Ontario

Northern Ontario Highways Strategy

Source: M. Mielke, http://members/shaw/martinmielke

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Introduction

The provincial highway system is critical to Ontario's economy and quality of life. Provincial highways are the backbone of the transportation system in Northern Ontario where vast distances separate communities, natural resources and key market areas. Northern highways provide an economic lifeline, linking Northern and Southern Ontario and are vital to the prosperity of the province as a whole.

The Northern Ontario Highways Strategy (NOHS) provides the next level of detail for highway infrastructure renewal in the North. NOHS is a comprehensive, multi-year plan that looks to the future, setting real targets and priorities and identifying necessary resources. For the first time, northerners will have a real understanding of what highway work their government is committed to doing and when it will be undertaken.

The Northern Ontario Highways Strategy makes the right investments at the right time – a $1.8-billion, five-year commitment to creating a highway system capable of supporting prosperity in Northern Ontario.

In June 2004, the Ontario government announced its "Northern Prosperity Plan." Investing in highway infrastructure is an important part of this plan because a safe and efficient transportation system is key to supporting economic development and growth in all the communities of Northern Ontario.

In May 2005, the government provided the first level of detail about its plans to improve and upgrade northern highways when it released *ReNew Ontario*, a five-year, $30-billion investment plan developed to strengthen Ontario's economy and communities.

Table of Contents

PART 1: OVERVIEW

Geography and Population

Northern Ontario covers about 90 per cent of Ontario's landmass – more than 800,000 square kilometres.

Northern Ontario extends across two time zones, from the southern boundary of Parry Sound District north to Hudson Bay and James Bay and westerly from Quebec to the Manitoba border. It also abuts two states: Michigan and Minnesota.

With a population of 786,440 people, Northern Ontario contains about 7 per cent of Ontario's population.

There are approximately 464,000 people living in Northeastern Ontario and 322,440 in Northwestern Ontario.

About two-thirds of the northern population live in urban areas. More than three quarters of this urban population live in the five major cities: The City of Greater Sudbury, Thunder Bay, Sault Ste. Marie, North Bay and Timmins. In total, the residents of these five cities make up 55 per cent of the northern population.

Approximately one-third of the Northern Ontario population resides in rural towns or villages or in one of 102 First Nation communities, 46 Local Service Board areas and numerous other communities without municipal structure. Three per cent of northerners live in the "Far North" – the region north of the 51st parallel that makes up 40 per cent of Ontario's land mass.

NORTHERN ONTARIO

Economy

Vast natural resources, a skilled workforce and access to key markets combine to make Northern Ontario home to a diverse array of businesses.

These attributes also provide Northern Ontario with the potential to attract additional investment and spur economic growth.

Mining

Northern Ontario is a diverse geological area that supports extensive mineral exploration, mining and production. Although there are thousands of mining claims throughout the North, major concentrations of mineral deposits are located in or near Sudbury, Timmins, Red Lake and Marathon.

Each year, nearly $3 billion worth of minerals are produced in Northern Ontario. The North is home to 26 of Ontario's 27 metal mines, 14 gemstone mines and almost half of the province's 22 major industrial mining operations.

In 2003, Ontario yielded 59 per cent of Canada's nickel production, 55 per cent of Canadian gold production, 30 per cent of Canada's copper production and 85 per cent of Canadian platinum group metals production.

Approximately 13,500 people are employed in the mining industry in the North, generating approximately $1.2 billion of labour income.

There are many opportunities for further expansion of the mining sector in Northern Ontario, including exploration (diamonds, platinum-palladium, tantalum), mining services (supply of equipment, mine automation and rehabilitation), aggregates (sand, gravel, crushed stone) and value-added processing (nickel alloys, specialized industrial minerals, diamond cutting).

Forest Products

Ninety-eight per cent of Ontario's 690,000 square kilometres of forests are in the North. Many northern communities are highly dependent on the forest industry, with the most prominent districts being Thunder Bay, Cochrane and Kenora.

In 2003, the Ontario forest industry shipped approximately $18.8 billion worth of forest products (wood products, paper and allied industries, and logging) and employed 88,000 people in the province.

Northern Ontario accounts for all of Ontario's annual market pulp production and 70 per cent of its newsprint production. It has 16 of the province's 33 pulp and paper mills and is home to 24 of the 25 largest sawmills in Ontario.

Tourism

Northern Ontario offers a host of attractions for tourism activity. Its natural environment includes abundant forests, various wildlife, lakes and rivers, many provincial parks and extensive hiking and snowmobiling trails.

In 2003, 11 million visitors to Northern Ontario accounted for $1.7 billion in expenditures. Ontario itself is Northern Ontario's largest tourism market, accounting for 70 per cent of visitors to the region.

The Northern Ontario tourism industry sustains over 22,000 direct jobs and close to 4,500 indirect jobs. There are approximately 11,800 tourism-related businesses in Northern Ontario, including retail business, accommodation, car rental, food and beverage, entertainment, transportation and travel related businesses.

Agriculture

Northern Ontario is home to a $176-million agricultural sector, with strong dairy and beef industries and more than 3,000 farms. It is estimated that 6,200 people are employed in the northern agriculture and food processing industry. Most of the food processing businesses are bakeries, along with a substantial number of dairies, meat-processing plants and beverage manufacturing or bottling plants.

With only about one-third of the North's agricultural land in production and an expanding domestic market for agricultural products, there are opportunities to expand the region's agricultural industry.

Manufacturing

The manufacturing industry in Northern Ontario is largely focused on the production of value-added products in the mining and forestry industries, such as the production of paper from wood pulp. Manufacturing industries range in size from large heavy industries (i.e., steel) to smaller, local manufacturing businesses.

There are approximately 1,600 manufacturing firms operating in Northern Ontario. They employ more than 35,000 workers and produce a broad range of products worth nearly $10 billion annually – from fire extinguishers to disc drives, from avionics systems to computerized diamond drills, from scheduling software to aluminium and steel subway cars.

Other Sectors

Retail trade, health care, research and development, education, construction, and other community, personal and business services are also important parts of the northern economy.

Approximately 150,000 northerners are employed in community, business and personal services.

Over 6,100 retail establishments sell an estimated $8 billion worth of merchandise on an annual basis.

There are also a growing number of biotechnology firms in Northern Ontario pursuing advances in areas such as clinical research and early disease detection.

Transportation

Access to reliable, safe and affordable transportation is essential to economic and community development in Northern Ontario.

Various transportation modes play a role in meeting the unique transportation needs of the North.

Road Service:

Provincial Highways

There are approximately 22,000 lane-kilometres of highways and 850 bridges under provincial jurisdiction in Northern Ontario. About 13,000 lane-kilometres and 560 bridges are in northeastern Ontario, while northwestern Ontario has approximately 9,000 lane-kilometres and 290 bridges.

These highways provide links to international and inter-provincial border crossings; they facilitate the movement of people and goods between Northern and Southern Ontario and to the east and west; they enable access to urban centres, rural communities, resource extraction areas and tourist areas in the North. They are the backbone of transportation in Northern Ontario.

The Ministry of Northern Development and Mines (MNDM) and the Ministry of Transportation (MTO) are responsible for provincial highways in the North. MNDM funds highway construction and establishes priorities based on advice/recommendations from MTO. MTO delivers the Northern Highways Program, including engineering, property acquisition, construction, contract administration and highway maintenance.

PROVINCIAL HIGHWAY NETWORK IN NORTHERN ONTARIO

Municipal Roads

Municipal roads provide local access within and near cities, towns and villages. Municipalities are responsible for the construction and maintenance of these roads.

Included in the municipal road network are “connecting links.” These are designated sections of municipal roads that connect two ends of a provincial highway through an urban municipality. There are approximately 130 kilometres of connecting links in 24 Northern Ontario communities.

Local Roads Boards

There are approximately 7,000 lane-kilometres of local roads that are maintained through more than 300 cost sharing agreements between the province and Local Roads Boards, Statute Labour Boards, cottagers and First Nation communities.

First Nations Roads

The government also supports basic road construction and maintenance projects in 46 First Nations that operate as small lower tier municipalities. Provincial funding supports road activities such as grading, resurfacing, ditching, culvert repairs, minor road improvements and winter maintenance.

Resource Access Roads

Much of this system is maintained by the forest products industry. However, the province allocates funding and establishes priorities for the construction and reconstruction of sections of the approximately 30,000 kilometres of forest access roads in the North that serve multiple users. This road system, which is primarily gravel-surfaced, provides access to timber and mineral resources, provides recreational access for northern residents and tourists, and facilitates the province's resource management activities.

Winter Roads

A 3,018-kilometre network of winter roads provides a transportation alternative for remote Northern Ontario communities that would otherwise be accessible only by air. These seasonal roads are re-built annually by packing and ploughing snow and ice over bush, muskeg swamp and lakes.

Intercity Bus

Several intercity bus services operate in Northern Ontario, providing public transportation to/from small communities and major cities in the North.

Municipal Transit

Municipal bus services exist in the five largest urban areas, and are also in operation in towns such as Elliott Lake, Kenora, Timiskaming Shores and Dryden.

All-terrain Vehicles/Snowmobiles:

All-terrain vehicles and snowmobiles are used extensively in Northern Ontario, primarily for recreational purposes. An extensive network of trails maintained by snowmobile clubs and trail associations supports the use of these vehicles. In addition, they are permitted to operate on government lands adjacent to provincial highways and at points where trails cross the highway.

Rail Service:

Intercity Passenger Rail Service

Passenger rail provides an alternative transportation mode for long-distance travel. Service is provided in Northern Ontario by *Ontario Northland, VIA Rail,* and *Canadian National*. Ontario Northland Transportation Commission (ONTC), a provincial agency, operates the *Northlander, Polar Bear and Little Bear* rail services on a subsidized, non-commercial basis.

Rail Freight

The two main rail freight lines in Northern Ontario are the Canadian National and Canadian Pacific Railway lines, which run roughly parallel between Sudbury and Kenora. South of Sudbury, both CN and CPR provide lines to Toronto and Southern Ontario.

Both CN and CPR lines are part of the main North American rail network. These offer shippers in Northern Ontario alternate access to key US and Canadian markets as well as to major sea ports which serve as departing points to major international markets.

In addition to the CN and CPR mainlines, there are a number of other regional railway companies operating in the North:

- Ontario Northland (North Bay to Timmins/Hearst/ Moosonee);
- Huron Central Railway (Sudbury to Sault Ste. Marie); and
- Ottawa Valley RailLink (Sudbury/North Bay/Smith's Falls).

Air Service:

There are 68 public airports in Northern Ontario. Thunder Bay and Sudbury are the main regional airports, with Thunder Bay's international airport being the third busiest in Ontario.

Most northern airports are municipally operated, and support business and time-sensitive personal travel. However, many northern airports allow the movement of essential goods and services to remote communities that do not have year-round, or any, surface transportation. MTO operates 29 remote airports in the Far North, providing access to many First Nation communities. These airports are critical to many provincial government services, such as air ambulance services, emergency fire suppression, flood support and wildlife surveys. The airport in Sioux Lookout provides an important hub for travel to these remote airports.

Marine Service:

Marine Freight

Marine cargo activity in Northern Ontario is primarily focused on three areas: Thunder Bay (grain, coal and potash), Sault Ste. Marie (gas/oil, coal, limestone, iron ore, steel) and the North Channel of Georgian Bay/Manitoulin Island (aggregates). The Port of Thunder Bay and the Port of Sault Ste. Marie are among the busiest in the province.

