities both within and outside of Ontario. The 2015 Memorandum of Agreement between OPG and the Province of Ontario stipulates that "OPG shall leverage its assets and expertise to generate new revenues on a commercially sound basis, including the making of strategic investments and acquisitions in the electricity sector, as well as in related business opportunities inside and outside of Ontario, on its own or in partnership as appropriate, for the benefit of the Corporate and the Shareholder [the Province]."

We noted that OPG included only general details on its intent to look for investment opportunities outside of Ontario in its 2018–2021 business plan that was submitted to the Ministry. OPG noted that "... growth opportunities in Ontario's electricity sector remain limited due to uncertain future electricity demand levels, and OPG's current asset portfolio continues to be heavily weighted on Ontario-centric regulated nuclear and hydroelectric generation." Furthermore, OPG indicated its strategy would be to expand its business portfolio through "non-organic" investments, referring

to investments outside of Ontario. The business plan only mentioned that such investments would depend on market opportunities and the Province's expectations without specifying in what and where OPG was going to invest.

In April 2018, the then-Minister of Energy sent a response to OPG's business plan submission, acknowledging that "... the eventual shutdown of Pickering [Nuclear Generating Station] in 2024 will require changes to ensure OPG is financially and operationally strong, and positioned for future growth opportunities." The letter went on to say that "I [Minister of Energy] encourage OPG to continue to explore new business opportunities, including developments and acquisitions of projects. I expect OPG to keep the Province informed of its business development projects and to seek Shareholder [the Province's] concurrence on the material initiatives it plans to undertake."

We spoke with Ministry staff and found that while the Ministry was aware and kept informed of the acquisition process of Eagle Creek in 2018, formal Ministry approval was not required and the Ministry was not directly involved in the acquisition as direct taxpayer funds were not being used for the acquisition (OPG used its corporate public debt program and other available credit facilities to fund the acquisition). We also noted that OPG and the Ministry did not have an acquisition framework in place before making these multi-million-dollar foreign investment decisions.

It was not until 2021, about two years after OPG's acquisition of Eagle Creek, that the Ministry and OPG finalized an acquisition framework to evaluate any future investment opportunities. This acquisition framework described the steps OPG would take to ensure it was adequately assessing, prioritizing and valuating investment opportunities. For example, the framework indicates that OPG should consider the following:

- The time frame for a positive contribution to OPG's net income.
- How the investment would be part of a transition to a cleaner economy from an environmental perspective.

- How the investment would create long-term savings for Ontarians and stimulate economic development and/or employment in Ontario.

The acquisition framework also requires OPG to regularly monitor the performance of its investment and conduct a periodic (three to five year) strategic review, which is to be shared with OPG's Board of Directors as well as the Province as its shareholder. Additional details related to a recently completed strategic review are included in **Section 4.9.2**.

4.9.2 OPG's Rate of Return from Its Investment in Eagle Creek Is Lower Than Expected

As discussed in **Section 4.9.1**, Eagle Creek owns and operates hydroelectric generating stations to provide a return to its investor, namely OPG. OPG originally estimated that it would earn a certain return on its investment in Eagle Creek. However, in 2022, OPG completed a strategic review of its investment in Eagle Creek and lowered its expected rate of return by about 1.2%.

We reviewed OPG's analysis and surrounding details and noted there were multiple reasons for the reduced rate of return, including the COVID-19 pandemic which began in March 2020 and reduced electricity demand due to lockdowns in the United States. Eagle Creek also provides returns by investing in other hydroelectric organizations, but the COVID-19 pandemic has resulted in limited investment opportunities being brought to the United States market for Eagle Creek to expand its business. This in turn has also impacted the expected rate of return on investment for OPG.

It is important that OPG and the Ministry continuously monitor the status of this investment to ensure Eagle Creek provides a positive rate of return.

We also reviewed the revenue earned from Eagle Creek and noted that it was significantly lower than the revenue gap that would exist if Pickering Nuclear Generating Station (Pickering Station) was shut down. For example, in 2021, the revenue from Eagle Creek was approximately \$140 million while Pickering Station's revenue was about \$2 billion.

RECOMMENDATION 12

To protect the Province and by extension Ontario taxpayers and ratepayers, we recommend that Ontario Power Generation:

- complete an annual strategic review of its foreign investments and potential investment opportunities in Ontario and provide this information to both its Board of Directors and the Province; and
- regularly assess its acquisition framework, including a forward-looking risk analysis and potential investments (in both Ontario and other jurisdictions), and report those results to the Province.

RESPONSE FROM ONTARIO POWER GENERATION

Ontario Power Generation (OPG) agrees with the Auditor General's recommendation and is focused on growing in ways that support a sustainable future and provide the greatest value to Ontario taxpayers and ratepayers.

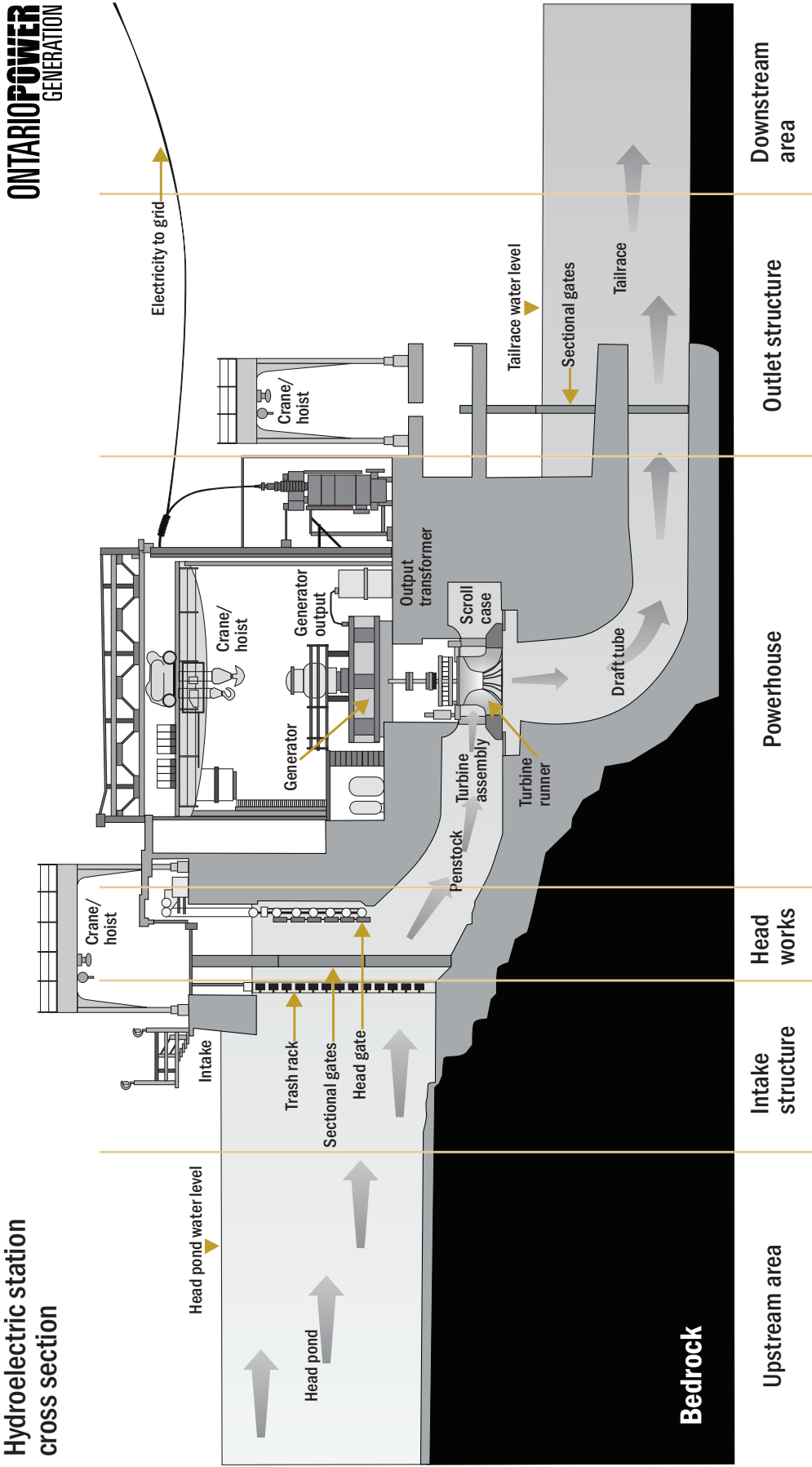
As part of OPG's commitment to its Board of Directors, it has established an Acquisition Performance Monitoring Framework, inclusive of annual performance updates. OPG will continue to report to its Board of Directors on this information on an annual basis and will provide the same information to the Province.

OPG's Acquisition Performance Monitoring Framework includes a periodic strategic review, as the Auditor General has recommended. As market conditions dictate, OPG intends to adjust the frequency of this strategic review to ensure its Board of Directors and the Province is aware of any substantial changes.

While the Acquisition Framework between OPG and the Province does not contain a formal assessment process, it does include a requirement for ongoing meetings which occur approximately once per month. The intent of this forum is to discuss potential investments. As part of this process, OPG commits to assessing the Acquisition Framework annually with the Province to ensure it remains effective and is structured to serve the best interest of Ontario taxpayers and ratepayers.

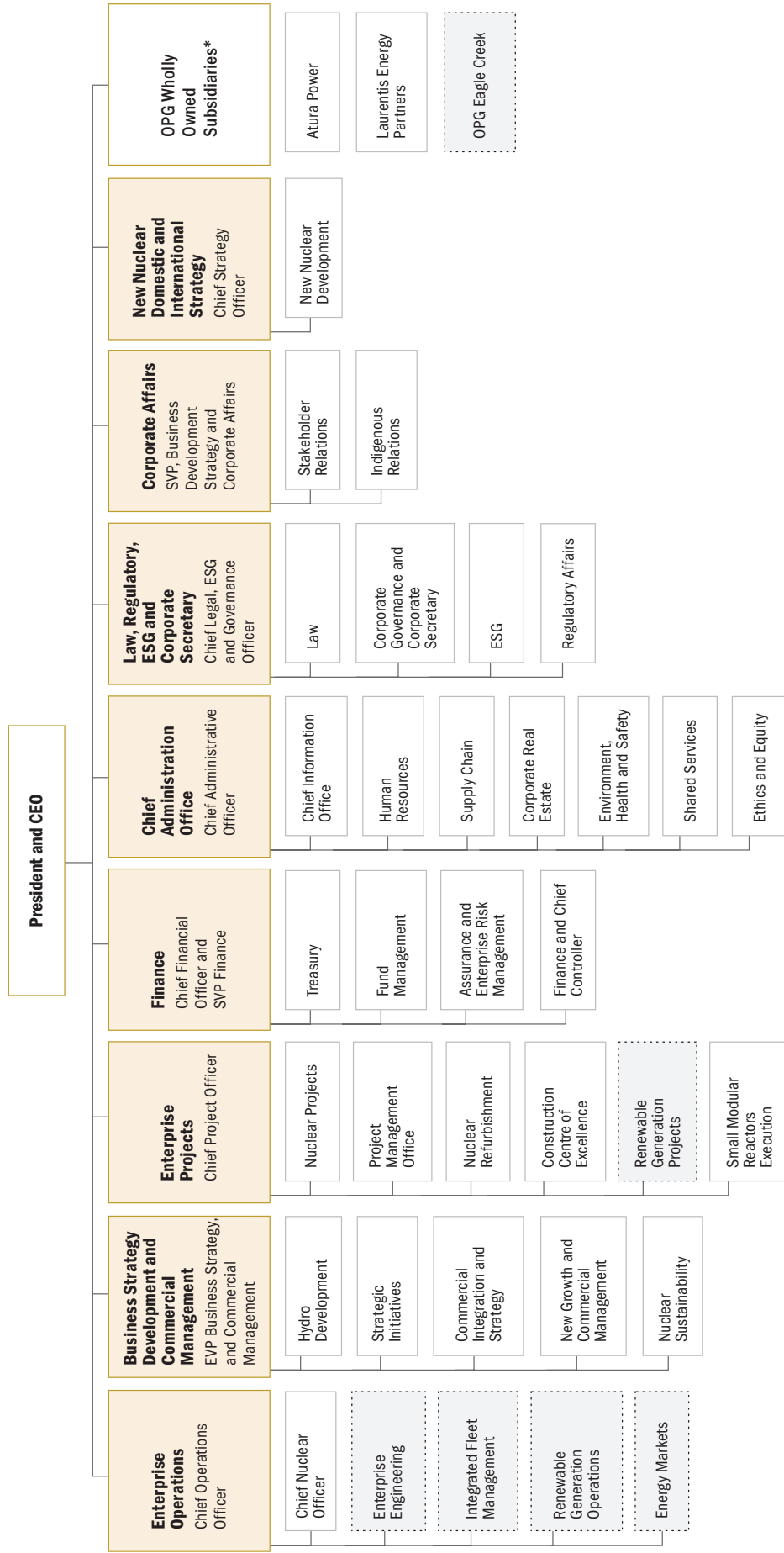
Appendix 1: Hydroelectric Generating Station

Source: Ontario Power Generation



Appendix 2: OPG Organizational Chart

Prepared by the Office of the Auditor General of Ontario



Our audit focuses on these divisions

* Not a comprehensive list

Legend: EVP – Executive Vice President

SVP – Senior Vice President

ESG – Environmental, Social and Governance

Appendix 3: OPG's Hydroelectric Generating Stations

Prepared by the Office of the Auditor General of Ontario

Region	Hydroelectric Generating Station	Original Date Unit Was Put in Service	2021 Installed Capacity (megawatts)	2021 Actual Generation (megawatt hours)	Age (# of years) ¹
Eastern (32 Stations)	Abitibi Canyon ²	1933–1959	345	858,043	62–88
	Arnprior	1976–1977	82	133,976	44–45
	Barrett Chute	1942–1968	176	295,749	53–79
	Bingham Chute	1923–1924	1	2,619	97–98
	Calabogie ³	1917	0	–	104
	Chats Falls	1931–1932	96	502,995	89–90
	Chenau	1950–1951	144	645,841	70–71
	Chute	1923–1924	3	10,447	97–98
	Coniston	1905–1915	3	11,946	106–116
	Crystal Falls	1921	8	38,459	100
	Des Joachims	1950–1951	429	1,968,348	70–71
	Elliot Chute	1929	2	4,194	92
	Harmon ⁴	1965–2014	234	445,851	7–56
	Healey Falls ⁴	1913–2010	18	82,239	11–108
	Hound Chute ⁴	1910 (rebuilt 2010)	9	40,192	11
	Kipling ⁴	1966–2014	230	451,303	7–55
	Little Long ^{2,4}	1963–2014	208	394,846	7–58
	Lower Notch	1971	274	293,710	50
	Lower Sturgeon ⁴	1923 (rebuilt 2010)	14	40,735	11
	Matabitchuan	1910	10	34,274	111
	McVittie	1912	3	14,273	109
	Mountain Chute	1967	170	299,174	54
	Nipissing ⁵	1909	0	–	112
	Otter Rapids	1961–1963	182	431,051	58–60
	Otto Holden	1952–1953	243	911,963	68–69
	Peter Sutherland Sr. ^{2,4}	2017	28	93,386	4
	RH Saunders ²	1958–1959	1,045	7,211,104	62–63
	Sandy Falls ⁴	1911 (rebuilt 2010)	6	29,823	11
	Smoky Falls ^{2,4}	1931 (rebuilt 2014)	267	515,179	7
	Stewartville	1948–1969	182	295,430	52–73
	Stinson	1925	5	20,760	96
	Wawaitin ⁴	1912 (rebuilt 2010)	15	50,111	11
Western (29 Stations)	Aguasabon	1948	47	100,355	73
	Alexander	1930–1958	69	338,815	63–91
	Auburn	1911–1912	2	9,364	109–110
	Big Chute ⁶	1909–1919 (rebuilt 1993)	10	–	28
	Big Eddy	1941	8	44,138	80
	Cameron Falls	1920–1958	92	404,906	63–101

Region	Hydroelectric Generating Station	Original Date Unit Was Put in Service	2021 Installed Capacity (megawatts)	2021 Actual Generation (megawatt hours)	Age (# of years) ¹
	Caribou Falls	1958	91	299,440	63
	Ear Falls ⁴	1930–1948	17	94,521	73–91
	Lac Seul ⁴	2009	12		12
	Eugenia Falls	1915–1920	6	21,502	101–106
	Frankford	1913	3	10,047	108
	Hagues Reach	1925	4	19,279	96
	High Falls	1920	3	14,127	101
	Kakabeka Falls	1906–1914	25	92,260	107–115
	Lakefield	1928	2	7,454	93
	Manitou Falls	1956–1958	73	230,120	63–65
	Merrickville	1915–1919	2	2,826	102–106
	Meyersberg	1924	5	20,510	97
	Pine Portage	1950–1954	145	420,437	67–71
	Ragged Rapids	1938	8	43,446	83
	Ranney Falls	1922–1926	10	63,340	95–99
	Seymour	1909	6	29,040	112
	Sidney	1911	4	21,019	110
	Sills Island	1900	2	9,263	121
	Silver Falls ⁷	1959	48	–	62
	South Falls	1916–1925	6		96–105
	Trethewey Falls	1929	2	46,443	92
	Hanna Chute	1926	1		95
	Whitedog Falls	1958	68	159,093	63
Niagara (5 Stations)	DeCew Falls I	1898	23	1,213,971	123
	DeCew Falls II	1948	144		73
	Sir Adam Beck I ²	1922–1930	438		91–99
	Sir Adam Beck II ²	1954–1958	1,499	11,355,484	63–67
	Sir Adam Beck Pump Generating Station	1957–1958	174		63–64
Total	66		7,481 (rounded)	31,199,221	

1. The age of some stations is presented as a range, because each generating station can have multiple generating units which may have started operating in different years.
2. Generating stations we visited during our audit.
3. Calabogie Generating Station was critically damaged by a tornado in September 2018 and will be out of service until the completion of a redevelopment project scheduled in 2022.
4. Contracted (non-rate-regulated) generating stations.
5. Nipissing Generating Station no longer generates electricity following the decision to not refurbish leaking penstocks.
6. Big Chute Generating Station is currently offline for repair work (that is, a forced outage).
7. Silver Falls Generating Station is currently in a planned outage (that is, an overhaul).

Appendix 4: Glossary of Terms

Prepared by the Office of the Auditor General of Ontario

Term	Definition
Baseload generators/ generating stations	Generating stations that produce a constant, steady supply of electricity 24 hours a day, seven days a week.
Canadian Dam Association (CDA)	A group of owners, operators, regulators, consultants and suppliers interested in dams and reservoirs. CDA provides a forum for the exchange of ideas and experience in the field of dam safety, public safety and protection of the environment.
Dam failure	An uncontrolled release of water through a dam as a result of structural failures or deficiencies in the dam.
Electricity Canada	An association (formerly called the Canadian Electricity Association) that provides a forum for the evolving and innovative electricity business in Canada. It supports, through its advocacy efforts, the regional, national and international success of its members.
Electrification	The process of replacing technologies that use fossil fuels (coal, oil, and natural gas) with technologies that use electricity as a source of energy.
Forced outage	The shutdown of a generating unit for emergency reasons or due to an unanticipated breakdown of a unit.
Generating unit availability rate	The amount of time a hydroelectric generating unit is able to produce electricity over a certain period divided by the amount of time in the period.
Hydroelectric energy (waterpower)	A form of renewable energy that uses the power of moving water (waterflow) to generate electricity.
Hydroelectric generating station	A station that converts the energy of moving or flowing water into electricity.
Incapability factor	The total percentage of time a unit is unavailable for outages (planned and forced) within OPG's control.
Independent Electricity System Operator (IESO)	The co-ordinator, integrator, and planner of Ontario's electricity system. The IESO monitors the energy needs of the province in real time (24 hours a day, seven days a week), balances supply and demand, directs the flow of electricity across Ontario's transmission lines, and performs electricity system planning.
In-service capacity	The portion of installed capacity that can be depended upon to produce electricity.
Installed capacity	The maximum amount of electricity that can be produced by a generator (or generating station or generating unit).
Megawatts (MW)	A unit of measurement to determine electricity generation/consumption, equal to one million watts.
Megawatt hour (MWh)	A unit of energy equal to outputting one million watts for one hour.
Ontario Energy Board (OEB)	The regulator of the province's electricity and natural gas sectors to protect the public interest, including setting payment rates for OPG production at its regulated generating stations.
Ontario Waterpower Association	A not-for-profit, member-based organization that promotes the sustainable development of waterpower resources in Ontario.
Plant Condition Assessment (PCA)	A forward-looking tool used to assess long-term factors related to a generating station such as aging, major component replacements, rehabilitation options, etc.
Post-implementation review	A documented review conducted to analyze the effectiveness of completed capital projects.

