



CDAO Pre-Budget Submission 2020

Recommendations to Reduce Red Tape

&

Promote Evidence-based Decision Making

January 2020

January 22, 2020

Submitted via e-mail: comm-financeaffairs@ola.org

c/o Julia Douglas
Clerk of the Standing Committee on Finance and Economic Affairs
99 Wellesley St. W.
Room 1405, Witney Block
Toronto, ON M7A 1A2

Dear Mr. Amarjot Sandhu (MPP – Brampton West),

Re: 2020 Pre-Budget Consultation – Construction and Design Alliance of Ontario Submission

The members of the Construction and Design Alliance of Ontario (CDAO) would like to provide the following submission to the Government of Ontario's Pre-Budget consultation process for 2020. The following material identifies key issues affecting the delivery, design, and construction of public infrastructure projects across Ontario.

The recommendations contained within provide opportunities to streamline infrastructure practices in the province as well as fill any gaps that exist within current infrastructure strategies. The recommendations seek to improve the delivery, procurement and development of infrastructure projects in Ontario, and address the lack of willingness of private sector bidders to respond to tenders .

Who We Are

The member organizations of CDAO plan, design, build, operate, and maintain the vast majority of public and private infrastructure in Ontario. Collectively, our member companies employ hundreds of thousands of workers and account for billions of dollars of local economic development and growth. Our members include:

- [Association of Registered Interior Designers of Ontario \(ARIDO\)](#)
- [Consulting Engineers of Ontario \(CEO\)](#)
- [Ontario Association of Architects \(OAA\)](#)
- [Ontario Electrical League \(OEL\)](#)
- [Ontario Home Builders' Association \(OHBA\)](#)
- [Ontario Sewer and Watermain Construction Association \(OSWCA\)](#)
- [Surety Association of Canada \(SAC\)](#)
- [Mechanical Contractors Association of Ontario \(MCAO\)](#)
- [Ontario Association of Landscape Architects \(OALA\)](#)
- [Ontario General Contractors Association \(OGCA\)](#)
- [Ontario Road Builders Association \(ORBA\)](#)
- [Ontario Society of Professional Engineers \(OSPE\)](#)

- [Residential and Civil Construction Alliance of Ontario \(RCCAO\)](#)
- [Heavy Construction Association of Toronto \(HCAT\)](#)
- [Residential Construction Council of Ontario \(RESCON\)](#)

Overview of Recommendations

The attached appendices contain three detailed policy briefs on the priority issues identified by the CDAO forum as affecting the delivery, design, and construction of public and private infrastructure projects in the province. These policy briefs provide an overview of the key challenges facing the construction and design communities and recommendations for how to address these challenges. The recommendations contained in these briefs will help government and industry together operate at optimal levels of effectiveness and efficiency, while meeting the key strategic targets of: creating a more competitive business environment; connecting people to places; building healthier and safer communities; and making government smarter.

These briefs include recommendations on the following issues:

1. *Selecting and Applying Proper Procurement Models for Public Infrastructure Projects*

- Developing a Unified Procurement Model Decision Making Framework to standardize how the various Ministries and government agencies select a procurement model.
- Improve the P3 and design build project models by following a standardized set of principles for good-practice delivery.
- Incentives should be applied upon various stages of the procurement process, rather than at release, as this will encourage better performance and outcomes.

2. *Realizing Value for Money through Qualifications-Based Selection (QBS) of Consultants for Public Infrastructure Projects*

- A uniform decision-making framework to identify and select infrastructure projects that will be subject to qualifications-based selection for consultants be developed for and used by all provincial ministries and agencies.

3. *Maximizing Value for Money in P3 Contracts Through Risk Mitigation*

- Accept a degree of shared risk on Public-Private Partnerships (P3) contracts to reduce costs to the taxpayer and encourage more competition in the bidding process.
- Require a risk-transfer cost analysis during the design and planning process for each P3 contract to determine where risk is optimally allocated during the construction phase.