Ferries

A limited number of provincially funded passenger ferries operate in Northern Ontario. The largest ferry service is the M.S. Chi-Cheemaun service from Tobermory (Bruce Peninsula) to South Baymouth on Manitoulin Island, which is operated by the Owen Sound Transportation Company. *Ontario Northland* operates a barge between Moosonee and Moose Factory Island.

Provincially funded or assisted ferry services are also provided at McKenzie Island near Red Lake (a toll ferry) and at an Abitibi River crossing north of Cochrane.

Why Northern Highways are Vital

Provincial highways are the backbone of transportation in Northern Ontario. They support the development of strong communities, serving as a foundation for economic and population growth.

The Ontario government knows that transportation in Northern Ontario is about much more than highways and will continue to work with municipalities, the federal government and the private sector to improve northern transportation as a whole. However, the government's first transportation priority is improving northern highway infrastructure.

Provincial highways are critical to the movement of people and goods within and through Northern Ontario and are vital to the prosperity of the province.

Provincial highways function as a key economic lifeline for Northern Ontario.

The provincial highway network is a primary mode for the import of food and finished goods and the export of unfinished resources to Southern Ontario and other markets in Canada and the United States.

Provincial highways support automobiles and trucks, the predominant modes of transportation in the North.

Highway transportation is especially important in Northern Ontario where sparse population and long distances reduce the viability of other modes of passenger transportation. The unique characteristics of the North do not allow for significant development of public transit alternatives, such as commuter rail or bus services. The reliance on personal vehicles for transportation is reflected by higher vehicle ownership rates in Northern Ontario than in the South. Intercity bus service, an alternative to the personal automobile, is also dependent on provincial highway infrastructure.

Furthermore, an efficient highway system allows the trucking sector to meet the strict "just-in-time" delivery standards of shippers, which in turn improves the competitiveness of Ontario industry.

Finally, major northern cities are regional centres for health care and other social services. Residents from outlying communities, often hundreds of kilometres away, rely on the automobile and the highway system to access these services. In addition, many northerners are required to travel to Southern Ontario or Manitoba for specialized medical treatment. In most cases, the automobile is required to make these trips.

Why Northern Highways are Vital

Provincial highways accommodate the unique transportation needs of resource industries.

The mining and forestry sectors are highly reliant on road-based transportation for their economic viability. The provincial highway network provides the basic road system for access into remote areas for exploration, production and extraction activities and for the distribution of goods (pulp, lumber, mineral aggregates) to provincial, national and international markets.

Provincial highways serve as the primary gateway and means of access to Northern Ontario as a major tourist and recreational destination.

The provincial highway network has enabled the development and expansion of the North as a major tourist destination for recreational opportunities. It has also facilitated the extensive development of the Kenora, Parry Sound and Nipissing districts with recreational activities, cottages and resorts.

Provincial highways comprise part of the National Highway System.

The National Highway System (NHS) is made up of approximately 27,000 kms. of important inter-provincial and international linkages across Canada. The major highways through the North (Hwys. 11, 17 and 69) form key sections of the NHS, thereby serving a function beyond the needs of the North and the province. Provincial highways that were part of the NHS in 2003 were eligible for one-time federal funding through the federal-provincial Strategic Highway Infrastructure Program (SHIP) agreement. However, there are no federal programs that provide funding for Ontario's highways on a regular basis. Ontario will continue its efforts to increase federal support for highway infrastructure in Ontario, and if new federal programs are introduced, the provincial government will ensure that highways in Northern Ontario receive a fair portion of federal funding.

Provincial highways are an important part of regional/local transportation in the North.

Unlike other parts of the province, Northern Ontario generally does not have a regional or county road network. Therefore, provincial highways perform many regional/local transportation functions.

Why Northern Highways are Vital

Provincial highways are critical to economic development and prosperity in Northern Ontario because they serve so many different markets.

Southern Ontario (Highways 11 and 69)

These highways provide access to major northern communities and facilitate the transport of goods to and from Southern Ontario. They also provide access to major tourist and vacation destinations. The Highway 11 corridor south of North Bay and the Highway 69 corridor south of Sudbury are the busiest corridors in the North. Average daily traffic volumes are approximately 10,000 vehicles and 7,900 vehicles, respectively.

Inter-provincial corridors (Highways 17, 11 – North Bay to Rainy River, 63, 65, 66, 101, 61).

Highway 17 from Quebec to Manitoba and Highway 11 from North Bay to Rainy River are the main inter-provincial links in Northern Ontario. Highways 63, 65, 66 and 101 provide access to the Ontario-Quebec border.

Average daily traffic volumes for Highway 11/17 from the outer limits of Thunder Bay to Nipigon are approximately 5,600 vehicles. Average daily traffic volumes on Highway 17 from Kenora to Manitoba are approximately 3,300 vehicles.

International Border Crossings

Provincial highways also provide connections to international border crossings. The four main Canada-US crossings in Northern Ontario are:

- The *International Bridge*, which links Sault Ste. Marie and the I-75 Freeway in Michigan;
- The *Pigeon River Bridge,* located southwest of Thunder Bay, which links Highway 61 in Ontario to Highway 61 in Minnesota;
- The *Fort Frances-International Falls Bridge,* which connects Highway 11 and Highway 71 in Ontario to Highway 53 in Minnesota; and
- The *Baudette-Rainy River Bridge,* which is the northern terminus of Highway 11 in Ontario.

The total value of goods shipped by truck across the four Northern Ontario border crossings was $5.1 billion ($CDN) in 2004.

Major Urban Areas (Highways 11, 17, 69)

Within and adjacent to the North's five urban centres, the provincial highway system serves primarily local trips, but also carries longer distance inter-city trips.

Internal Links (500, 600, 800-series highways)

These highways provide access to/from rural communities, resource extraction areas and tourist areas.

Source: Michigan Department of Transportation

Northern Highways

Highway Classifications

Provincial highways are classified into four categories, based on traffic mobility and land access considerations. Different highway classes vary in terms of traffic volumes, highway maintenance, design and construction standards and investment requirements.

Freeway – multi-lane divided highways that carry relatively large volumes of traffic at high speeds. There is full control of access and crossroads are typically grade separated. Freeways comprise only 2 per cent (approximately 350 lane-kms) of the northern highway network.

Arterial – two-lane or multi-lane highways that carry significant volumes of long distance travel at high speeds, with a degree of access control. Arterial highways comprise approximately 37 per cent (almost 8,200 lane-kms) of the northern highway network.

Collector – two-lane or multi-lane highways that provide for a balance of mobility and land access functions. Collector highways comprise approximately 27 per cent (almost 6000 lane-kms) of the northern highway network.

Local – highways that primarily provide access to local land users. These highways are mainly located in areas of sparse development where no municipal organization exists. Local highways comprise approximately 34 per cent (7,400 lane-kms) of the northern highway network.

HIGHWAY CLASSIFICATIONS IN NORTHERN ONTARIO

Northern Freeways

Most highways in Northern Ontario are two-lane facilities, but there are some sections of four-lane, divided highway on Highways 11, 17, and 69/400:

Highway 11

- 54 km from North Bay to South River
- Emsdale southerly

Highway 69/400

- Parry Sound to MacTier
- 6 km southerly from Sudbury

Highway 17

- 22 km from Sudbury westerly to Whitefish
- 17 km section east of Sault Ste. Marie

Highway 11/17

- 4 km near Thunder Bay

FOUR-LANE HIGHWAYS IN NORTHERN ONTARIO

Highway Condition

The provincial highway network in Northern Ontario is a very valuable asset that would cost more than $20 billion to replace. The preservation and rehabilitation of northern highways is essential to protect taxpayers' investments, prolong the life of highway assets and support safe and efficient transportation in the North.

Pavements and Bridges

The government is committed to improving the condition of pavements and bridges on northern highways. It will work towards achieving conditions comparable to those of highways in other jurisdictions, such as the US Great Lake States (i.e., Michigan, New York, Minnesota). Some of the highways in these states are good benchmarks for northern highways because they experience similar traffic volumes and weather patterns.

The Ministry of Transportation evaluates pavement and bridge conditions on a regular basis and does not allow their condition to compromise the safety of the travelling public. If inspections reveal a safety concern, immediate repairs are undertaken. Other, less critical needs are then prioritized and scheduled for repair as part of the annual rehabilitation program.

Gravel/Surface-Treated Roads

Not all provincial highways in Northern Ontario are paved. Of the 22,000 lane-kilometres of highways in the North, about 30 per cent are gravel or surface-treated.

Other Highway Infrastructure

In addition to pavements, bridges and gravel or surface-treated roads, there are many other highway assets, such as culverts, guide rails and median barriers that must be maintained.

Challenges

Constructing and maintaining provincial highways in Northern Ontario presents many unique challenges. These challenges have a significant influence on the cost and timing of highway improvements.

For example, the severe climate in Northern Ontario reduces the number of months in which highway construction can be carried out. The shorter construction season can increase the total time required to complete a project. It can also increase project costs if contractors are required to repeatedly demobilize equipment and staff in the winter and remobilize them in the spring.

Other factors that can add to the complexity of northern highway projects include the rough terrain of the Canadian Shield, more remote project locations and an abundance of hills, lakes, rivers, streams and wildlife.

Highway Planning Process

On average, the highway planning and construction process takes eight years from the time a project is conceived until the end of construction. This process is described in detail below.

The diagram "Highway Planning Process" illustrates the stages and timeframes associated with major highway construction projects. Although this process is lengthy, it is absolutely essential to reduce the impact of highway construction on Ontario's environment, to protect the rights of property owners, and to ensure provincial highways meet all design and construction standards.

All public infrastructure projects are required to undergo an environmental assessment process to consider the natural, economic and social impacts. Projects that are relatively small in size and scale, are carried out routinely, and have predictable environmental effects that can be mitigated, are subject to a **Class Environmental Assessment (EA) process**. This accounts for approximately 95 per cent of MTO's infrastructure projects.

There are four groups of Class EA projects (A, B, C and D), based on scope and potential for environmental impact. Depending on the group, the application of MTO's Class EA process varies, particularly in terms of consultation, documentation requirements and approvals. Group 'A' projects are the most rigorous and complex, whereas Group 'D' projects require the least amount of consultation and documentation. Highway expansions in Northern Ontario are generally considered as Group 'A' or Group 'B' projects.

Planning and preliminary design studies are the first stages in the Class EA process, generally taking two to three years to complete. This involves the environmental assessment of broad transportation alternatives and specific highway improvement options.

The next stage is **detail design**, which involves engineering work such as surveying, testing for soil conditions, determining construction material requirements and the design of bridges, interchanges and culverts. Once the detail design is approved, the property acquisition process can begin. Typically, up to three years is required to complete the detail design and property acquisition.

Property acquisition can take up to approximately 18 months if expropriation is necessary and if property owners request a **Hearing of Necessity.** The purpose of a hearing is to determine whether MTO has sound justification in expropriating the property at issue. Where extensive property acquisition or highway re-design is required, progress on the project may be prolonged.

Highway Construction depends on the magnitude of the project as well as the availability of property and the timing of various environmental clearances or permits. In Northern Ontario, with a limited construction season, construction of four-lane highways is generally staged, taking two to three years for each 10-kilometre section. The completion of some highway sections may be delayed because of legislated restrictions on construction during fish spawning periods, the nesting periods for birds or for other reasons.