Term	Definition
Ratepayer	An Ontarian or business that pays for electricity.
Renewable energy	Energy derived from natural processes that are replenished at a rate that is generally equal to or faster than the rate at which they are consumed. Examples of renewable energy sources include hydro (or water), wind, solar and biomass.
Return on equity (ROE)	A measure of financial performance/profitability.
Risk register	A database that identifies, documents and retains information on risks related to capital projects, including (but not limited to) the description, cause and potential impact of the risk.
Scheduled outage	The shutdown of a generating unit for a planned inspection, maintenance or other work.
Sluiceways	A sliding gate or other device for controlling the flow of water.
Spillways	A structure within a dam that provides a safe path for excess water to flow to a downstream area.
Surplus baseload generation (SBG)	A situation when electricity production from baseload facilities (generators) is greater than electricity demand.
Work order	A document (either in electronic or paper format) that describes maintenance work that has been approved for completion.

Appendix 5: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. Asset planning and investment processes are in place to identify hydroelectric assets for maintenance, replacement and refurbishment based on a sound documented rationale such as a rating system, and to justify the rationale and need for investment in new capital projects.
2. Hydroelectric assets are routinely assessed based on accurate, complete and timely data to appropriately prioritize and complete needed preventative maintenance activities in order to maintain the reliability of hydroelectric stations and prevent potential outages of or damages to stations.
3. Revenues and resource allocation (for example, human resources) for hydroelectric generation are based on timely, reliable and reasonable information, taking into consideration costs and assumptions of risk with due regard for economy and efficiency.
4. Assets (including equipment and supplies) for hydroelectric capital and maintenance projects are acquired through competitive and transparent procurement procedures to achieve value for money and meet the quality standards.
5. Hydroelectric capital and maintenance projects are properly managed, maintained and renewed cost-effectively, efficiently and timely in accordance with relevant policies, capital plans, and asset management practices.
6. The impacts of hydroelectric stations to the environment and public safety, which can be caused by operational issues and incidents such as dam failures and flooding, are minimized and/or prevented by implementing appropriate and effective measures as well as monitoring on a regular basis.
7. Roles and responsibilities of all parties involved in hydroelectric operations are clearly defined and accountability requirements are established to ensure effective service delivery, co-ordination and oversight.
8. Appropriate and relevant performance measures and targets for hydroelectric capital and maintenance projects are established and continuously monitored and reported on against actual results to ensure that intended outcomes are being achieved and that corrective actions are being taken when issues are identified.

Real Estate Council of Ontario

1.0 Summary

Buying or selling a home is often the biggest financial decision people will make in their lifetime. Consumers typically rely on real estate professionals to help them navigate the buying and selling process and provide them with expertise and support. Real estate professionals can arrange showings of homes, negotiate the terms of a purchase or sale, offer advice, and manage legal documents such as written offers that are required to facilitate the purchase or sale of real estate.

According to the Ontario Real Estate Association (OREA), in the last 10 years (2012–21), about 2.2 million residential resale homes have been sold in Ontario with a total sales value of over \$1.2 trillion. In addition, the average price of a resale residential home increased by about 127% from \$383,651 in 2012 to \$871,870 in 2021. Effective oversight of the real estate industry is critical to ensure that consumers are protected when engaging in what may be their largest financial transaction.

In 1997, the government of Ontario created the Real Estate Council of Ontario (RECO), a not-for-profit designated administrative authority under the *Safety and Consumer Statutes Administration Act, 1996*, to administer and enforce the *Real Estate and Business Brokers Act, 2002* (Act) and regulate real estate brokerages, brokers and salespersons. RECO's mission is to promote a fair, safe and informed real estate market for consumers in Ontario through effective, innovative regulation of those who trade in real estate. The Ministry of Public and Business Service Delivery (Ministry)

is responsible for overseeing RECO and monitoring its performance to ensure RECO is meeting its mandate.

Under the Act, every real estate salesperson, broker and brokerage that facilitates the purchase or sale of property in Ontario must be registered with RECO. In 2021, there were 78,266 salespersons, 20,038 brokers and 3,876 brokerages registered with RECO. As RECO does not receive any government funding, it primarily funds its operations from registration fees and other fees it collects from registrants. In 2021, RECO's operating revenues totalled \$33.6 million.

To ensure salespersons, brokers and brokerages comply with legislative requirements, RECO undertakes activities that include inspections and investigations of registrants, and enforcement action against those who breach these requirements. RECO has an external Discipline Committee composed mostly of brokers and salespersons that can issue fines to registrants and/or require registrants to complete an educational course for failing to comply with Ontario Regulation 580/05—Code of Ethics, under the Act. Registrants are required to follow the rules of conduct in the Act, the Code of Ethics and other regulations under the Act in conducting real estate transactions. RECO is also responsible for providing timely information to the Minister on emerging issues or concerns relating to the administration of the Act that may require legislative, regulatory or policy changes to resolve.

Our audit found that the activities RECO performs to ensure salespersons, brokers and brokerages comply with the Act and its regulations are not always effective and timely. RECO does not have a process in place to

ensure a full on-site inspection is conducted at all real estate brokerages within a certain time frame to assess brokerages' compliance with the Act and its regulations. Specifically, RECO has never performed a full on-site inspection at 27% of registered brokerages, and has not conducted a full on-site inspection at a further 35% of brokerages in more than five years.

As well, RECO does not have a process in place to monitor whether investigators complete investigations on a timely basis or whether they take appropriate action based on the findings of their investigative work. For example, we found that the proportion of investigations resulting in enforcement action differed significantly amongst RECO's five investigators, ranging from a low of 39% in the case of one investigator to as high as 75% in the case of another.

When RECO finds that a salesperson, broker, or brokerage's conduct related to a real estate transaction has violated the Code of Ethics, it does not have an explicit policy to consider the amount of income earned by a registrant on the related real estate transaction when determining the amount of a fine unless the registrant suffered or gained as a result of the breaches. Between 2017 and 2021, the average fine issued for violations of the Code of Ethics was \$8,273, and 78% of the fines were \$10,000 or less. In our review of a sample of discipline cases, we found that 67% of registrants were fined a lower amount than the commission earned in the related real estate transaction. When a fine is significantly lower than the commission earned on a transaction, there is a risk that the fine may not act as a sufficient deterrent to future misconduct, and instead signal to a registrant that the fine is just a cost of doing business.

Additionally, RECO and the Ministry have lagged in facilitating the introduction of certain protections for consumers who engage in real estate transactions in Ontario, particularly in comparison to its counterpart in British Columbia. For example, in Ontario, there is no legislated cooling off period (a period of time when a buyer can cancel a real estate transaction without risking the loss of their deposit) for new or resale properties except for pre-construction or new condominiums.

In contrast, in July 2022, the government of British Columbia introduced a regulation concerning home buyers that provides buyers with a mandatory three-day period to allow them time to conduct due diligence activities such as a home inspection or to confirm they have secured financing, and to reconsider their offer. The regulation, which comes into effect in January 2023, was informed in part by advice from the British Columbia Financial Services Authority (BCFSA), which regulates real estate professionals in British Columbia, based on its consultations with industry, stakeholders and experts. In addition, while salespersons and brokers in Ontario are permitted to represent both a buyer and a seller in a single real estate transaction—making it challenging to effectively represent the best interests of both parties—with the assistance of the BCFSA's predecessor, the government of British Columbia in 2018 banned this practice because of the risk it presents to consumers. Similarly, in 2022 this practice was also banned in Quebec.

Other significant concerns identified in our audit included the following:

Registration of Salespersons and Brokers

- **RECO does not have a formal policy, guidelines or a consistent process to assess whether to refuse to register applicants who have a criminal history.** Under the Act, RECO can refuse to register an applicant who cannot reasonably be expected to carry on business in accordance with the law, and with integrity and honesty. However, RECO does not have a formal policy, guideline or process to assess whether an applicant with a criminal charge or conviction is fit to conduct business in the real estate profession in accordance with the Act. We reviewed a sample of 25 brokers and salespersons whose applications were approved by RECO in the last three years who had self-disclosed a criminal conviction or charges in their application. In 20 (80%) of these cases, RECO did not have a documented rationale for why it did not pursue action to refuse or revoke a registrant's registration. These cases included individuals convicted

of serious crimes including fraud, physical violence such as assault and assault with a weapon.

- **Lack of exam protocols contributed to a major breach in the integrity of exams offered in the real estate education program.** We found that despite major breaches in the integrity of real estate exams administered online by Humber College in April 2021, September 2021 and March 2022, RECO has not taken steps to independently verify whether the issues that led to the breaches have been satisfactorily addressed. To date, Humber College has notified RECO of 356 cases of large-scale, deliberate and organized misconduct involving 315 learners. These breaches occurred after exams were moved from in-person to virtual without adequate controls in place to protect the integrity of the examination process.

Inspections of Brokerages

- **RECO does not review and monitor whether inspections of brokerages are carried out consistently and effectively.** The proportion of inspections that identify instances of non-compliance varies significantly between RECO's five inspectors, ranging from a low of 29% of inspections in the case of one inspector, to as high as 82% in the case of another inspector.
- **RECO rarely follows up on violations found during inspections to confirm they have been corrected.** In 88% of the 2,643 inspections completed by RECO between 2017 and 2021 where violations were identified, we found that RECO's inspectors closed the inspection file without referring the brokerage to the investigations department or conducting a follow-up inspection to confirm that the violations had been corrected. These inspections identified significant violations, including shortages in the brokerage's real estate trust account where client deposits are held, and employing unregistered salespersons.

- **RECO does not check if salespersons and brokers are disclosing accurate information in property listings.** In our review of inspection files and discussions with RECO's inspectors, we found that although RECO's inspection process includes reviewing whether a brokerage's advertising is compliant with legal requirements for accuracy, it does not require its inspectors to review and verify the information included in a property listing to determine if the selling agent took reasonable steps to ensure its accuracy. Buyers rely on the accuracy of key information about a property to make purchasing decisions.

Money Laundering in the Real Estate Sector

- **The real estate sector rarely reports cash and suspicious real estate transactions as required to the federal agency that monitors money laundering.** The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) received zero reports of large cash transactions between the 2017/18 and 2020/21 fiscal years, and just 18 reports of large cash transactions in 2021/22, from real estate brokers and salespersons. A number of reports commissioned in recent years by the government of British Columbia repeatedly highlighted the risk of money laundering in the real estate sector and the need for stronger enforcement. Given Ontario's large and lucrative real estate market, it is highly likely that money laundering activities are occurring in this sector in Ontario but remain undetected.

Consumer Protection

- **Lack of transparency in real estate transactions involving multiple offers puts prospective buyers at financial risk.** Under the Act and its regulations, when there are competing offers on a single property, a brokerage that represents the seller must disclose the number of competing written offers to every person

making a competing offer but is prohibited from disclosing the substance of competing offers on the property, including the offer price, closing date and conditions to any person including other salespersons or brokers that represent prospective buyers. This is supposed to result in all interested buyers submitting offers to purchase a property without knowing any information about the content of competing offers from other interested buyers. This practice increases the risk that buyers can overpay for a property by offering a price that far exceeds the next highest offer.

- **RECO's ability to review allegations of fictitious offers on properties is limited.** The Ontario government introduced legislation in 2013 to make changes to the Act, and made changes to Regulation 579/05 in 2014, to require that all offers for a property be made in writing and that all brokerages acting for a seller must retain for at least one year all copies of offers received. These changes were made to prevent a salesperson or broker from making false or misleading claims about competing offers in order to pressure buyers of real estate to act quickly or inflate their offer prices. Although RECO has the authority under the Act to review allegations of fictitious offers, the Act does not require brokerages to retain original offer documents but instead permits brokerages to simply retain a summary of each unsuccessful offer. This summary is not required to include the offer amount or any conditions the buyer includes in an offer. Without this information, RECO's ability to assess whether an offer is a real offer from a legitimate buyer is limited.

Unclaimed Consumer Deposits

- **RECO does not follow up on brokerages it knows are holding unclaimed consumer deposits.** RECO does not have a process in place to require brokerages to periodically report the number and amount of unclaimed consumer deposits held in a brokerage's trust account. Instead, RECO relies on brokerages to

voluntarily comply with the requirements of the Act to remit to RECO any unclaimed consumer deposits that have not been returned to a buyer or seller after two years. We found that over the last five years (2017–21), RECO's inspectors issued 599 non-compliance notices to 491 brokerages for failing to remit unclaimed consumer deposits to RECO. However, even after issuing these non-compliance notices, RECO did not take any action to follow up and collect the unclaimed consumer deposits.

RECO's Operations

- **RECO does not currently have general authority to collect transaction data from brokerages, limiting its ability to effectively regulate registrants and identify consumer risks.** In the absence of such information, RECO currently faces challenges in providing evidence-informed policy advice to the Ministry to address emerging risks to consumers. For example, RECO cannot produce detailed analytics to identify the prevalence of trends in real estate transactions that may pose a risk to consumers such as unconditional offers, transactions where a single salesperson represents both the buyer and the seller, and transactions that may involve fictitious offers.
- **Majority of Ontarians surveyed are not aware of RECO and the consumer protections it offers.** RECO's efforts to inform prospective buyers and sellers about its role under the Act have not been effective, and there is no requirement in place for registered brokers and salespersons to inform buyers and sellers of services available through RECO. For example, RECO administers an insurance program where consumers can make a claim against a salesperson or broker in the event of an error or omission. About 89% of Ontarians surveyed by RECO in 2021 indicated that they were not aware of RECO and the protections it offered to real estate buyers and sellers, and 65% of Ontarians surveyed by RECO did not know that real

estate brokerages and salespersons were regulated by RECO.

- **Although RECO's role is to protect consumers, its Board is composed mainly of real estate industry representatives.** At the time of our audit, only two of the 12 directors on RECO's Board were not registered members of the real estate industry. RECO's Board is required to have an advisory process for direct input to the Board on issues of importance to consumers. However, we found that for most of RECO's existence, it has not had a functioning process to do so.

Ministry Oversight

- **The Ministry does not collect sufficient information to monitor and assess RECO's performance in meeting its mandate.** We found that RECO has not established performance indicators for key areas of its operations including areas where our audit identified significant operational issues such as whether all registered brokerages are inspected over a specific period of time and whether registrant misconduct is investigated within a targeted time frame.

This report contains 25 recommendations, with 63 action items, to address our audit findings.

Overall Conclusion

Our audit concluded that RECO has not been fully effective in administering the *Real Estate and Business Brokers Act, 2002* to protect the interests of consumers when engaging in a real estate transaction in what is usually the single biggest purchase of their lives. For example, RECO could not demonstrate how it met its requirements under the Act when assessing applicants who had a past criminal charge or conviction. The Act also requires that brokerages remit to RECO any unclaimed consumer deposits from incomplete property sales after two years. However, RECO did not have a process in place to proactively collect deposits and as a result, RECO does not know the number and value

of unclaimed deposits currently held by brokerages in Ontario.

There are also a number of areas where consumer protection for buyers and sellers of real estate could be improved in comparison to another Canadian province, British Columbia. For example, in Ontario there is no legislated cooling off period when purchasing a resale property. This means that buyers cannot typically rescind an offer with no conditions without risking the loss of their deposit. In 2022, the government of British Columbia announced a regulation concerning home-buyers that provides them with a mandatory three-day period to allow them time to conduct their due diligence by means such as obtaining a home inspection or confirming the availability of financing. In Ontario, a single salesperson or broker can represent both a buyer and seller in the same real estate transaction, on behalf of a brokerage. This practice has been banned in British Columbia due to the risks it poses to consumers.

RECO does not currently have general authority to collect transaction data from brokerages. In the absence of such information, RECO currently faces challenges in providing evidence-informed policy advice to the Ministry of Public and Business Service Delivery to address emerging risks to consumers or to apply a risk-based approach to inspecting brokerages so that high-risk brokerages can be inspected more frequently. For example, RECO cannot identify the prevalence of trends in real estate transactions that pose a risk to consumers such as unconditional offers, transactions where a single salesperson represents both the buyer and seller, and transactions that may involve fictitious offers.

Finally, our audit concluded that the Ministry's oversight processes to ensure that RECO effectively administers the Act and fulfills its mandate were not fully effective. We found that the Ministry did not collect sufficient information from RECO to monitor and assess RECO's performance. Specifically, we found that RECO lacked performance indicators for key areas of its operations, including inspections, investigations, disciplinary action and its compliance with the requirement to operate on a cost-recovery basis.

RECO OVERALL RESPONSE

The Real Estate Council of Ontario (RECO) appreciates the work done by the Office of the Auditor General of Ontario and the insights and opportunities its report presents to enhance the important work it does. RECO is also grateful for the oversight of the Ministry of Public and Business Service Delivery (Ministry).

The Board, management, and staff of RECO are committed to administering the law in the public interest, enhancing consumer confidence in the real estate profession, and raising professional standards in an industry where there are over 100,000 registrants and high-value assets are traded in approximately 250,000 transactions each year. RECO is committed to delivering on its mandate to the fullest extent possible, and to sharing its progress in a transparent manner.

While RECO is actively working on many of the recommendations described in the report, it is committed to developing a plan that will define the necessary steps to assess each recommendation and implement a solution to address the recommendations in a timely and responsive manner.

Specifically, RECO is pleased that so many of the recommendations align very closely with its strategy to modernize its approach to administering the law in the public interest. RECO will continue to develop processes in the areas of registration, inspection, education, complaints, and investigations and to gather relevant data to support its risk-based approach and reporting. The additional data will support and inform RECO's risk-based approach into the future.

RECO will work with the Ministry and other stakeholders to develop and implement strategies that effectively advance the public interest.

MINISTRY OVERALL RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) would like to thank the Auditor

General and her staff for their work on the audit and for their recommendations. The Ministry welcomes the feedback on how the Real Estate Council of Ontario (RECO) is performing and the recommendations to strengthen RECO's operations and the Ministry's oversight of RECO.

The Ministry recognizes the importance of RECO fulfilling its responsibilities to administer and enforce the *Real Estate and Business Brokers Act, 2002* (Act) in a manner that protects the public.

The Ministry takes its oversight of RECO seriously and is committed to examining areas where the Ministry can enhance its oversight processes to provide greater assurances for the people of Ontario that RECO is meeting its consumer protection mandate.

The Ministry notes that the *Trust in Real Estate Services Act, 2020*, which amends the Act, received Royal Assent in March 2020. The majority of changes made by the *Trust in Real Estate Services Act, 2020* will be coming into force on April 1, 2023, including changes that will:

- strengthen disclosure requirements and other registrant obligations;
- allow a registrant to conduct an open offer process and disclose the details of competing offers, excluding personal or identifying information contained in the offers, at the seller's direction; and
- update the regulatory powers and tools of RECO, including by revising the procedures of RECO's discipline committee.

The Ministry will work with RECO to address the Auditor General's recommendations. For those recommendations directed to RECO, the Ministry will request that RECO provide an implementation plan that outlines the specific steps RECO plans to take to implement each recommendation. The Ministry will closely monitor and track RECO's progress in addressing the recommendations.

2.0 Background

2.1 Overview of the Real Estate Council of Ontario

In 1997, the government of Ontario created the Real Estate Council of Ontario (RECO), an administrative authority under the *Safety and Consumer Statutes Administration Act, 1996*, to regulate real estate brokerages, brokers and salespersons (referred to as “registrants”). RECO is responsible for administering and enforcing the *Real Estate and Business Brokers Act, 2002* (Act). RECO’s mission is to promote a fair, safe and informed real estate market for consumers in Ontario through effective, innovative regulation of those who trade in real estate. Under the Act, every real estate brokerage, broker and salesperson that facilitates the purchase or sale of property in Ontario must be registered with RECO. In 2021, there were 3,876 brokerages, 20,038 brokers and 78,266 salespersons registered with RECO.

RECO is a designated administrative authority under the *Safety and Consumer Statutes Administration Act, 1996* that does not receive any government funding. It primarily funds its operations from registration fees and other fees it collects from registrants. In 2021, RECO’s operating revenues totalled \$33.6 million.

RECO is accountable to the Ministry of Public and Business Service Delivery (Ministry), which is responsible for overseeing RECO and monitoring its performance to ensure it is meeting its mandate. RECO’s Board of Directors is accountable for RECO’s performance to the Minister of Public and Business Service Delivery through the Board Chair.

2.2 Roles and Responsibilities

RECO undertakes a number of activities to administer and enforce the *Real Estate and Business Brokers Act, 2002* (Act) and fulfill its mandate, including:

- **registration** of real estate brokerages, brokers and salespersons (see **Section 2.4**);
- **developing education standards** for brokers and salespersons (see **Section 2.4**);

- **addressing complaints** about brokerages, brokers and salespersons (see **Section 2.5**);
- **conducting inspections** of real estate brokerages (see **Section 2.6**);
- **conducting investigations** of brokerages, brokers and salespersons for potential breaches of the Act (see **Section 2.7**);
- **taking enforcement action** against brokerages, brokers and salespersons, including when its complaints, inspections or investigations indicate that they have not complied with legislative provisions (see **Section 2.8**);
- **overseeing the Insurance Program** that provides professional liability insurance to all registrants (see **Section 2.9**); and
- **promoting** consumer and public awareness.