- Allow for a more manageable schedule during the design process, which will result in a more complete project design. Better design results in less cost over-runs and helps to mitigate project risk transfer, as contractors will be able to provide a more transparent and accountable bid price.

With the collective weight of our membership-based organizations, the CDAO has a keen understanding of the practical issues facing the design and construction sectors across the province at both the provincial and municipal levels. Our members hold a wealth of knowledge about how legislative, regulatory, and policy issues are affecting the actual design and construction of critical infrastructure across the province. We are always interested in discussing these issues with the government and offering our recommendations and assistance wherever we can improve how infrastructure is design, built, and delivered. Let's build Ontario together.

Please do not hesitate to contact Saskia Martini-Wong (416-200-2102 or smartiniwong@associationperformance.ca) at the CDAO office if you have any questions or need information regarding CDAO and its membership.

Sincerely,



Sandro Perruzza
Chair, Construction & Design Alliance of Ontario (CDAO)
&
Chief Executive Officer, Ontario Society of Professional Engineers (OSPE)

APPENDIX A - Selection and Application of Proper Procurement Models for Public Infrastructure Projects

Issue: A key pillar of the provincial government’s infrastructure strategy seeks to address the issue of timeliness of completion of projects and the current apparent lack of industry momentum of completing projects quickly, efficiently and on budget. A number of project procurement and delivery models exist, each with their own advantages and challenges. What is certain is that selecting the appropriate procurement model for each project drives on-time, on-budget delivery.

Discussion:

With any form of investment, diversification is the best approach. For many years, public infrastructure construction in Ontario involved only established design-bid-build (DBB) approaches for its projects. Recent successes with both horizontal and vertical infrastructure projects here in Ontario and across Canada have proven the value that Public-Private Partnerships (P3s) and the variety of design/build approaches can offer. Under the right circumstances, both P3s and established procurement models, such as DBB, can deliver assets quickly, efficiently and with optimal sustainability.

While the need for P3 methods is understood, it must be acknowledged that Public-Private Partnerships and other non-traditional procurement models are a potential solution, not universal remedy. Decisions to employ these models should be based on criteria that include maintaining and creating jobs, local and regional economies and the need to develop sustainable, long lasting projects. Bundling of projects simply to meet financial criteria, or create administrative ease, can harm smaller companies and design professionals in the construction and infrastructure sector, put smaller municipalities at a disadvantage and snuff out innovation.

Ontario is a large, geographically diverse and socially complex jurisdiction. A balanced approach that uses the most appropriate procurement and delivery methods available, that ensures a continued commitment to achieving value for money and optimizing taxpayer investments in public infrastructure will best serve the needs of this province.

Risk and return will ultimately be the issue that defines government’s decisions. Infrastructure spending costs billions of dollars annually and it will be at a significant disadvantage if it does not take advantage of a comprehensive suite of procurement models that enables the consulting engineering sector to bring its diverse experience to market. Additionally, it is vital to ensure that the failing consortium get a reasonable “failure fee” to cover some of their proposal costs, if their qualifying bid isn’t selected. Bid teams are more likely to choose to bid on more project and put full effort into their bid if they don’t face a significant loss if they are unsuccessful.

Procurement Models:

Several procurement models are available to governments. These include design-bid-build (DBB); design-build (DB); and, public private partnerships (P3). Public private partnership models include design-build-finance (DBF), design-build-finance-maintain (DBFM), and design-build-finance-operate-maintain (DBFM). Utilizing the right procurement model for each project is a significant driver of on-time on-budget performance and efficiency in the province's design and construction industry. There are advantages and challenges to each procurement model. CDAO suggests that an even broader list of procurement and delivery models should be considered (e.g. Integrated Design Build /Progressive Design Build, Program Management & Construction Management, etc.). As well, CDAO recommends the Province consider the use of Integrated Project Delivery (IPD) to optimize the project constraints of quality cost and time.