The overall process requires extensive technical work, the involvement of a range of agencies at all levels of government and broad consultation with stakeholders and the general public. It can therefore take up to 8 years, possibly more, for a Group 'A' or 'B' project to proceed from planning through to construction.

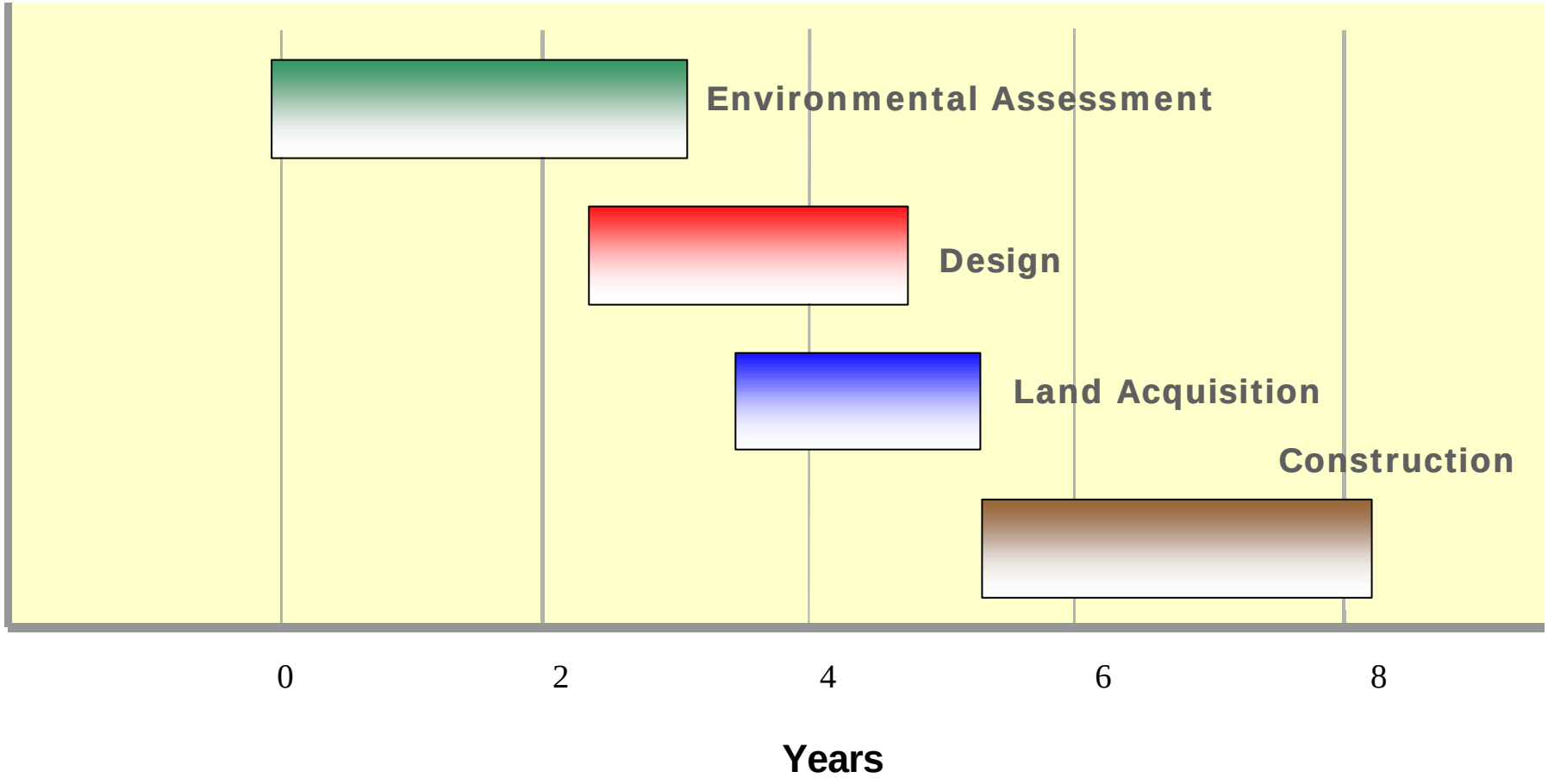
In addition to Ontario EA approval, MTO must often address federal environmental requirements as well. For those projects that the federal government provides funding or land, or issues a permit, licence or authorization, the requirements of the *Canadian Environmental Assessment Act* apply. For example, the Federal Department of Fisheries and Oceans reviews MTO's detailed design work on water crossings where fish habitat is impacted and requires specific permits be issued prior to the ministry proceeding with highway construction.

The recent Canada-Ontario Agreement on EA Coordination (November 2004) will now allow federal and provincial EA approvals to proceed within the same timeframe. MTO is also continuing with the development of more rigorous Environmental Standards and best practices to better protect the environment through all phases of planning, design and construction of highway infrastructure.

Moving highway improvement projects from concept to reality is a time-consuming and resource-intensive process. Carrying out thorough environmental assessments and detailed design to address provincial and federal requirements is critical to ensure the timely approval of projects at all stages. MTO works collaboratively and consults with a wide range of provincial ministry and federal departments and engages northern communities and First Nations throughout the process.

Highway Planning Process

Timelines for Moving from Concept to Construction



Northern Highways Strategy

Overview

The government's strategy for improving northern highways is based on three key objectives:

- **Preserve Existing Infrastructure**
- **Plan, Design and Build for the Future**
- **Enhance Safety and Efficiency**

Preserve Existing Infrastructure

The emphasis on preserving existing highway infrastructure is fundamental to good asset management. Timely investments in preservation and rehabilitation prolong the life of highway assets, minimize safety risks and inconvenience to the travelling public and reduce wear and tear on vehicles. Prompt attention to highway repair needs also minimizes the need for more costly reconstruction in future years.

Furthermore, the deferral of bridge repairs can lead to the imposition of traffic restrictions, which have serious implications for regional economies. The government will focus investment in bridge repairs over the next several years to minimize the negative economic impact of reduced load restrictions.

The Ministry of Transportation will continue to monitor the condition of the highway infrastructure to plan for appropriate preservation, rehabilitation and expansion activities. The ministry is implementing a new approach to highway asset management that will use additional performance measures and state-of-the-art analysis tools to enhance decision-making and make "trade-offs" between different types of investments on various highway corridors. This will ensure that investments in northern highways are made at the right place and at the right time, thereby maximizing the benefit to highway users.

Plan, Design and Build for the Future

There is a need for strategic highway expansion on key northern highways to enhance safety and promote northern economic development. Traffic volumes on most other northern highways do not warrant four-laning in the short term. However, these highways are being improved by adding passing lanes, widening shoulders and designing for challenging terrain or weather conditions.

Demand for car and truck travel on northern highways is expected to grow steadily over the next several years. The northern highways with the largest growth in traffic will be in the southeast areas and near the urban centres (Highway 11 south of North Bay, Highway 17 near Sudbury and Sault Ste. Marie, Highway 11-17 near Thunder Bay and Highway 69 near Sudbury and Parry Sound).

Given the time required for planning, design, property acquisition and construction, work must begin far enough in advance for highway expansion to be completed when needed.

Enhance Safety and Efficiency

The rehabilitation of existing highways and the four-laning of strategic corridors will improve the safety and efficiency of the northern highway network. In addition, the government will pursue other specific initiatives to meet these goals.

Operational Improvements

The extension of existing passing lanes, the addition of new passing lanes, truck climbing lanes and paved shoulders, the installation of rumble strips and the realignment of curves are all important parts of the government's highway investment strategy. The government will also invest in new interchanges to improve highway safety and efficiency near major urban areas.

The use of Changeable Message Signs on northern highways will also be increased to provide advanced warning of construction zones, weather problems and major traffic-related events.

Highway Winter Maintenance

Given Northern Ontario's harsh climate, the Ministry of Transportation's winter maintenance program is particularly critical to the safe and efficient operation of northern highways. The ministry contracts its snow and ice control services, but sets the standards used by contractors and monitors operations before, during and after winter storms. Contractors are closely scrutinized for compliance to standards and penalties for failure are severe, including loss of contract.

Ontario's snow and ice control standards are consistent with the best practices used across North America. These standards indicate a specified time for roadways to be restored to normal conditions after a storm has ended. Traffic volumes and road type determine how quickly highways are serviced. With the onset of a storm, plowing commences promptly and priority is given to the main lanes on highways – it may take up to eight hours for plows or sanders to reach low-volume roads. Some roads with the lowest volumes are maintained in snow-packed conditions throughout the winter.

Winter Maintenance Technologies

The government is working to improve its snow and ice control operations. Some technologies that are helping improve the winter maintenance program include:

- De-icing liquids – are added to road salt to make it work more quickly than dry salt to melt ice and snow.
- Road weather information systems – help staff and contractors make the best and most timely decisions on how to deal with winter conditions.
- Electronic control equipment – ensures the correct amount of salt and sand is distributed.

Studded Tires

The government has recently introduced legislation that, if passed, would amend the *Highway Traffic Act* to lift the ban on studded tires in Northern Ontario. Research shows that studded tires are more effective than other tires on icy conditions, particularly on wet ice.

Northern residents may have the option to use studded tires as early as next winter (2005/06). In order to minimize damage to the road it is proposed that only Scandinavian standard lightweight studs would be used. Older-style steel studs, responsible for excessive pavement damage in the past, would notbe permitted under the proposed legislation.

Summary

The government will continue to invest in safety improvements and implement best practices in highway maintenance. However, driving always demands exceptional care and control. No highway maintenance program or vehicle equipment can replace the importance of appropriate judgement and driver care. Making wise decisions will always be important to the safety of all motorists.

The government's Northern Highways Strategy includes a commitment to environmental protection and the pursuit of partner funding.

Environmental Protection

The Ontario government will ensure that the adverse impact of highway construction on the northern environment is minimized. Thorough environmental reviews will continue to be conducted for every highway construction proposal and the province will participate in federal reviews under the *Canadian Environmental Assessment Act*. The province will also work with the federal government to protect wildlife, including fish habitats and migratory and nesting birds.

In addition, the use of new winter maintenance technologies will help reduce road salt usage, thereby minimizing the amount of salt entering the environment.

Source: M. Mielke

Partner Funding

The government recognizes the vital importance of northern highways to the province of Ontario and will make significant investments to address key improvement priorities. Funding levels for these improvements have been set out in the government's *ReNew Ontario: A Five-year Infrastructure Investment Plan*. However, even more can be accomplished through additional partnerships with municipal and federal governments and the private sector.

The provincial government is challenged to make necessary improvements to Ontario's highway infrastructure without regular, ongoing support from the federal government. The province will continue to seek out opportunities for provincial-federal cost-sharing programs to improve northern highways. For example, the continuation of the Strategic Highway Infrastructure Program (SHIP) will be pursued.

Due to relatively low traffic volumes and the lack of alternate routes in the North, toll highways are not a viable alternative to public funding. However, other alternative financing options may be pursued. All highway investments will be guided by the principles and best practices established by the government in *Building A Better Tomorrow*, a framework for the planning, financing and procurement of public infrastructure. It includes five guiding principles that govern the approval of infrastructure projects and the selection of financing options:

- The public interest is paramount
- Value for money must be demonstrated
- Appropriate public control/ownership must be preserved
- Accountability must be maintained
- All processes must be fair, transparent and efficient.

