

BUILDING BETTER:

Setting up the Next Ontario Long-Term
Infrastructure Plan for Success



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commerce

About the Ontario Chamber of Commerce

For more than a century, the Ontario Chamber of Commerce (OCC) has been the independent, non-partisan voice of Ontario business. Our mission is to support economic growth in Ontario by defending business priorities at Queen's Park on behalf of our network's diverse 60,000 members.

From innovative SMEs to established multi-national corporations and industry associations, the OCC is committed to working with our members to improve business competitiveness across all sectors. We represent local chambers of commerce and boards of trade in over 135 communities across Ontario, steering public policy conversations provincially and within local communities. Through our focused programs and services, we enable companies to grow at home and in export markets.

The OCC provides exclusive support, networking opportunities, and access to innovative insight and analysis for our members. Through our export programs, we have approved over 1,300 applications, and companies have reported results of over \$250 million in export sales

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The OCC is Ontario's business advocate.



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Glossary

Alternative Financing Procurement (AFP): Alternative Financing and Procurement is a made-in-Ontario approach to financing and procuring large, complex public infrastructure projects. It leverages partnerships with the private sector to expand, modernize and replace Ontario's aging infrastructure.¹

Asset management: Asset management in infrastructure planning is an integrated strategy that assess the lifecycle of a jurisdiction's infrastructure assets. The purpose of such planning is to allow for the best possible decisions regarding the operation, construction, renewal, maintenance and replacement of infrastructure assets.² The objective of asset management planning is to maximize benefits, manage risk, and provide satisfactory levels of service in a sustainable manner.

Infrastructure gap: The difference between infrastructure needs and the funding allocated for those needs.

Public-private partnership (P3): A public-private partnership is a joint, cooperative arrangement between a private sector consortium and the public sector for (two or more of) the services required to a) design, b) build, c) finance, d) operate, or e) maintain the infrastructure assets needed to deliver a public service. Cooperation between the two parties is structured with long-term, integrated contracts that serve to transfer risk (at a cost) from the public to the private sector when the private sector is better placed to manage those risks.³



Introduction

Infrastructure plays a central role in every aspect of life in Ontario. It is a crucial component for productivity, growth and competitiveness. Residents depend on infrastructure to ensure access to services and recreation, while businesses rely on infrastructure to remain competitive. Good governance of public infrastructure can yield substantial benefits for all.⁴

To remain competitive in the 21st century, it is essential that Ontario communities and businesses benefit from modern and reliable infrastructure. Such infrastructure can help to keep people and goods moving – facilitating trade, investment and idea exchange. By providing access to energy, clean water and other necessities, modern infrastructure is also essential to improving quality of life.

In recent years – and particularly in the aftermath of the 2008-9 financial crisis – a consensus regarding the positive economic benefits of more robust infrastructure spending has emerged among economists and policymakers. In addition to the social benefits of infrastructure, each dollar of infrastructure spending has a positive effect on economic conditions in two ways: in the short-term, by supporting jobs and businesses, leading to lower levels of unemployment and a higher level of economic growth; and, in the long-term, by boosting the competitiveness of private businesses, thereby leading to greater wealth creation and higher living standards.⁵

Research demonstrates that the impact of infrastructure spending on job creation is significant. For every \$1 billion in infrastructure spending, 16,700 jobs are supported for one year.⁶ These jobs are not merely concentrated in the construction sector, as manufacturing industries, businesses services, transportation and financial sector employment also benefit from the spillover effects associated with infrastructure spending.⁷

Increased investment in infrastructure also spreads throughout the economy via a series of multiplier effects. For every \$1 billion in infrastructure spending, GDP is boosted by \$1.14 billion, resulting in a multiplier effect of 1.14. Studies have consistently shown a strong multiplier effect as it relates to infrastructure spending, with estimated multipliers ranging from 1.14 to a high of 1.78.⁸

Furthermore, economic analysis has found that only about one-fifth of the economic benefits of infrastructure investment comes from the capital spent during construction; approximately 80 percent comes from the long-term economic benefits of the projects, including economic spin-off activities.⁹

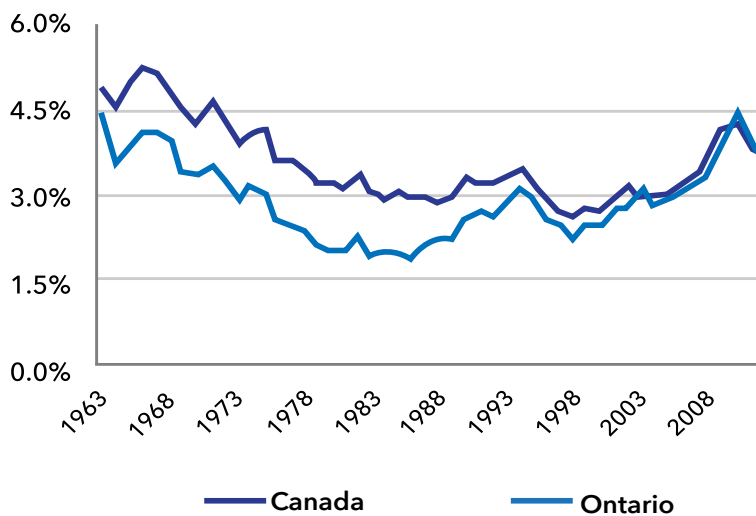
Investment in public infrastructure, such as roads, transportation systems, communication infrastructure, utilities, water and wastewater systems, health and social infrastructure results in lowered business costs and increased labour productivity.¹⁰ Lowered business costs result in increased private sector returns, allowing for higher rates of private investment and ensuring Canadian companies can remain competitive and grow on a global stage.¹¹

The Infrastructure Gap in Ontario

Ontario's current infrastructure stock is inadequate to support the needs of a growing and changing province. Over the past few decades, both Ontario and Canada have suffered from a period of underinvestment in infrastructure, which has resulted in a need not only to properly rehabilitate and maintain the current infrastructure, but also to develop more robust long-term infrastructure plans.¹²

The current challenge is in part due to the fact that much of the infrastructure in the province was built in the 1950s and 1960s. This stock is nearing the end of its useful life, increasing the cost of repair and replacement of current infrastructure assets.¹³ This problem is not new; since the 1980s, Ontario's infrastructure has been under stress. As shown in the graph below, in the early 1970s, public infrastructure investments as a percentage of the gross domestic product (GDP) began to fall sharply and remained low until the early 2000s, when investment as a percentage of GDP began to return to historical levels.¹⁴

Infrastructure Investment as Percentage of GDP



Source: Canadian Centre for Economic Analysis, 2016

Factors such as underinvestment, aging stock, climate change, technological disruption and population growth have led to a significant gap between the actual and needed infrastructure in Ontario. In a 2006 study, the Residential and Civil Construction Alliance of Ontario estimated that the cost to rehabilitate the province's public infrastructure would be \$19 billion. The report found future expansion and replacement costs of roads, electricity, hospitals and transit could be as high as \$6 billion to \$7 billion each year.¹⁵ This is in addition to the requirements for sewer and water, education facilities and social housing. Municipal infrastructure alone accounts for nearly half of the Province's public infrastructure stock.¹⁶ In the fall of 2008, the Provincial-Municipal Fiscal and Service Delivery Review put the cost of bringing municipal infrastructure into a good state of repair at \$22.4 billion, with an additional \$3.7 billion investment needed annually to meet current and future needs.¹⁷



The Significance of Now

Historically low long-term interest rates have created market conditions that are ideal for increased infrastructure spending.¹⁸ Given the long horizons associated with infrastructure assets, long-term, fixed-rate debt financing is an ideal instrument for providing the necessary capital required to increase investment levels.¹⁹ Lower debt-servicing costs effectively reduce the cost of infrastructure investments, while fixed-rate financing insulates projects and governments from future increases in interest rates.²⁰

In recent years, both the provincial and federal governments have made infrastructure a policy priority through commitments of record investment. The Government of Canada will provide \$186.7 billion over 12 years for public transit, green infrastructure, social infrastructure, trade and transportation infrastructure, rural and northern communities.²¹ The funding will be part of the New Infrastructure Plan (NIP), which was announced through the 2016 Federal Budget, and is being rolled out in two phases. Phase 1, at \$13.6 billion for the first two years, aims at providing some economic stimulus, with outer-years expenditure aimed at improving Canada's long-term economic productivity.²²

The next phase of the NIP, announced in July 2017, will contain Infrastructure Bilateral Agreements between provinces and the Government of Canada to negotiate funding. Infrastructure Canada is slated to begin consultations shortly, with the goal of concluding negotiations of the agreements by March 2018. For Ontario, the allocations total over \$11 billion, with \$8.34 billion for public transit, \$2.84 billion for green infrastructure, \$250 million for rural and northern communities and \$407 million for community, culture and recreational infrastructure.²³

Meanwhile, the Government of Ontario is pledging to spend approximately \$190 billion over 13 years.²⁴ Public transit will receive the biggest portion of the funding at 34 percent, followed by health with 19 percent and highways and other transportation with 17 percent.²⁵ Other transportation includes highway planning activities, property acquisition and similar programs.