As of March 2022, RECO employed 160 full-time-equivalent employees whose responsibilities include processing registration applications, conducting inspections and investigations, mediating complaints, and responding to inquiries from the public and registrants. See **Appendix 1** for an overview of RECO’s organizational structure.

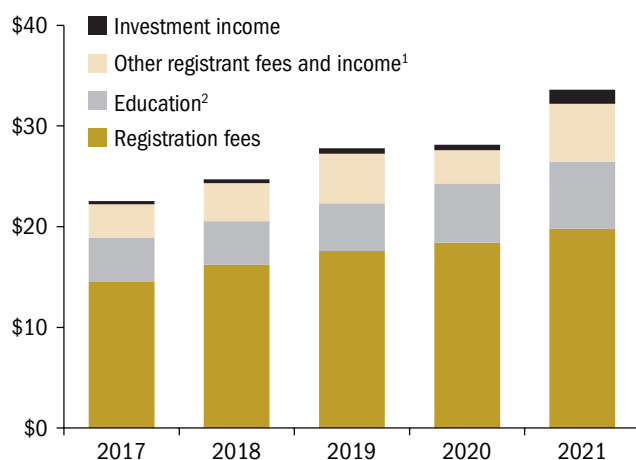
RECO is governed by a 12-member Board of Directors that is composed of nine members who are real estate professionals registered under the Act who are elected by registered brokers and salespersons, and three members appointed by the Minister of Public and Business Service Delivery. **Appendix 2** lists the current RECO Board members and their affiliations.

2.3 Revenues and Expenditures

RECO earns most of its revenue from the registration application fees it collects from registrants. In 2021, RECO’s operating revenues totalled \$33.6 million, of which \$19.8 million, or 59%, was revenue collected from registration fees. Other fees charged to registrants such as transfer fees and reinstatement fees accounted for \$4.8 million, or about 14% of total operating revenue. RECO also earns income from real estate education courses delivered by Humber College that are based on materials that were prepared by a vendor hired and overseen by RECO. RECO currently earns a flat fee of \$2 million each year and 5% of all course

Figure 1: RECO's Operating Revenues, 2017–2021 (\$ million)

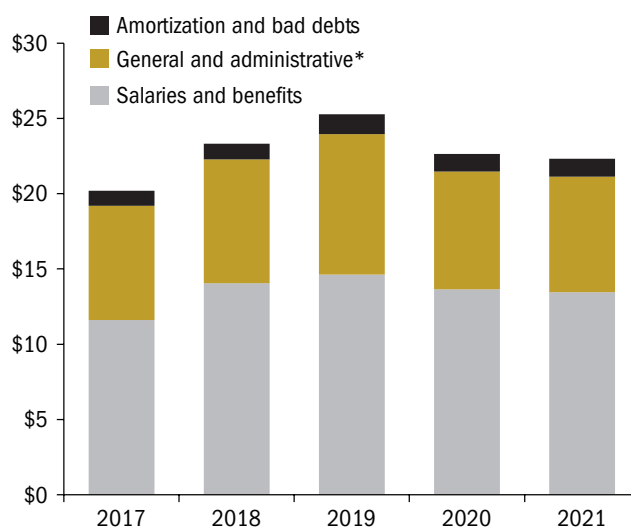
Source of data: Real Estate Council of Ontario



1. This represents other fees collected from registrants such as transfer fees, application review fees, and notice of change fees.
2. Education revenues include education revenue from pre-registration programs delivered by Humber College starting in September 2019 (and previously delivered by the Ontario Real Estate Association), as well as mandatory continuing education programs delivered by RECO.

Figure 2: RECO's Operating Expenses, 2017–2021 (\$ million)

Source of data: Real Estate Council of Ontario



* This includes office and administrative expenses, government oversight fee, board remuneration and occupancy costs.

Figure 3: RECO's Operating Revenues over Expenses, 2017–2021 (\$ million)

Source of data: Real Estate Council of Ontario

	2017	2018	2019	2020	2021
Revenue					
Registration fees	14.58	16.22	17.58	18.41	19.77
Education	4.34	4.33	4.73	5.88	6.67
Other registrant fees and income	3.32	3.76	4.93	3.30	5.78
Investment income	0.30	0.40	0.54	0.55	1.38
Total Operating Revenue*	22.53	24.71	27.78	28.14	33.60
Expenses					
Salaries and benefits	11.62	14.04	14.63	13.65	13.45
General and administrative	7.58	8.23	9.34	7.83	7.68
Amortization and bad debts	0.99	1.04	1.30	1.17	1.19
Total Operating Expenses*	20.19	23.32	25.27	22.65	22.32
Excess of Revenue over Expenses*	2.34	1.39	2.51	5.49	11.29

* Numbers may not total due to rounding.

revenue in excess of \$20 million generated by Humber College. In 2021, RECO earned almost \$6.7 million in education revenue, representing approximately 20% of its total operating revenue. **Figure 1** shows operating revenue collected by RECO over the last five years by

type, and **Figure 2** shows operating expenses incurred by RECO over this same time frame. **Figure 3** provides a comparison of operating revenues and expenses over the last five years (2017–21).

Figure 4: Registration Categories and Related Requirements

Source of data: Real Estate Council of Ontario

Type of Registration	Description	Applicant Requirements for Registration
Salesperson¹	Represents a buyer or seller in a real estate transaction.	• Be at least 18 years of age and a resident of Canada; • successfully complete the pre-registration education program; • submit a completed application form, criminal background check, and pay a registration fee to RECO; • disclose applicable matters related to financial position; • disclose past and present conduct (e.g., criminal history); and • obtain liability insurance through RECO (described in Section 2.9).
Broker^{1,2}	A salesperson that can be designated by a brokerage to supervise other salespersons employed by the brokerage and is responsible for ensuring that the brokerage complies with the <i>Real Estate and Business Brokers Act, 2002</i> (Act) and its regulations.	• Be registered as a salesperson for at least 24 months of the preceding 36 months prior to registering as a broker; • successfully complete the broker education program; and • submit a completed application form and registration fee to RECO (see Appendix 3).
Brokerage^{1,2}	A business (corporation, partnership or sole proprietorship) that employs registered salespersons and brokers.	• Submit a completed application form to RECO that includes proof of a trust account that is to be used to hold consumer deposits collected as part of a real estate transaction; • designate one broker as the broker of record; and • pay a registration fee to RECO.

1. Salespersons and brokers must be employed by a registered brokerage in order to actively trade in real estate in Ontario.

2. Although a brokerage may employ more than one broker, the Act requires a brokerage to designate one broker as the broker of record.

2.4 Registration of Brokerages, Brokers and Salespersons

The Act requires a person or business who facilitates a trade (e.g., buy, sell, lease, advertise or exchange) in real estate to be registered with RECO. However, registration with RECO is not required for individuals who choose to advertise and sell their own home. **Figure 4** illustrates the registration categories for individual applicants and businesses, and their related requirements.

In 2021, RECO approved applications for registration for 12,787 salespersons, 3,782 brokers and 686 brokerages. As of December 2021, there were 78,266 salespersons, 20,038 brokers and 3,876 brokerages registered with RECO. As shown in **Figure 5**, the vast

Figure 5: Salespersons and Brokers Employed by Brokerages, as of December 2021

Source of data: Real Estate Council of Ontario

# of Salespersons and Brokers Employed	# of Brokerages
0–25	3,355
26–50	185
51–100	137
101–500	170
501–1,000	18
> 1,000	11
Total	3,876

majority of brokerages employ 25 or fewer salespersons and brokers. **Figure 6a** shows that 42% of brokers and salespersons have been registered with RECO for more than 10 years, while 35% have been registered for less than five years. **Figure 6b** shows the number of brokerages, brokers and salespersons registered with RECO in each of the last 10 years (2012–21) compared to the number of residential homes sales in Ontario over the same period.

RECO has the authority to set education standards and approve providers to develop and deliver education programs for registrants. Individuals who want

to apply to become registered salespersons or brokers must complete these programs. RECO has contracted with NIIT Canada to develop and deliver the content for its registration education programs. NIIT Canada has contracted Humber College to deliver the registration education programs through a combination of in-person and remote virtual learning sessions and examinations. To qualify for entry into these programs, applicants must have a secondary school diploma or a General Education Development certificate (GED), or complete a program admission exam. RECO is responsible for overseeing NIIT Canada and Humber College's performance in developing and delivering the real estate education programs.

Brokerages, brokers and salespersons must renew their registration with RECO and pay a renewal fee once every two years (see **Appendix 3** for RECO's fee schedule). To be eligible to renew their registration, brokers and salespersons must also complete RECO's mandatory continuing education courses. Once every two years, salespersons and brokers must complete two RECO update courses and two elective courses offered by RECO. RECO maintains a library of courses that registrants can select from, with content that focuses on industry issues and regulatory knowledge.

Figure 6a: Length of Registration of Brokerage, as of December 2021

Source of data: Real Estate Council of Ontario

# of Years Registered with RECO	# of Brokers and Salespersons	% of Total
0–4	34,042	35
5–9	22,668	23
10–14	14,466	14
> 15	27,128	28
Total	98,304	100

Figure 6b: Number of Brokerages, Brokers and Salespersons Registered with RECO and Number of Residential Home Sales in Ontario, 2012–2021 (000)

Source of data: Real Estate Council of Ontario and Ontario Real Estate Association

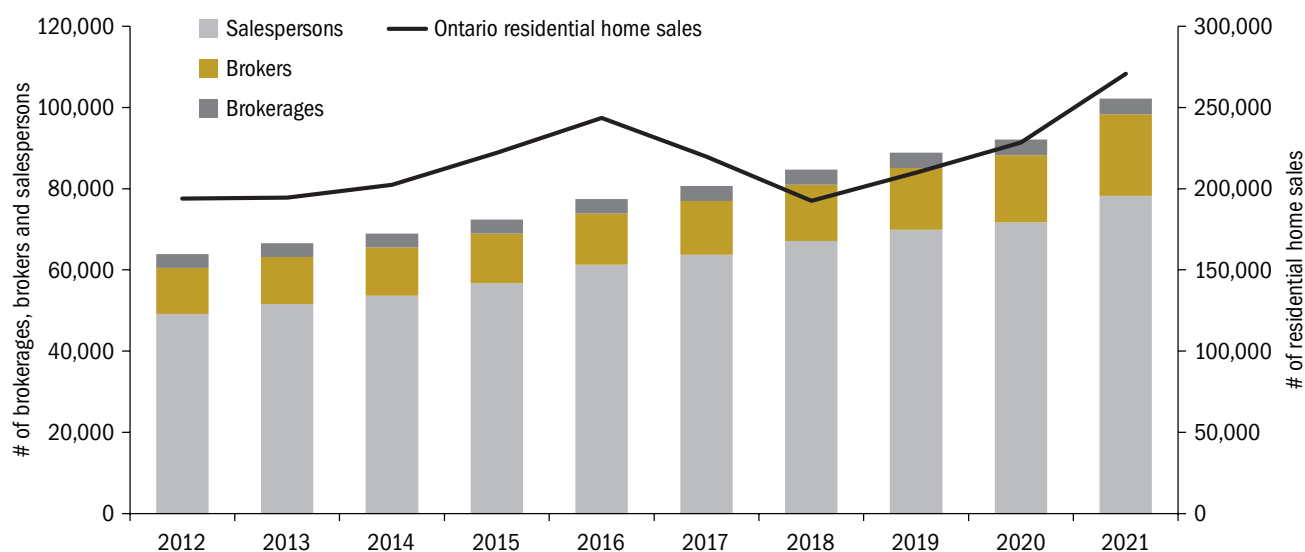


Figure 7: Complaints Closed and Average Time to Closure, 2017–2021

Source of data: Real Estate Council of Ontario

	2017	2018	2019	2020	2021	Total
# of complaints closed	3,182 ¹	1,828	1,751	2,251	2,674	11,686
Avg. turnaround time to close complaints (days)	n/a ²	84	71	79	137 ³	

1. RECO experienced a significant backlog in handling complaints between 2014 and 2016; it was addressed in 2017 by using additional staff to handle complaints (investigators, inspectors, etc.).
2. RECO made changes to its information systems in 2017, where migration of complaints data from the old system did not capture turnaround time for complaints.
3. In 2021, RECO revised the method used to calculate the turnaround time to more accurately reflect the total time it takes RECO to close a complaint.

2.5 Complaint Handling

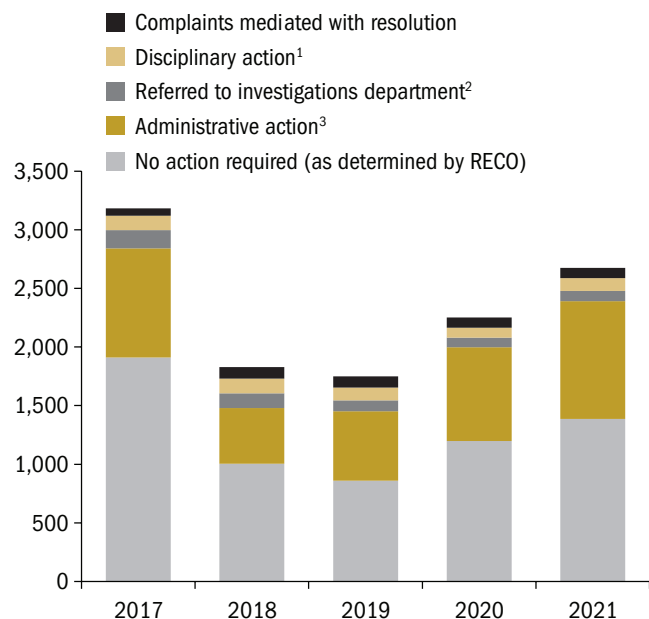
RECO's legislated responsibilities include addressing complaints it receives about the actions of its registrants. Under the Act, registrants are required to provide information about a complaint if requested to do so by RECO. See **Appendix 4** for an illustration of the steps RECO takes from receipt to closure of a complaint.

When handling a complaint, the Act allows RECO to attempt to mediate or resolve the complaint between the parties. In the last five years (2017–21), RECO closed approximately 11,700 complaints between complainants and registrants. About 75% of these complaints were from the public at large, while 25% were from registrants making complaints about other registrants. **Figure 7** shows the number of complaints closed by RECO in each of the last five years, and **Figure 8** highlights the outcomes of RECO's closed complaints over this period.

Based on the severity of the issues that led to the complaint, RECO can also issue a warning letter to the registrant, order the registrant to take educational courses, or require the registrant to make corrections. If a complaint alleges more serious violations of the Act and its regulations, where the actions of a registrant have caused harm to a buyer or seller, RECO may also escalate the complaint for enforcement action (described in **Section 2.8**), including referring the matter to the Discipline Committee, laying charges against the registrant, and/or proposing to revoke or suspend their registration. Such violations include instances where the registrant:

Figure 8: Outcome of Complaints Closed by RECO, 2017–2021

Source of data: Real Estate Council of Ontario



1. Disciplinary action is referral to the Discipline Committee for potential violations of the Code of Ethics.
2. Referral to investigations is to lay charges for prosecution in the provincial courts.
3. Administrative actions include issuing proposals to refuse, revoke, or suspend registrations or apply conditions, sending warning letters, and/or ordering education courses for the registrant violating the *Real Estate and Business Brokers Act, 2002*.

- fails to disclose pertinent information to all prospective buyers of a property, providing advantages to only specific buyers;
- gives a client access to a home without accompanying the client;

Figure 9: Types of Inspections Conducted by RECO

Source of data: Real Estate Council of Ontario

Type of Inspection	Description
Routine inspections	Involves the full inspection of brokerages on a periodic basis to assess their compliance with the <i>Real Estate and Business Brokers Act, 2002</i> (Act) and its regulations. The following documents are reviewed: • client representation agreement, agreement of purchase and sale, receipts for deposits, trade record sheet, any written disclosures, and correspondence with the client, the client's lawyer and the co-operating brokerage; • brokerage's monthly trust account reconciliations, ledgers and bank statements to verify whether deposit monies (held in trust by the brokerage) have been appropriately handled and maintained; • records for financial information, including all bank accounts held by the brokerage; • brokerage's personnel list to ensure there are no unregistered individuals making real estate trades; • advertisements of the brokerage to ensure they are not false, misleading or deceptive, and comply with all other advertising requirements; and • any other documents associated with specific trade files reviewed as part of the inspection.
Trust account reconciliation inspections	Performed as part of each routine on-site inspection but are also frequently performed as a separate individual review. They involve the review of a brokerage's trust account reconciliation statements, ledgers and bank statements to verify whether trust monies have been appropriately handled and maintained in accordance with the Act. Typically, these inspections are performed remotely when conducted separately from a routine inspection.
Courtesy inspections	Initiated by RECO's inspectors or at the request of the brokerage itself. These inspections involve the same steps as a routine inspection, with an added focus on education and information. One of the core purposes of these inspections is to educate the brokerage and its employees on their legislated and regulatory responsibilities, and practices that will help them be compliant.
Complaint inspections	These inspections are initiated in response to a complaint. They are conducted similarly to routine inspections, but may have a more targeted focus related to the nature of the complaint.

- misleads consumers in advertising, including property listings; and
- causes financial harm to a client by signing or doing something on the client's behalf without authorization.

Although RECO has the ability to take enforcement and disciplinary action against registrants, RECO does not have the authority under the Act to direct registrants to compensate claimants for damages, or to force registrants to cancel a contract that has been signed.

2.6 Compliance Inspections

Using its authority under the Act, RECO conducts periodic inspections of brokerages to ensure they conduct business in accordance with the Act and its regulations,

and that brokerages along with the brokers and salespersons they employ remain entitled to registration. RECO's inspectors have unrestricted access to all of a brokerage's documents and records that are relevant to the inspection (including financial records, past transactions and bank statements). RECO's inspection team consists of five inspectors and one manager. **Figure 9** shows the type of inspections conducted by RECO inspectors at registered brokerages.

Over the last five years (2017–21), RECO has conducted 5,148 inspections. Routine on-site inspections accounted for 28%, and trust account reconciliation inspections accounted for about 60% of the total.

Figure 10 shows the total number of inspections that RECO has conducted in each of the past five years, including a breakdown by inspection type.

2.7 Investigations

RECO can also investigate brokerages, brokers and salespersons who do not comply with the Act and its regulations. While it is not uncommon for RECO to identify compliance issues with a registrant, more serious or repeated violations of the Act are referred to RECO's investigations team for further inquiry by RECO's registration, complaint or inspection departments. Such violations include mishandling of consumer deposits, dishonest conduct of brokers and salespersons, misappropriation of assets, misleading business practices, and unregistered individuals illegally trading in real estate. Investigations that confirm serious violations of the Act and its regulations can result in enforcement action (described in **Section 2.8**) that can range from issuing a warning letter to filing charges against a registrant under the Act and/or issuing a proposal to revoke or suspend their registration.

RECO's investigations team consists of five investigators and one manager appointed as Provincial

Offences Officers under the *Provincial Offences Act*.

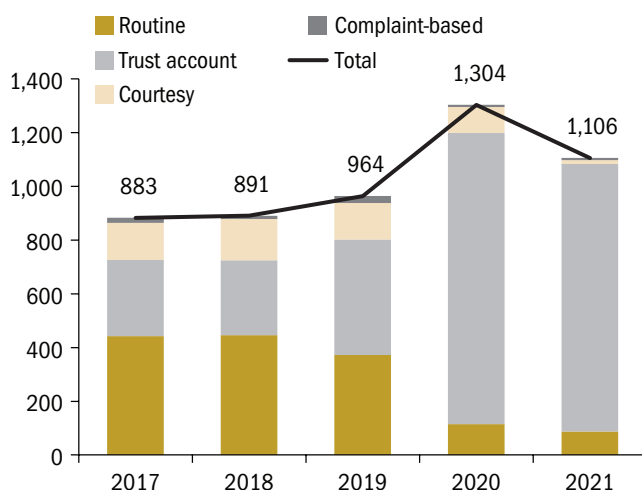
Investigations are initiated as a result of information received from various sources, including referrals from internal departments, such as inspections, registration and the insurance department. Complaints from a consumer or registrant can also trigger an investigation. Between 2017 and 2021, RECO conducted 735 investigations—see **Figure 11** for the number of investigations conducted by RECO annually during this period.

2.8 Enforcement and Disciplinary Actions

RECO can take a number of enforcement actions such as issuing a warning letter or a fine, or ordering a registrant to take education courses when violations of the Act are identified through its inspections and investigations. Complaints received from the public may also prompt RECO to take enforcement actions against registered salespersons, brokers and brokerages, and unregistered persons. **Figure 12** lists the types of enforcement actions that RECO can take in response to violations of the Act. **Figure 13** shows the number of enforcement actions taken by RECO over the last five years (2017–21).

Figure 10: Number of Inspections Conducted by RECO, by Type, 2017–2021

Source of data: Real Estate Council of Ontario



Note: All on-site inspections were suspended in March 2020 due to the impact and restrictions of the COVID-19 pandemic. Since then, on-site inspections have been intermittent as restrictions came off and then on again. During this period, RECO increased its trust account reconciliation inspections, as they can be completed remotely. RECO resumed conducting on-site inspections on a more frequent basis in July 2022.