PART II: NORTHERN HIGHWAYS IMPROVEMENT PLAN

Rehabilitation

Improvement Plan

The government will protect taxpayers' investments in northern highways through an aggressive highway rehabilitation program.

The Ministry of Transportation uses an asset management framework to prioritize highway rehabilitation work. The ministry inspects and measures the condition of all pavements each year and the condition of bridges every two years. When evaluating the need for highway improvements, the first priority is the safety of the travelling public. The ministry does not tolerate unsafe pavement or bridge conditions.

In addition to safety considerations, the ministry's analysis includes the lifecycle expectations of existing infrastructure. When possible, minor rehabilitation work is undertaken early in pavement and bridge lifecycles to maximize infrastructure life spans and defer higher reconstruction costs.

Short-term (1-5 years)

Over the next five years, the government will invest $1.1 billion in Northern Ontario to rehabilitate approximately 2,000 km of highways and nearly 200 bridges.

In 2004/05, the government invested approximately $160 million to rehabilitate northern highway infrastructure. This amount will increase by $20 million in each of the next five years (an annual investment of $260 million by 2009/10).

Due to unpredictable aspects of highway planning and construction, planned rehabilitation projects are subject to change. Factors such as weather, environmental considerations and approvals, traffic staging, design changes and unexpected field conditions can affect construction schedules. It is important to recognize that these conditions may have an impact on projects scheduled.

Major rehabilitation projects planned for the next five years are listed in Appendix 1. The rehabilitation projects for the next two years (2005/06 and 2006/07) are also shown on maps of Northeastern and Northwestern Ontario in Appendix 1.

Planned rehabilitation of pavements and bridges on some of Northern Ontario's highway corridors over the next five years are summarized below:

Hwy.	Location(s)	Corridor Length (km)	Pavements (km)	Bridges
Northeastern Region				
11	North Bay to Longlac	785	200	14
17	North Bay easterly	311	61	6
17	North Bay to Sudbury	124	20	2
17	Sudbury to Sault Ste. Marie	290	25	6
17	Sault Ste Marie to White River	305	15	3
6	Various	110	25	2
63	Various	60	37	na
66	Various	100	49	2
101	Various	429	165	3
129	Various	212	34	na
144	Various	272	100	6
518	Various	70	16	1
522	Various	109	38	na
556	Various	104	25	na
631	Various	167	50	na
655	Various	75	35	na

Hwy.	Location(s)	Corridor Length (km)	Pavements (km)	Bridges
Northwestern Region				
11	Longlac to Thunder Bay	298	60	3
11	Thunder Bay to Rainy River	433	105	5
17	White River to Nipigon	265	51	2
17	Shabaqua to Dryden	284	33	na
17/17A	Dryden to Kenora	166	50	4
71	Various	154	na	5
105	Various	173	28	3
502	41 km north of Hwy. 11	151	19	na
584	North of Geraldton	53	53	na

The government will provide annual updates on the progress of rehabilitation projects. A variety of factors, including weather conditions, can affect the timing of the work.

It is clear from the five-year rehabilitation plan that the government is taking a balanced approach to highway rehabilitation. In addition to projects on primary northern highway corridors, several improvements will also be made to secondary routes throughout the North.

Furthermore, minor capital improvements, such as culvert replacements and smaller resurfacing projects, will be completed across the northern highway network.

Mid to long-term (6-10 years)

Preserving highway infrastructure requires an ongoing commitment. Future government investments in highway rehabilitation will be guided by the Ministry of Transportation's approach to highway asset management. This will ensure that the benefits of investments are maximized and the condition of northern highway infrastructure will continue to improve.

Expansion

The government will accelerate the four-laning of Highway 11 and Highway 69 to allow for their completion within seven and 12 years, respectively.

Northeastern Ontario's current and future prosperity depends on having safe, efficient travel along Highways 11 and 69. This plan defines the government's commitment to completing the Highway 11 and 69 corridors in seven and 12 years respectively, pending environmental approvals. These initiatives will deliver accelerated economic development, job creation and increased safety.

The Highway 11 and 69 programs will benefit more than just Northern Ontario. These highways are part of the National Highway System, and as such, are important national transportation arteries. Furthermore, their expansion will offer developers and planners in the populous South with a viable avenue for expansion and development at a time when issues of urban sprawl, preservation of quality of life, conservation of environmentally sensitive areas and the protection of fertile farmland confront them. More immediately, the many seasonal residents from Southern Ontario will appreciate safer, expanded corridors. The expansion of Highways 11 and 69 presents North and South Ontario with a win-win situation.

Highway 69 Four-laning

The expansion of Highway 69 is a grand engineering feat that calls upon considerable skill, ingenuity and resources. Progress is dependent on several factors, including environmental, technical and property considerations.

The four-laning of Highway 69 from Parry Sound to Sudbury is comprised of 152 kilometres, and includes the following elements:

- 18 interchanges to access the new highway
- 103 bridges
- 14 river crossings
- 152 stream crossings
- a 30-metre median separating the north-and southbound lanes.

It is estimated that over the course of this initiative, 37 million cubic metres of materials (rock, earth, granular material) will be moved. That is 22 times the volume of the Rogers Centre (formerly Skydome).

Construction will be staged to ensure that certain sections of Highway 69 will be completed and open to traffic throughout the planned 12-year construction period.

Highway 69 - South of Parry Sound

Only an eight-kilometre section of Highway 69/400 in Southern Ontario remains to be four-laned south of Parry Sound. Construction is proceeding as scheduled and is expected to be complete by fall 2007.

Highway 69 - Parry Sound to Sudbury

Short-term (1 to 5 years)

The following four-laning projects on Highway 69 are planned to proceed over the next five years, subject to environmental approvals. The projects are presented in order from south to north.

Location	Description	Start	Estimated Completion
Parry Sound to Nobel	7 km of four-laning	Underway	2008
Nobel Bypass	5 km of four-laning	2006	2009
Nobel to Hwy. 559	5 km of four-laning	2007	2009
South of Estaire to Hwy. 537	12 km of four-laning	2006	2009
South of Sudbury (3 km north of Hwy. 537 northerly)	Underpass and 1 km of four-laning	Underway	2005
South of Sudbury (6 km north of Hwy. 537)	Interchange and 2 km of four-laning	Underway	2005
South of Sudbury (Hwy. 537 to Sudbury)	8 km of four-laning	2006	2008

Note: Opening of Parry Sound to Hwy. 559 is planned for 2010.

Mid-term (6-12 years)

Upon completion of the projects identified in the table, four-laning of the remaining section of Highway 69 will begin. This middle section extends from Highway 559 to Estaire. Property acquisition and highway design requirements for this section will be completed over the next several years to ensure construction can continue as scheduled to complete the entire four-laning within the planned 12-year timeframe. More detail on the 6-12 year construction plans for Highway 69 were provided in the government's *Highway 69 Action Plan*, which was released in June 2005.

Highway 11 Four-laning

There are currently 47 km of Highway 11 (from Emsdale to South River) remaining to be four-laned. The government plans to complete this section over the next seven years.

Short-term (1 to 5 years)
The following four-laning projects on Highway 11 will proceed to allow for the widening of the entire corridor to be completed in seven years. The projects are presented in order from south to north.

Location	Description	Start	Estimated Completion
Emsdale to Katrine	6 km of four-laning	Underway	2005
Katrine to Burk's Falls	9 km of four-laning	2006	2010
Burk's Falls Bypass	5 km of four-laning	2009	2012
Burk's Falls to Sundridge	10 km of four-laning	2008	2011
Sundridge to South River	17 km of four-laning	2006	2010

Engineering and property acquisition activities associated with these future construction projects are proceeding well. Engineering for the detail design is approximately 80 per cent complete and about 55 per cent of the required property has been secured.

Highway 11/17 Expansion/Four-laning

The government initiated the construction of 13 km of new two-lane highway west of Thunder Bay in 2004/05. This project is continuing and is scheduled for completion in 2007. The "Shabaqua" Highway will provide both Trans Canada and local traffic with safety and operational improvements. The need for further extension and expansion of this new corridor will continue to be evaluated over the next several years.

In addition, the government is continuing to assess the potential four-laning of Highway 11/17 between Thunder Bay and Nipigon. There are no short-term plans to four-lane this section of highway. Current traffic volumes do not justify its expansion at this time.

However, over the next few years, the government will focus on improving the safety and efficiency of this corridor through the addition of passing lanes, truck-climbing lanes and highway realignment.

The timing of four-laning in the medium-term will depend on future development, traffic volumes and the interest of the federal government in supporting the expansion of this strategic piece of the National Highway System.

Other Northern Highways

Although the focus of northern highways expansion will be on Highways 11, 69 and 11/17 for the next several years, the government will also continue to address expansion needs on Highway 17.

Short-term (1-5 years)

The following highway expansion projects will proceed, subject to environmental approvals, over the next five years on Highway 17:

Location	Description	Start	Estimated Completion
Highway 17 - East of Sault Ste. Marie	16 km of four-laning through Garden River First Nation	Underway	2008
Highway 17 - East of Sault Ste. Marie	7 km of four-laning (GRFN to Echo Bay)	Underway	2008
Highway 17 - East of Sault Ste. Marie	Trunk Road Access (City of Sault Ste. Marie).	Underway	2008

In addition, discussions are underway between MTO and Batchewana First Nation regarding the extension of the new four-lane alignment through Batchewana First Nation territory.

Mid to long-term (6-15 years)

Aside from Highways 11 and 69, the government has not yet finalized the priorities, timing and investment requirements associated with the longer-term northern highway expansion program. However, in addition to the potential four-laning of Highway 11/17 from Thunder Bay to Nipigon, which was discussed on page 28, the government recognizes that there will be increasing pressure for expansion on other corridors, including:

- Highway 17 - east and west of Sudbury
- Highway 17 – Kenora to Manitoba
- Highway 17 – Dryden Bypass

Although the timing of these northern highway expansion projects is uncertain, the government will continue to evaluate the need for expansion in these areas and, where necessary, undertake planning, environmental approvals, design and property acquisition activities in anticipation of construction.

New Highway Links

In addition to the expansion projects already identified, many Northerners have called for the construction of new highway links, such as Red Lake to Manitoba, Sultan Road and all weather roads into the Remote North.

Given the significant financial and human resources required to four-lane Highways 69 and 11 and rehabilitate and expand other key corridors in the North. The need for these additional expansion initiatives will continue to be assessed.

There is certainly vast, untapped potential in the Far North of the province. The development of road access into this area requires extensive consultation with First Nations, as well as the participation of the federal government and resource industries.

Summary

Over the next five years, the government plans to invest $700 million in Northern Ontario to construct more than 60 km of new highways and 54 new bridges.

The government will provide annual updates on the progress of expansion projects. A variety of factors, including weather conditions, can affect the timing of the work.

The expansion projects to be initiated over the next five years are identified on the map “Northern Ontario Multi-Year Expansion Program” and the project list in Appendix 2.

Safety Improvements

In addition to realizing the benefits associated with highway rehabilitation and expansion, the government will implement specific initiatives to make travel on northern highways safer and more efficient.

Highway 69

Given the time required to complete four-laning of Highway 69 from Parry Sound to Sudbury, the government will continue to implement specific initiatives to improve safety along this corridor. For example:

- Several short-term improvements south of the Highway 637 (Killarney) junction have been implemented, including:
  - Fully paved shoulders with rumble strips;
  - New curve warning signs with flashing lights;
  - Highly visible reflective pavement markers and edgeline pavement markers to better highlight curves; and
  - Reflective pavement markers along the centreline through the curve.