The provincial government has also crafted comprehensive long-term growth plans. In May 2017, the Province released the Growth Plan for the Greater Golden Horseshoe, a long-term plan that in conjunction with the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan to manage growth, build complete communities, curb sprawl and protect the natural environment.²⁶ The implementation of the Growth Plan has been supported by the creation of Metrolinx and The Big Move (the Greater Toronto-Hamilton Area's first regional transportation plan).²⁷

SKILLS AND LABOUR NEEDS IN ONTARIO

As the Ontario government develops its Long-Term Infrastructure Plan, consideration must be paid to the long-term skills and labour needs of the Province. A recent Ontario Chamber of Commerce (OCC) report, entitled *Talent in Transition: Addressing the Skills Mismatch in Ontario*, noted that there exists a serious and pervasive skills mismatch in Ontario, which is associated with reduced productivity and increased unemployment. Given the scale of the infrastructure gap and the scale of work that is forthcoming in terms of comprehensive infrastructure projects, attention must be paid to the capacity of firms to undertake the breadth of the work. Government must ensure that there is capacity both on the labour supply side and on the individual skills side to undertake the long-term infrastructure work planned for Ontario.

As part of the Government of Ontario's commitment to infrastructure investment, the Province is currently developing Ontario's next Long-Term Infrastructure Plan (LTIP), to be released by the end of 2017. The Plan will lay out the Province's infrastructure vision for the next decade.

This report has been developed to provide the government with insights and solutions as they build and execute on the LTIP. Based in part on consultations with industry, this document contains eight key recommendations designed to enhance the economic return on the province's future infrastructure investments. The goal is to contribute to a sustainable and innovative plan that address not merely the current infrastructure conditions, but looks toward creating flexible and comprehensive long-term solutions. In addition, the OCC recognizes that bridging the infrastructure gap in Ontario will require alignment and investment consensus across all levels of government.



Summary of Recommendations

- 1 The Government of Ontario should develop adaptable and resilient infrastructure standards that can address various future pressures including climate change and demographic changes.
- 2 There should be continued focus by the Province of Ontario on asset management planning and working with municipalities to improve their capacity to integrate asset management practices into their operations and capital planning processes.
- 3 The Government of Ontario should work to develop comprehensive principles and elements from successfully procured projects that were delivered using alternative financing and procurement methods which can then be applied as best practices to smaller scale projects.
- 4 The Government of Ontario along with the private sector should focus on communicating the successful aspects of public-private partnerships to stakeholders to gain greater support for these types of contracts.
- 5 The Government of Canada should adopt an outcomes-based approach to infrastructure funding with project prioritization based on clear, transparent criteria such as resulting economic growth, sustainability, resiliency and community benefits.
- 6 The Government of Ontario should ensure the inclusions of strong performance measures to evaluate the performance of the investments as well as comprehensive tracking of the infrastructure projects being built and being earmarked to be built. Government of Ontario should also consider accountability methods to ensure that spending commitments have been met.
- 7 The Government of Ontario should ensure that internal approval processes for infrastructure project funding are streamlined.
- 8 The Government of Ontario should work with the Government of Canada to ensure that the design of the Canadian Infrastructure Bank attracts private investment, provides new tools for infrastructure projects and is dedicated to funding revenue-positive infrastructure projects.

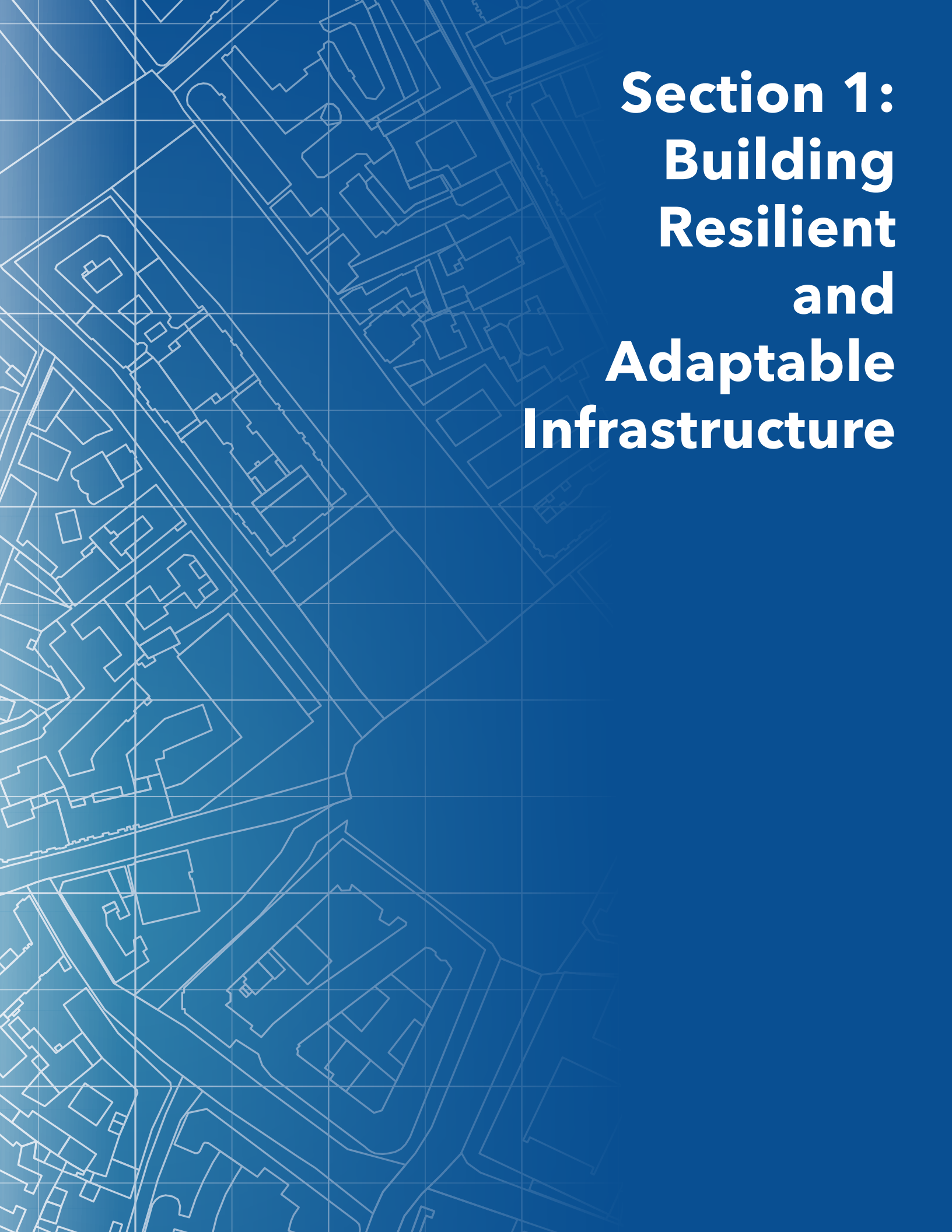
Consultation to Inform Ontario's Long-Term Infrastructure Plan

On June 1st 2017, the OCC convened a half-day event to examine the state of infrastructure investment in Ontario today, and to ultimately inform this report. Members of Ontario's business community, government and academia discussed the expected key elements of the LTIP, providing insights and recommendations to ensure that future infrastructure planning is responsive to the needs of the business community and Ontarians.

The forum included two breakout sessions designed to ensure that participants were meaningfully engaged in discussions regarding infrastructure planning in the province.

One session focused on addressing the current infrastructure demands in Ontario. The session addressed how the provincial government can tackle infrastructure demands in the short-term. The second session focused on planning for future infrastructure investments in the province and discussed different factors that the government should consider when planning for the long-term.

The feedback shared by participants throughout these sessions was considered for inclusion in this report. The report is also informed by policy resolutions passed in previous years by the Ontario Chamber Network.



**Section 1:
Building
Resilient
and
Adaptable
Infrastructure**

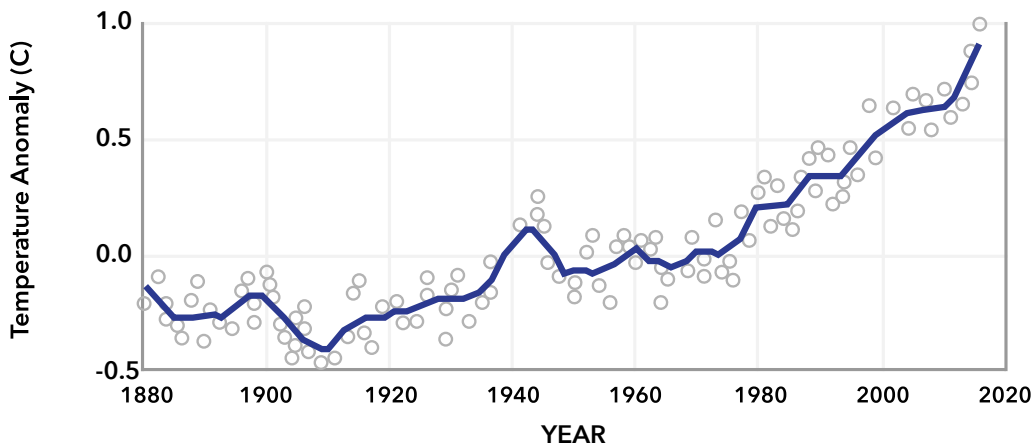
The Province of Ontario is facing a trio of serious challenges to the health of its infrastructure stock: climate change-induced weather events, aging assets and a habit of building to current or past needs rather than looking to the future.

