

INFRASTRUCTURE GOVERNANCE IN CANADA

Seven Fundamentals for Strong
Markets and Community Impact

A photograph of a construction site in winter. Several workers in high-visibility gear are on a bridge deck covered in a grid of rebar. A large yellow crane is positioned in the background against a backdrop of snow-covered mountains.

FUTURE OF
INFRASTRUCTURE
GROUP



"We see massive infrastructure investments within Canada and around the world, we have to make a decision where to focus our efforts and invest in developing our teams for the long-term."

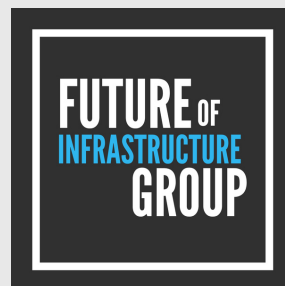
"We look at things like the pipeline of projects. If there are clear opportunities we know if we lose a couple of bids, chances are we will win one eventually."

"If somewhere gets a reputation for cancelling projects, especially far along in a procurement, that is a major red flag. It takes a lot of time, and costs a lot to bid on projects. For big projects procurements cost us millions and people can spend years."

"These projects are complex and challenging enough. Experienced government partners who work collaboratively with you to deliver projects make a place more attractive to work. If we know a government client is difficult to work with, and issues are handled through lawyers, we'd rather not bid."

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ABOUT THE FUTURE OF INFRASTRUCTURE GROUP

The Future of Infrastructure Group brings together industry leaders in the sector to provide a positive, and coherent voice to help governments across Canada deliver the best value from infrastructure investments. To make the most out of Canada's planned investments, this group discusses and shares their expertise on best approaches to prioritizing, planning, procuring, constructing, maintaining, and operating infrastructure.

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EXECUTIVE SUMMARY: INFRASTRUCTURE MARKET GOVERNANCE

Provinces across Canada have committed unprecedented levels of investment in infrastructure. Better infrastructure provides a long-term economic uplift and improves quality of life. Provincial governments understand that sustaining infrastructure spending is important in meeting wider economic, social, and environmental policy goals. To deliver its potential this investment needs to focus on how people will use the infrastructure over its lifetime, how each individual project interacts with others, and finally there needs to a system built that promotes efficiency, collaboration, and innovation.

By focusing on improvements to how infrastructure is planned, procured, and delivered, provincial governments could stretch their spending further and get more value from their investments. This starts with the system that guides and shapes projects from inception through to operations and end of life. For too long the relationship between the public and private sector has been transactional, which has created an often inefficient and adversarial approach to project delivery.

In Canada and internationally, governments are focusing on policies and approaches that are helping to address some of the systemic challenges that are causing project delays, adding costs for taxpayers, and delivering lower quality infrastructure. These changes have had a positive impact on resetting the relationship between the public and private sector that translates to a healthier, more competitive market, better value for government, and higher quality infrastructure for the community.

Fundamentals

1

Long Term Infrastructure Plan: Provides long-term vision for why infrastructure is needed to support the economic success, social wellbeing, and environmental sustainability of a jurisdiction.

2

Evidence-Based Project Selection: Clear metrics, guided by the overall goals of the province or territory ensures projects are well conceived from the start and deliver the most value.

3

Published Project Pipeline: A publicly available list of projects with estimated timings and key details provides certainty for business and enables more coordination across government.

4

Specialist Infrastructure Agency: A government centre of excellence plays a role in planning and delivering the most complex projects and driving innovation across government project delivery.

5

Project Delivery Roadmap: Clear guidance for public sector owners can help improve delivery by providing best practices at every stage, and drive a more collaborative environment.

6

Infrastructure Sector Charter: A commitment to reforms from both government and industry is critical in resetting relationships to drive collaboration and better project outcomes,

7

Digital Commitment: Technology presents an opportunity at every stage of infrastructure lifecycles enabling better designs, more efficient delivery, and reduced operating costs.