- Six passing lanes have been lengthened between Britt and Sudbury to improve passing opportunities. Two new passing lanes in the vicinity of Highway 522 are planned for construction in 2005.

- Fully paved shoulders and rumble strips have been added from Britt to Estaire and will be extended from Highway 559 to Britt in 2005.

- To promote safe passing and reduce aggressive driving, fifty new passing-lane location signs have been installed in the corridor, advising motorists of the distance to the next passing lane.

- Installation of five permanent changeable electronic message signs south and north of Parry Sound will be completed in 2005. These will alert motorists to events and conditions that may affect travel, such as emergencies or weather-related road closures. Safety messages promoting safe driving practices will also be posted.

- Construction of truck laybys at two locations south of Parry Sound will be completed in 2005. These will allow Ministry of Transportation enforcement staff to carry out inspections of commercial vehicles, as well as provide areas for truck drivers to stop safely and inspect their loads and vehicles.

The government will provide annual updates on the progress of safety improvement projects. A variety of factors, including weather conditions, can affect the timing of the work.

Other Highways

There are also several operational improvements planned over the next five years to improve safety and efficiency on other northern highways. Given the long distances, rolling terrain and high proportion of truck traffic on Highways 11 and 17, the addition of passing lanes is an important step in increasing safe passing opportunities. Examples of passing lane projects and other operational improvements on these highways are identified below.

Hwy.	Location	Description	Completion
Northeastern Ontario			
11	North of Hwy. 67	Northbound passing lane	2005
11	East of Kapuskasing	East and Westbound passing lane	2005
11	Hwy. 101 & 11 Junction	Intersection improvement	2006
17	Town of Desbarats	Left turn lanes at Main and L. Huron Dr.	2006
11	Hwy. 11/17 Junction	Truck Arrester Rehabilitation	2007
17	Hwy. 630 easterly	Passing lane	2007
17	East of Hwy. 533	2 passing lanes	2009
Northwestern Ontario			
11/17	Hwy. 527 easterly	Eastbound and Westbound passing lanes	2005
11/17	Ouimet westerly	2 passing lanes	2006
11/17	East and west of Hwy. 587	Passing lane, new alignment, truck climbing lane extension	2008
17	East of Nipigon	Eastbound truck climbing lane	2008
17	Manitoba Boundary	Eastbound passing lane	2008

Interchanges

The construction of new or redesigned interchanges on provincial highways is an effective means of increasing the safety and efficiency of travel in Northern Ontario, particularly near urban areas.

In the short-term, numerous interchanges will be constructed as part of the Highway 69 and 11 four-laning initiatives. In addition, construction of a new interchange at Highway 17 and Regional Road 80 in Sudbury will begin in 2006 and is scheduled for completion in 2008, provided property acquisition is complete and utilities have been relocated.

In the longer-term, the government will prioritize investments in interchanges within the context of the overall northern highway network. Some of the potential interchange improvements over the next five to 10 years include:

- Highway 17/Jones Road in Kenora
- Highway 11/17 and Northwest Arterial – Thunder Bay
- Highway 17/Regional Road 55 – Sudbury
- Highway 11/Powassan

Sault Ste. Marie International Bridge Truck Route

In partnership with the federal government and the City of Sault Ste. Marie, the province is supporting construction of an international truck route in Sault Ste. Marie. The truck route project involves developing a three-kilometre section of two-lane and four-lane road between the Sault Ste. Marie International Bridge and Highway 17. When completed in 2006, the route will provide higher levels of safety and efficiency for both residents of Sault Ste. Marie and carriers approaching the International Bridge.

Conclusion

The Northern Ontario Highway Strategy (NOHS) is a significant step forward in the development of a provincial highway network capable of supporting economic and community development in Northern Ontario.

This multi-year strategy will serve as the government's roadmap for improving highway infrastructure in Northern Ontario. The safety and efficiency of northern highways will be improved through significant investments in highway rehabilitation, expansion and other initiatives such as the construction of passing lanes, truck climbing lanes and highway realignments.

The project lists and maps appended to this document reflect a very aggressive northern highway improvement plan. Record-level investments will be made to protect taxpayers' investments in existing northern highway infrastructure and expand the capacity of key northern corridors. The four-laning of Highways 11 and 69 will be accelerated to allow for their completion in seven and twelve years, respectively.

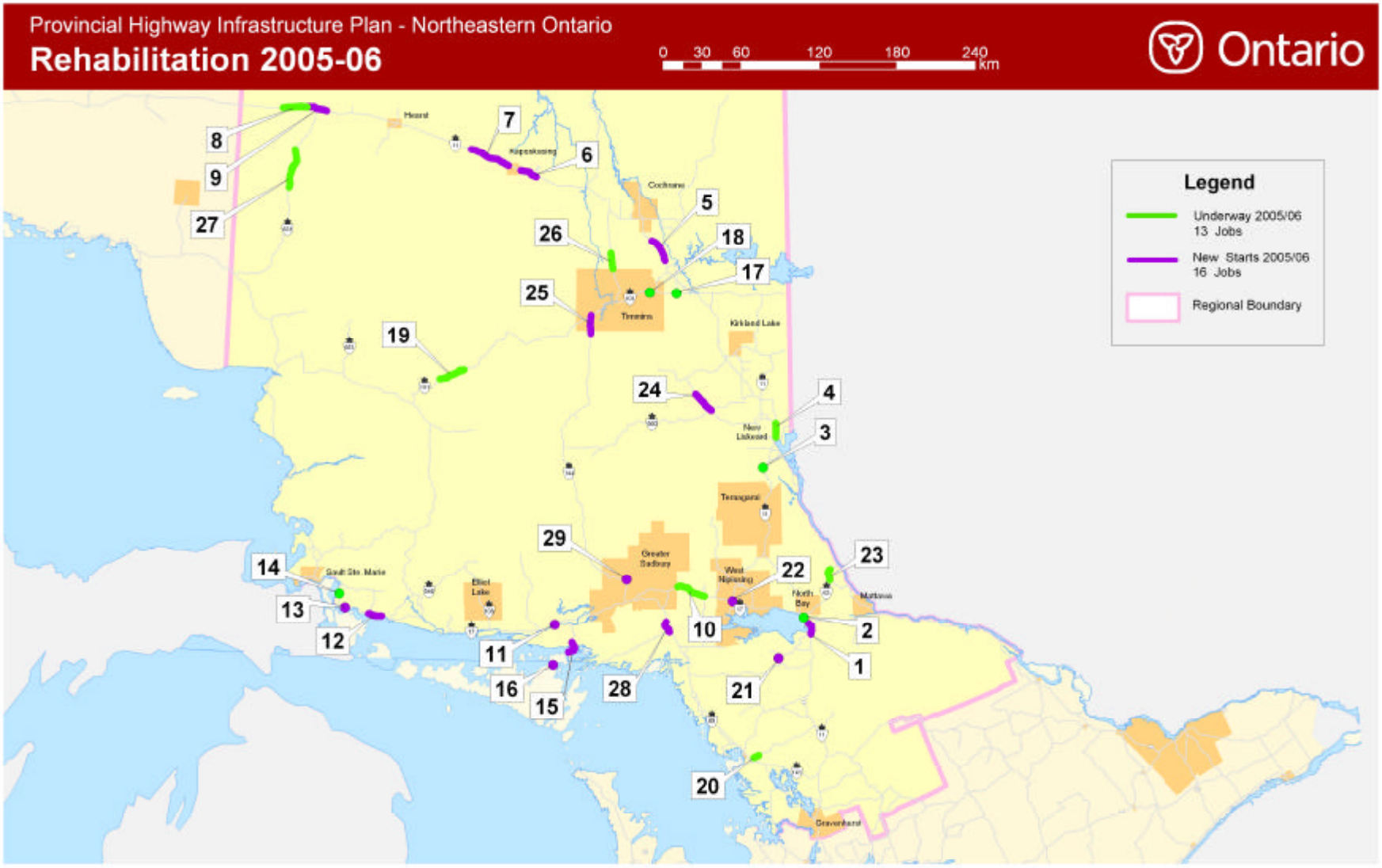
The NOHS identifies plans for projects across the entire provincial highway network in the North. It reflects a commitment to support development of different northern regions, industries, cities and communities.

ReNew Ontario, the government's five-year infrastructure investment plan, outlined the overall investment plans for northern highways and other provincial infrastructure priorities. These investment levels will enable the government to proceed to implement the NOHS over the next five years.

Over the next five years, the government will rehabilitate more than 2,000 kilometres of highways and nearly 200 bridges. It will also add more than 60 new kilometres of highways and more than 50 new bridges. People who live, work or travel in the North are going to have a highway system that is built for the future.