The most recent World Meteorological Organization's Statement confirmed that 2016 was the warmest year on record.²⁸ Scientists project that by 2050, the average annual temperature in Ontario will increase by 2.5°C to 3.7°C.²⁹

While the full extent of the impact of climate change is not entirely understood, an increase in extreme weather events will exacerbate the problems of a provincial infrastructure stock largely built in the 1950s and 1960s. Older infrastructure is more vulnerable to climate change due to the weakness that comes with age, reducing its ability to withstand extreme weather events and provide adequate levels of service.³⁰ Older infrastructure was also designed to earlier standards, most of which did not consider a changing climate.³¹

Furthermore, much of the infrastructure built in that period was done in response to development already under way.³² This is especially true of water and sewer systems; as Allan Patterson, Metro Toronto's Assistant Commissioner of Works in the 1970s, noted, "I never built a water main that wasn't a year late".³³ Servicing and infrastructure development at the time was largely done in response to existing needs, and rarely with an eye towards future growth potential of an area or with an innovative and adaptable mindset.

Global Temperature Index



Source: NASA's Goddard Institute for Space Studies, 2016



EXTREME WEATHER IN ONTARIO

Costly damage to infrastructure because of extreme weather events has become common in recent years. Water damage is now the number one source of household insurance claims in Ontario.³⁴ In May 2013, Thunder Bay declared a state of emergency after homes were flooded and sewer systems overwhelmed.³⁵ In July 2013, the Greater Toronto Area experienced a record-breaking 126mm of rain in only a few hours, contributing to the estimated \$940 million in property damage in Toronto alone.³⁶ In April 2014, the City of Belleville declared a state of emergency after severe storm caused flooding and, in May 2017, sustained heavy rains across Ontario and Quebec caused flooding in many areas which required a partial closure of the Toronto Islands, impacting the Islands' summer tourism economy.³⁷

It is not just flooding that is causing destruction: Canada's ice roads - more than 3,300 miles of them - have been freezing later and melting earlier, drastically reducing the window of time that isolated communities rely on to restock a year's worth of vital supplies. In Northern Ontario, 32 Indigenous communities of the Nishnawbe Aski Nation depend on the winter road system to replenish stocks of fuel, food and building materials. Each community requires approximately 246,000 gallons of fuel each year - or, 40 tanker trucks. Flying fuel in would cost an additional \$520,000 per community.³⁸

These damaging and costly events are expected to increase in both number and scale as the climate warms, increasing pressure on current infrastructure and demanding new assets that can respond to extreme events.

Climate Change-Induced Weather Events

The impact of climate change on public infrastructure is of serious economic importance. In March 2017, the Bank of Canada's Deputy Governor, Timothy Lane, noted that Canada's economy is already being impacted by more frequent extreme weather events, and that climate change will have material and pervasive impacts on our economy and financial systems.³⁹

The average natural disaster costs the economy \$130 billion and lowers GDP by approximately two percent.⁴⁰ This is attributable to the rising occurrence of severe weather affecting urban areas that have high-density populations and high-value assets.⁴¹ In the aftermath of a disaster, lost tax revenue and demands for relief and reconstruction place enormous fiscal strain on governments. On average, it is estimated that natural disasters increase public budget deficits by 25 percent.⁴²

Credit-rating agencies are increasingly placing importance on the way that environmental, social and governance factors could change the risk profiles of the companies and other debt issuers that they assess. Major institutional investors have warned that capital markets will increasingly evaluate companies based on climate-related risk. In January 2017, OPTrust was the first pension plan in Canada to release a detailed analysis and disclosure of the potential climate change risks to its investment portfolio. Black Rock, the world's largest investment firm, already assesses companies on how they disclose climate-related risks and how well their board understands those risks.⁴³

As the Ontario government is developing its LTIP, attention must be paid to building infrastructure that is resilient and adaptable to climate change. As part of this, climate change should be incorporated into asset management planning. Unfortunately, among municipalities that have Stormwater Infrastructure Asset Management Plans, only 11 percent reported that their Plans account for climate change.⁴⁴

Further, resiliency and adaptability should be considered within procurement criteria, by having specific sections of a tender devoted to how a proponent is addressing the impacts of climate change on the asset being built. Ensuring that infrastructure assets are protected from climate change-related weather events is one of the justifications for government to adopt more innovative procurement models that allow for the sharing of risk with the private sector.

CLIMATE CHANGE ADAPTATION IN ONTARIO

Adaptation measures are a key component of addressing the actual or expected changes of climate change related events. Adaptation plays a vital role in mitigating the economic and social impacts of these events. Throughout the Province adaptation practices have been gaining prominence:

- The cities of Richmond Hill and Brampton are building and retrofitting stormwater management infrastructure;⁴⁵
- The Grand River Conservation Authority is developing regulation and policies to protect wetlands to improve their local stormwater management;⁴⁶
- The City of Toronto has undertaken a critical infrastructure resilience study to determine where and how climate change may affect their infrastructure;⁴⁷
- The City of Windsor has developed a Climate Change Adaptation Plan which contains short-term adaptations actions to increase the City's resiliency to weather extremes;⁴⁸
- The Town of Oakville has developed a Climate Change Adaptation Strategy which highlights over 300 actions the corporation can research, develop and implement to help adapt to the changing climate occurrences.⁴⁹



Aging assets

Canada's infrastructure "Golden Age" followed the Second World War and continued through the 1950s and 1960s, with investment in municipal infrastructure supporting both urban and rural development. In the 1970s and 1980s, however, government spending on public infrastructure declined in the face of competing priorities and the end of the post-war economic boom.⁵⁰ This has resulted in a large portion of infrastructure assets across the province quickly approaching the end of their lifecycle spans. In Toronto, 51 percent of the City's sanitary sewer system is over 50 years old and half of Toronto's watermains are over 55 years old.⁵¹ In Ottawa, 20 percent of the roads are between 20-40 years old and 15 percent are more than 40 years old.⁵²

Older infrastructure becomes more vulnerable to factors such as extreme weather events and increased service demands. In a recent study on the conditions of stormwater infrastructure in Ontario, the aging of stormwater infrastructure was noted as one of the most critical issues facing Ontario municipalities.⁵³ In the same study, aging infrastructure was identified as one of the most important issues for which municipal councilors and decision-makers require improved awareness.⁵⁴

As the Government of Ontario is developing its LTIP, it should consider mechanisms within the Plan such as dedicated funding to address the inevitable fact that many of the current infrastructure assets in service will need to be replaced or significantly rehabilitated. Although there have been indications that the recent increase in infrastructure investments have resulted in a decline in the computed average age of core public infrastructure in Canada, from 17.5 years in 2003 to 14.7 years in 2013, this does not necessarily correspond to the fact that each infrastructure asset is younger or in better condition, or that a greater proportion of assets meets specific quality standards.^{55 56}

Building for the future, not the past

The infrastructure boom of the 1950s and 1960s occurred to address the needs of the time, and in response to development already underway. It is imperative that the upcoming LTIP avoid planning solely for the present and focus on various factors, such as population growth and continued urbanization, that will impact future infrastructure and service levels.

Ontario's population is projected to grow 30 percent over the next 25 years, from an estimated 14 million in 2016 to more than 18.2 million in 2041.⁵⁷ Growth projections indicate that along with a population increase, there will also be continued increase of urban population growth. It is projected that the City of Toronto's population is to rise from 2.88 million in 2016 to 3.89 million in 2041.⁵⁸ Forward-thinking considerations would be required to address the expected demographic changes across the province and the demand they will place on utilities, land development, communication, public transportation, health and waste services.