Recommendations:

1. It is recommended that a Unified Procurement Model Decision Making Framework be developed for provincial ministries and agencies to guide and assist with the selection of procurement models for infrastructure projects.
2. Recognizing the government's preference for DB and P3, it is important that three primary principles associated with good-practice delivery of these types of projects be observed. These recommendations will lead to improvements to procurement using a DB or P3 model for public infrastructure projects:

Principle 1: Output specifications should be performance-based where possible, and only prescriptive where explicitly needed.

- Quality-based procurement of Technical Advisory (TA) Services to facilitate increased seniority and global expertise of TA resources involved in preparation of the output specs
- Development of training courses for Agencies and TAs regarding the preparation, use and benefits of performance-based output specifications and when to use prescriptiveness
- Review of Agency-required standards (pertaining to design, engineering, construction methods) to remove preference engineering and out-dated requirements for materials, means, and methods
- The opportunity for design professionals to provide innovative and sustainable solutions should be encouraged
- Improved review of output specifications before RFP release to ensure they are as open to alternative solutions as possible, and not simply mandating the Reference Concept Design (RCD) and existing Agency standards

- Infrastructure Ontario to consider whether it's possible to implement an Alternative Technical Concepts regime, which has showed success in driving value for money in other jurisdictions (e.g. the Denver Eagle P3 procurement)

Principle 2: Project Agreements should allocate risk to the party best able to manage that risk to maximize value for money.

- Consultation should be undertaken with suppliers on general risk allocation principles, including formal consultation papers, formal responses from suppliers, and a formal consultation report from ministries and agencies detailing the results. Some examples of the type of risks that should be subject to consultation are:
 - Reliance on Owner-supplied Survey Data
 - Utilities – relocations and self-performing utilities companies
 - Utilities – improperly located and unknown
 - Hydro-geotechnical
 - Geotechnical
 - Archaeological
 - Contamination – existing, unknown, migrating
 - Species-at-risk
 - Defects in Third Party Infrastructure
 - Permits, licenses and approvals
 - Submittal Review by Third Parties
 - Changes in Law
 - Changes in Standards
 - Property Acquisition
 - Access – Project Lands, Third Party Lands, Municipal Rights of Way, Gates/Access Points
- An improved process reviewing risk allocation by ministries and agencies before RFP release needs to be in place so as to ensure this allocation is optimal and included within the cost estimate for the project

Principle 3: Comprehensive due diligence should be undertaken by ministries and agencies to ensure that RFPs (including Project Agreement (PA) and Output Spec(OS)) and supporting Background Information is ready to be released to the market to avoid the need for changes leading to long and expensive in-market periods.

- Improved Agency review and due diligence of RFP (including PA and OS) and Background Information (e.g. by a team external to the project team), with the authority to recommend that RFP Release is delayed if it is not ready for release
- Implement formal Stage Gates to improve quality control of RFPs (including PA and OS) and background information

- Guidance for ministries and agencies that in pursuit of value for money and good supply chain management, it is preferable to delay RFP release than issue an RFP that is not ready for release
3. Ministry and agency staff should not be incentivized using bonuses (or other staff performance management regimes) on RFP Release, only on RFP Close, Commercial Close, or Financial Close.

APPENDIX B – Realizing Value for Money through Qualifications-Based Selection (QBS) of Consultants for Public Infrastructure Projects

Issue: Given Ontario's current economic and fiscal realities, it is essential all public infrastructure investment be transparent and return the greatest possible value for money. By adopting Qualifications-Based Selection (QBS) as its best practice for the selection of consultants, the government can realize the greatest possible value for investment in its infrastructure projects. QBS is a competitive, sound and fair process selecting those that are the best qualified.

Discussion:

Selecting a consultant is one of the most important decisions a client makes. To a great degree, the success of a project depends on securing the professional services firm with the most experience and expertise that best fits the project. Experience demonstrates that selecting a consultant through Qualifications-Based Selection (QBS) ultimately provides the best value for money.¹

QBS was codified as part of the *Brooks Act*, passed into law by the United States Congress in 1972, to protect the interests of taxpayers. It did this by having amended the *Federal Property and Administrative Services Act* of 1949 to specifically address the selection of building design professionals. The Act stipulates that public owners negotiate engineering and architectural services contracts on the basis of demonstrated competence and qualifications for the type of professional services required and at fair and reasonable prices. Its intent is to discourage public owners from contracting for professional services based exclusively on price.