Appendices

Appendix 1 – Rehabilitation Projects



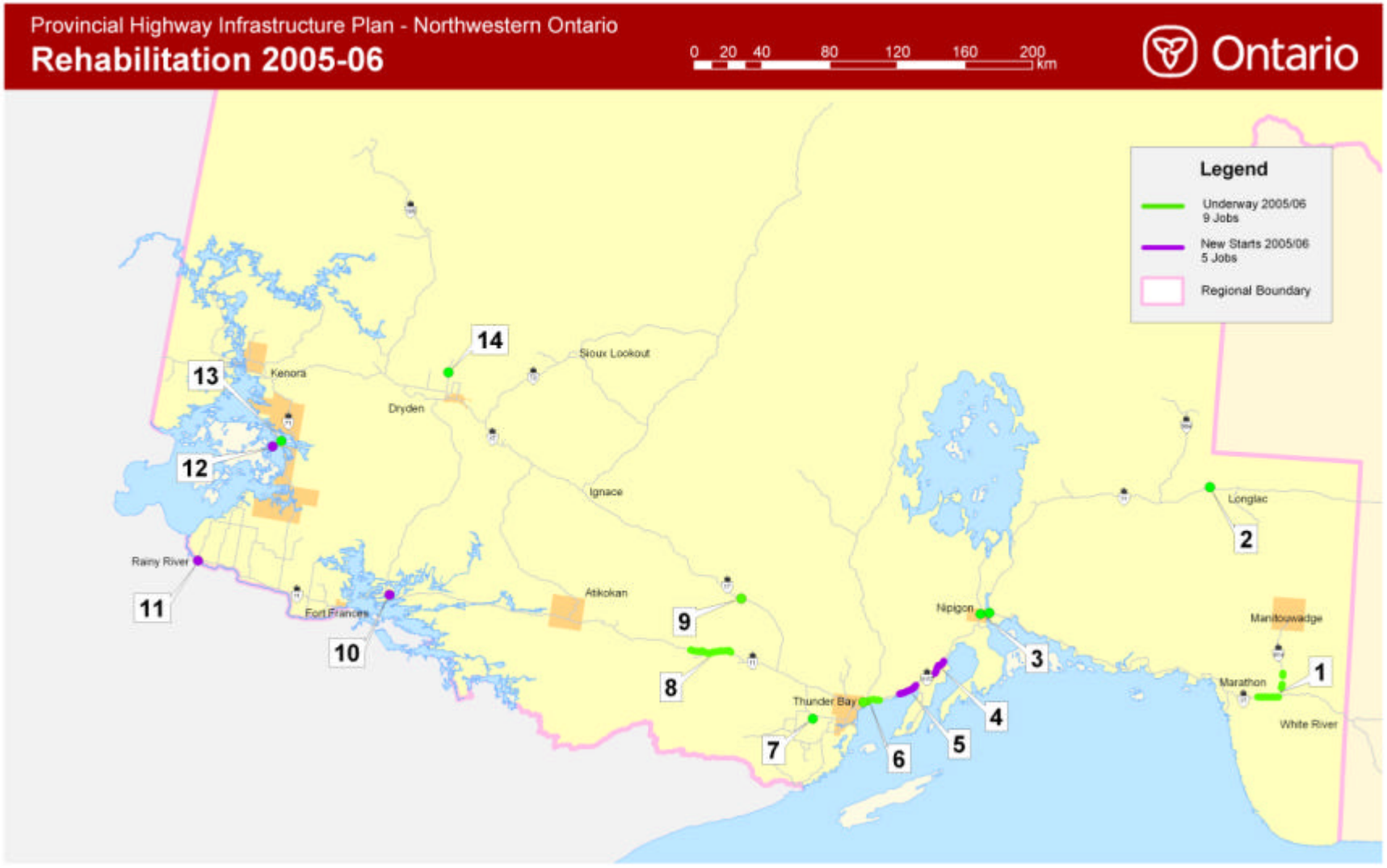
Appendix 1 – Rehabilitation Projects

Rehabilitation 2005/06 – Northeastern Ontario

Hwy Map No.	Status	Hwy.	Location	Description	Project Length (km)	Completion
1	new	11	Junction Hwy 654 to Lakeshore Dr. and two Truck Inspection Stations	Resurfacing and Structure Rehabilitation	9.9	2006
2	underway	11	North Bay By-Pass, various intersections	Intersection Resurfacing	6.1	2005
3	underway	11	Montreal River Bridge	Structure Rehabilitation	na	2005
4	underway	11	Calamity Gulch Culvert, North of New Liskeard	Resurfacing/Structure Rehabilitation	11.0	2005
5	new	11	North of Hwy 67 & Wicklow River Bridge	Resurfacing/Passing Lanes/Structure Rehabilitation	19.4	2006
6	new	11	Hwy 581 Moonbeam East to Kapuskasing	Reconstruction/Passing Lanes	14.7	2006
7	new	11	Kapuskasing West Limits to Opasatika	Resurfacing	29.2	2005
8	underway	11	West Of Hwy 631 Easterly	Resurfacing	15.3	2005
9	new	11	Hwy 631 Easterly to Shekak River and Hwy 631 South from Hwy 11	Resurfacing	22.1	2005
10	underway	17	East Junction of Municipal Road 55 Easterly to Hwy 535	Resurfacing	39.4	2005
11	new	17	Birch Creek Bridge West of Webbwood	Structure Replacement	na	2006
12	new	17	West of Thessalon Westerly to Bruce Mines	Resurfacing	12.7	2005
13	new	17	Anderson (Sucker) Creek Culvert	Structure Rehabilitation	na	2005
14	underway	17	Bar River Bridge West of Hwy 548	Structure Rehabilitation	na	2005
15	new	6	North of Hwy 540 Northerly & two bridges at Whitefish River	Resurfacing and Structure Rehabilitations	11.9	2005
16	new	6	CPR Swing Bridge at Little Current	Structure Rehabilitation	na	2006
17	underway	101	East of Timmins - Driftwood Bridge	Structure Rehabilitation	na	2005
18	underway	101	East of Timmins - Frederickhouse River Bridge	Structure Rehabilitation	na	2005
19	underway	101	Shawmere River Bridge Westerly	Resurfacing	21.8	2005
20	underway	518	East Of Hwy 69 Easterly	Reconstruction	4.2	2005
21	new	534	Beaudry Creek Bridge West of Hwy 524	Structure Replacement	na	2006
22	new	64	Veuve River Bridge	Structure Rehabilitation	na	2005
23	underway	63	North of Hwy. 533 Northerly to the Quebec Border.	Resurfacing	23.3	2005
24	new	65	West Junction of Hwy 560 Easterly to Makobe River	Resurfacing	18.1	2005
25	new	144	South of Hwy 101 Northerly & Tatachikapika River Bridge	Resurfacing	14.3	2005
26	underway	655	North of Junction of Hwy 101 Northerly	Resurfacing	12.8	2005
27	underway	631	Hornepayne Northerly to Nagagamisis Bridge	Reconstruction	32.4	2005
28	new	69	South of Hwy 637 Northerly	Resurfacing	10.0	2005
29	new	144	Vermillion River Bridge South Of Dowling	Structure Replacement	na	2006

Note: Project timing is subject to change, based on planning, design, environmental approval, property acquisition and construction requirements.

Appendix 1 – Rehabilitation Projects



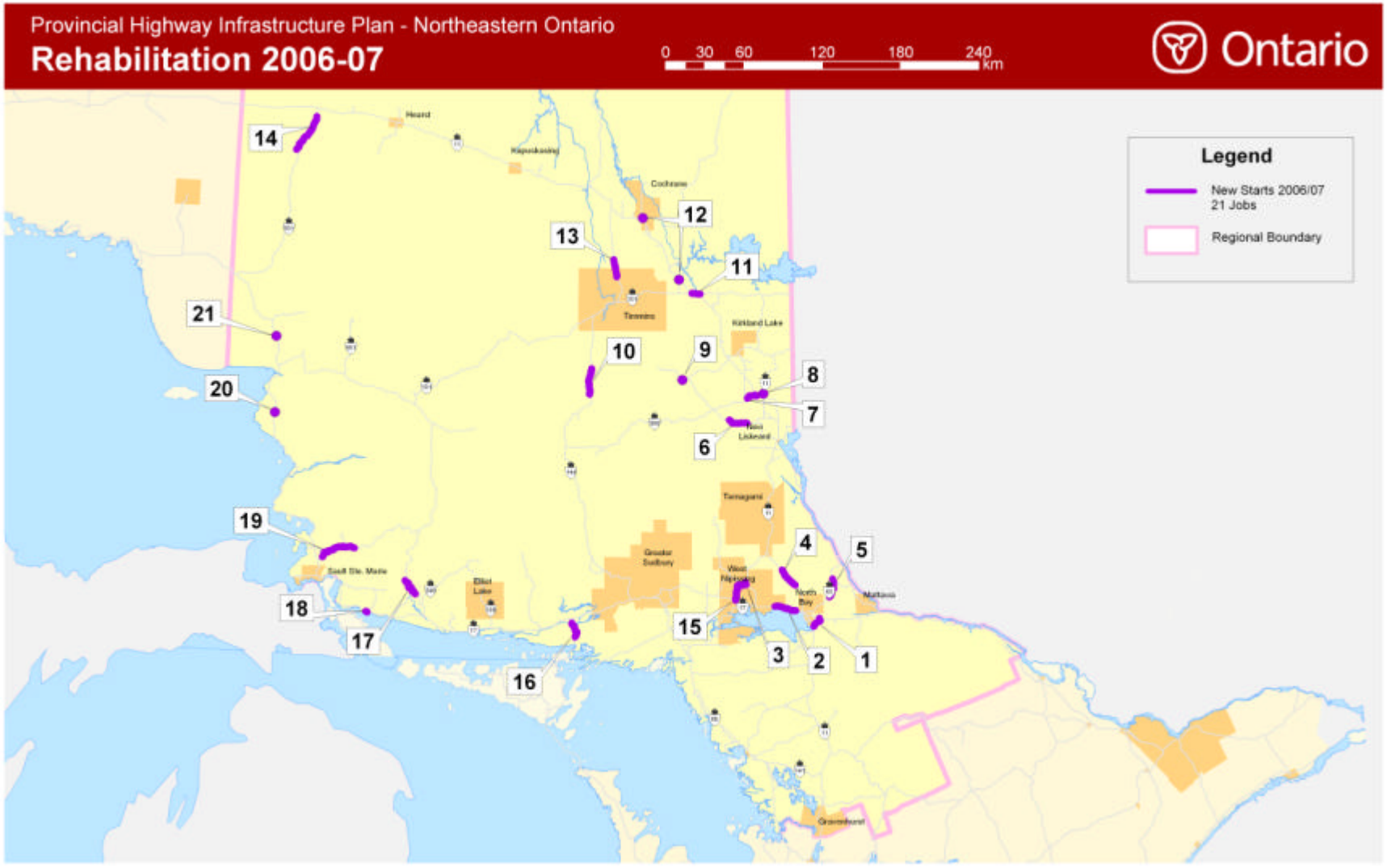
Appendix 1 – Rehabilitation Projects

Rehabilitation 2005/06 – Northwestern Ontario

Hwy Map No.	Status	Hwy.	Location	Description	Project Length (km)	Completion
1	underway	17	West of Hwy 614 westerly and selected areas of Hwy 614	Resurfacing	89.4	2005
2	underway	11	CNR Overhead Bridge at Longlac	Structure Replacement	na	2005
3	underway	11	Stillwater Creek Bridge and Nipigon River Bridge	Structure Rehabilitation	na	2006
4	new	11/17	Ouimet CPR Overhead Westerly	Resurfacing, Passing Lanes, Truck Climbing Lanes	14.5	2006
5	new	11/17	West Of Hwy 587 Easterly	Reconstruction	16	2007
6	underway	11	Hwy 527 Easterly at various locations,	Resurfacing and Truck Climbing/Passing Lanes	14.7	2005
7	underway	11/588	Hwy.11 Black Sturgeon River Bridge and Hwy. 588 Kaministiquia River Bridge	Structure Rehabilitation	na	2005
8	underway	11	West of Junction 802 Easterly	Resurfacing	27.1	2005
9	underway	17	Little Savanne River Bridge East of Upsala	Structure Replacement	na	2005
10	new	11	CNR Overhead East of Hwy 502	Structure Rehabilitation	na	2006
11	new	11	Beaudette/ Rainy River International Bridge	Structure Rehabilitation	na	2005
12	new	71	Sioux Narrows Bridge	Structure Replacement	na	2007
13	underway	71	Sioux Narrows Bridge	Structure Removal	na	2005
14	underway	665	Gullwing River Bridge	Structure Replacement	na	2005

Note: Project timing is subject to change based on planning, design, property acquisition, environmental approval and construction requirements.