Ensuring resilience as a consideration in the decision-making process stands to save current and future governments significant costs in maintenance and rebuilding. Every dollar invested in adaptation today will yield anywhere from \$9 to \$38 in avoided damages in the future.⁵⁹ Building resilient infrastructure with the flexibility to serve multiple purposes over a project's lifetime will therefore help future-proof investments.⁶⁰

Recommendation 1

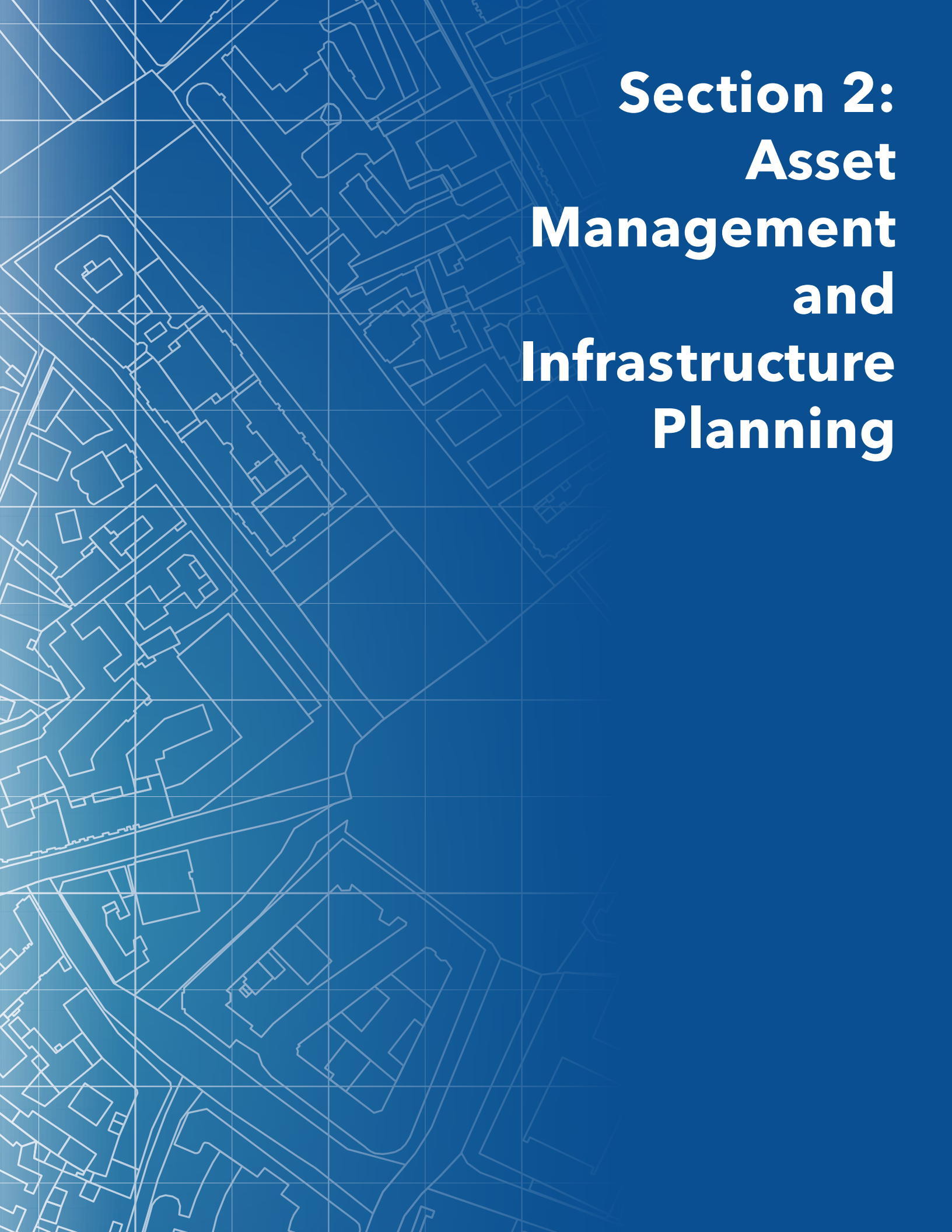
An essential component of the Province of Ontario's Long-Term Infrastructure Plan should be the development of adaptable and resilient infrastructure standards that can address various future pressures including climate change and demographic changes.

This can be done by updating existing building codes and standards to incorporate climate change and future population growth. Communities across the province should also look towards developing adaptation methods based on local conditions, such as retrofitting local stormwater infrastructure and shoring up stress breakwalls, to address these pressures.

Climate change considerations should be included into the asset management plans as a component for long-term planning and durability of each infrastructure asset. The LTIP should also develop standards and provide funding for flood proofing of wastewater, water treatment plants, stormwater infrastructure and other infrastructure and buildings.

Creating adaptable infrastructure involves several different approaches, often in combination, ranging from structural changes to non-structural or "soft" measures such as changes in policies and procedures that can be undertaken at different stages of the infrastructure life cycle as it is planned, rehabilitated or replaced.⁶¹

These measures can involve addressing issues directly by redesigning and upgrading infrastructure to deal with specific change in climate (e.g. upsizing culverts to handle more intense precipitation events) and/or by enhancing the resilience of the system to climate change in general (e.g. regular maintenance of pipes, reducing storm water runoff).⁶²

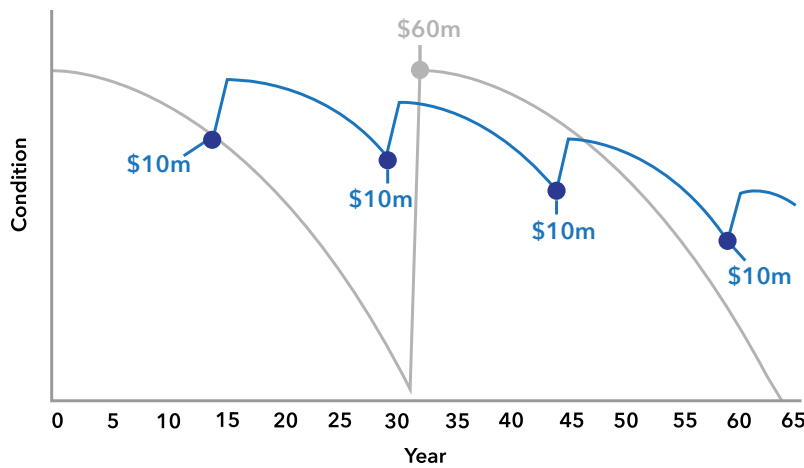


Section 2: Asset Management and Infrastructure Planning

A sset management is the optimal means of assessing and addressing infrastructure needs in communities across Ontario. Use of asset management plans (AMPs) result in informed and strategically sound decisions that optimize investments, better manage risk and consider the impact of external factors such as climate change.⁶³

Asset management ensures that jurisdictions take a long-term perspective on infrastructure planning, which allows for the maximization of benefits provided by infrastructure. It also affords the opportunity to achieve cost savings by spotting deterioration early on and acting to rehabilitate or renew the asset. The graph below demonstrates the high cost of neglect: if the condition of an asset is allowed to deteriorate to the point where it must be replaced, the cost is \$60 million every 30 years. In contrast, if strategic asset management is undertaken and proactive rehabilitation investments are made, the cost would be \$10 million every 15 years.⁶⁴

Cost of Infrastructure Neglect



- **Poor Asset Management**
\$60m total. Let asset deteriorate then replace.
- **Smart Asset Management**
\$40m total. Make timely investments throughout.

Source: Building together - Guide for municipal asset management plans, 2012

Asset management is a useful tool as jurisdictions seek to balance priorities between short- and long-term planning. Prioritization within an AMP is based on the principles of project need, such as capital planning, maintenance and operations. This approach does not inherently place greater significance on larger, more conspicuous projects. Most crucial for long-term infrastructure planning, an AMP requires the development of a financial plan and lifecycle cost analysis.⁶⁵ Lifecycle cost includes the total cost of constructing, maintaining, renewing and operating an infrastructure asset throughout its service life. Such analysis allows for the consideration of future cost calculation as well as inflation cost.



All levels of government have turned to asset management as they seek a more outcome-based approach to infrastructure funding and planning.

In 2012, the Province of Ontario launched the Municipal Infrastructure Strategy, which requires municipalities that request provincial infrastructure funding to demonstrate how projects fit within a comprehensive asset management plan. The release of the Strategy was accompanied by funding to help municipalities prepare plans and address projects identified in the plans.⁶⁶ Prior to 2012, less than 40 percent of Ontario municipalities had an asset management plan. By 2016, that number had grown to over 95 percent.⁶⁷

The current Ontario Community Infrastructure Fund, which provides steady, long-term funding for small, rural and northern communities to develop infrastructure, builds on the asset management concept. The Province has also created asset management planning regulation under the Infrastructure Jobs and Prosperity Act, 2015. The proposed regulation requires all municipalities to develop and adopt a strategic asset management policy by January 1, 2019.⁶⁸

The Government of Canada has also recently announced the Municipal Asset Management Program, a funding program, which allows municipalities access to grants to fund and develop asset management plans.⁶⁹

The OCC supports the federal and provincial governments' efforts to develop asset management policies that better support municipalities as they prioritize infrastructure needs.

As a result of a dedicated push on the part of the provincial government, most Ontario municipalities now have an AMP. However, there remain barriers to the effective deployment of these plans.

These barriers include a lack of understanding of the service levels, capacity and political or cultural considerations. Many municipalities lack a solid understanding of how service levels relate to their infrastructure networks, and find it challenging to define the current service levels being provided to residents. This makes it difficult to determine the full cost of maintaining these services, and to consider potential options for funding or adjusting service levels.⁷⁰

Capacity issues affect both small and large municipalities, with financial and staffing limitations in smaller municipalities being of major concern and mid-size and large municipalities facing issues resulting from the size of their administrations and the challenges around integrated processes between departments.⁷¹ The Association of Municipalities of Ontario (AMO) has noted that asset management regulations would require the addition of at least one staff members at many municipalities, which is likely to add at least \$100,000 in salary costs.⁷²

Beyond structural challenges, the OCC heard in consultation that political and cultural barriers are also present, i.e. building support amongst council and the public when many are unfamiliar with the concept of asset management or are uncomfortable with its disruption of the infrastructure budgeting status quo. Municipal staff may struggle with successfully engaging council and the public on the development and implementation of asset management plans. Particularly in small communities, there is often resistance to the initiative on the assumption that it may result in a need for additional tax revenue or debt.⁷³

In addition to these barriers, the scale of the infrastructure gap is in itself a challenge experienced by many municipalities. As outlined earlier in this report, an ageing infrastructure stock coupled with decades of underinvestment by governments have left public owners playing “catch-up”. In many cases, municipalities are already struggling with restricted budgets and find it overwhelming to consider addressing anything more than immediate needs. Addressing the full scope of their infrastructure needs can seem like an overwhelming undertaking, even with a solid asset management plan.