Over the life of a project professional services account for approximately one and one-half percent of total costs. Yet these services play a major role in determining the other 98.5 percent of the project's life-cycle costs, as well as the quality of the completed project; QBS puts these costs in the proper context.

The *Brooks Act* requires a competitive process in which professional services firms submit their qualifications to the project owner. The owner selects the consultant from this pool based on their technical competence, experience on similar projects, managerial ability, personnel to be dedicated to the project, local knowledge, industry reputation and integrity. That firm is selected for the development of scope of work and cost negotiation. During negotiation the scope of the project is further defined. If the negotiation does not result in an agreement on project scope, schedule and budget, the owner then negotiates with the second-ranked firm. This approach does not disregard the consideration of price. Rather price is accounted for within a more meaningful context after the scope of work has been determined between the

¹ The 2009 study sponsored by the American Council of Engineering Companies (ACEC) and American Public Works Association (APWA), conducted by the Georgia Institute of Technology and the University of Colorado, "[An Analysis of Issues Pertaining to Qualifications-Based Selection](#)," reviewed 200 projects from across the United States. Its findings highlight that 93% of clients expressed "high" or "very high" satisfaction with consultants selected using QBS; that projects using QBS had 70% less cost growth and 20% less schedule slippage than non-QBS projects.

client and the top-ranked firm. This process provides the owner with a clearer and accurate understanding of overall project costs consisting of: the necessary services to address the need; the cost of construction; and, the operation and maintenance costs of the asset over the lifecycle of that asset. This process also provides for vigorous and open competition among firms, assuring the owner they are selecting the most capable professionals, while at the same time obtaining a price that is “fair and reasonable.”

The Benefit to Ontarians

a) Better value to taxpayers

QBS encourages innovation which in turn drives better value on the infrastructure investment. It provides accountability by ensuring that fees will directly correspond to the level of service and the value of deliverables to be provided. QBS also results in more realistic and predictable budgets and schedules for project expenditures.

b) Significant life-cycle savings

QBS maximizes the value of the consultant’s contribution to a project while reducing the project’s life cycle costs. Design services typically account for approximately one and one-half percent of the life cycle cost of infrastructure, but dramatically impacts the cost and quality of the remaining 98.5%. The cited ACEC/APWA study shows that using QBS for professional services reduces construction cost overruns from an average of 10% to less than 3% - equivalent to a savings of up to \$700K on a \$10M capital project. These savings are often greater than the original design fees.

c) A transparent and competitive process

QBS is a competitive process – the cost of professional services are a factor in the procurement, but it is finalized after the most suitable firm for the project has been selected.

d) Benefits small firms

QBS helps small firms compete by providing them a process through which to demonstrate the advantages that they often have over larger firms, including a greater degree of niche market expertise, greater knowledge of the local market and greater involvement of senior level management in the execution of the project.

e) Promotes communication and technical innovation

Using QBS provides owners the opportunity to fully define the scope of work of the project during the selection process. This results in a project that is thoroughly thought out and fosters innovative, creative, cost-saving and timesaving approaches to problems. It also fosters better communication and business relationships between owners and proponents as the process makes them partners in the job.

The problem with low price selection

Public infrastructure development based on the lowest possible fee has the potential to suffer long-term consequences to both the economy (higher costs to the taxpayer) and public safety. Awarding projects based on lowest fee creates pressure to expend the least amount of resources necessary to meet the bare minimum requirements of the project. The result is the loss of an opportunity to optimize the design, reduce lifecycle costs and enhance safety. It also discourages innovation and effectively penalizes proponents that anticipate potential complexities or who wish to propose value-added solutions all to save taxpayers money.