Figure 11: Investigations Conducted by RECO, 2017–2021

Source of data: Real Estate Council of Ontario

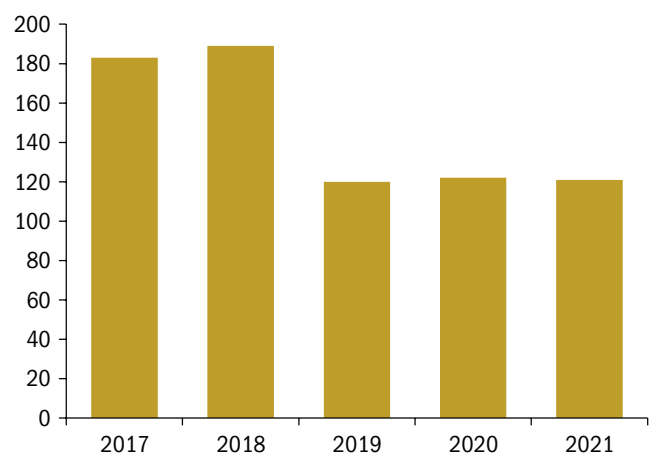


Figure 12: Types of Enforcement Actions RECO Can Take

Source of data: Real Estate Council of Ontario

Type of Enforcement	Description
Inspection deficiency notices	Inspection deficiency notices outlining the violations noted during an inspection are issued to brokerages at the conclusion of the inspection. The broker of record is required to sign the notice and correct the violations.
Warnings	A written warning issued to registrants that permanently remains on the registrant's record with RECO, and is taken into consideration in the case of future violations and complaints.
Educational courses/fines	Referral by RECO of registrants to the Discipline Committee for breaches under Ontario Regulation 580/05—Code of Ethics. The Committee's Discipline Panel can issue a fine to registrants and/or require registrants to complete RECO's education courses. See Section 2.8.1 for a description of the responsibilities and authority of the Discipline Committee.
Proposal to refuse, revoke or suspend registration	In cases involving a registrant where there are concerns related to their financial position and/or past conduct, or they have made a false statement in an application, the registrar has the authority to issue a proposals to a registrant to refuse, revoke, suspend or apply conditions to a registration. Registrants can appeal proposals to the Licence Appeal Tribunal (LAT).
Provincial offence charges	Charges that are laid and offences prosecuted in provincial court against registrants and non-registrants for breaches of the Act. The maximum penalty for an individual who is convicted of an offence under the Act is a fine of \$50,000 and/or imprisonment of two years less a day. The maximum fine for a corporation (brokerage) is \$250,000.

Figure 13: Enforcement Actions Taken by RECO, 2017–2021

Source of data: Real Estate Council of Ontario

	2017	2018	2019	2020	2021
Inspection deficiencies (#)	2,008	2,088	2,206	1,387	1,172
Warning letters (#)	920	458	540	756	970
Education courses ordered by RECO's Discipline Committee (#)	27	22	18	57	19
Fines ordered by RECO's Discipline Committee (#)	50	99	60	85	24
Fines ordered by RECO's Discipline Committee (\$)	569,500	807,250	411,000	674,000	144,000
Registration proposals issued (#)	19	19	23	11	17
Provincial offences: charges laid (#)	101	83	97	38	36
Provincial offences: persons prosecuted (#)	38	27	28	7	11
Provincial offences: convictions (#)	97	75	86	22	36
Provincial offences: fines ordered (\$)	434,700	127,000	414,450	123,400	85,000
Provincial offences: restitution ordered (\$)	69,156	23,500	54,100	58,238	35,000

2.8.1 RECO's Discipline Committee

The Discipline Committee is an independent committee composed of 43 members, 32 of which are brokers and salespersons, and 11 of which are members of the public. The Chair of the Discipline Committee appoints a panel of three members from the pool of 43 committee members to participate in committee hearings. Two of these three members must be registered brokers and/or salespersons; the third is a non-industry member. If the panel determines that a registrant has failed to comply with Ontario Regulation 580/05—Code of Ethics, under the Act, it may order any of the following:

- require the broker or salesperson to take educational courses;
- require the broker or salesperson to pay a fine of up to \$50,000; and/or
- require the brokerage to pay a fine of up to \$100,000.

Discipline Committee decisions are made public on RECO's website. RECO often enters into a settlement agreement with the registrant prior to a hearing taking place in front of the panel. **Figure 14** shows the number of settlements and discipline hearings that have taken place, and their outcomes, in the last five years (2017–21).

2.9 Insurance Program

Under the Act, all registrants are required to be insured under the professional liability group insurance arranged and administered by RECO. The professional liability insurance program that RECO administers provides coverage for liability arising from negligence, errors and omissions, and loss of commissions relating to a trade in real estate. In addition, consumers are protected against loss of deposits relating to a trade in real estate arising from situations such as theft, fraud, misappropriation, and insolvency or bankruptcy. See **Figure 15** for the minimum insurance coverages registrants are required to carry under the Act. **Figure 16** shows the number and value of claims paid from RECO's professional liability insurance program from 2016 to 2020.

3.0 Audit Objective and Scope

Our audit objective was to assess whether the Real Estate Council of Ontario (RECO) has effective and efficient processes in place to:

- administer the *Real Estate and Business Brokers Act, 2002* (Act) to protect the public when

Figure 14: Discipline Committee Hearings Closed and Their Outcomes, 2017–2021

Source of data: Real Estate Council of Ontario

	2017 ¹	2018	2019	2020	2021 ²
Cases settled prior to hearing	45	109	64	97	27
Cases resolved at hearing	9	10	6	1	0
Total disciplinary cases	54	119	70	98	27
Outcome of Settlements and Hearings					
Education courses ordered ³	27	22	18	57	19
Fines ordered (#) ³	50	99	60	85	24
Fines ordered (\$) ³	569,500	807,250	411,000	674,000	144,000

1. RECO made changes to its information systems, where migration of discipline data from the old system did not capture all 2017 cases accurately. Therefore, 2017 data is incomplete.

2. Between 2017 and 2021, 137 cases have been initiated, but are still pending outcome/settlement.

3. Registrants can be ordered to take courses, be ordered fines, or a combination of the two.

Figure 15: Minimum Insurance Coverage Required under the *Real Estate and Business Brokers Act, 2002*

Source of data: Real Estate Council of Ontario

Coverage Type	Minimum Coverage Required	Examples of Scenarios Covered under Insurance
Professional Liability (Errors and Omissions)	• \$1,000,000 per claim • \$3,000,000 per year	Covers mistakes such as: • under- or overpricing a property • making a mistake with respect to taxes • forgetting a key clause in the Agreement of Purchase and Sale
Consumer Deposit	• \$100,000 per claim • \$1,000,000 per same event*	A registrant misappropriates a consumer's deposit.
Commission Protection	• \$100,000 per claim • \$1,000,000 per same event*	A brokerage fails to pay commission to the salesperson or declares bankruptcy.

* The bankruptcy of a brokerage can affect a number of deposit claims. This is considered as one event and a registrant must carry a minimum of \$1 million coverage per event.

Figure 16: Insurance Claims Statistics, 2016–2020

Source of data: Real Estate Council of Ontario

	2016	2017	2018	2019	2020	Total	%
Claims Received (#)							
Errors and omissions	1,219	1,430	1,185	959	1,093	5,886	74
Commission protection	43	1,266	123	406	36	1,874	24
Consumer deposits	5	70	20	54	46	195	2
Total claims received (#)	1,267	2,766	1,328	1,419	1,175	7,955	100
Claims Paid (\$ million)							
Errors and omissions	10.91	12.06	8.55	4.60	2.49	38.61	85
Commission protection and consumer deposits	0.08	3.53	0.33	2.70	0.02	6.66	15
Total claims paid (\$ million)	10.99	15.59	8.88	7.30	2.51	45.27	100

engaging with a registered salesperson, broker or brokerage in real estate trades; and

- register and oversee brokerages, brokers and salespersons in accordance with the Act.

In addition, our audit assessed whether the Ministry of Public and Business Service Delivery (Ministry) has oversight processes in place to ensure that RECO effectively administers the Act, including effectively registering and regulating brokerages, brokers and salespersons.

Before starting our work, we identified the audit criteria we would use to address our audit objectives. These criteria were established based on a review of applicable legislation, policies and procedures. Senior management at RECO and the Ministry reviewed and agreed with our objective and associated audit criteria as listed in **Appendix 5**.

We conducted our audit between January 2022 and August 2022. We obtained written representation from RECO's management and the Ministry that, effective

November 18, 2022 they have provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

Our audit work at RECO was focused on the period of January 2017 to August 2022. However, in some areas we analyzed data going back as far as 10 years. The focus of our audit was on examining RECO's five main areas of responsibility:

- registration of real estate brokerages, brokers and salespersons;
- education program for brokers and salespersons;
- handling complaints against brokers and salespersons;
- conducting inspections of real estate brokerages and investigations of brokerages, brokers and salespersons for potential breaches of the *Real Estate and Business Brokers Act, 2002* and its regulations; and
- oversight of RECO's Insurance Program.

In conducting our work, we interviewed staff at RECO responsible for issuing and renewing the registration of salespersons, brokers and brokerages, and conducted walkthroughs of the registration process. We also reviewed the information RECO collected from NIIT Canada and Humber College that RECO uses to oversee the education program for new brokers and salespersons.

We interviewed RECO staff responsible for handling disputes and complaints against salespersons and brokers, and conducted walkthroughs of the complaint handling process.

To aid in our understanding of RECO's enforcement actions, we also interviewed all inspectors and the manager of investigations and reviewed past inspection/investigation records on a sample basis. To observe how RECO conducts its inspections, between May and August 2022 we accompanied RECO inspectors on inspections of brokerages. We interviewed RECO staff that regularly work with RECO's Discipline Committee and also reviewed past Discipline Committee case rulings. We obtained access to RECO's information systems to collect and analyze data from the registration, complaints, inspection, and investigations departments.

To evaluate RECO's governance structure, we engaged in discussions with some current members of RECO's Board of Directors and RECO's Consumer and Industry Advisory Group. We also reviewed meeting minutes, Board materials and Board backgrounds, including member appointment records.

We engaged in discussions with representatives of the primary stakeholder groups, including the Ontario Real Estate Association (OREA) and the Toronto Regional Real Estate Board (TRREB). As well, we contacted representatives from the Canadian Real Estate Association (CREA).

We also engaged in discussions and collected information from the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) to understand reporting requirements in place for salespersons and brokers to report real estate transactions in order to prevent, detect and deter money laundering activities.

Lastly, we conducted jurisdictional scans to identify best practices in other jurisdictions including British Columbia, Alberta, Quebec, the United States and Australia.

The audit also evaluated the Ministry of Public and Business Service Delivery's oversight function of RECO's operations and performance through a review of past communications, evaluations and reports. In addition, we engaged in discussions with key personnel from the Ministry who regularly interact with RECO staff.

We conducted our work and reported on the results of our examination in accordance with the applicable Canadian Standards on Assurance Engagements—Direct Engagements issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies the Canadian Standards of Quality Control and, as a result, maintains a comprehensive quality control system that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

4.0 Detailed Audit Observations

4.1 Registration of Brokers and Salespersons

4.1.1 RECO Does Not Have a Formal Policy, Guidelines or a Consistent Process to Assess Whether to Approve the Registration of Applicants That Have a Criminal History

We found that RECO does not have a consistent process to demonstrate how it assesses the past conduct of applicants for registration who have a criminal history.

The *Real Estate and Business Brokers Act, 2002* (Act) requires RECO to assess the past conduct of an applicant for registration as a salesperson or broker. Under the Act, RECO can refuse to register an applicant whose past conduct or financial position is such that they cannot reasonably be expected to carry on business in accordance with the law, and with integrity and honesty. To make this determination, RECO requires applicants to undergo a criminal background check, and to also self-declare if they have been charged with or convicted of any criminal offences.

We found that RECO does not have a formal policy, guidelines or a consistent process to assess whether an applicant with a criminal charge or conviction is fit to conduct business in the real estate profession. Instead, RECO expects each of its seven registration officers to use their own individual judgment to determine whether applicants with criminal convictions cannot reasonably be expected to carry on business in accordance with the law, and with integrity and honesty, on a case-by-case basis. RECO noted that in doing so, it expects its registration officers to consider RECO's past precedent-setting decisions, and decisions made by the Licence Appeal Tribunal. In the absence of a consistent

process, as well as a formal policy and guidelines, RECO cannot demonstrate that it effectively assesses whether an applicant's past criminal history poses a risk to the public or indicates potential unwillingness to act lawfully and in accordance with the standards of the profession.

We reviewed RECO's records and found that over 1,700, or about 2% of the 98,304 salespersons and brokers registered by RECO as of December 2021, disclosed in their registration application that they have one or more criminal charges or convictions. RECO does not have a dedicated field in its information system to identify the results of criminal record checks it collects from applicants. As a result, we were unable to determine the number of registrants that submitted a criminal record check that identified a criminal conviction or charge. In our review of a sample of 25 brokers and salespersons registered by RECO in the last three years who had self-disclosed a criminal conviction or identified charges in their application, for 20 of the 25, or 80%, we found no documented rationale by RECO for why it did not pursue action to refuse or revoke a registrant's registration. In these 20 applications, we found that RECO approved registration for individuals convicted of crimes such as fraud, physical violence—including assault and assault with a weapon. For example, one registrant was convicted of acquiring and using credit card and debit card information for the purpose of defrauding a large number of victims, through theft of financial data from cardholders to extract funds from their accounts. Another registrant was convicted of using fraudulent cheques.

In comparison, in Queensland, Australia, individuals convicted of serious offences in the past five years are deemed unsuitable to hold a real estate licence. Examples of serious offences include violent crimes, fraud and dishonesty, drug trafficking, extortion, arson, stalking and sexual offences. Under the California Code of Regulation of the Real Estate Commissioner, the Department of Real Estate has identified specific criteria to establish rehabilitation of people convicted of crimes. These criteria include, for example, consideration of the nature of the crime, time elapsed since the conviction and whether reasonable efforts are made to rehabilitate. The Commissioner

can also request testimony from the applicant, family members, and law enforcement.

We also observed that while having a criminal history does not prevent individuals from acquiring a real estate licence in British Columbia, the British Columbia Financial Services Authority (BCFSA) has a clear set of guidelines that applicants must meet. Persons with criminal charges relating to honesty and integrity, or criminal charges involving other individuals, are subject to greater scrutiny. The BCFSA assesses the nature of the criminal offence and the time elapsed since the offence. The BCFSA also considers rehabilitation efforts such as restitution, successful completion of parole or early discharge, enrolment in education related to self-improvement, and involvement within the greater community. The guideline is made public so that it may be used by prospective applicants as a self-assessment tool prior to applying for a real estate licence.

Further, in Texas, all real estate education providers are legally required to notify individuals who have a criminal history that they may submit a fitness determination application before enrolling in real estate education courses or applying to become real estate registrants. The Texas Occupations Code authorizes real estate licensing agencies to deny a licence if an applicant has committed a criminal offence that is directly related to the licence.

Criminal Background Check Not Required to Renew Registration

Salespersons and brokers are required to renew their registration with RECO every two years, and as part of that process they are required to self-disclose if they have been convicted or charged with any criminal offences. However, with few exceptions, RECO does not require salespersons and brokers to undergo a criminal background check on a periodic basis after they are registered. Instead, RECO generally relies on renewing registrants to self-disclose criminal convictions and charges. We noted approximately 42% of brokers and salespersons have been registered with RECO for over 10 years. Since RECO does not obtain a periodic criminal background check, RECO cannot

verify how many brokers and salespersons have been charged or convicted of a criminal offence subsequent to their initial registration and have not disclosed the charges or convictions.

Although RECO told us that it can impose a condition for registrants with a criminal history at the time of their initial registration to provide an updated criminal record check when renewing their registration, we found that as of September 2022, RECO did not have any conditions in place to maintain registration for 72% or 1,232 out of 1,700 registrants with a self-disclosed criminal history.

RECOMMENDATION 1

So that the Real Estate Council of Ontario (RECO) is able to meet the requirement of the *Real Estate and Business Brokers Act, 2002* to approve applications only if individuals seeking to register or renew their registration as a salesperson or broker can be expected to carry on business lawfully and with integrity, we recommend that RECO:

- develop a policy and guidelines to help registration staff determine when it is appropriate to approve and refuse the registration of applicants that have a history of criminal offences;
- require registration staff to document their rationale, consistent with the policy and guidelines, for recommending that the registration and renewal of registration of applicants be approved or refused;
- disclose the policy and guidelines publicly so that prospective applicants can self-assess their eligibility prior to completing the real estate education program; and
- introduce a requirement for registrants to periodically obtain an updated criminal background check as a condition of renewing registration.

RECO RESPONSE

Real Estate Council of Ontario (RECO) agrees with this recommendation. RECO will enhance its registration policy to include guidelines and processes for those assessing applications to include rationale

for approval and refusal of applications, including for applicants who have a history of criminal offences, by the end of 2023.

RECO will also publish a guideline for the public to understand the factors that are considered when assessing an application. RECO will continue to make the fact and outcomes of proposals to revoke, suspend and refuse registrations available on its website. RECO will also re-evaluate its former practice of requiring criminal record checks randomly for those renewing their registration.

4.1.2 Lack of Exam Protocols Contributed to a Major Breach in the Integrity of Exams Offered in the Real Estate Education Program

We found that despite major breaches in the integrity of real estate exams administered online by Humber College in April 2021, September 2021 and March 2022, RECO has not taken steps to independently verify whether the issues that led to the breaches have been satisfactorily addressed.

To date, Humber College has notified RECO of 356 cases of large-scale, deliberate and organized misconduct involving 315 learners. We noted that the breaches occurred after exams were moved from in-person to virtual without adequate controls in place to protect the integrity of the examination process.

We found that critical exam protocols to protect the integrity of virtual exams were not put in place on a timely basis, and many were implemented only after the large-scale breach at Humber College was identified. For example, the exam software used by Humber College did not prevent exam writers from sharing their screen with people not writing the exam. This could be done because the proctoring software used could not detect and notify the exam proctor of screen sharing with other devices. The software also did not have continuous and automated proctoring detection, which means that the exam would continue and would not be paused even if the proctor was not able to monitor an exam writer due to a technical issue.

We found that RECO has not initiated an independent review of the virtual examination process after

these large-scale exam breaches were found. Instead RECO relied solely on the service providers' (Humber College and NIIT Canada) own investigation of the breaches and the changes they subsequently implemented.

We also noted that, in July 2019, RECO proactively took steps to review the in-person exam process and provided feedback to the service providers to strengthen the in-person examination process. However, such steps were not taken prior to implementing the virtual examination process.

The Law Society of Ontario, which administers licensing exams for lawyers and paralegals in Ontario, suspended all online exams after it received information that exam content had been improperly accessed by some candidates, compromising the integrity of the exams. The Law Society of Ontario moved to hold all future exams in person only, citing this as “the most effective solution which balances the need for confidence in the examination process with the needs of candidates to continue their licensure journey.” The Law Society also hired third-party investigators to conduct a comprehensive investigation of the matter.

In comparison, despite three instances of breaches taking place in 2021 and 2022, RECO did not suspend any virtual exam offerings.

RECOMMENDATION 2

So that the integrity of real estate exams is protected, we recommend that the Real Estate Council of Ontario (RECO):

- take steps to independently review the exam protocols and the proctoring software for deficiencies;
- work with the education service provider to take immediate corrective action to address the issues identified;
- establish a formal protocol to be followed by the education service provider and RECO to identify and analyze future exam breaches; and
- maintain the ability to move exams to in-person administration should software integrity issues arise necessitating in-person exams.

RECO RESPONSE

RECO appreciates the Auditor General's timely recommendation. To protect the integrity of the real estate program examinations, RECO is formalizing the exam protocols to be followed by the current and future education service providers that develop, administer, and deliver exams on behalf of RECO. The protocols will include identifying and analyzing any future exam breaches, specifying that immediate corrective actions are to be taken to address those identified issues, and maintaining the ability to move exams to in-person administration should software integrity issues arise.

In addition to working with the education service provider and the results of its own completed independent reviews, RECO will take steps to independently review the exam protocols and the proctoring software for any deficiencies.

4.2 RECO Does Not Analyze Complaints to Identify Systemic Issues or Trends

We found that RECO does not track the complaints it receives by type, and thus does not analyze them to identify and address systemic issues and trends, including with respect to violations of the Act and its regulations.

In the last five years (2017–21), RECO handled approximately 11,700 complaints against salespersons and brokers, including instances involving possible violations of the Act and its regulations. We noted that RECO records the complaints it receives in its information system. However, RECO does not meaningfully categorize complaints to enable it to analyze them and identify systemic issues and trends that need to be addressed. In addition, RECO is unable to publicly report on the most common issues identified through its complaint handling process.

We found that in 55% of the 11,700 complaints handled by RECO, RECO did not categorize or record any description of the complaint in its system. In the remaining 45%, RECO identified that the complaints involved alleged violations of the Code of Ethics.