Recommendation 2:

There should be continued focus by the Province of Ontario on asset management planning and working with municipalities to improve their capacity to integrate asset management practices into their operations and capital planning processes.

Although the government has been successful in incorporating asset management into municipal operations, there are still gaps in terms of uniformity and comprehensiveness of the plans. Therefore, the Government of Ontario should continue to provide resources to municipalities, including long-term, predictable funding and educational tools (like those in the 2012 Municipal Infrastructure Strategy). This will maintain the successful move towards comprehensive asset management planning across the province, including improving understanding of the use AMPs, helping mitigate capacity challenges and addressing political and cultural barriers.



Section 3: Innovative Procurement Practices

One of the chief components of infrastructure planning is how to procure it. In Ontario, traditional procurement of infrastructure has utilized the design-bid-build method, in which the public sector puts to market project specifications and a detailed design of the asset. Private organizations then bid on the opportunity to construct that asset, paid progressively by the public sector.⁷⁴ Most of the time, the lowest bid is selected to develop the project.⁷⁵

The OCC has a longstanding history of advocating for public procurement reform, based on the principle that procurement should be value-driven and evaluated by evidence-based outcomes.

Currently, outside of Infrastructure Ontario (IO), the Government of Ontario still procures using a traditional method that stands in opposition to modern, outcome-based and collaborative procurement models. This is especially true at the municipal level. Large and complex projects are referred by the Ministry of Infrastructure to IO for suitability analysis for project delivery using alternative financing and procurement (AFP) means, but most municipal projects are generally too small to be captured by this process.

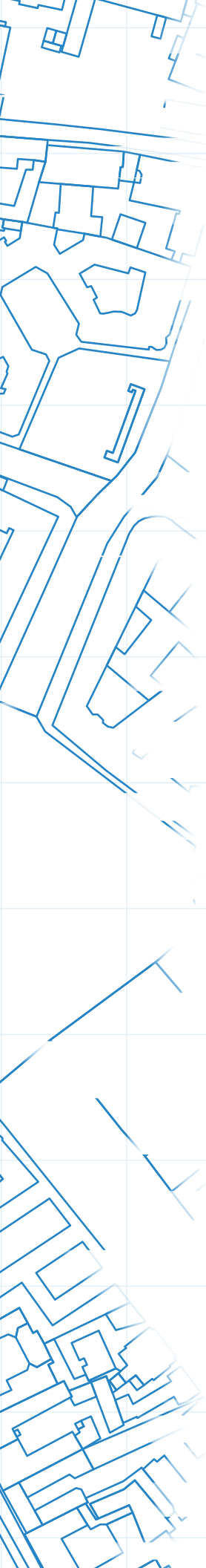
The current model of procurement is preventing the most effective and accountable use of public dollars, which is of particular concern given the massive infrastructure investments outlined by both the federal and provincial governments. Current procurement practices are characterized by limited interaction between buyer and seller, with most contracts providing little allowance for the flexibility needed to address common overruns and timing delays. Such overruns and delays are often the result of design changes, which are prevalent as the teams used to design and construct the project are generally segregated under a traditional procurement approach.⁷⁶ Additionally, as the warranty periods are often short (i.e. one to three years), the public sector must bear the longer-term responsibility for the serviceability of the asset, which translates into governments often entering into

further contracts for asset maintenance and operation.⁷⁷

These challenges indicate that a shift from traditional to strategic procurement is required as part of the effort to address the infrastructure gap in Ontario. The Province should follow the example of IO, which has developed a means to assess project suitability for strategic procurement, and then delivering based on innovative models of public-private partnerships (P3s).⁷⁸

A leader in public procurement reform, IO has developed a unique AFP model for infrastructure projects greater than \$100 million and will assess complex projects under \$100 million on a case-by-case basis for AFP suitability.⁷⁹ IO's model is "the process of assessing the needs of people or users in an area, designing and specifying the services to meet those needs, and choosing the delivery mechanism to secure an appropriate service while making the best use of total available resources".⁸⁰ This assessment is based on a number of factors, including the size and complexity of the project, and the potential ability to transfer risk to a private sector contractor.

One of the key considerations IO employs when assessing projects is whether the project has the potential to integrate private sector innovation to improve the delivery and design of the final outcome.⁸¹ IO often provides explicit criteria for innovation in their



RFP documents through the provisions of Required or Preferred Innovation Submissions. For those Preferred Innovation items, the public procurers can be considered the champion of the innovations, even though it is still the responsibility of the proponents to come up with the exact solution for the requested innovations.⁸² This approach enables government to consider innovation potential as criteria in tendering decisions.

Innovation and risk transfers to the private sector are one of the pillars of public-private partnerships. The private sector brings increased investment, the appropriate spreading of risk and the injection of new creative thinking on how to extract greater value from each project.⁸³ Involving both public and private sectors is fundamental if the infrastructure requirements of subsequent generations are to be met.⁸⁴

Increased use of innovative procurement methods by government and public owners will allow for a proportionate sharing of cost and financial risk by both public and private spheres. The private sector has extensive experience with rigorous and disciplined stewardship of private assets - of which there are many more than public assets - and therefore is well-suited to manage many of the risks of designing, building and maintaining them.⁸⁵

Public-private partnerships consistently show positive results. In 2016, 49 out of the 51 IO AFP projects for fiscal year 2015-16 exceeded industry standards.⁸⁶ Of the 51 projects analyzed, 73 percent were completed on-time or within one month of the scheduled substantial completion date. Of those projects, 20 percent were delivered early.⁸⁷ Of the 14 delayed projects, the Project Co, or the successful proponent of the project, retained full or shared responsibility for delay on 11 projects.⁸⁸

The OCC recognizes that, historically, AFPs have been used for large and complex projects. However, given

the scope of infrastructure need and potential over the long-term, innovative procurement thinking is necessary by all to ensure that the tools are there to allow for continued infrastructure development that achieves maximum return on investment.

Innovative procurement models can also be used in targeted ways to increase the ability of small and medium-sized enterprises (SMEs) to participate in infrastructure investments. The Government of New South Wales, Australia, has instituted a SME Policy Framework as part of its wider procurement reform. The aim of this framework is to improve access for SMEs to government procurement by opening up opportunities, supporting competition and reducing administrative burdens.⁸⁹

A European Commission report published in 2012 attributes part of the success of the SME sector in Sweden to the relative ease with which SMEs can compete for public procurement contracts, compared to their EU peers. In fact, Swedish SMEs are more successful in winning procurement contracts than their peers (47 percent versus 38 percent), with prompt payment and an accessible e-procurement process noted as contributing success factors.⁹⁰

P3 CASE STUDY: ONROUTE

When the Province began exploring ways to revitalize its roadside service centres, officials opted for a public-private partnership. The Province provided \$200 million for the renovation of 20 of Ontario's 23 highway service centres along Highways 400 and 401. A consortium of private partners led by Maryland-based hospitality service firm HMS Host Corp. and Toronto-based private equity firm Kilmer Van Nostrand Co. Ltd. came up with an additional \$100-million for the project. In 2009, Kilmer partnered with HMSHost, to finance, design, build, operate and maintain the network of 20 ONroute Service Centres along Ontario's 400 series highways, sponsored by Infrastructure Ontario and the provincial Ministry of Transportation. HMS Host will manage and maintain the sites over the course of their projected 50-year lifespan, while the province retains ownership of both the land and buildings. Revenue from concessions will be shared between the province and the consortium.⁹¹

Recommendation 3

The Government of Ontario should work to develop comprehensive principles and elements from successfully procured projects that were delivered using alternative financing and procurement methods which can then be applied as best practices to smaller scale projects.

Efforts should be made both by the private and public sector to ensure that AFPs can be scaled to correspond to the needs of the many infrastructure projects coming down the pipeline, not just the large and complex ones. This requires consideration of the many public owners, particularly municipalities, which need additional resources to execute, develop and participate in AFP projects.

The Government of Ontario should work to develop comprehensive best practices for projects developed using AFPs. These practices can include: up-front planning; empirical data and improve budgeting, or the process of basing decisions on hard data such as actual construction cost overruns of previous projects and tracking projects data in terms of what made projects successful in the past; proper people resourcing; integrating project elements, or avoiding breaking up large integrated public infrastructure projects up into smaller contracts; negotiating leverage; taking externalities into account; and selecting good partners.⁹²

Developing these best practices would provide government agencies with a starting point to ensure that public-private partnerships can have the scalability characteristics that enable utilization on a smaller scale by municipalities and other public owners.