Appendix 1 – Rehabilitation Projects



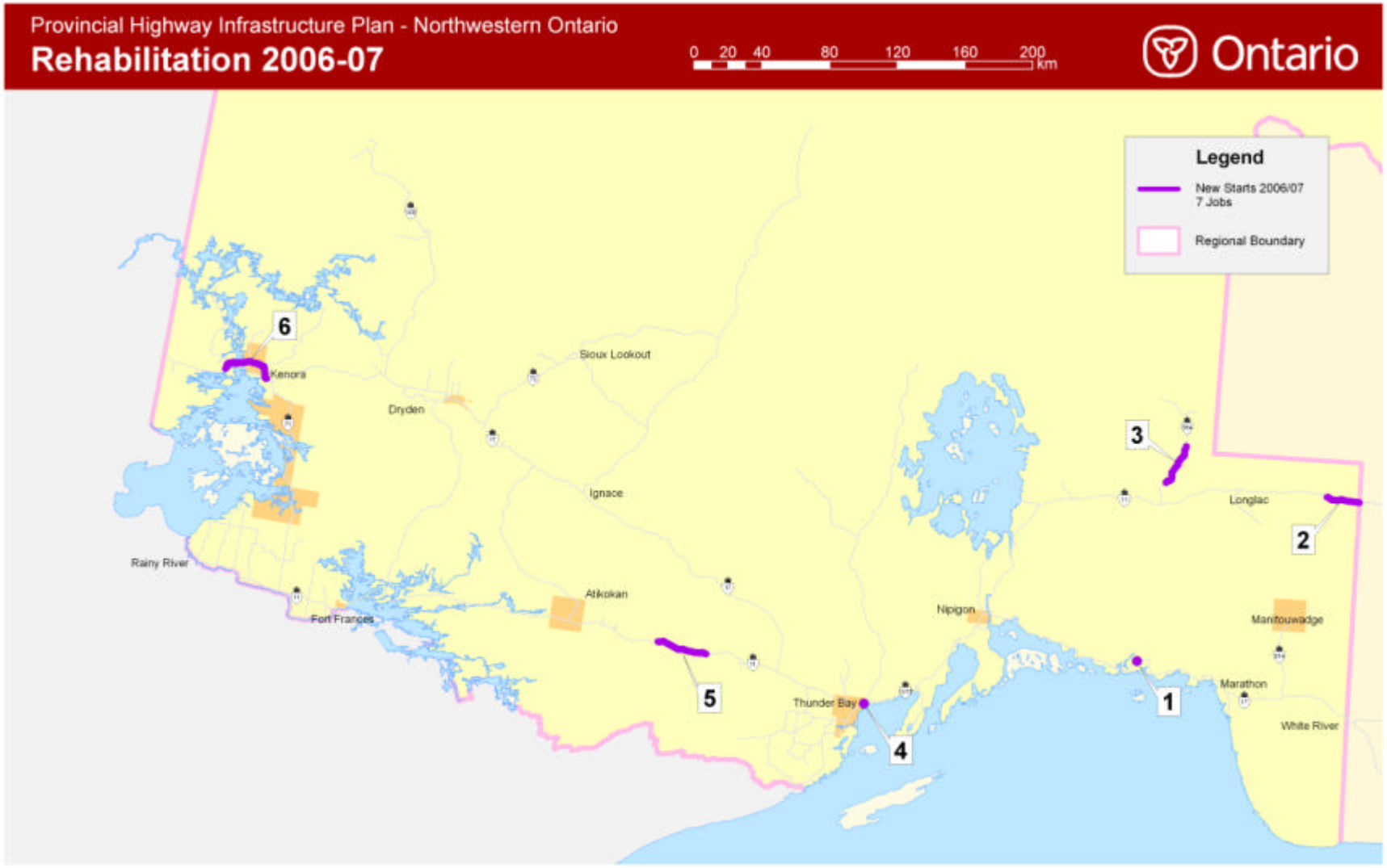
Appendix 1 – Rehabilitation Projects

Rehabilitation 2006/07 – Northeastern Ontario

Hwy Map No.	Status	Hwy.	Location	Description	Project Length (km)	Completion
1	new	94	Hwy. 94 to Hwy. 17, Lavase Creek Culvert	Resurfacing/ Culvert Rehabilitation	9.3	2006
2	new	17	Laronde Creek Easterly to Gormanville Road	Resurfacing	16.8	2006
3	new	64	Sturgeon River Bridge	Structure Replacement	2.3	2007
4	new	11	North Bay Limits Northerly, Tilden Lake intersection, Tomiko River Bridge	Resurfacing/Operational Improvement/Structure Replacement	15.9	2007
5	new	63	South of Hwy. 533, East Balsam Creek Culvert	Resurfacing/ Culvert Rehabilitation	15.9	2007
6	new	65	East Junction Hwy. 560 Easterly, Evanturel Creek Culvert, New Truck Inspection Stations	Resurfacing/ Culvert Rehabilitation/Truck Inspection Station	14.6	2006
7	new	560	Hwy. 11 to Hwy 573	Resurfacing	9.2	2006
8	new	624	Benson Creek Culvert South of Hwy 66, Moose Horn Culvert North of Blanche River Bridge	Culvert Rehabilitation	na	2006
9	new	566	Montreal River Bridge at Matachewan	Structure Replacement	na	2007
10	new	144	North of Hwy 661 (Gogama Rd) Northerly to Falls Road	Reconstruction	20.5	2006
11	new	11	East Junction Hwy 101 to West Junction Hwy 101	Resurfacing	6.6	2006
12	new	11	Driftwood River Bridge at Monteith & Frederickhouse River Bridge West of Hwy. 652	Structure Rehabilitation	na	2006
13	new	655	Hwy 101 Northerly, Jocko Creek Culvert North of Timmins	Reconstruction/ Culvert Rehabilitation	13.6	2007
14	new	631	North of Hornepayne-Negagamisis Bridge Northerly	Resurfacing	31.2	2007
15	new	575	Hwy 17 Northerly to South of Hwy 64	Reconstruction	18	2006
16	new	6	South of Junction Hwy 17 Northerly to Espanola, Raven Lake Culvert, CPR Overhead, West River Culvert	Resurfacing/ Structure Rehabilitation	13.5	2006
17	new	129	South of Hwy 544 Northerly	Resurfacing	16.4	2006
18	new	17	Town of Desbarats-left turn lanes at Main and Lake Huron Drive, Desbarats River Culvert	Operational Impovement/Culvert Rehabilitation	1.2	2006
19	new	556	Hwy 17 to Hwy 532, 532 Northerly	Resurfacing	30.9	2006
20	new	17	Kasubeck Creek Culvert South of Hwy. 101	Culvert Rehabilitation	na	2006
21	new	17	Catfish Creek Culvert North of Hwy 101	Culvert Replacement	na	2006

Note: Project completion dates are subject to change, based on planning, design, property acquisition and construction requirements.

Appendix 1 – Rehabilitation Projects



Appendix 1 – Rehabilitation Projects

Rehabilitation 2006/07 – Northwestern Ontario

Hwy Map No.	Status	Hwy.	Location	Description	Project Length (km)	Completion
1	new	17	Black Bird Creek Culvert Terrace Bay East Limit	Structure Rehabilitation	na	2006
2	new	11	West of Hwy 631 Westerly, North Pagwachuan River Bridge	Reconstruction/ Structure Rehabilitatio	19.6	2007
3	new	584	North of Geraldton Northerly	Reconstruction	26.5	2006
4	new	11/17	Mcintyre & Current River Bridge West Hwy 102	Structure Rehabilitation	na	2006
5	new	11	West of Hwy 802 Westerly	Resurfacing	29.9	2007
6	new	17A	Kenora Bypass Hwy. 17 Easterly to Hwy. 658, rock hazard removal, illumination at Hwy. 17A/596	Resurfacing/Operational Improvement/ Structure Rehabilitation	34.5	2007

Note: Project timing is subject to change based on planning, design, environmental approval, property acquisition and construction requirements.

Appendix 1 – Rehabilitation Projects

Rehabilitation 2007/08 to 2009/10 – Northeastern Ontario

Hwy.	Location	Description	Project Length (km)
11	Hwy 534 Northerly to Hwy 654, with four culvert replacements	Resurfacing, Structure Rehabilitation	16.5
11	Calamity Gulch Culvert	Structure Rehabilitation	na
11	Kendall Creek Bridge, East Junction Hwy 583	Structure Replacement	na
11	North Junction of Hwy 560 Northerly	Resurfacing	21
11	Latchford Southerly	Resurfacing	12.2
11	Kabinakagami River Bridge, West of Hearst	Structure Replacement	na
11	Opasatika River Bridge Weasterly	Resurfacing	33
11	Hwy 11/17 Northerly, truck safety facilities	Operational Improvement	4
11	Intersection Improvement West Junction Hwy 11 / Hwy 101	Operational Improvement	na
11	Hwy 11/17 Pedestrian Overpass	Operational Improvement	1.6
11	Pagwachuan River Bridge	Structure Rehabilitation	na
11	Opasatika River Bridge	Structure Rehabilitation	na
11	Nagagami & Otasawian River Bridges	Structural Rehabilitation	na
11	West Of Junction Hwy 663 Easterly	Resurfacing	21
11	Junction Hwy 663 Easterly including Hearst Truck Inspection Station	Resurfacing	17
11	Hwy 569 Northerly, two bridges,	Resurfacing/Structure Rehabilitation	28
101	Hwy 651 Westerly, and three bridges	Resurfacing, Structure Rehabilitation	27
101	Hwy 144 Westerly	Resurfacing	17
101	Hwy 547 Westerly and Easterly & Hwy 547	Resurfacing	39
101	Municipal Road 67 to Hwy 655	Resurfacing	17
101	Hwy 651 Easterly and three bridges	Resurfacing/Structure Rehabilitation	40
101	Hwy 11 Westerly to Municipal Road 67	Resurfacing	25

Appendix 1 – Rehabilitation Projects

Rehabilitation 2007/08 to 2009/10 – Northeastern Ontario (continued)

Hwy.	Location	Description	Project Length (km)
17	Hwy 533 Easterly, including passing lanes	Resurfacing/Operational Improvements	12
17	Hwy 535 to Hwy 539, three culvert replacements, Veuve River Bridge	Resurfacing	8.4
17	Hwy 94 Easterly to Hwy 531, one bridge and two culverts, passing lane extensions and intersection improvements at Hwy 94	Resurfacing/Structural Rehabilitation/Operational Improvements	12.2
17	Two bridges and one culvert West of Hwy 546, Lacourer Creek Culvert East of Hwy 129	Structure Rehabilitation	na
17	Two CPR Overhead Bridges West Of Hwy 6	Structure Rehabilitation	na
17	Two culverts, one north and one south of Hwy 101	Structure Rehabilitation	na
17	Hwy 108 Easterly	Structure Rehabilitation	12.3
17	Hwy 531 to East of Hwy 630	Resurfacing	26
17	Four changeable message signs various locations Hwy 11&17	Operational Improvement	na
17	Agawa River Bridge South of Hwy 101	Structure Rehabilitation	na
17	Carp River Bridge East of Hwy 563	Structure Rehabilitation	na
17	Lauzon Creek Culvert West of Hwy. 538	Structure Rehabilitation	na
17	Aumond Creek Bridge South of Mattawa	Structure Rehabilitation	na
17	Catfish Creek Bridge West of Hwy. 101	Structure Rehabilitation	na
17	Wanapitei River Bridge West of Hwy 537	Structure Rehabilitation	na
17	Three overflow culverts at Agawa River, and Probyn-Stokely-Rabbit Blanket Creek culverts	Structure Rehabilitation	na
66	Quebec Boundary to Hwy 624, Bear Creek Culvert	Resurfacing/Structure Rehabilitation	19.4
129	Hwy 544 Northerly, Hwy 554 from Hwy 546 to Hwy 129 & Hwy 546 from Iron Bridge Northerly	Resurfacing	40

Appendix 1 – Rehabilitation Projects

Rehabilitation 2007/08 to 2009/10 – Northeastern Ontario (continued)