Recommendations:

1. It is recommended that a uniform decision-making framework to identify and select infrastructure projects that will be subject to QBS for consultants be developed for and used by all provincial ministries and agencies.
2. Government should work with CDAO to develop a pilot program to showcase the efficiency, efficacy, and innovation capabilities of the model to deliver superior on-time, on-budget projects.

APPENDIX C – Maximizing Value for Money in Public Private Partnerships

Issue: Public Private Partnerships (P3) projects are no longer value for money. The process that includes risk allocation and scheduling consistently adds unwarranted cost to the process. The model should be adjusted to provide not just ease of delivery but value for money to taxpayers.

Discussion:

The Public-private partnerships (P3) model, has been an asset for government on delivering infrastructure projects across Ontario. Under the right circumstances, both P3s and established procurement models such as design-bid-build (DBB) can deliver assets quickly, efficiently, and with optimal sustainability and value for money.

In order for P3s to be successful, projects should be designed and planned in line with significant principles. P3s usually include a comprehensive design and planning process before the building phase. The completeness of the design process is fundamental to contractor's ability to competitively price a project.

The P3 application prevents comprehensive design and planning because of restrictive scheduling, combined with strict financial penalties for projects running past the expected completion date. The model urges contractors to begin the building phase as quickly as possible to avoid projects running over schedule. In addition, the financing requirements on contractors in the bidding and tendering process puts pressure on contractors to accelerate through the design phase of the project.

Contractors are required to have secured financing immediately upon being awarded the contract, and as a result, are often required to carry interest payments during the planning and design of a project. These needless costs are passed on to the project overhead. By speeding through the design phase, project costs generally are much higher than they otherwise would be, given appropriate consideration of planning and design which are passed on to the owner of the project.

Optimal risk allocation is one of the key value-for-money drivers in a P3 delivery model. The concept of risk allocation is relatively straightforward: the contract allocates risk to the various parties who price the risk in their tenders. If the risk is not allocated to the party which is most able to manage the risk, the cost increases exponentially. As an example, if the general contractor is responsible for contaminated soil disposal but the report from the owner isn't conclusive on soils, contractors in their bid include costs for the disposal of low grade soils. If underground utilities are not identified but are the contractor's financial obligation, then the bid will include the cost of rerouting utilities that may not need to be rerouted.

Contractors are prepared to manage and properly cost issues that have been clearly identified. Risks that cannot be effectively controlled by contractors are very difficult to accurately price,

and accordingly, contractors react by including outsized price contingencies which inflate the cost and decrease the value for money on P3 projects.

Proposal:

Risk transfer now accounts for a high percentage of P3 contracts because of the onerous risk to the contractor which inflates the cost of bid. Appropriate adjustments, such as making sure each contract transfers risk equitably, will significantly lower the cost of P3 projects.

Infrastructure Ontario's risk transfer philosophy now aims at transferring as much risk as possible to the contractor. Deductions have also become subjective to whomever the authority is and how they want to apply risk transfer. For instance: a major hospital project had a very onerous risk transfer with an unreasonable deduction policy. One contractor explained: "if an elevator went down, the penalties were disproportionately responded to, causing millions of dollars in penalties every day."

Transferring too much risk is costly. The more risk the contractor takes on, the more expensive the project becomes. By being more careful on Infrastructure Ontario risk transfers, the cost of P3 projects will be significantly reduced.

Implementing an appropriate risk allocation practice through creative and innovative thinking, and customizing it to the unique characteristics of the project achieves a much higher value for money.

Our membership, which participates in P3s, believes that the allocation of risk, incomplete drawings and rushed deadlines have resulted in an unwarranted escalation of project costs. A new model incorporating these considerations will both improve value for money and quality of projects.

Recommendations:

Government can significantly reduce the cost of P3 projects by:

- Establishing a more manageable and appropriately scoped construction schedule during the design process;
- Providing adequate time and resources for complete design plans, which will limit cost overruns and will help to mitigate project risk transfer; and
- Allocating appropriate risk transfer by performing a risk-transfer cost analysis during the design and planning process for each P3 contract to determine where risk is optimally allocated.