The Government should also work to encourage bids from consortia of municipalities and other small- and medium-size enterprises to enable the creation of economies of scale. For example, Toronto 2015- the organizing body for the Pan Am and Parapan American games - built provisions into its bidding process that awarded points to minority groups and joint bids in order to encourage non-traditional stakeholders to participate as vendors.⁹³



Recommendation 4

The Government of Ontario along with the private sector should focus on communicating the successful aspects of public-private partnerships to stakeholders to gain greater support for these types of contracts.

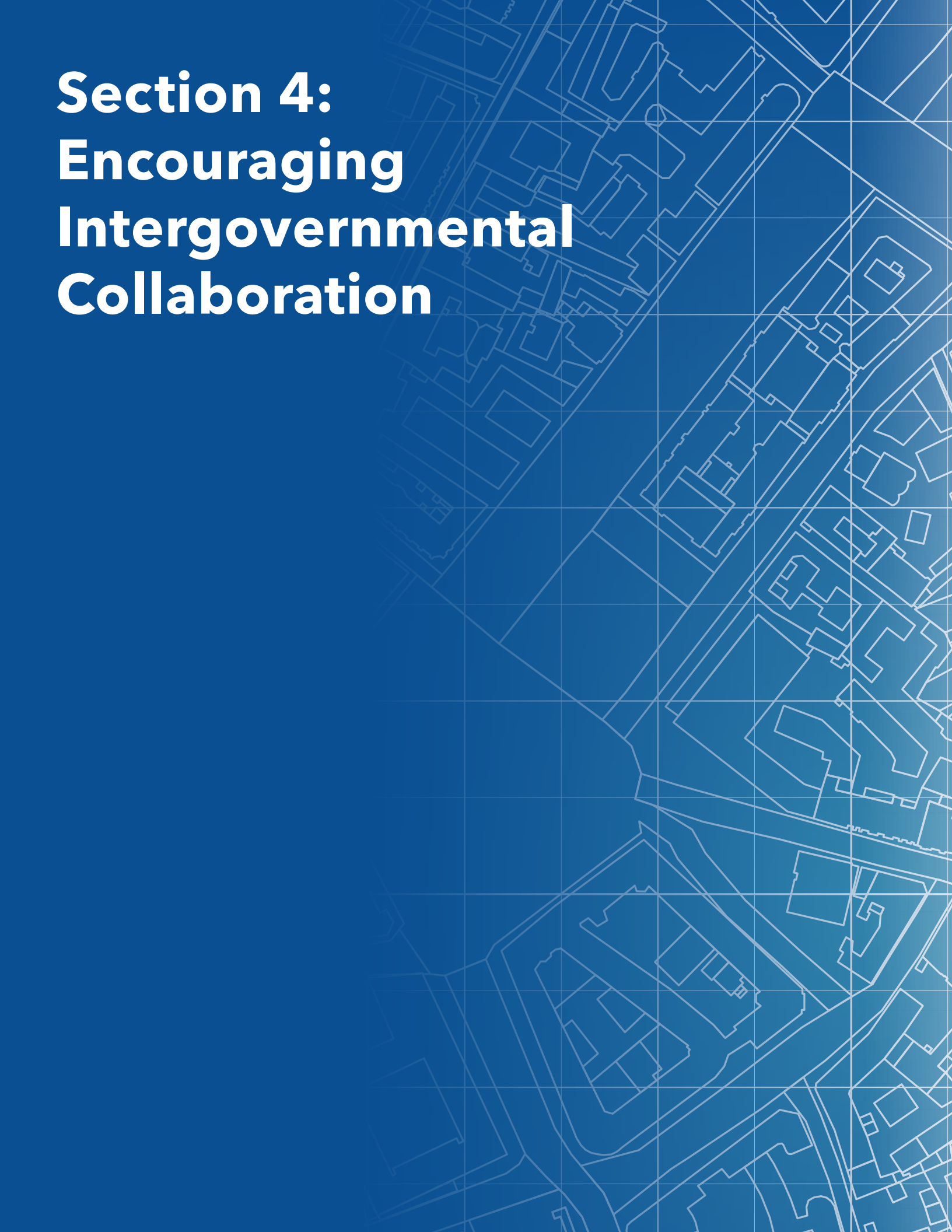
Public-private partnerships provide an opportunity for government to address the infrastructure gap in the Province of Ontario. The use of P3s has proven to be successful with the majority of P3s in Ontario having been delivered on time and on budget.⁹⁴

Recognizing that there have been a handful of high profile instances in the past where P3 projects have garnered negative public attention, the government should focus on communicating the successes of the large number of public-private infrastructure projects that have been completed in recent years. It should also indicate how P3s encourage specialization between public and private partners, allowing government to steward projects while taking advantage of private expertise and innovation.

Communicating the successful aspects of public-private partnerships should be a priority, however, the government should evaluate the most effective and appropriate method for any communication campaign based on existing principles of value for taxpayer dollars.

Industry should also communicate, through community engagement and branding opportunities, the positive outcomes of P3 projects. As active partners, the private sector has shared ownership of projects, and so should be able to share in their success.

Communicating the benefits of P3 projects would help stakeholders to become more comfortable with this type of arrangement, and work to mitigate some of the skepticism that currently exists in the public sphere.



Section 4: Encouraging Intergovernmental Collaboration

When it comes to addressing the infrastructure gap, it is imperative that all three levels of government work in a collaborative manner to address the challenge at hand. Evidence-based decision making cannot exist when each level of government - and departments within them - are siloed.

In his 2016 Fall Report, the Auditor General of Canada noted that silos within departments and agencies are prevalent, and that government staff struggle to ascertain not only the activities of their external counterparts but also that of their own organizations.⁹⁵ Traditional accountability structures that reinforce individual ministerial accountability and create discrete organizational silos have continued to shape the decision-making culture of government.⁹⁶

The relationship amid all three levels of government has been called “incoherent”, which has resulted in wasted time and limited outcomes.⁹⁷ With respect to infrastructure planning, a major source of intra-governmental tension is “incrementality”, or the federal government practice of allocating funding to new or accelerated projects, rather than projects funded and/or prioritized through asset management plans.⁹⁸ This results in federal funds often flowing to marginal projects; those not already included in long-term planning.⁹⁹

Creating channels of open communication and collaboration would serve as first steps in avoiding misallocation and duplication of funding. The Federal Government should also respect existing provincial government infrastructure plans and ensure that any policies coming from the federal level complement and do not contradict provincial long-term planning.

Traditionally, funding partnerships between all three levels of government, such as the federal Gas Tax Fund, (GTF) have been a positive means of intergovernmental cooperation and assistance.

THE GAS TAX FUND

The Gas Tax Fund provides predictable, long-term, stable funding for Canadian municipalities to help them build and rehabilitate their local public infrastructure. The Fund is legislated as a permanent source of federal infrastructure funding for municipalities. It is currently indexed at two percent per year, to be applied in \$100 million increments, with a projected growth of \$1.8 billion over the next decade. Funding is provided up front, twice a year, to provinces and territories, which in turn flow this funding to their municipalities. Municipalities can pool, bank or borrow against this funding.¹⁰⁰ In Ontario, the Gas Tax fund is administered by AMO and funds are allocated on a per capita basis.¹⁰¹ Fund allocations for the Province of Ontario for 2014-2019 is \$3,873,735,000.¹⁰²

However, a recent audit by the Office of the Auditor General of Canada found that Infrastructure Canada (IC) did not implement the performance measures strategy that it would have needed to determine whether the Fund was meeting its objectives, and to report on results to Parliament and the Canadian public.¹⁰³ The audit also noted that IC did not consistently manage key accountability and reporting requirements, preventing the agency from fulfilling its reporting duties to Parliament about whether funds have been used for their intended purposes.¹⁰⁴ In a nod to the continued

impacts of government silos, Infrastructure Canada noted in a response to the audit that jurisdictional challenges make it difficult to harmonize reports on national results and program performance in a consistent fashion.¹⁰⁵

In the Greater Toronto-Hamilton Area (GTHA), public transit funding has been negatively impacted by the poor alignment between different levels of government. A primary concern for Ontario has been the financing of transportation infrastructure, such as the Scarborough subway or Brampton Light Rail Transit, which has culminated in public discrepancies among the three levels of government with respect to responsibility to pay.

The misalignment between the three levels of government has contributed to an estimated \$30 billion capital funding gap to build rapid regional transportation network and billions more needed for operations, maintenance and rehabilitation.¹⁰⁶ The implementation of Metrolinx's multi-regional transportation plan has been hampered by the governance structure of municipal transportation authorities and a lack of capital funding.

NETWORK SPOTLIGHT

Long-term development of transport and transit infrastructure is a priority for the Ontario Chamber Network. A resolution authored by the Richmond Hill Board of Trade, Newmarket Chamber of Commerce and Vaughan Chamber of Commerce passed in 2017 urges the Government of Canada, the Government of Ontario, the Regional Municipality of York and the City of Toronto to "begin the conversation on dedicating revenue for Metrolinx Big Move and 'Next Wave' Priority Projects".