However, RECO categorized these violations in broad categories such as fairness and honesty, competent service, and unprofessional conduct, limiting its ability to identify and address systemic issues. For example, RECO could not identify how many complaints related to allegations that a registrant representing a seller did not disclose to the seller all offers they had received. Under the Act, all offers received by a selling agent are required to be disclosed to the seller.

We analyzed a sample of 100 complaints and found that a number of them related to violations of the Act and its regulations. Common examples included:

- misrepresentation of property listings, where the information presented in the property listing was inaccurate;
- the registrant not disclosing to all parties in a transaction that the registrant is representing both the buyer and the seller, a requirement under the Act; and
- the registrant verbally harassing and exhibiting inappropriate behaviour toward a consumer.

This indicates that recording complaints by type could also be used to identify recurring issues, which could help focus areas of RECO's operations aimed at facilitating compliance with the Act, such as its inspections and investigations (described further in **Section 4.3** and **Section 4.5**, respectively). Our review of a sample of complaints also identified complaints relating to consumer awareness, indicating that recording complaints by type can also help RECO aim at improving awareness in areas of highest consumer concern. For example, the complaints we reviewed included instances where the registrant representing a buyer asked the buyer to sign a buyer's representation agreement, which means that the buyer agrees to purchase a property using only the services of the registrant for a specified period of time. In these cases, the buyers alleged that they did not fully understand the implications of this agreement and specifically that they could not use the services of another registrant to purchase a property.

In comparison, the Ontario Motor Vehicle Industry Council (OMVIC), a delegated authority that regulates motor vehicle dealers and salespersons, mediates complaints between its registrants and consumers, and assigns a specific complaint category/type to each complaint

it receives about its registrants. OMVIC is thus able to identify the most common issues and complaints it receives and can report on and tackle these issues accordingly in order to improve overall consumer protection in the motor vehicle industry. OMVIC also reports on the most common issues identified through its complaints handling process in its public annual report.

RECOMMENDATION 3

So that the Real Estate Council of Ontario (RECO) improves its capacity to identify systemic issues and trends that require improvement, we recommend that RECO:

- implement a system to assign a descriptive complaint category to each complaint it receives;
- periodically analyze complaints data to identify systemic issues and trends over time;
- address and resolve identified systemic issues; and
- publicly report on common and emerging trends from complaints received on an annual basis.

RECO RESPONSE

RECO agrees with this recommendation. RECO will develop an improved classification system beyond just the sections of the Code of Ethics and implement it for 2024. The new approach will better enable the extraction of data to identify systemic issues and trends, and facilitate corrective action where needed. RECO commits to reporting on the newly categorized trends in annual reports commencing with the 2024 Annual Report.

4.3 Inspections of Brokerages

4.3.1 RECO Has Never Performed a Full On-Site Inspection at 27% of Registered Brokerages

We found that in the absence of a policy to inspect each registered brokerage within a certain time frame, RECO has never conducted a full on-site inspection at 27% of registered brokerages, and has not conducted

a full on-site inspection at a further 35% of registered brokerages for at least five years.

As noted in **Section 2.6**, RECO has the authority to conduct periodic inspections of brokerages to ensure the brokerage conducts business in accordance with the Act and its regulations. However, RECO does not have a policy to inspect brokerages within a certain time frame (e.g., at least once every five years), and it does not assess and assign a risk rating to each brokerage so that high-risk brokerages can be inspected more frequently. We also found that RECO does not consider in its selection process risk factors that can affect risk of non-compliance, including the volume of annual transactions, number of employees, compliance history and complaints.

We analyzed RECO's inspection data and found that RECO has never performed a full on-site inspection at 1,050, or about 27%, of the 3,890 brokerages registered with it. RECO told us that one reason for its not having inspected some registered brokerages is that it suspended all on-site inspections with the onset of the COVID-19 pandemic. While we acknowledge the impact of the pandemic, our analysis of RECO's data identified that 589 of the 1,050, or 56% of the brokerages that had never had an in-person inspection by RECO, were registered before the declaration of the pandemic in March 2020. On average, the 589 brokerages that RECO had never inspected had been registered for approximately 14 years.

We also analyzed when RECO had last inspected the 2,840 brokerages that received a full on-site inspection and found that 1,380 had not been inspected for at least five years.

In contrast to RECO, the Technical Standards and Safety Authority (TSSA), a delegated authority which, among other things, is responsible for inspecting elevators in Ontario, established a process to inspect every elevator at least once every five years. Every elevator is automatically assigned an inspection frequency between six months and five years. The TSSA has a computer system that is programmed to automatically determine how often every elevator should be inspected based on its risk factors. The computer

program automatically schedules the inspections when an elevator becomes due for an inspection.

RECOMMENDATION 4

So that brokerages are inspected based on their risk of non-compliance with the *Real Estate and Business Brokers Act, 2002* and its regulations, we recommend that the Real Estate Council of Ontario:

- develop a brokerage risk framework (for example, high, medium and low) and assign an inspection frequency to each level of risk;
- determine and assign a risk level and inspection frequency to each brokerage;
- put in place systems to ensure that each brokerage is scheduled for and receives an inspection based on its assigned frequency; and
- put in place a process to reassess each brokerage's risk level on an ongoing basis.

RECO RESPONSE

RECO agrees with this recommendation. A newly developed brokerage inspection program will launch in 2023 focusing on brokerages and activities that pose the greatest risk to consumers. The new program will include a risk-based approach to the type of inspections to be conducted and scheduling. The program will also involve an ongoing risk assessment of each brokerage.

4.3.2 RECO Does Not Inspect Brokerages That Declare Limited or No Real Estate Transactions and Does Not Verify the Accuracy of These Declarations

We found that over the last five years (2017–21), RECO cancelled about 20% of scheduled inspections of registered brokerages because the brokerage declared it had limited or no trading activities. However, we found that RECO does not take steps to verify the accuracy of these declarations before cancelling the inspection. We also noted that RECO counts these initiated but cancelled inspections as having been carried out even

though it did not attend the brokerage or review any trading documents or records.

According to RECO's policy, once RECO selects a brokerage for an inspection, RECO's inspector contacts the brokerage to notify the brokerage in advance of the inspection. If a brokerage informs the inspector that they had limited trades (five or fewer) or no trades in real estate for at least two years prior to the scheduled inspection date, RECO does not proceed with the inspection, and closes the inspection file.

Also, over the last five years RECO cancelled 1,244, or nearly 20% of the 6,392 scheduled inspections of registered brokerages that in total reported employing 2,370 salespersons and brokers, because the brokerages informed it that they had limited or no trading activities in real estate.

We noted that when a brokerage declares that it had limited or no trading activities, RECO's policy requires its inspectors to conduct an online search of the brokerage name before exempting it from an inspection, and review any complaints against it to assess the accuracy of the declared trading volume. However, RECO's inspectors told us that they do not carry out such procedures. Instead, the inspectors informed us that once the brokerage's broker of record signs a declaration form confirming their limited trading volume or no trading activity, the inspector retains a copy of the declaration form and closes the inspection file with no further action. We also noted that the number of brokerages declaring limited or no trading activity more than tripled over the last five years, from 79 in 2017 to 278 in 2021.

RECOMMENDATION 5

So that only brokerages with limited or no real estate trading activities are exempted from an inspection by the Real Estate Council of Ontario (RECO), we recommend that RECO:

- update the inspection policy requiring the inspectors to document the results of the procedures and other activities the inspectors have undertaken to verify the brokerage's trading volume;

- establish a process to conduct unannounced site visits to select brokerages to confirm the accuracy of their declared trading volume; and
- establish a checklist of procedures for its inspection staff to follow prior to granting a brokerage an exemption from inspection.

RECO RESPONSE

RECO agrees with this recommendation. A newly developed brokerage inspection program will launch in 2023, which will be supported by policy, procedures, and checklists to guide inspectors' assessment of brokerage trading volumes. RECO also commits to establishing a process by the end of 2023 for conducting unannounced inspections to confirm the accuracy of declared trading volumes when warranted.

4.3.3 RECO Does Not Review and Monitor Whether Inspections of Brokerages Are Carried Out Consistently and Effectively

We found that RECO does not have a process in place to periodically monitor whether its inspectors conduct compliance inspections of brokerages consistently and effectively, and has not updated the checklists its inspectors use to carry out inspections since RECO's inception 25 years ago.

We reviewed the inspections completed by RECO's inspectors between 2017 and 2021 and found that on average, 51% of RECO's inspections identify instances of non-compliance with the Act and its regulations. However, we also found that the proportion of inspections that identify instances of non-compliance varies significantly between inspectors, ranging from a low of 29% in the case of one inspector, to as high as 82% in the case of another. RECO does not monitor differences between inspectors to identify trends that may require management follow-up and/or corrective action.

We also noted that while RECO's inspectors use an inspection manual and checklists to guide their inspection work and to document their observations, these checklists have not been updated since RECO's

inception in 1997 to ensure they appropriately reflect the requirements of the Act and its regulations. For example, RECO's checklist does not require inspectors to record the amount of unclaimed consumer deposits that have not been remitted as required to RECO (described in **Section 4.7.2**). As well, we noted that the number of real estate transaction files selected for review during an inspection is not proportional to the number of properties sold by the brokerage. Instead, irrespective of a brokerage's volume of transactions, RECO's inspectors typically review 24 trade files.

RECOMMENDATION 6

So that the Real Estate Council of Ontario's (RECO's) inspectors carry out inspections of brokerages consistently and effectively, we recommend that RECO:

- update its inspection manual and checklists to require the number of trade files to be reviewed as part of an inspection to be proportional to the volume of properties sold by the brokerage;
- develop and implement an inspection oversight process that includes an inspection file review and a documented assessment of whether inspections are carried out effectively and consistently; and
- where inconsistencies are identified, take steps to facilitate corrective action.

RECO RESPONSE

RECO agrees with this recommendation. A newly developed brokerage inspection program will launch in 2023, which will be supported by policy, procedures, and checklists to guide the number of trade files reviewed during inspections. RECO will also implement an inspection oversight process that includes inspection file reviews for effectiveness and consistency. Where inconsistencies are noted, RECO intends to take corrective action. RECO will incorporate assessment of more performance metrics related to its inspections program throughout 2023.

4.3.4 RECO Rarely Follows Up on Violations Found during Inspections to Confirm They Have Been Corrected

We found that when RECO's inspectors identify instances of non-compliance with the Act and its regulations at a brokerage, they rarely follow up to confirm that the brokerage has addressed the violations, or refer the brokerage to RECO's investigations department for further review. RECO does not have a policy that provides guidance to its inspectors on how to determine when it is appropriate to conduct a follow-up inspection, or to refer the brokerage to RECO's investigations department for further review.

We also noted that RECO does not have a policy to help its inspectors rank the significance and risk of non-compliance issues identified, making it difficult for inspectors to objectively decide whether a brokerage should undergo a follow-up inspection or be referred to the investigations department. For instance, RECO has developed a standard listing of deficiencies that contains 114 types of violations that inspectors can refer to when issuing an Inspection Deficiency Notice to a brokerage (described in **Section 2.8**), which outlines violations found during the inspection. However, RECO has not assigned a risk rating (low, medium or high) to any of these 114 types of violations. In the absence of such a rating system, RECO's inspectors told us that they use their individual judgment and past experience to decide when a brokerage should be scheduled for a subsequent inspection targeting areas of concern, or escalated to management to consider initiating an investigation or other enforcement action.

We analyzed RECO's inspection data and found that RECO's inspectors identified violations of the Act and its regulations in 51%, or 2,643, of the 5,148 inspections conducted between 2017 and 2021. In 88% of the 2,643 inspections that identified violations, instead of conducting a follow-up inspection or referring the case to RECO's investigations department for further review, RECO's inspectors issued an Inspection Deficiency Notice listing the deficiencies identified and relied on the brokerage to correct them. The violations identified

included not reconciling the brokerage's bank account on a monthly basis as required, shortages in the real estate trust account where client deposits are held, employing unregistered salespersons, and improperly completing documentation. In all, RECO flagged just 228 brokerages for a follow-up inspection and referred 100 brokerages to RECO's investigations department for further review.

4.3.5 RECO Does Not Conduct Most Follow-Up Inspections within Its Target of Six to 12 Months

RECO does not have a policy that provides guidance to inspectors on the time frame in which a follow-up inspection should be completed, leaving it up to the discretion of each individual inspector to decide. Nevertheless, RECO's inspection staff told us that they usually aim to conduct a follow-up inspection between six months and one year after the initial inspection.

RECO flagged 228 brokerages for a follow-up inspection between 2017 and 2021, as described in **Section 4.3.4**. We analyzed these inspections and found that as of March 2022, 185 of them related to an initial inspection conducted more than one year previously. We reviewed the follow-up inspection history of these 185 brokerages and found that 43, or 23%, of them have yet to receive a follow-up inspection. On average, these 43 brokerages were initially inspected more than two years ago. Of the remaining brokerages, 64, or 35%, were inspected on average more than two years after their initial inspection. Just 78 brokerages, or 42%, were inspected within one year, consistent with the informal target set by RECO's inspectors. We also noted that brokerages that require a follow-up inspection are manually tracked by each inspector, and that inspectors themselves assign a due date to perform the follow-up inspection.

RECOMMENDATION 7

So that violations of the *Real Estate and Business Brokers Act, 2002* identified during an inspection

are corrected by the brokerages on a timely basis, we recommend that the Real Estate Council of Ontario:

- develop and implement a framework with appropriate time frames that provides guidance to inspectors on the types of violations of the Act and its regulations that should be reviewed with a follow-up inspection and when brokerages should be referred to RECO's investigations department for further review;
- ensure that follow-up inspections are performed, and referrals to the investigations department are made, in accordance with this framework;
- track the number of follow-up inspections performed; and
- publicly report on the number of follow-up inspections performed.

RECO RESPONSE

RECO agrees with this recommendation. The new brokerage inspection program launching in 2023 is risk based, and will be supported by policy, procedures, and checklists to guide inspectors' assessment and monitoring of brokerage compliance, including with respect to using inspection outcomes to determine scheduling of subsequent inspections, and criteria for making referrals for investigation. RECO will also track and report on volumes and types of all inspections conducted in its annual report.

4.3.6 RECO Does Not Check If Salespersons and Brokers Are Disclosing Accurate Information in Property Listings

Although real estate salespersons and brokers are legally required to provide accurate information about properties they list for sale, and buyers rely on them to do so, we found that RECO does not inspect whether they comply with this requirement.

Under the Act, salespersons and brokers that represent property sellers are strictly prohibited from

making false, misleading or deceptive statements and inaccurate representations about a property listed for sale. It is the selling agent's responsibility to take reasonable steps to ensure the information disclosed in a property listing is accurate.

In our review of inspection files and discussions with RECO's inspectors, we found that although RECO's inspection process includes reviewing brokerages' advertisements, it does not require its inspectors to review the information included in a property listing to determine if the selling agent took reasonable steps to ensure its accuracy. For example, the inspector could select a sample of properties listed for sale at the time of an inspection to determine if the selling agent took reasonable steps to ensure that key information such as the property tax amount, maintenance fees, age of the home and size of the lot is accurate.

We analyzed RECO's inspection data and found that RECO's review of advertising during an inspection is generally limited to materials such as the brokerage's website, business cards and letterhead, to determine whether or not the registered name and proper designations are used. Of note, we found that the sample of advertising materials inspectors reviewed was selected by the brokerage rather than by the inspector. Between 2017 and 2021, RECO identified 870 non-compliances with the Act that related to advertising. All of these involved improper disclosure of the name or designation of the registrants, which RECO advised us are considered low-risk non-compliance issues.

It is critical to ensure the accuracy of key information about a property, as buyers rely on this information to make purchasing decisions. For example, in January 2022, in response to a complaint, RECO's Discipline Committee fined a salesperson \$10,000 and ordered the salesperson to complete an advertising compliance course for listing an incorrect property tax amount on the property listing. The salesperson advertised the property as having property tax levies of \$1,800 when in fact the tax was \$5,500, more than three times that amount. Similarly, in another case, a salesperson was fined \$9,000 for understating property tax levies by \$1,152.69.

RECOMMENDATION 8

To improve the Real Estate Council of Ontario's (RECO's) effectiveness in identifying misleading advertising in the inspection process, and to minimize false, misleading, deceptive and inaccurate representations made by salespersons and brokers in the marketplace, we recommend that RECO:

- review property listings as part of the inspection process to ensure that salespersons and brokers have taken reasonable steps to ensure the material information advertised on the property listing is accurate; and
- instruct its inspectors to independently select a sample of advertising materials including property listings made prior to the inspection for its review.

RECO RESPONSE

RECO thanks the Auditor General for the recommendation. A newly developed brokerage inspection program will launch in 2023. The program will be supported by policy, procedures and checklists to support inspection activities. RECO will consider the scope and methodology of the inspections in which it would be most appropriate and effective to review a sample of property listings, when developing its new inspection program.

4.4 Money Laundering in the Real Estate Sector

4.4.1 The Real Estate Sector Rarely Reports Cash and Suspicious Real Estate Transactions to the Federal Agency That Monitors Money Laundering

Although real estate brokers and salespersons are required by federal law to report suspicious and large cash transactions to the federal agency that monitors money laundering, we found that brokers and salespersons rarely report such transactions. RECO does not

have a process to inspect whether brokers and salespersons comply with this requirement.

The Financial Transactions and Reports Analysis Centre of Canada (FINTRAC), a federal agency, is responsible for analyzing financial transactions reported to it, to detect, prevent and deter money laundering and financing of terrorist activities. FINTRAC requires real estate brokers and salespersons to verify the identity of all their clients, and report cash transactions exceeding \$10,000 or suspicious transactions.

According to the Ontario Real Estate Association, between 2017 and 2021, 1,120,989 residential properties were sold in Ontario with a sales value of over \$760 billion. We reviewed data reported to FINTRAC by the entire real estate sector in Ontario over the last five fiscal years (2017/18–2021/22). Overall, we found that the number of suspicious and large cash transactions reported to FINTRAC has been extremely low, particularly in comparison to the number of real estate transactions. As shown in **Figure 17**, FINTRAC received no reports at all of large cash transactions between the 2017/18 and 2020/21 fiscal years, and just 18 reports of large cash transactions in 2021/22. In addition,

Figure 17: Large Cash Transactions and Suspicious Transactions Reported to FINTRAC for Real Estate Transactions in Ontario

Source of data: Financial Transactions and Reports Analysis Centre of Canada (FINTRAC)

Fiscal Year	# of Large Cash Transaction Reports ¹	# of Suspicious Transaction Reports ²
2017/18	0	0
2018/19	0	16
2019/20	0	12
2020/21	0	6
2021/22	18	48
Total	18	82

1. FINTRAC requires real estate brokers and salespersons to report cash transactions exceeding \$10,000.
2. FINTRAC requires real estate brokers and salespersons to submit a suspicious transaction report if there are reasonable grounds to suspect that a financial transaction relates to an actual or potential money laundering or terrorist financing offence.

FINTRAC received just 82 reports of suspicious transactions in the last five fiscal years.

Our review of inspection files and discussions with RECO's inspectors identified that RECO does not review in its inspection process whether real estate brokers and salespersons are meeting their reporting obligations to FINTRAC. RECO's inspectors told us that their inspection process does not require this review, as it is limited to verifying compliance with the *Real Estate and Business Brokers Act, 2002*, which does not specifically require compliance with money laundering laws.

We found that although the Act does not specifically require registrants to comply with money laundering laws, it requires them to conduct themselves with integrity and to abide by all other laws and regulations that impact their business.

A number of reports commissioned in recent years by the government of British Columbia repeatedly highlighted the risk of money laundering in the real estate sector and the need for stronger enforcement. For example, a 2019 special report on this issue commissioned by the Minister of Finance of British Columbia estimated that in 2018 between \$800 million and \$5.3 billion was laundered through the province's real estate market. The report also noted that money laundering activities have contributed an estimated 5% to the increase in housing prices.

Another review commissioned by the Attorney General of British Columbia in 2019 estimated that about 17% to 21% of residential transactions in British Columbia were done without obtaining any financing. The report also noted that laundering money through real estate is attractive to criminals because large amounts of cash can be laundered, public registry of land ownership (to clarify who the actual owner is) is lacking, and financing can be obtained through private lenders, who are not overseen by FINTRAC.

The British Columbia Financial Services Authority (BCFSA), which regulates real estate professionals in British Columbia, has a signed memorandum of understanding with FINTRAC to share information to facilitate anti-money laundering enforcement activities in the province's real estate sector. In contrast, RECO

does not have such an agreement or process in place to share information with FINTRAC.

RECOMMENDATION 9

To identify and reduce the risk of money laundering activities through the real estate market, we recommend that the Real Estate Council of Ontario (RECO) work with the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) to:

- enter into an agreement to share information to facilitate enforcement targeting money laundering;
- update the RECO inspection manual to include new procedures inspectors are required to follow to review salespersons, brokers and brokerages' reporting obligations to FINTRAC.