Hwy.	Location	Description	Project Length (km)
522	West of Hwy 524 Easterly (Port Loring), two culverts	Resurfacing/Structure Rehabilitation	6.3
529	Sturgeon Bay Culvert North of Hwy 69	Structure Replacement	na
533	Three culvert rehabilitations/replacements North of Hwy 17	Structure Rehabilitation/ Replacement	na
573	Three bridges North of Hwy 560, one bridge north and one south of Hwy 11	Structure Rehabilitation/ Replacement	na
577	Meadow Creek Bridge North Hwy 11	Structure Replacement	na
631	Hwy 17 Northerly, includingTedder River Bridge	Resurfacing/Structure Replacement	50
634	Six culvert replacements North of Hwy 11	Structure Replacement	na
654	Hwy 11 Westerly, two culverts, one bridge	Resurfacing/Structural Rehabilitation	13
663	From Hwy 11 to Calstock	Resurfacing	5.3
108	Elliot Lake Northerly to Hwy 639	Resurfacing	12
112	Ontario Northland Railway overhead bridge South Of Hwy 66	Structure Replacement	na
11B	Hwy 11 to Haileybury South	Resurfacing	7.1
124	Hwy 510 Easterly to Hwy 11 and Hwy 547	Resurfacing	21
129	Rapid River Bridge North of Hwy 554	Structure rehabilitation	na
144	43 Km North Of Hwy 661 Northerly	Resurfacing	28
144	Hwy 17 Northerly to Chelmsford	Resurfacing	14.6
144	Eastsand River South of Hwy 560, Makami River North of Hwy 560 - bridges	Structure Rehabilitation	na
144	Hwy 661 Northerly	Resurfacing/Structure Rehabilitation	43
518	East of Hwy 69 Easterly	Reconstruction	8
518	Magnetawan River Bridge	Structure Rehabilitation	na
518	East of Hwy 69 Easterly	Resurfacing	3
522	West of Hwy 524 Easterly, two culverts	Resurfacing/Structure Rehabilitation	15
522	West of Hwy 524 Westerly, three culverts	Resurfacing/Structure Rehabilitation	17

Appendix 1 – Rehabilitation Projects

Rehabilitation 2007/08 to 2009/10 – Northeastern Ontario (continued)

Hwy.	Location	Description	Project Length (km)
535	Veuve River Bridge North of Hwy 17	Structure Replacement	na
542	Mindemoya Lake Bridge West of Hwy 551	Structure Replacement	na
546	Little White River Bridge South of Hwy 639	Structure Replacement	na
571	Hwy 640 To Hwy 11	Reconstruction	1
583	South of Hwy 11 Southerly	Resurfacing	7
6	CPR Swing Bridge at Little Current (Coating)	Structure Rehabilitation	na
63	South of Hwy 533 Northlerly	Resurfacing	21
630	Culverts and Amable Du Fond River Bridges South of Hwy 17	Structure Rehabilitation/ Replacement	na
632	Shadow River Bridge South of Hwy 141	Structure Replacement	na
64	Hwy 528 Northerly, two bridges	Resurfacing	23
65	Wabi Bridges on Hwy 11 and 65, Hwy 65 overpass on Hwy 11	Structure Rehabilitation	na
65	West of Hwy 11 Westerly to West of Hwy 562	Reconstruction	13
651	Ogasiwi & Windemere River Bridges	Structure Rehabilitation	na
655	Hwy 101 Northerly	Reconstruction	11.1
655	North of Hwy 101 Northerly	Reconstruction	10
66	Hwy 11 Westerly, Amikougami River Bridge	Resurfacing/Structure Rehabilitation	17.3
66	East of Hwy 65 Easterly, Englehart River Bridge West of Hwy 11	Resurfacing/Structure Rehabilitation	7.5
69	Intersection Improvements at Hwy 69 & 141	Operational Improvements	na
Var	Changeable Message Signs	Operational Improvements	na

Note: Project timing is subject to change based on planning, design, environmental approval, property acquisition and construction requirements.

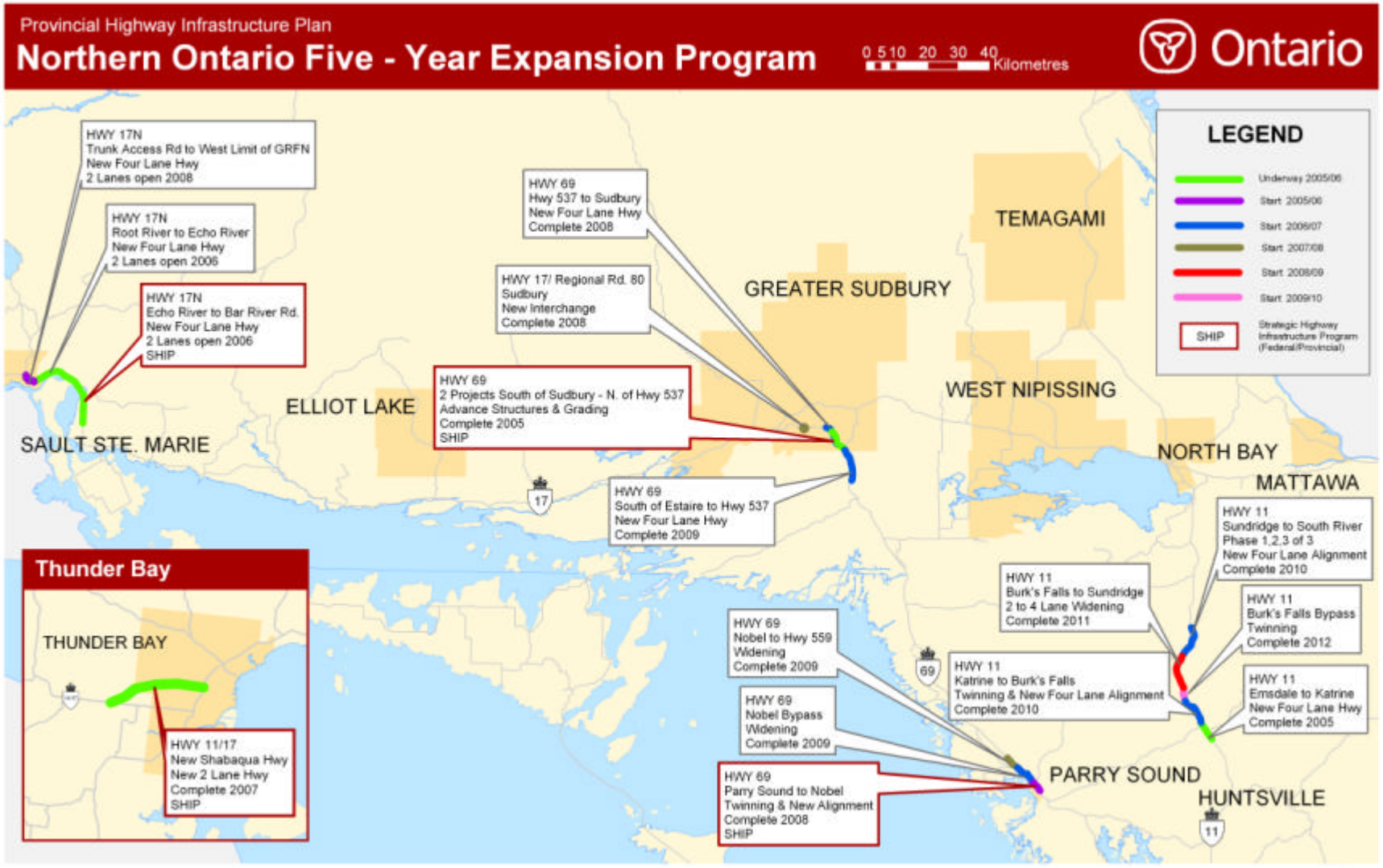
Appendix 1 – Rehabilitation Projects

Rehabilitation 2007/08 to 2009/10 – Northwestern Ontario

Hwy.	Location	Description	Project Length (km)
11	Hwy 502 Easterly	Reconstruction	18.3
11	Angle Creek Culvert West of Hwy 801	Structure Rehabilitation	na
11	Noden Causeway Bridge - East of Fort Frances	Structure Rehabilitation	na
11	Sunshine Creek Bridge East of Hwy 11/17	Structure Rehabilitation	na
11	East of Hwy 502 Easterly	Structure Rehabilitation	21
11	Hwy 11B (Atikokan) Westerly	Reconstruction	15.2
11	West of Hwy 11b (Atikokan) Westerly	Reconstruction	23
11/17	West of Hwy 587 Westerly	Resurfacing	9.7
11/17	East of Hwy 587 Easterly	Reconstruction/Truck Climbing Lanes	10.1
17	English River Bridge Westerly	Reconstruction	23
17	Hawk Lake CPR Subway Structure and approaches, East Hwy 71	Structure Rehabilitation	2.5
17	Hwy 614 at Cedar Creek Easterly	Resurfacing	19.9
17	Hwy 11@Nipigon Easterly, truck climbing lane	Reconstruction/Operational Improvements	13.5
17	From English River Easterly	Resurfacing	16
17	Peninsula Road (Marathon) Easterly	Resurfacing	17.8
17	Manitoba Boundary Easterly, Including passing lanes	Resurfacing	15.7
17	Upsala West Limits Easterly	Resurfacing	17
71	Nestor Falls & Log River Bridges, Nestor Falls	Resurfacing	na
71	Mather Creek Bridges North of Hwy 11	Structure Rehabilitation	na
105	North of Hwy 804 at Ear Falls Northerly	Reconstruction	28.2
105	Wabigoon & Buller Creek Bridges North of Hwy 17	Structure Rehabilitation	na
105	Chukuni River Bridge South of Hwy 657	Structure Rehabilitation	na
502	North of Hwy 11 from Sawbill Lake Road Northerly	Resurfacing	18.3
584	North of Burrough's Creek Culvert Northerly	Resurfacing	26.7

Note: Project timing is subject to change based on planning, design, environmental approval, property acquisition and construction requirements.

Appendix 2 – Expansion Projects



Appendix 2 – Expansion Projects

Northern Highways Expansion Program – 2005/06 to 2009/10

Highway	Location	Description	Start	Completion
69	Parry Sound to Nobel	7 km of four-laning	Underway	2008
69	Nobel Bypass	5 km of four-laning	2006	2009
69	Nobel to Hwy. 559	5 km of four- laning	2007	2009
69	South of Estaire to Hwy. 537	12 km of four-laning	2006	2009
69	South of Sudbury (3 km. north of Hwy. 537)	Underpass and 1 km of four-laning	Underway	2005
69	South of Sudbury (6 km. north of Hwy. 537)	Interchange and 2 km of four-laning	Underway	2005
69	South of Sudbury (Hwy. 537 to Sudbury)	8 km of four-laning	2006	2008
11	Emsdale to Katrine	6 km of four-laning	Underway	2005
11	Katrine to Burk's Falls	9 km of four-laning	2006	2010
11	Burk's Falls Bypass	5 km of four-laning	2009	2012
11	Burk's Falls to Sundridge	10 km of four-laning	2008	2011
11	Sundridge to South River	17 km of four-laning	2006	2010
11/17	West of Thunder Bay	13 km of new 2-lane highway	Underway	2007
17	East of Sault Ste. Marie	16 km of new four-lane highway through Garden River First Nation (GRFN)	Underway	2008
17	East of Sault Ste. Marie	7 km of new four-lane highway (GRFN to Echo Bay)	Underway	2008
17	East of Sault Ste. Marie	Trunk Road Access (City of Sault. Ste. Marie).	Underway	2008

Note: Project timing is subject to change based on planning, design, environmental approval, property acquisition and construction requirements.