Recommendation 5

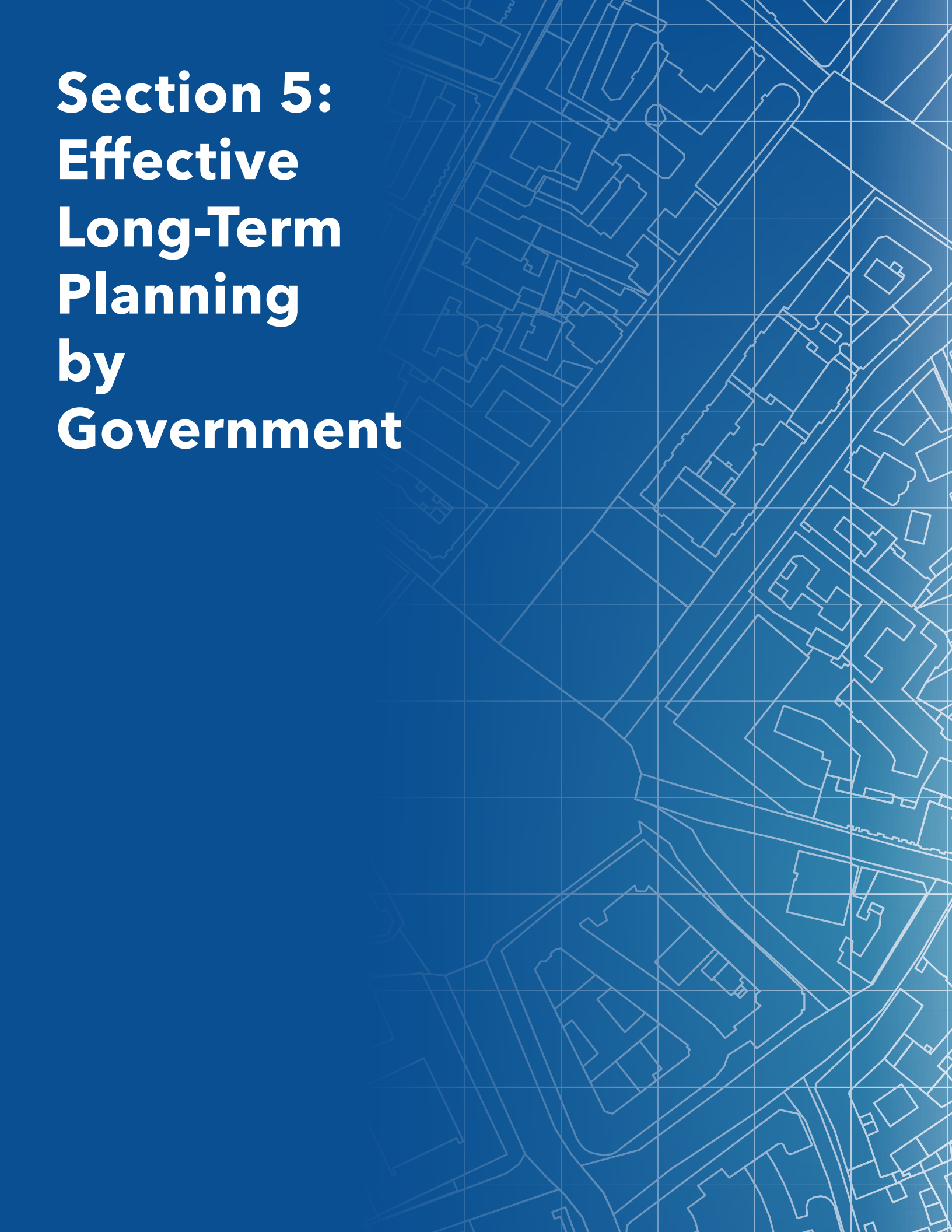
The Government of Canada should adopt an outcomes-based approach to infrastructure funding with project prioritization based on clear, transparent criteria such as resulting economic growth, sustainability, resiliency and community benefits.

Moving into the next phase of NIP, the federal government's distribution of federal funds, investment in productivity-enhancing projects needs to be included in the criteria. Provincial and municipal governments should work with the federal government to ensure that it strikes a balance between strategic, national objectives and ensuring that eligibility criteria for the next phase of NIP infrastructure programs are sufficiently flexible to remain responsive to the diverse needs of municipalities.


Successful implementation of infrastructure projects throughout the country, such as the transportation projects in the GTHA, depend on the willingness of all three levels of government working together towards a common goal. A big component of this is having predictable, stable, long-term funding for infrastructure, such as the Gas Tax Fund. However, lessons must be learned from the recent Auditor General report on improving the transparency of the fund to ensure that funding has been used for its intended purposes.

The Government of Canada should work to develop key accountability and reporting requirements to ensure maximization of funding. This would require the Federal Government to work closely with the appropriate agency in each province that administers the funding to ensure that regular reporting of funding allocations and funding tracking is being executed.

Governments of all levels should also consider ways to consolidate and streamline services in order to improve service levels of infrastructure assets. For example, one way to improve the transportation planning in the Province of Ontario is to establish a single transportation authority across the GTHA. Under this plan, authority for Toronto's subway and light rail lines should be uploaded to Metrolinx (or another, new regional transit authority). A single transportation authority would operate to implement and develop transportation planning and infrastructure in a cost effective and timely manner, as well as bringing a unified approach to the question of pay for service roads in Ontario.



Section 5: Effective Long-Term Planning by Government



An integral part of developing strong intergovernmental relationships is the ability to learn from one another to execute best practices. As the Province develops the LTIP, it should examine how Phase 1 of the federal NIP has been enacted, including any oversights. The Government of Canada, for example, has provided no performance measurement framework with which to evaluate the NIP's performance, and only limited visibility on tracking how the money is being spent.¹⁰⁷

The federal government has identified the departments that have received funding through the NIP, however, none of the departments other than Infrastructure Canada have published a list of funded projects. There is also no mention of the NIP in current departmental performance reports.¹⁰⁸

There is also a gap between what has been announced and the value of the projects currently identified by departments. Data shows that of the \$13.6 billion for fiscal years 2016-18 announced in Budget 2016, departments have identified only \$4.6 billion worth of projects.¹⁰⁹ While departments have committed to spending all the allocated funds within the time frame provided, this data shows that there remains a significant gap.

The NIP is a significant component of the Government of Canada's economic plan. Budget 2016 projected that Phase 1 infrastructure spending would raise GDP by 0.2 percent in 2016-17 and by 0.4 percent in 2017-18.¹¹⁰ Given the gap between funds that have been announced and the value of projects identified, the Government is at risk of not realizing this projection. However, the fact that the federal government is behind on spending its allocated funding provides an opportunity to correct their mistake and spend the large amount of funds remaining in a more comprehensive and thoughtful way.

The Government of Canada has created a multitude of programs to support infrastructure investment, each with its own priorities, timelines, and application and reporting processes. Within the current fiscal year, Infrastructure Canada is managing 15 infrastructure programs.¹¹¹ Budget 2016 expanded the concept of infrastructure to include green and social infrastructure, and provided funding to 30 programs. While some of these are new, others are pre-existing and managed by nine different federal organizations as well as the Federation of Canadian Municipalities.¹¹² This has created a situation in which it is difficult for public owners to know how best to access federal infrastructure funds, and has added a layer of complexity and delay in obtaining these funds.

THE CANADA INFRASTRUCTURE BANK

Announced as part of the 2017 Federal Budget, the Canadian Infrastructure Bank will work with provincial, territorial, municipal, Indigenous, and private sector and institutional investment partners to transform the way infrastructure is planned, funded and delivered across the country. An arm's-length Crown corporation, it will be accountable to Parliament through the Minister of Infrastructure.

The Bank's proposed mandate is to make investments in revenue-generating infrastructure projects that are in the public interest, and is seeking to attract investment from private sector and institutional investors. It is expected to work with all levels of government, as well as investors, to identify a pipeline of projects and potential investment opportunities.

In July 2017, it was announced that Janice Fukakusa will be the Chair of the Board's Bank.¹¹³

The Bank would invest at least \$35 billion over 11 years towards transformative infrastructure projects, including at minimum:

- \$5 billion for public transit systems;
- \$5 billion for trade and transportation corridors; and
- \$5 billion for green infrastructure projects
- Of this \$35 billion, the Bank can incur \$15 billion in accrual expenses. It is expected to be operational in late 2017.¹¹⁴

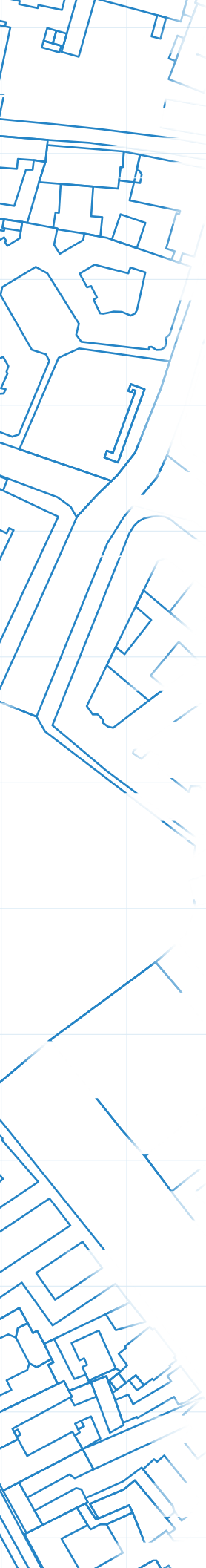
Recommendation 6

The Government of Ontario should ensure the inclusions of strong performance measures to evaluate the performance of the investments as well as comprehensive tracking of the infrastructure projects being built and being earmarked to be built. Government of Ontario should also consider accountability methods to ensure that spending commitments have been met.