RECO RESPONSE

RECO thanks the Auditor General for the recommendation. RECO has already begun to explore opportunities to collaborate with FINTRAC on sharing information and collaborating on inspections, investigations, and prosecutions within the scope of its authority, as it does with other law enforcement agencies.

RECO will consider to what extent it could review registrants' FINTRAC reporting obligations during inspections within RECO's legislative authority and in consultation with FINTRAC. RECO will prosecute those involved in money laundering or related activity within the scope of its authority.

4.5 Investigation of Salespersons, Brokers and Brokerages

4.5.1 RECO Does Not Monitor the Timeliness and Effectiveness of Its Investigations

We found that RECO does not have formal policies and procedures to guide the work of its investigators. RECO also does not have a process in place to monitor whether investigators complete investigations

on a timely basis or whether they take appropriate action based on their findings. Over the last five years (2017–21), RECO’s investigators completed 675 investigations. We reviewed RECO’s investigation data and identified the following concerns:

- RECO has not established a range or guideline for the expected length of its investigations, to monitor whether they are completed on a timely basis. We found that the number of days to complete an investigation ranged from one to 1,281 days, although on average it took about 193 days (over six months) to complete an investigation. This number also varied significantly by investigator, ranging from as little as 26 days on average in the case of one investigator to as long as an average of 331 days in the case of another investigator.
- As of March 2022, RECO had 57 investigations in progress. Nearly two-thirds of these had been in progress for over 193 days (which is the average number of days RECO takes to complete an investigation); on average, the investigations exceeding 193 days had been in progress for 434 days. One investigation into a consumer complaint of a non-registered person acting as a salesperson had been open for 865 days because the investigator who was initially assigned to this case left the organization and RECO was not subsequently able to promptly locate the evidence gathered by the investigator.
- One investigator, who took the greatest average number of days (331 days) to complete a file, investigated 74 cases, and about 57% of them resulted in enforcement action. In comparison, another investigator who had a similar rate of enforcement action (54%) completed 132 investigations, spending 185 days less, on average, on each file.
- RECO has not established a benchmark or guidelines for the proportion of investigations expected to result in enforcement action to help monitor whether the investigations are effective and the proportion resulting in enforcement action is reasonable. We noted that of

the 675 investigations RECO’s investigators completed, 52% resulted in enforcement action or referral to other departments for further enforcement. About 18% of the cases resulted in prosecution, and about 24% of the cases were referred to other departments such as legal, registration, and the Discipline Committee for further enforcement action. In the remaining 10% of the cases, RECO issued a warning letter. We found that the proportion of investigations resulting in enforcement action differed significantly between investigators, ranging from a low of 39% for one investigator to 75% for another.

- There is no formal process to review investigation files for quality assurance. About 10% of the investigations resulted in RECO issuing a warning letter to a registrant. Upon further review of the warning letters, we noted that even though RECO employs six investigators, more than half, or 40 of the 69 warning letters, were issued by the same investigator.

RECOMMENDATION 10

So that investigations of brokerages and salespersons are completed effectively and on a timely basis, and that appropriate enforcement action is taken where required, we recommend that the Real Estate Council of Ontario:

- develop policies and procedures on key aspects of investigations to help guide the work of its investigators;
- implement reasonable guidelines or benchmarks for enforcement action and the timely completion of investigations;
- implement a process to monitor investigations against these guidelines or benchmarks to identify and follow up where significant differences are found; and
- implement a process to periodically review investigation files to determine if they are complete and result in appropriate enforcement action, and to take corrective action where necessary.

RECO RESPONSE

RECO agrees with the recommendation. Within the next two years, RECO will develop policies, procedures, and checklists to guide the effective administration of the investigations program.

RECO will also implement an investigation oversight process that includes new procedures, monitoring of file completeness, progression, and enforcement outcomes, and follow-up coaching as necessary. RECO will implement guidelines and other performance metrics to support the new policy and procedures throughout 2023 and 2024.

4.5.2 The Fines RECO's Discipline Committee Orders Registrants to Pay for Misconduct Relating to Real Estate Trades Are Often Lower than Commissions Earned

We found that when RECO's Discipline Committee finds that a salesperson's, broker's or brokerage's conduct relating to a real estate transaction has violated the Code of Ethics, the fines and penalties it orders may not prevent the registrant from profiting from the trade that resulted in the violation.

As described in **Section 2.8**, RECO has the ability to refer registrants to its Discipline Committee for breaches under Ontario Regulation 580/05—Code of Ethics (Code of Ethics). If the Discipline Committee's panel (described in **Section 2.8.1**) determines that a broker or salesperson has failed to comply with the Code of Ethics, it can order that person to take educational courses (to help prevent future breaches of the Code of Ethics), and/or to pay a fine of up to \$50,000 (up to \$100,000 in the case of a brokerage). Between 2017 and 2021, RECO issued over \$2.6 million in fines to registrants.

The Act allows the Discipline Committee to use its discretion to determine the type of penalty and fine amount it imposes for violations of the Code of Ethics, within the limits stated above. We found, however, that RECO has not put in place a guideline to help members of the Discipline Committee determine the appropriate

fines to impose. Instead, RECO advised us that to determine fines, the Discipline Committee considers past decisions of similar conduct. We reviewed the fines issued by the Discipline Committee to salespersons, brokers and brokerages between 2017 and 2021, and found that the average fine was \$8,273, and 78% of the fines were \$10,000 or less. In addition, we found that 67% of salespersons and brokers that were fined were not required to take any education courses.

We reviewed a sample of 30 discipline cases handled by RECO's Discipline Committee in the last five years (2017–21) where the registrant violated the Code of Ethics in a real estate trade. We were unable to determine the registrant's commission in 15 of these cases because this information was not available in RECO's files. In the remaining 15 cases, we found that the fine issued by the Committee in 10, or 67%, of these cases were lower than the commission earned by the registrant in the related real estate trade. In the remaining five cases the fines were higher than the commission earned. **Figure 18** provides examples of these discipline cases.

Where fines are significantly lower than a registrant's commission, there is a risk that the fines may not act as a sufficient deterrent to future misconduct, and instead signal to registrants that fines are just a cost of doing business.

RECO told us that the Discipline Committee does not consider the amount of income earned by a registrant on the related real estate transaction when determining the amount of a fine, unless the registrant suffered or gained as a result of the breaches. RECO considers past discipline cases as a precedent, and issues similar fines for similar violations identified in the past.

In comparison, the British Columbia Financial Services Authority (BCFSA), the organization responsible for regulating real estate professionals in that province, can impose penalties as high as \$250,000 on a salesperson or broker, and up to \$500,000 on brokerages. In addition, the BCFSA has the authority to impose additional penalties up to the amount of remuneration that a licensee earns for the real estate services that relate

Figure 18: Examples of Disciplinary Cases and Fines Issued by RECO, 2017–2021

Prepared by Office of the Auditor General of Ontario

#	Disciplinary Case Summary	Fine Issued by RECO (\$)	Commission Earned by Registrant (\$)	Difference (\$)
1	The registrant, who represented the buyer of a property purchased on condition of a home inspection, gave both the buyer and inspector unsupervised access into the property by giving them the lockbox code to the property. The registrant did not attend the inspection with them as required.	4,500	13,600	9,100
2	The registrant, who represented the seller of a property, took on a buyer representative's client as their own client, despite being aware that the client had entered into a buyer's representation agreement with their original agent. The registrant entered into a new buyer's representation agreement with the client, and subsequently submitted an offer on the property on behalf of their new client which was accepted by the seller.	9,000	37,500	28,500
3	The registrant, who represented the buyer of a property purchased on condition of a satisfactory home inspection, failed to inform the buyer of issues identified during the home inspection before closing the purchase.	9,000	18,700	9,700
4	The registrant, representing the seller of the property, failed to inform all prospective buyers of the property as required that offers had been placed on the property by the registrant's own clients, and that the registrant entered into an agreement to reduce their commission to complete the sale between the buyer and the seller.	5,000	82,800	77,800
5	The registrant, who represented the seller of the property, misrepresented the listing of the property to prospective buyers, indicating that all appliances were included, when the air conditioner and furnace were rental and loaned appliances. The sellers learned that in order for an offer they received to close, they were required to buy the rental and loan contracts out, where the cost to buy out the furnace was \$3,000 and the air conditioner was \$5,900.	3,250	14,100	10,850
6	The registrant, who represented the buyers of a property, did not take the necessary steps to determine whether the property allowed for demolition and rebuilding, being the primary reason why the buyers wanted to purchase the property in the first place. The buyers later found major obstacles, such as zoning restrictions, that prevented them from being able to do so, and required them to resell the property as a result.	6,000	11,600	5,600
7	The registrant, representing the seller of the property, failed to inform all competing buyer representatives that three of the seven offers being presented to the seller were from their own brokerage, where an offer submitted by the registrant's brokerage was ultimately accepted by the seller.	7,500	14,300	6,800
8	The registrant, who represented the buyer of the property, amended the closing date on the agreement for the property without authorization from the buyer, delaying the closing date by two months. The registrant also agreed to rebate 1% of their overall commission back to the buyer, but did not do so once the deal was complete.	4,000	29,900	25,900
9	The registrant, who represented the seller of the property, approached potential buyer clients who were represented by another agent, to submit an offer for the property directly through them, despite the buyers having signed a buyer's representation agreement with their original agent. The buyers subsequently signed a new buyer's representation agreement with the registrant, and submitted an offer that was accepted by the seller. The registrant received full commission on the sale of property from both the seller and the buyer.	7,500	24,500	17,000
10	The registrant, who represented the buyers of the property, entered into an agreement to purchase the property, with the condition of allowing the buyers to visit the property two times before the closing date. On one visit, the registrant left both their buyers and their heating, ventilation, and air conditioning technician unattended in the property, and had them continue the visitation without the registrant.	4,000	15,700	11,700

to the contravention. According to the BCFSa's sanction guideline, discipline may fail to achieve a genuine deterrent effect if sanctions are low enough that misconduct is still profitable. The guideline requires consideration of factors that deprive the licensee of all economic benefits from the transaction or activity, including penalties equivalent to or greater than the commission earned.

RECOMMENDATION 11

So that its registrants are sufficiently deterred from contravening Ontario Regulation 580/05—Code of Ethics (Code of Ethics) when conducting real estate transactions with consumers, we recommend that the Real Estate Council of Ontario (RECO):

- create and implement a formal fining framework to guide RECO's Discipline Committee on the appropriate dollar value of penalties to issue to registrants for contraventions of the Code of Ethics, taking into consideration the severity of the contravention; and
- as part of this framework, take into consideration the amount of remuneration earned on the corresponding real estate transaction by registrants when determining the appropriate dollar value of penalties to be issued.

RECO RESPONSE

RECO thanks the Auditor General for this recommendation. RECO will develop sanctioning guidelines for the types of penalties it will seek, with the understanding that the discipline committee will continue to have the authority to order fines, and the additional authority to suspend and revoke registrations, within its legislative authority as of April 1, 2023. In developing guidelines for the penalties, it will seek when pursuing disciplinary action, RECO will take into consideration whether the registrant suffered or gained as a result of the breaches when considering an appropriate penalty.

4.5.3 Process to Take Disciplinary Action against Registrants That Breach the Code of Ethics Is Lengthy

We found that when allegations of a breach of the Code of Ethics are referred to RECO's Discipline Committee, it takes on average nearly one year from the time RECO serves a registrant with an allegation for the Committee to reach a final decision.

As described in **Section 2.8**, RECO can refer registrants to its Discipline Committee for breaches under the Code of Ethics. In such instances, the Committee's rules require a pre-hearing to be scheduled between RECO and the registrant within 45 days of serving the registrant with the allegation, unless the registrant consents to a later date, in order to review and agree on the facts of the allegation and discuss potential settlement options. If a settlement with the registrant cannot be agreed on, the allegation proceeds to a hearing before the Discipline Committee.

We reviewed the timeliness of these pre-hearings and found that over the last five years (2017–21), it took RECO an average of 167 days before a pre-hearing was held, more than three times as long as the Discipline Committee's 45-day requirement stated in its Rules of Practice. However, we found that RECO did not record and track the reasons for delays in scheduling a pre-hearing to be able to identify and address the delays.

We also found that RECO has not set a target for the amount of time it should take to reach a final decision in the case of allegations that proceed to a hearing before the Discipline Committee. We reviewed these cases for the last five years and found that over this period it took nearly one year, or 340 days, from the time RECO served the registrant with the allegation for the Committee to make a final decision. Additionally, we found that at the time of our audit RECO had not released a final decision publicly for 122 discipline cases, including 23 cases where registrants had been served with an allegation in 2019 or earlier.

At the time of our audit, referrals of registrants to the Discipline Committee were limited to only

registrants alleged to have breached RECO's Code of Ethics. However, effective April 1, 2023, referrals to the Committee will expand to include contraventions of any provisions under the updated Act. Given the expanded scope of the Discipline Committee, the workload associated with the disciplinary process is expected to increase, which may result in further delays if the reasons for the existing delays remain unaddressed.

RECOMMENDATION 12

So that disciplinary cases and decisions are handled and completed in a timely manner, we recommend that the Real Estate Council of Ontario (RECO):

- identify and track the reason for scheduling a pre-hearing beyond the 45-day requirement under the Discipline Committee's Rules of Practice;
- where practical, take steps to reduce the time it takes to schedule a pre-hearing;
- establish a target for the amount of time it should take for RECO to schedule the main hearing before the Discipline Committee and assess performance against this target; and
- establish a target for how long it should take for the issuance of the final decision and assess performance against this target.

RECO RESPONSE

RECO thanks the Auditor General for this recommendation. RECO is committed to providing timely hearings and will take steps to improve the efficiency of its discipline hearing process by establishing relevant performance targets for the scheduling of pre-hearings and hearings and releasing decisions.

4.6 Consumer Protection

4.6.1 Salespersons and Brokers Are Permitted to Represent Both a Buyer and a Seller in a Single Real Estate Transaction

We found that although the buyer and seller of a property have conflicting interests, a single brokerage in

Ontario is permitted to represent both the buyer and the seller in a single real estate transaction as long as the brokerage discloses and obtains consent from the clients for the multiple representation. As a result, a buyer and seller can be represented by the same salesperson or broker. This poses a risk to the buyer and seller as the salesperson or broker cannot effectively represent the best interests of both parties.

The practice of the same registrant representing multiple parties in a single transaction is known as "double-ending," because the registrant would earn a commission from both the buyer and the seller. Under the Act, registrants are required to protect the best interests of their client, irrespective of whether they are representing the buyer or seller of a property. Yet a seller's objective is to obtain the highest possible selling price and most favourable selling terms, while the buyer's objective is to pay the lowest price under the most favourable terms. These competing interests make it challenging for a registrant to effectively represent the best interests of both buyer and seller in the same transaction. There is also a risk that other buyers interested in the property are at a disadvantage because the registrant representing the seller may be motivated to have their own buyer purchase the property, so that they can earn a commission from the buyer as well as the seller.

In 2017, and again in 2019, the Ministry considered proposing changes to the Act to prohibit a single salesperson or broker within a brokerage to represent both the buyer and seller, or more than one buyer in the same trade, subject to limited exceptions. However, the Ministry ultimately decided that it would not propose changes to the regulations to prohibit this practice.

In the Ministry's consultations with stakeholders in 2017 and 2019, the Ontario Real Estate Association (OREA), which represents the interests of real estate professionals, strongly opposed a regulatory change that would prohibit this practice. The OREA's main reason for opposing rules around double-ending was the possibility that consumers may forgo any representation from a real estate professional as a result. In contrast, RECO's 2019 submission to the Ministry during stakeholder consultations proposed that a different

salesperson or broker employed by the same brokerage would have to be designated to represent each client when a multiple representation situation arises, a practice known as mandatory designated representation. RECO stated that “it is when one individual represents more than one party to the same transaction that conflicts of interest are most pronounced and present the greatest risk of consumer harm.”

Although the Ministry advised us that it does not plan to propose changes to prohibit double-ending, it indicated that recent regulatory changes that are scheduled to come into effect on April 1, 2023, will enhance existing requirements for brokerages to disclose to buyers and sellers the differences in their obligations depending on whether they are representing only one party to a transaction or more than one party. In addition, the Ministry indicated that registrants will be required to make their best efforts to obtain a written acknowledgment from each party that this information has been disclosed to them.

In comparison, the British Columbia Financial Services Authority (BCFSA), which regulates real estate licensees in British Columbia, restricts licensees from representing multiple clients with competing interests in a single real estate trade (e.g., the buyer and the seller, two buyers interested in the same property). The Superintendent of Real Estate (the predecessor to the BCFSA) who introduced the restriction indicated that this is a significant source of real and potential conflicts of interest for licensees who may not be able to fulfill their fiduciary duties to two clients with competing interests. An exemption to this rule applies where the real estate is located in a remote location that is underserved by licensees and where it is impractical for the parties to be represented by different licensees. Further, in June 2022, the Ministère des Finances and the Organisme d'autoréglementation du courtage immobilier du Québec (OACIQ), which regulates the real estate industry in Quebec, made amendments to Quebec's *Real Estate Brokerage Act* to prohibit licence holders from acting for both the buyer and the seller during a transaction except where there is no other

brokerage that has an establishment within a 50-kilometre radius of the property.

RECOMMENDATION 13

To ensure that brokerages protect the best interests of the property buyers or sellers they represent, we recommend that the Ministry of Public and Business Service Delivery (Ministry) review recent changes in other Canadian jurisdictions that prohibit salespersons and brokers from representing both a buyer and a seller in a single transaction, and consider whether it would be appropriate to also prohibit this practice in Ontario.

RECO RESPONSE

RECO is committed to effective consumer protection and will support the Ministry as it considers this recommendation.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for her work.

The Ministry has consulted and moved forward with changes over the past several years. As noted in the Auditor General's report, recent amendments to the *Real Estate and Business Brokers Act, 2002* and its regulations come into force on April 1, 2023. These include changes that will help the public to better understand their rights and choices when considering whether to work with a registrant in a multiple representation situation (e.g., when a brokerage represents both the buyer and seller). To inform these changes, the Ministry consulted extensively with the public and other stakeholders on the issue of multiple representation and considered the approaches of other Canadian jurisdictions.

The Ministry will monitor the impact of the recent changes in Ontario and the approaches and experiences of other jurisdictions, to inform any future policy work and decision-making for government consideration.

4.6.2 Lack of Transparency in Real Estate Transactions Involving Multiple Offers Puts Prospective Buyers at Financial Risk

Under the Act and its regulations, when there are competing offers on a single property, a brokerage that represents the seller must disclose the number of competing written offers to every person making a competing offer. However, it is prohibited from disclosing the substance of competing offers on the property, which includes the offer price, closing date and conditions, to any person, including other salespersons or brokers that represent prospective buyers. This results in buyers submitting offers to purchase a property without knowing the amounts of competing offers from other buyers, an industry practice known as blind bidding. This practice increases the risk that buyers can be encouraged or feel compelled to offer a price that far exceeds the next highest offer.

The Ministry advised us that recent legislative changes that are scheduled to come into effect on April 1, 2023, will allow for an “open-offer process” where the substance of offers, which includes the offer price, closing date, and any conditions placed on each prospective buyer’s offer, could be disclosed to competing prospective buyers. However, the use of this open-offer process will be at the sole discretion of the property seller, who will be able to decide whether to direct their representing brokerage to disclose to prospective buyers the substance of written offers received. The likelihood of sellers consenting to an open-offer process is unknown. At the time of our audit, neither RECO nor the Ministry had plans to collect information on the percentage of sellers that consent to an open offer process and its possible benefits or unintended consequences.

We note that no Canadian jurisdiction has a full open-offer process whereby it is mandatory for offer amounts to be disclosed to all prospective buyers. However, in places such as Australia, there is an option to sell real estate using an open-bid and closed-end auction format. When a property is sold by auction, all interested buyers are present at the time of the auction and are aware of the amount of each bid as it is made.

Before the auction, all interested buyers are responsible for completing property inspections and arranging financing and all other matters in advance. In this auction process, because all other details such as home inspection and financing are already agreed upon, the highest bid is accepted through an open-offer process.

At the time of our audit, in May 2022, the British Columbia Financial Services Authority (BCFSA), which regulates the real estate industry in British Columbia, released a report comprising research and consultation results with stakeholders on alternatives to the current blind bidding process. The report concluded with advice to the government of British Columbia to further explore open-bid and open-end auction formats (these differ from closed-end auction formats such as that used in Australia, which have a defined closing time), including their implications for sale prices and housing affordability. The BCFSA also advised the government to consider implementing a disclosure requirement in multiple-offer situations where prospective buyers are asked to compete directly against another buyer’s offer following an initial round of offers. The process was described as follows: “an anonymized disclosure of the number of legitimate offers and the price of competing offers could be provided to the prospective purchaser on invitation to submit a second offer or on counter-offer from a seller that is intended to solicit a higher price in reference to a competing offer.” At the time of our audit, the BCFSA was awaiting further direction from the government on its advice relating to blind bidding.