The Province should continue its practice of providing an online map that highlights key projects being built in the province, continually updated to reflect the development of projects as part of the long-term infrastructure investment commitment.¹¹⁵

Given that the federal government is at risk of not realizing its spending as planned, the Government of Ontario should take this opportunity to review future spending commitments to ensure that they are planned methodically, fully, and in a transparent fashion. Infrastructure investments should be targeted based on sound criteria, including return on investment and evidence that the investment will reduce or eliminate existing barriers to service. As such, it would be appropriate for the government to engage in consultations with municipal officials to ensure that funding is prioritized through asset management planning.

There should also be transparency of project funding that allows tracking from project announcement to implementation. The Government of Ontario and the Government of Canada should work with municipalities to ensure that funding is trackable and that project objectives and outcomes are measured and evaluated. Funding transparency is especially important in jointly-funded projects between levels of government. Often, funding amounts are re-announced or augmented when there is a combination of sources, making it difficult to ensure that there no funding gaps.



It is essential that the Government of Ontario consider accountability methods to ensure that its infrastructure spending commitments are being met. For example, producing annual public documents highlighting the progress made against previous fiscal year funding commitments. This will ensure that government is maximizing the available infrastructure funding and the economic benefits of infrastructure investments.

Recommendation 7

The Government of Ontario should ensure that internal approval processes for infrastructure project funding are streamlined.

The Province should develop streamlined approval processes, including shorter tendering periods, making comprehensive funding programs more accessible by putting program criteria and funding allocation on a public website, implementing fewer amendments to standard contracts and general procurement documents.

Given the complex funding system that the federal government currently has in place - which has been called “burdensome and confusing”¹¹⁶ - the Government of Ontario should work to ensure that its own internal approval processes are clear and administratively streamlined. This would allow for allocated funding to be fully committed and to be distributed in a timely manner.

Recommendation 8

The Government of Ontario should work with the Government of Canada to ensure that the design of the Canadian Infrastructure Bank (CIB) attracts private investment, provides new tools for infrastructure projects and is dedicated to funding revenue-positive infrastructure projects.

The Province should formally consider the role federal institutions such as the newly-announced CIB will play in the development of infrastructure in Ontario. The Province should work to build a relationship with the Bank, especially as the Bank will be based in Toronto.

There is great opportunity for collaboration between Ontario and the CIB. The Bank can serve as a partner in making investments in revenue-generating infrastructure projects, including attracting necessary investment from the private sector.

However, the Bank should not be designed to capture the work of existing provincial agencies that deliver infrastructure projects, but rather should complement these agencies. The Bank should not compete with private-sector and institutional investors for investment opportunities. The Bank’s role should be to provide capacity for new financial tools that eliminate market or “viability” gaps, which would otherwise prevent priority projects from private investors.¹¹⁷

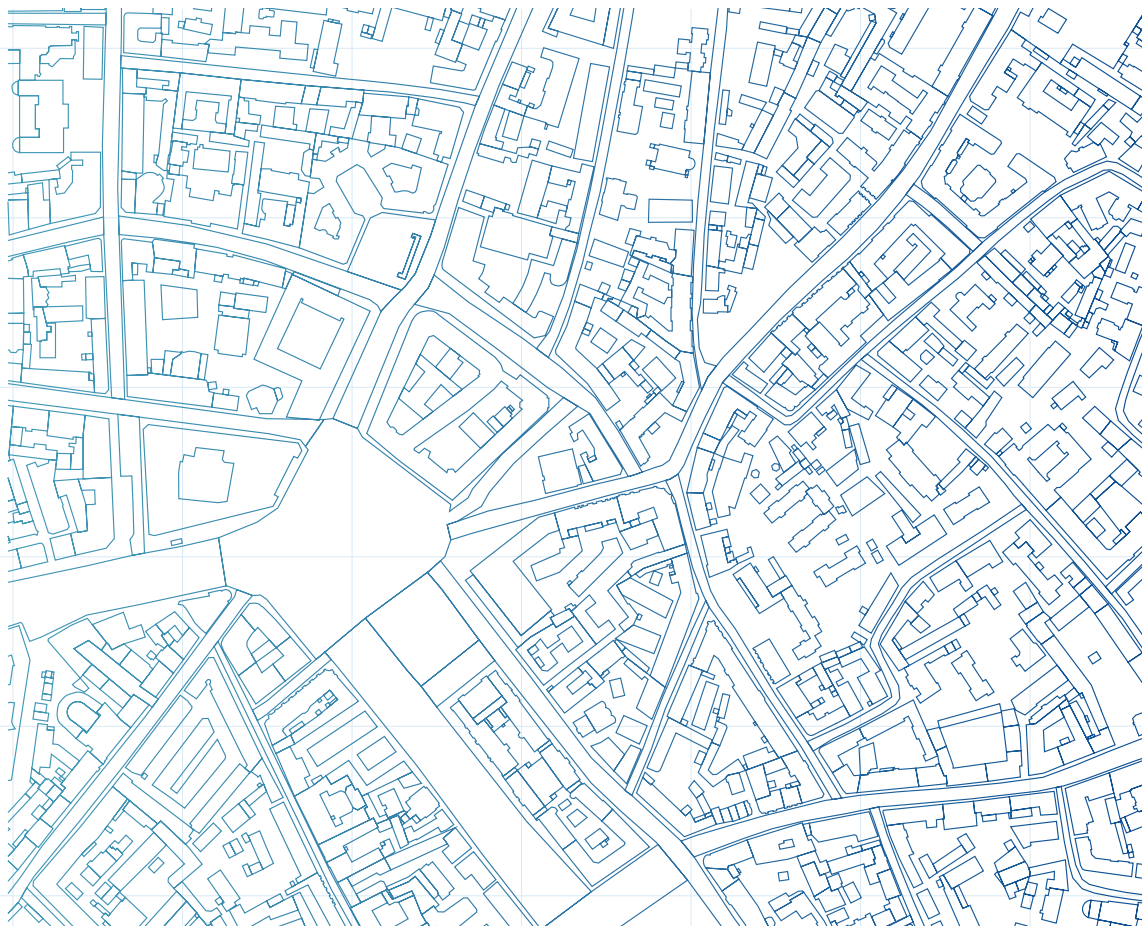
The Bank’s investments could include mezzanine debt (which would “de-risk” and attract additional, more senior debt from the private sector), or loan guarantees (which would credit-enhance the project and encourage incremental private sector lending at reduced rates). These financial instruments would require repayment, although potentially at below market rates, to stimulate the delivery of priority projects.¹¹⁸

At minimum, the Bank should have clear investment policies, performance indicators and transparency reporting structures that are independent from political change or whims. The purpose of the Bank as an institution dedicated to funding revenue-positive projects must be maintained, and the Ontario government should encourage the federal government to hold to this mission.

On-Going OCC Work on Infrastructure

The OCC has consistently advocated for trade-enabling infrastructure, including both traditional infrastructure and digital infrastructure such as high-speed broadband internet. Alongside other advocacy organizations, including the Canadian Chamber of Commerce and CivicAction as well as local chambers of commerce and boards of trade, we have recommended that trade-enabling infrastructure be a consideration in policy-making given that both Ontario and Canada's economic competitiveness relies on infrastructure that can connect communities and open access to foreign markets.¹¹⁹

In a recent survey, 65 percent of Ontario businesses reported that roads and highways are the most critical infrastructure needs in their region, and half say that their business is suffering from a lack of investment in infrastructure.¹²⁰ In addition, 30 percent of businesses note that telecommunications is a critical infrastructure need in their region.¹²¹ Competitiveness and the ease of doing business should therefore be a top consideration for government as it allocates infrastructure funding.





Conclusion

Infrastructure forms the backbone of our economy and society. It connects the province's people and businesses, powers our homes and industry and facilitates our access to the world. It directly contributes to the productivity of our workforce. Broadly, it makes our standard of living possible. Continual investment in and renewal of our infrastructure stock is critical to promoting the competitiveness and prosperity of Ontario.

In this report, the OCC outlined a strategy by which the Government of Ontario could enhance the return on the Province's upcoming infrastructure investments.

As we have seen with recent federal infrastructure spending, it is paramount that investment by the Province of Ontario is in line with the principles of sound planning and evidence-based decision-making. Alongside that commitment, work must be done to eliminate silos between levels of government so as to maximize infrastructure investment and reduce wasteful duplication.

Governments must work together to expand the use of public-private partnerships, while making it easier for smaller projects, like those at the municipal level, to attract private sector investment. Procurement must be done with a strategic mindset, based on best practices such as Infrastructure Ontario's AFP model. Lastly, any long-term planning must include consideration for a project's resiliency and adaptability to climate change and population growth.

The OCC urges the Government to give due consideration to the eight recommendations contained within this report as it crafts and implements the 2017 Long-Term Infrastructure Plan. We firmly believe that this strategy will result in a greater return on investment and a stronger Ontario.

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