RECOMMENDATION 14

To increase transparency and enhance consumer protection in real estate transactions involving offers from multiple prospective buyers, we recommend that the Ministry of Public and Business Service Delivery work with the Real Estate Council of Ontario to:

- once legislative changes come into effect, gather information from brokerages on residential sales in which sellers opt for an open-offer process,

and assess the impact of the process on these transactions and the industry; and

- explore alternatives to the current blind bidding process, including practices adopted or that may be adopted by other jurisdictions such as British Columbia.

RECO RESPONSE

RECO will work with the Ministry to monitor and assess the impact of the legislative changes that will permit sellers to opt for an open-offer process when working with a brokerage. The monitoring will begin after the legislative changes have taken effect in April 2023.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for her work.

The Ministry has consulted and moved forward with changes over the past several years. As noted in the Auditor General's report, recent amendments to the regulations under the *Real Estate and Business Brokers Act, 2002*, come into force on April 1, 2023. These include changes to give the public more choice in the real estate trade process by allowing a registrant to hold an open offer process and disclose the details of competing offers, excluding personal or identifying information in the offers, at the seller's direction. The Ministry has recently undertaken research, considered options, consulted extensively and considered consultation feedback in relation to the changes to the offer process.

The Ministry will work with the Real Estate Council of Ontario (RECO) to monitor the impact of these changes to inform any future policy work and decision-making for government consideration.

4.6.3 RECO's Ability to Review Written Offers to Check Allegations of Fictitious Offers on a Property Is Limited

We found that although RECO has the authority under the Act to review allegations of fictitious offers, Ontario

Regulation 579/05—Education Requirements, Insurance, Records and Other Matters (Regulation 579/05), does not require brokerages to retain original offer documents, limiting RECO's ability to assess whether an offer is a real offer from a legitimate buyer.

The Ontario government introduced changes to the Act in 2013, and made changes to Regulation 579/05 in 2014, to address concerns raised by the public that some real estate salespersons and brokers may have been making false or misleading claims about competing offers to purchase a property in order to pressure buyers of real estate to act quickly or inflate their offer prices. The changes were intended to prevent a selling agent from making false or misleading claims about competing offers to convince buyers that there are other offers on a property to encourage them to raise the amount of their own offer. It required that all offers for a property be made in writing and that all brokerages acting for a seller must retain for at least one year copies of all offers received. However, we noted that the Act also permits brokerages to retain a summary of each unsuccessful offer that is not accepted by the seller instead of the original offer documents, if they choose. We found that the summary document contains information such as the name of the buyer and the buyer's agent, the date and time of the offer, and the property address. We noted that the regulations do not require that the summary document include key information such as the offer amount and any conditions the buyer includes in an offer. In the absence of the original offer documents or at a minimum the key information contained in the original offer documents, RECO's ability to assess whether an offer is a real offer from a legitimate buyer is limited.

We inquired with the Ministry why it permitted brokerages to retain only a summary document as an alternative to retaining a copy of each written offer. The Ministry told us that permitting brokerages to provide RECO with a summary document was designed to reduce the administrative burden on the selling brokerage and was based on consultation with industry stakeholders.

The Ontario Real Estate Association (OREA), which represents the interests of salespersons and brokers

in Ontario, indicated to the Ministry during public consultations that retaining the original offer documents would be a burden on brokerages because of the volume of paperwork required.

Although retaining paper copies of offers may have been burdensome when the legislative change came into effect in 2013, the brokerages we visited indicated that offers are increasingly being submitted in electronic format and are easy to retain.

In contrast, we noted that in Alberta and California, brokerages that represent a seller are required to retain all original offer documents including offers that are not accepted by the seller for three years. Similarly, in Texas, brokerages are required to retain all original offer documents that are not accepted for four years. In Ontario, the brokerage is required to retain the original offer documents or a summary document for at least one year, which may not be sufficient time for RECO to inspect the documents when the need to do so arises.

RECOMMENDATION 15

So that the Real Estate Council of Ontario (RECO) can effectively protect the interests of consumers, we recommend that the Ministry of Public and Business Service Delivery to assess whether it would be beneficial to propose regulatory changes to amend Ontario Regulation 579/05—Educational Requirements, Insurance, Records and Other Matters to require all brokerages to retain original offer documents for offers not accepted, or a summary document including the offer amount and conditions, for a minimum of three years.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery thanks the Auditor General for her work. This recommendation would require developing potential regulatory proposals for the Minister's consideration.

The development of such policy proposals would be informed by the Auditor General's recommendation and would involve consultations with the public and the real estate services sector.

RECOMMENDATION 16

To ensure brokerages are complying with the legislative and regulatory requirements, we recommend that the Real Estate Council of Ontario incorporate a step in its inspection process to confirm that the required offer documents are being retained by brokerages.

RECO RESPONSE

RECO thanks the Auditor General for its recommendation and will consider the scope and methodology of the inspections in which it would be most appropriate and effective to assess the retention of offers, when developing its new inspection program.

4.6.4 Consumers Put Themselves at Risk When Making an Offer with No Conditions to Purchase a Property

When making an offer to purchase a property, a buyer can add one or more conditions to their offer to protect their interests. According to RECO, conditions commonly found in offers to purchase include a requirement to complete a home inspection and to obtain financing. **Figure 19** provides a description of these conditions and the risk assumed by the buyer when they do not include such conditions in their offer.

To make an offer more competitive, a prospective buyer may make an unconditional offer—that is, an offer that does not include any conditions (such as those in **Figure 19**). RECO informed us that this practice is especially common in a competitive real estate market where buyers may feel pressured to make an unconditional offer in order to compete with other buyers.

In Ontario, where there is no cooling off period for new or resale properties (except for pre-construction or new condominiums), buyers typically cannot rescind an unconditional offer without risking repercussions, including the loss of their deposit and possibly litigation. Given the significant financial commitment made

Figure 19: Examples of Common Buyer Conditions

Prepared by the Office of the Auditor General of Ontario using information provided by RECO

Type of Condition	Risk Assumed by Buyer If Condition Not Added
Home inspection condition	• An inspection of the property provides the buyer with information about the condition of the property, including deficiencies and defects. If concerns are found, the buyer is able to make informed decisions about whether to proceed with the trade, negotiate for repairs, or seek a price reduction. • By deciding not to complete a home inspection, the buyer risks incurring unanticipated repair and renovation costs or purchasing a home that they otherwise might not have purchased had they known about the deficiencies or defects.
Financing condition	• A financing condition gives the buyer time to confirm that they are able to obtain mortgage financing. • If a home appraiser finds that the value of the property is less than the amount, in the agreement, financing may be declined by the financial institution. In order to proceed with the trade, the buyer will have to make up the difference between the approved mortgage amount and what the buyer agreed to pay in the offer.

to purchase a property, it is critical for consumers to have all relevant information about what they are buying in order to make an informed decision.

In contrast, in July 2022 the government of British Columbia introduced a mandatory three-day home-buyer protection period (i.e., a cooling off period) to provide homebuyers with time to conduct due diligence procedures such as obtaining a home inspection or securing financing. This protection period will come into effect on January 1, 2023, and will include a cancellation fee of 0.25% of the purchase price, or \$250 for every \$100,000, for those who choose to back out of a deal. For example, if a homebuyer exercises their right of cancellation on a \$1 million home, they would be required to pay \$2,500 to the seller. British Columbia states that this protection period will offer homebuyers the opportunity for due diligence if no conditions have been added to the offer. It indicated that industry representatives estimated that more than 70% of offers in British Columbia's most competitive markets in 2021 may have been made without conditions, which can lead to major unexpected repair and renovation costs to a buyer or the loss of a deposit if the buyer's financing falls through.

RECOMMENDATION 17

To reduce the risk to buyers when purchasing a property, we recommend that the Ministry of Public and Business Service Delivery work with the Real Estate Council of Ontario to explore opportunities to introduce homebuyer protections such as a cooling off period.

RECO RESPONSE

RECO will work with the Ministry to assess the impact of the legislative changes coming into force in Ontario in April 2023, along with those in other jurisdictions, including the cooling off period that will come into effect in British Columbia in 2023.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for her work.

As noted in the Auditor General's report, a number of recent amendments to the *Real Estate and Business Brokers Act, 2002* and its regulations come into force on April 1, 2023. The Ministry will monitor the impact of the recent changes.

The Ministry will also monitor the approaches and experiences of other jurisdictions, including those that have introduced a cooling off period for homebuyers, to inform any future policy work and decision-making for government consideration.

4.7 Unclaimed Consumer Deposits

4.7.1 Nearly \$14 Million in Consumer Deposits from Incomplete Property Sales Remains Unclaimed

At the time of our audit, we found that the Ontario government and RECO were holding a combined \$13.7 million in unclaimed trust money—the vast majority of which relates to consumer deposits, because they could not determine whether the deposits should be returned to the buyer or given to the seller, or because the person entitled to the money could not be located.

In Ontario, deposits are commonly paid to and held by the selling agent's brokerage until the transaction is complete. Under the Act, brokerages are required to hold deposits in a trust account with a recognized financial institution and must disburse deposits only in accordance with the terms of the trust. When they agree to purchase a property, buyers normally agree to provide a deposit to reassure the seller that they are acting in good faith and intend to complete the purchase. In the event that the agreement falls through, the deposit is not automatically left with the seller, nor is it returned to the buyer. Typically, the brokerage requires written agreement from the parties involved in the transaction to direct the disbursement of the deposit. If the buyer and seller do not agree in writing to the release of the deposit, normally a court order must be obtained to decide how the deposit will be distributed.

If within two years of receiving a deposit in its trust account the brokerage cannot determine who is entitled to it, the brokerage is required to remit the deposit to RECO. RECO holds the deposit until it either receives consent from both parties, or a court order, to release the deposit. If a deposit is not disbursed within

five years of RECO receiving the deposit, RECO is required under the Act to remit the deposit to the Minister of Finance.

We reviewed RECO's account of unclaimed deposits and noted that between RECO's inception in 1997 and May 2022, it has collected about \$15.9 million in unclaimed consumer deposits from brokerages. Of this amount, about \$3.3 million, or 21%, was returned back to either the buyer or seller, about \$7.4 million, or 46%, was remitted to the Minister of Finance, and the remaining \$5.2 million, or 33%, continues to be held by RECO. We also found that an additional \$1.1 million currently held by the Minister of Finance was collected from unclaimed deposits prior to RECO's inception. The combined \$13.7 million in deposits held by RECO and the Minister of Finance remains unclaimed. The legislation is silent on how long unclaimed deposits should be held after final remittance to the Minister of Finance. Currently, the Minister of Finance holds unclaimed deposits indefinitely.

RECOMMENDATION 18

So that unclaimed deposits on real estate transactions are settled, we recommend that the Ministry of Public and Business Service Delivery assess the need to:

- establish a maximum time frame during which unclaimed deposits on real estate transactions can be held; and
- establish parameters to determine who unclaimed deposits should be provided or returned to after the time frame has elapsed.

RECO RESPONSE

RECO will support the Ministry as it considers proposals concerning unclaimed money held by brokerages.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for this recommendation. The Ministry will develop policy

proposals concerning unclaimed money held in trust for the government's consideration.

The development of such proposals will be informed by the Auditor General's recommendation and will involve consultations with the public and real estate services sector.

4.7.2 RECO Does Not Follow Up on Brokerages It Knows Are Holding Unclaimed Consumer Deposits

We found that RECO does not have a process in place to require brokerages to periodically report the number and amount of unclaimed consumer deposits held in a brokerage's trust account. Instead, RECO relies on brokerages to voluntarily comply with the requirement of the Act that brokerages remit to RECO any unclaimed consumer deposit that has not been returned to a buyer or seller after two years.

When unclaimed consumer deposits are not proactively collected by RECO from brokerages on a timely basis, there is an additional risk that brokerages can misappropriate the money over longer periods of time. We found that over the last five years (2017–21), RECO's inspectors issued 599 non-compliance notices to 491 brokerages for failing to remit unclaimed consumer deposits to RECO. Of the 491 brokerages, 102, or about 21%, were issued a notice two or more times in a five-year period for not remitting unclaimed consumer deposits to RECO. However, we found that even after issuing these non-compliance notices, RECO did not take any action to follow up and collect the unclaimed consumer deposits. In fact, in our analysis of collection data, we found that as of May 2022, 62%, or 369 of the 599 non-compliance notices remained unresolved and RECO had not obtained the unclaimed consumer deposits from brokerages.

We also found that RECO was not using information from its inspections of brokerages to effectively monitor the collection of deposits. For example, RECO does not keep track of the amount of unclaimed deposits found during inspections in a centralized database. As a result, even when a brokerage subsequently remits

to RECO unclaimed deposits, RECO does not have a process to ensure that the brokerage has remitted the correct amount of unclaimed deposits identified during an inspection.

Failure to remit unclaimed consumer deposits to RECO is one of the most common types of non-compliance notices issued by RECO. Nevertheless, we were surprised to learn that over its 25-year existence, RECO has never had a process to actively collect unclaimed deposit money from brokerages. As a result, RECO does not know how much unclaimed deposit money is currently being held by brokerages.

RECOMMENDATION 19

So that deposits held by brokerages that remain unclaimed for two years are remitted to the Real Estate Council of Ontario (RECO) on a timely basis, as required by the *Real Estate and Business Brokers Act, 2002*, we recommend that RECO:

- implement a process to collect on an annual basis information on unclaimed deposits held by brokerages;
- put in place a process to follow up with brokerages that fail to remit unclaimed deposits to RECO on a timely basis;
- include steps in its inspections to verify that brokerages' annual reporting on unclaimed deposits held is accurate; and
- implement a protocol to follow up on inspections that find outstanding unclaimed deposits to ensure amounts are subsequently remitted to RECO.

RECO RESPONSE

RECO agrees with this recommendation and will take steps to implement each action item. RECO will develop new brokerage reporting requirements, including the reporting of unclaimed deposits held by brokerages. Since the audit began, RECO has put in place a process to follow up on brokerages holding unclaimed monies identified in inspections since 2017 and will put in place a process to follow

up with brokerages that fail to remit unclaimed deposits on a timely basis moving forward. RECO will also include a step in its inspection program to verify that reporting to RECO on unclaimed deposits is accurate.

4.8 RECO's Operations

4.8.1 Majority of Ontarians Surveyed Are Not Aware of RECO and the Consumer Protections It Offers

In our review of RECO's consumer awareness surveys, which include individuals who have recently purchased a property, we found that most Ontarians are not aware of RECO and the services it provides. Specifically, in the most recent survey completed in July 2021:

- 89% of Ontarians surveyed indicated that they were not aware of RECO and the protections it offered to real estate buyers and sellers; and
- 65% of Ontarians surveyed did not know that real estate brokerages and salespersons were regulated by RECO.

RECO does not currently have a direct process to reach prospective buyers and sellers working with a registrant to buy or sell a home to inform them about protections available under the Act. There is no requirement for registered brokers and salespersons to inform buyers and sellers of services available through RECO. An example of this is RECO's role in mediating disputes that may arise in real estate transactions. RECO also administers an insurance program where consumers can make a claim against a salesperson or broker in the event of an error or omission.

In contrast, Tarion, which administers the warranty program for new home construction in Ontario requires homebuilders to provide homebuyers with information that details their warranty rights and homeowners' ability to make a claim to Tarion if their builder does not fulfill their warranty obligations.

We also found that the Real Estate Council of Alberta requires registered brokers and salespersons to provide consumers with a Consumer Relationships Guide that explains what responsibilities a real estate professional has when engaging with a consumer.

For example, the guide explains how to handle situations when a conflict of interest arises where a real estate professional represents both a buyer and seller in a single transaction. Brokers and salespersons are required by law to obtain a signed acknowledgement from the consumer that the guide has been read, the real estate professional has discussed the guide, and satisfactory answers were provided for any questions posed by the consumer.

The Ministry advised us that recent changes to the legislation and regulations that are scheduled to come into effect on April 1, 2023 will require real estate salespersons and brokers to provide a copy of an information guide prepared by RECO to prospective buyers and sellers.

RECOMMENDATION 20

So that prospective buyers and sellers of real estate are aware of the Real Estate Council of Ontario's (RECO) available services, we recommend that RECO work with the Ministry of Public and Business Service Delivery to develop an information package outlining available consumer protections, and require all registrants to provide this information to real estate buyers and sellers when they make an agreement to represent the buyer or seller in a real estate transaction.

RECO RESPONSE

RECO agrees with this recommendation. RECO is currently working on developing an information guide that registrants will be required to provide to buyers and sellers beginning April 1, 2023.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for her work.

The Ministry notes that recent amendments to the *Real Estate and Business Brokers Act, 2002* and its regulations, which come into force on April 1, 2023, include regulatory changes that would require the Registrar of the Real Estate Council of Ontario to prepare an information guide for the

public's and registrants' use. The guide will include information on numerous matters, including, among other things:

- the options for interacting with a registrant as either a client or a self-represented party;
- a summary of the rights, obligations and duties of different parties in a trade in real estate;
- guidance in respect of remuneration arrangements in relation to a trade in real estate;
- processes for filing a complaint about the conduct of a broker or salesperson; and
- other information the registrar considers relevant.

The information guide will be published on RECO's website and registrants will be required to provide the guide and explain its contents to a person before providing services or assistance in relation to a trade in real estate.

4.8.2 RECO Does Not Collect Transaction Data from Brokerages, Limiting Its Ability to Effectively Regulate Registrants and Identify Consumer Risks

We noted that RECO does not currently have general authority to collect real estate transaction information from all brokerages. In the absence of such information, RECO faces challenges in providing evidence-informed policy advice to the Ministry to address emerging risks to consumers. For example, RECO cannot produce detailed analytics to identify the prevalence of trends in real estate transactions that pose a risk to consumers such as unconditional offers (described in **Section 4.6.4**), transactions where a single salesperson represents both the buyer and seller (described in **Section 4.6.1**), and transactions that may involve fictitious offers (described in **Section 4.6.3**). In addition, the lack of transaction information limits RECO's ability to apply a risk-based approach in regulating brokerages. As discussed in **Section 4.3.1**, RECO does not at present assess and assign a risk rating to each brokerage so that high-risk brokerages can be inspected more frequently, which collecting transaction information would enable it to do.

In contrast, we found that the British Columbia Financial Services Authority (BCFSA) collected residential real estate sales information from brokerages upon direction from the provincial government. The BCFSA collected a subset of 2021 and 2022 residential sales data from brokerages to help assess the prevalence of market practices that may put real estate consumers at risk, such as unconditional offers and blind bidding. The data collection attempted to answer questions about homebuyer risks, including:

- how often buyers are making unconditional offers;
- how often there are multiple offers on homes, and how many offers are typical;
- the average difference between a home's listing price and sale price;
- how often the sale price is significantly higher than the next-highest offer; and
- regional variations and comparisons in different time periods.

The BCFSA cited that observations from the data collection were generally consistent with the narrative of an increasingly competitive real estate market, with properties selling quickly, unconditionally, with multiple offers, and potentially a large difference between the sale price and the highest unaccepted offer. The BCFSA indicated that it intends to use its experience and lessons learned from this data collection to enhance future real estate data collection efforts to support evidence-informed policy and regulatory decisions.

RECOMMENDATION 21

To improve the Real Estate Council of Ontario's (RECO) effectiveness in identifying consumer risks and providing sound evidence-based policy advice to the Ministry of Public and Business Service Delivery (Ministry) to address such risks, we recommend that RECO:

- reference best practices in other jurisdictions to identify the transaction information that it should collect from brokerages;
- put in place a process to periodically collect such transaction information from brokerages;

- analyze the information collected to develop and provide evidence-based policy recommendations for the Ministry's review and consideration; and
- use this information to inform its brokerage inspection process.

RECO RESPONSE

RECO agrees with this recommendation. RECO's ability to make sound, evidence-based recommendations will be enhanced by the new legislative authority to collect additional information from registrants, effective April 2023. Thereafter, RECO will work to put in place a process to periodically collect transaction and other information from brokerages, and to use that information to both provide evidence-based recommendations to the Ministry and to inform its own processes, including brokerage inspections.

4.8.3 RECO Has Surpluses and Reserves Totalling over \$35 Million

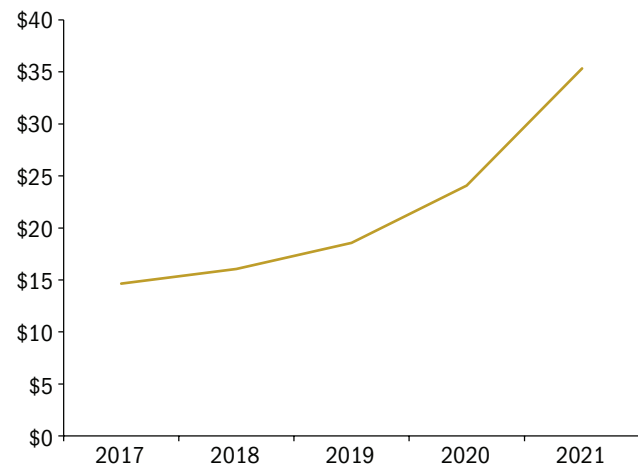
RECO's administrative agreement with the Minister requires that RECO set fees on a cost-recovery basis. However, as shown in **Figure 20**, we found that in the last five years (2017–21), RECO's accumulated surpluses and reserves increased by 140%, from \$14.7 million to \$35.3 million.

Over the same five-year period, the number of registered salespersons and brokerages grew by 21% and 7%, respectively, contributing to an increase of about 45% in RECO's operating revenue. We observed that RECO developed a plan to reduce its accumulated surplus and reserves over the next 10 years by reducing registrant fees without making any spending cuts, and thus running a deficit over this period. This plan was approved by RECO's Audit, Risk, Finance & Insurance Committee on July 28, 2022, and was approved by RECO's Board of Directors on September 22, 2022.

We found that RECO's plan did not include an assessment of whether it devotes sufficient resources

Figure 20: RECO's Accumulated Surplus and Reserves, 2017–2021 (\$ million)

Source of data: Real Estate Council of Ontario



Note: The increase in RECO's accumulated surplus and reserves is primarily due to the increase in the number of registrants that entered the industry. From 2017 to 2021, the number of registered salespersons and brokerages grew by 21% and 7%, respectively, contributing to an increase of about 45% in RECO's operating revenue.

to administering and enforcing the Act and fulfilling its mandate. We noted a number of areas where additional resources could be used to improve the effectiveness of RECO's enforcement efforts. For example, although the number of salespersons and brokerages grew by 21% and 7%, respectively, over the last five years (2017–21), RECO continued to designate five individuals as inspectors during that same period; one of the designated positions remained vacant for seven months in 2022. In addition, as noted in **Section 4.3.1**, RECO has never conducted a full on-site inspection at 27% of registered brokerages, and has not conducted a full on-site inspection at a further 35% of registered brokerages for at least five years. As well, as discussed in **Section 4.5.3**, RECO on average takes almost one year to issue a final disciplinary decision for registrants found to have breached the Code of Ethics. Furthermore, as described in **Section 4.8.1**, RECO's surveys illustrate that overall consumer awareness of RECO and the protections it offers remains low among Ontarians.

RECOMMENDATION 22

So that the Real Estate Council of Ontario (RECO) can effectively meet its mandate and operate on a cost-recovery basis in accordance with its administrative agreement with the Minister of Public and Business Service Delivery, we recommend that RECO:

- assess its current operations to identify where additional resources are required to improve its administration and enforcement of the *Real Estate and Business Brokers Act, 2002*; and
- use the results of this assessment to allocate resources where required and to adjust its fee reduction plan accordingly.

RECO RESPONSE

RECO thanks the Auditor General for this recommendation. RECO will review the observations in the Auditor General's report in its assessment of its current operations to identify areas where additional resources may be required to improve its administration and enforcement of the *Real Estate and Business Brokers Act, 2002*. RECO will use the results of this assessment to allocate resources where they are required, and to adjust its budgets accordingly.

4.8.4 Although RECO's Role Is to Protect Consumers, Its Board Is Dominated by Real Estate Industry Representatives

Although RECO was established by the Ontario government to administer the Act with the purpose of protecting the public interest, we found that RECO's Board of Directors consists of individuals that almost exclusively represent registrants in the real estate industry.

Currently, RECO's bylaw that addresses the composition of RECO's Board indicates that nine of the 12 directors, or 75%, are to be industry members elected by registrants, and the remaining three director positions are to be appointed by the Minister of Public and Business Service Delivery. According to the

Safety and Consumer Statutes Administration Act, 1996, the Minister can choose to appoint up to 50% of board members to represent consumer groups, business, government organizations or other interests as the Minister determines. However, historically, the Minister has appointed just 25%, or three board members. As of March 2022, one of the Minister's appointees was also a real estate industry member, and another was a former real estate industry member, further adding to the high representation of industry members on RECO's Board.

We found that the boards of other Canadian provinces' real estate regulators included fewer industry representatives. For example, the British Columbia Financial Services Authority's Board is entirely composed of members of the public appointed by the Lieutenant Governor in Council. The Board of Directors of the *Organisme d'autoréglementation du courtage immobilier du Québec* is composed of 50% members of the public (who do not hold a salesperson or broker licence) and 50% industry representatives.

RECO Has Not Had a Functioning Consumer Advisory Process as Required

RECO's administrative agreement with the Minister also requires that RECO's Board establish an advisory process for direct input to the Board on issues of importance to consumers; however, it does not specify the means by which this should be done. Although RECO's Board has established an Industry and Consumer Advisory Committee, we found that the Board has not ensured that a functioning consumer-focused advisory process is in place.

We reviewed RECO's Board meeting minutes from the last five years (2017–21), and found that there were no significant issues or advice brought to the Board from the Industry and Consumer Advisory Committee that were consumer focused. We also found that for most of RECO's existence, there has not been a consistent functioning consumer advisory group. From November 2004 to September 2007, RECO had a Consumer Advisory Group that reported directly to the CEO. However, in 2007, the group became largely inactive, meeting only on an ad hoc basis. In

2016, a CEO Advisory Group was created to advise the CEO and management. It was primarily composed of members from the real estate industry, but included some consumer representatives. In 2018, this group transitioned to the Industry and Consumer Advisory Committee consisting primarily of members representing the real estate industry. It was not until June 2020, when new members representing consumer interests began to be appointed under the direction of the CEO to the Consumer and Industry Advisory Group that its composition was changed to six consumer and six registrant representatives.

RECOMMENDATION 23

So that the Real Estate Council of Ontario's (RECO's) Board of Directors effectively executes its responsibilities to oversee the real estate industry and protect consumers, we recommend that the Ministry of Public and Business Service Delivery reassess and adjust the proportion of the industry representatives on RECO's Board and in doing so, ensure a skills-based Board based on best practices is in place.

RECO RESPONSE

RECO will support the Ministry's efforts as it considers the possible composition and transition towards a skills-based board to oversee RECO's delivery of services to achieve its mandate more effectively.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for this recommendation. The Ministry agrees that good governance is important and should be based on best practices.

Currently, under the *Safety and Consumer Statutes Administration Act, 1996*, the Minister may make various orders related to board governance, including to provide that no more than a fixed

percentage of members of the board shall be drawn from among the persons or classes of persons specified in the order.

The Ministry will consider options to propose to the Minister for enhancing good governance that will be informed by the Auditor General's recommendation.

RECOMMENDATION 24

So that the Real Estate Council of Ontario's (RECO's) consumer advisory process effectively provides independent and sound advice to RECO's Board of Directors on issues of importance to consumers, we recommend that the Ministry of Public and Business Service Delivery:

- work with RECO to amend the administrative agreement to require RECO's Board to periodically provide the Minister of Public and Business Service Delivery with reports on RECO's consumer advisory process; and
- enforce the requirement in the administrative agreement for RECO to publicly report on the activities and advice generated by its consumer advisory process in its annual report.

RECO RESPONSE

RECO will work with the Ministry as it considers the Auditor General's recommendations and options for updating RECO's consumer advisory process.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for the recommendation. The Ministry will work with the Real Estate Council of Ontario (RECO) to examine options to improve RECO's consumer advisory process, informed by the Auditor General's recommendation.

The Ministry will strengthen its oversight of RECO's reporting on the activities of its consumer advisory process.

4.9 The Ministry Does Not Collect Sufficient Information to Monitor and Assess RECO's Performance in Meeting Its Mandate

We found that the Ministry does not collect sufficient performance information from RECO to be able to monitor whether RECO is meeting its mandate to effectively regulate the real estate sector and protect consumers.

Under the administrative agreement between the Minister and RECO, to evaluate RECO's performance, the Ministry must agree upon performance indicators with RECO and collect results on these indicators from RECO on a quarterly basis. We reviewed these quarterly results and found that the performance indicators currently in place were limited to registration application processing times, the average time RECO takes to close a complaint received, and the wait time to contact RECO over the telephone. However, we found that performance indicators had not been established to monitor RECO's operational performance in several key areas where our audit identified operational issues. For example, targets and indicators were not in place to monitor whether RECO:

- inspects all registered brokerages at least once over a specific period of time;
- conducts follow-up inspections within a targeted time frame;
- investigates registrant misconduct within a targeted time frame;
- processes and refers matters of misconduct to the Discipline Committee, and issues a decision on disciplinary action within a targeted time frame; or
- collects unclaimed consumer deposits from brokerages on a timely basis.

We also noted that although the Ministry has taken steps to inquire with RECO about its growing surpluses, a performance indicator has not been established so that the Ministry can monitor RECO's compliance with the requirement to operate on a cost-recovery basis. For example, a target could be established that compares whether annual revenues exceed annual expenditures by more than 10%. As discussed in **Section 4.8.3**, RECO's accumulated surpluses and reserves increased by 140% in the last five years (2017–21). However, this should be reviewed with the fact in mind that more regulatory work may be needed as real estate activities increase.

RECOMMENDATION 25

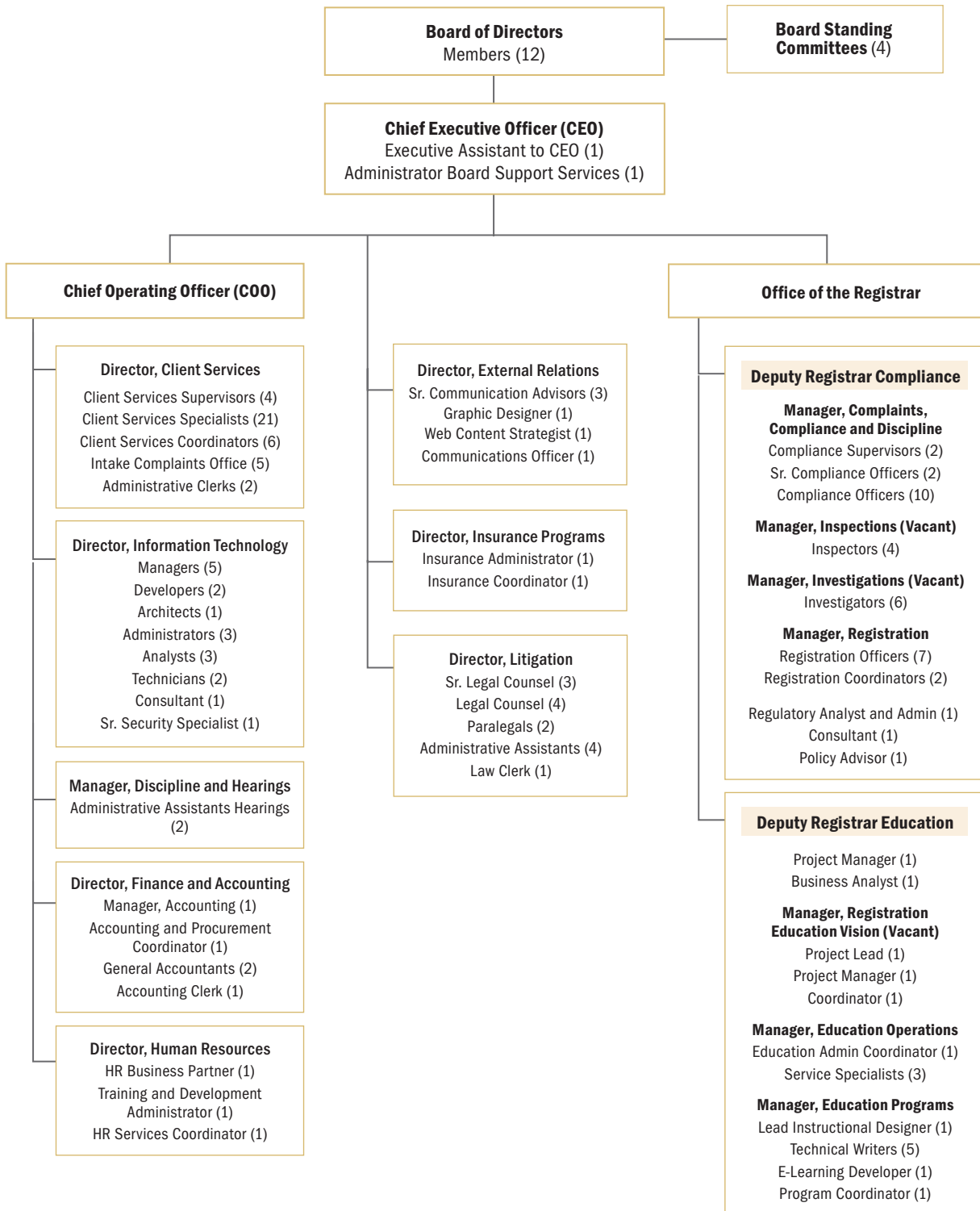
So that the Ministry of Public and Business Service Delivery (Ministry) can effectively monitor the Real Estate Council of Ontario's (RECO's) performance in protecting consumers and regulating the real estate sector, we recommend that the Ministry work with RECO to revise the performance indicators the Ministry uses to monitor RECO's performance to include indicators that more closely monitor RECO's operations, including in the areas of inspections, investigations, disciplinary action and its compliance with the requirement to operate on a cost-recovery basis.

MINISTRY RESPONSE

The Ministry of Public and Business Service Delivery (Ministry) thanks the Auditor General for this recommendation. The Ministry will work with the Real Estate Council of Ontario (RECO) to revise the indicators the Ministry uses to monitor RECO's performance, informed by the Auditor General's recommendation.

Appendix 1: RECO Organizational Structure, as of March 2022

Source of data: Real Estate Council of Ontario



Note: Board standing committees include Audit, Risk, Finance and Insurance Committee; Governance, People and Culture Committee; CEO Sub-committee; and Strategy and Organizational Performance Committee.

Appendix 2: RECO Board of Directors, as of March 2022

Source of data: Real Estate Council of Ontario

Members of the Board of Directors and Their Affiliations*

Steve Boxma Board Chair	Royal LePage Team Reality Inc. (Broker – Region 3)
Tim Lee Board Vice-Chair	Century 21 Explorer Realty Inc. (Broker – Region 3)
Rui Alves	iPro Realty Ltd. (Broker – Region 1)
Frank Dattilo	Dattilo Realty Inc. (Broker of Record – Region 2)
Tamer Fahmi	Keller Williams Edge Hearth & Home Realty (Broker – Region 2)
Rebecca Himelfarb	Forest Hill Real Estate Inc. (Broker – Region 1)
John O’Sullivan	RE/MAX Hallmark Realty Group (Broker – Region 3)
David Schooley	RE/MAX Twin City Realty Inc. (Broker – Region 2)
Katie Steinfeld	On the Block Realty Inc. (Broker – Region 1)
Janet Cloud	3C’s Corporation (Public)
John McCharles	RE/MAX Sarnia Realty Inc. (Public)
Phillip Richardson	Black Opal Property Advisors (Public)

☐ Nominated and elected by registrants

☐ Appointed by the Minister of Public and Business Service Delivery

* As per RECO’s Board bylaws, three Board members are required to be elected from three regions in Ontario. Region 1 is Central Ontario, Region 2 is Western/Southern Ontario and Region 3 is Eastern/North Eastern/Northern Ontario.

Appendix 3: RECO Fee Schedule, as of February 2022

Source of data: Real Estate Council of Ontario

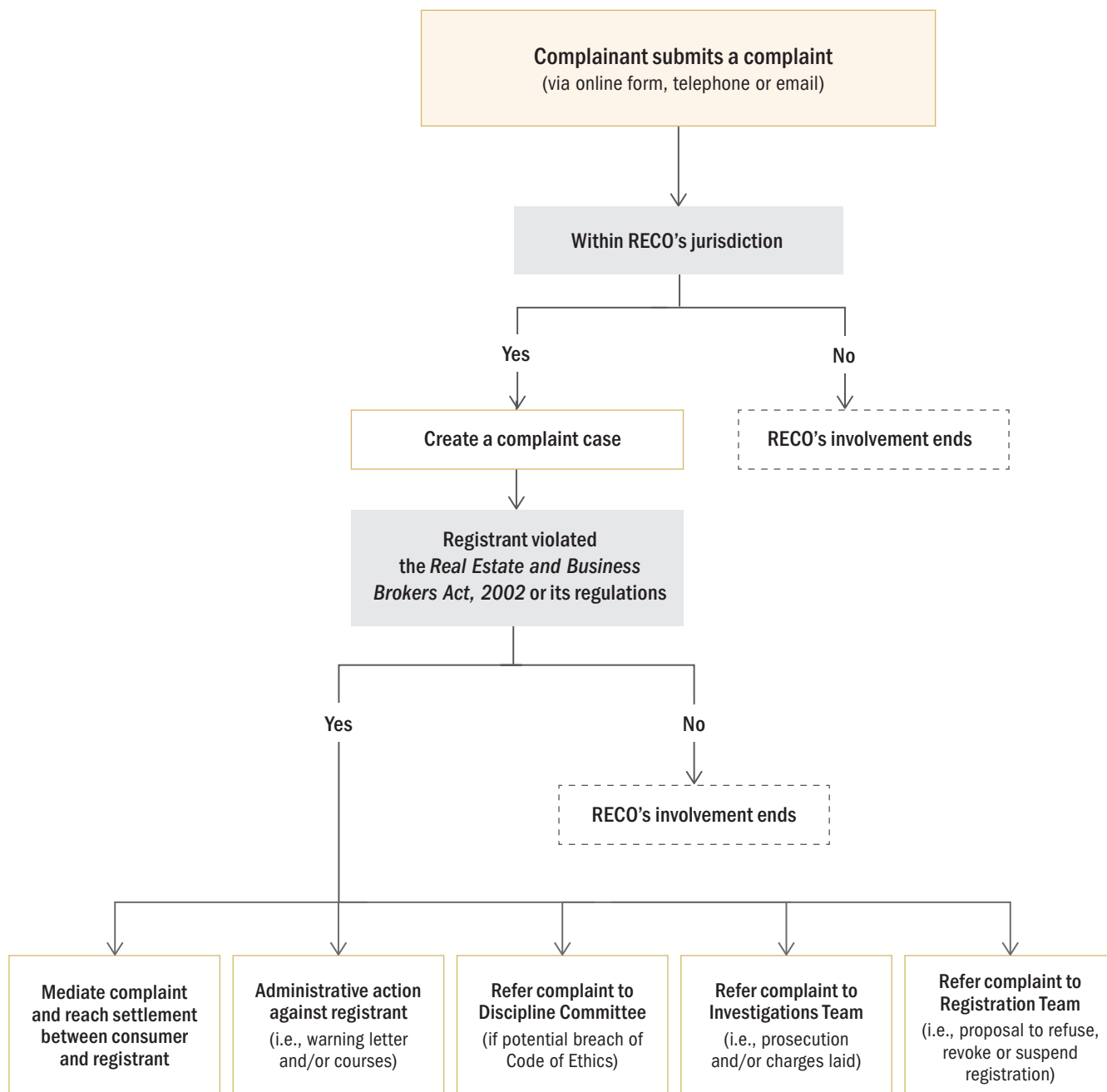
Application Fees	Initial/Reinstatement Fee (\$)	Renewal Fee (\$)	Frequency of Renewal
Salesperson registration	590	390	Every 2 years
Broker registration ¹	200–390	390	Every 2 years
Outside Ontario broker registration	590	390	Every 2 years
Brokerage/partnership/sole proprietor	590	390	Every 2 years
Branch registration ²	390	390	Every 2 years

Other Fees	Fee (\$)	Frequency
Insurance program fee ³	475	Annually
Continuing education	44	Every 2 years
Transfer fee ⁴ and education equivalency assessment	100	As applicable
Notice of change ⁵	200	As applicable
NSF cheques	35	As applicable

1. Application review fee of \$200 is charged if change from salesperson to broker is made during a registration cycle. If the change is requested at the time of renewal of registration, \$390 is charged.
2. A branch registration fee is charged for each additional branch opened.
3. Varies each year based on the underlying premiums passed on by the insurer. The \$475 represents the fee charged for the period from September 1, 2021 to August 31, 2022.
4. RECO charges the salesperson a \$100 fee when they transfer their employment to a different brokerage.
5. This is only applicable to brokerages, partnerships and sole proprietors if there is any change to the structure of the business—e.g., name change, change to real estate trust account, change in broker of record, or change in ownership.

Appendix 4: RECO's Complaints Handling Process

Prepared by the Office of the Auditor General of Ontario



Appendix 5: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

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1. Effective processes are in place to address complaints, and compliance or enforcement action is taken where appropriate against brokerages, brokers, salespersons and those required to be registered in accordance with the *Real Estate and Business Brokers Act, 2002* (Act).
 2. Effective processes are in place so that brokerages, brokers and salespersons meet their registration and other requirements, including ethical standards to trade in real estate under the Act and its regulations.
 3. Effective and timely inspection and investigation processes are in place to support RECO's compliance and enforcement functions so that brokerages, and the brokers and salespersons they employ, comply with the Act and its regulations.
 4. Systems and processes permit the collection and use of timely and complete information to allow RECO to carry out and publicly report on its mandated responsibilities.
 5. An effective governance structure and processes are in place to oversee RECO so that it fulfills its mandated responsibilities.
 6. The Ministry has effective processes to monitor and address RECO's performance in protecting the public and regulating brokerages, brokers and salespersons.
-