INFRASTRUCTURE MARKET STATUS

The following chart shows **publicly available** tools developed by provinces and territories in Canada. Greater transparency of the tools developed helps jurisdictions learn from each other and collectively improve the approach to project planning and delivery.

	Long-Term Infrastructure Plan	Evidence-Based Project Selection	Published Project Pipelines	Infrastructure Agency	Project Delivery Roadmap	Infrastructure Sector Charter	Digital Commitment
Federal	Investing in Canada Plan	Commissioning Policy	Real Property Construction and Maintenance Projects		National Project Management System		
British Columbia		Capital Asset Management Framework Guidelines	BC Major Infrastructure Projects Brochure and Major Projects Inventory	Infrastructure BC and TI Corp			
Alberta	Building Forward, Alberta's 20-Year Strategic Capital	Infrastructure Accountability Act	Alberta Major Projects List	Infrastructure Alberta	Basic Master Specifications		Digital Transformation
Saskatchewan	Saskatchewan Growth Plan (10 years)	Integrated Capital Planning Manual	Major Capital Action Plan	Ministry of SaskBuilds and Procurement	Capital Project Delivery Guide		
Manitoba	Multi-Year Infrastructure Investment Strategy		Manitoba Infrastructure Projects Map		Standard Construction Specifications		
Ontario	Rebuilding Ontario	Infrastructure for Jobs and Prosperity Act	Ontario Builds (and IO Project Pipeline)	Infrastructure Ontario			
Quebec	Quebec Infrastructure Plan (10 years)	Public Infrastructure Act	Infrastructure Project Dashboard	Société québécoise des infrastructures	Governance of Infrastructure Projects	Action Plan for the Construction Sector	Government Roadmap for BIM
New Brunswick		Long-Term Strategic Capital Plan Framework					
Newfoundland	Multi Year Plan for Infrastructure Investments (5 years)	Infrastructure Application Guideline	Inventory of Major Capital Projects		Project Management and Design Administration Manual		
PEI							
Nova Scotia							
Yukon							
NWT		Corporate Capital Planning Process			Good Building Practices for Northern Facilities		
Nunavut							

WHY IT MATTERS

Canada's public sector spends over \$60 billion each year on infrastructure and improved productivity could help to stretch investments further to build more schools, hospitals, or transit. The systems put in place by governments and the environment it creates could yield a major improvement in value that can reverberate across the infrastructure and construction sector.

Systems and processes shape behaviour and markets, and impact the probability of project success. Stable annual investments and certainty on project timelines help companies to manage resources, the alternative is an industry supply chain trying to respond to changing circumstances. This impacts the health of the industry and contributes to challenges within the market. Prior to the pandemic in 2019, construction made up the highest share of insolvencies by sector in Canada with 684. Insolvencies have a knock-on effect, putting pressure on suppliers. Profit margins are thin, according to Statistics Canada 30% of businesses working on heavy and civil projects are unprofitable. Certainty that projects will follow expected timelines helps companies to plan and manage resources better, which ultimately positively impacts project delivery and contributes to a more sustainable market.

Stability of annual infrastructure investment and a strong pipeline of projects helps companies be in a position to invest in talent and technology for the future. Productivity in the construction sector lags behind many other sectors. Although Canada performs well in comparison to international peers, notably the United States, construction productivity is still behind the rest of the economy by 2 percent per year. More stability and predictability enables companies to plan for the future more effectively, giving them greater confidence to invest. There are no silver bullets, but better governance can help create an environment that delivers benefits to governments, industry, and local communities.

Benefits:






- A** A stable, predictable market provides certainty for companies to invest in talent and equipment, and an ability for government to coordinate their investments to meet their policy goals in a more cost-effective way.
- B** Helping to address cost pressures through smarter designs and more innovative methods of construction that reduce time and materials required.
- C** Selecting a bidder in a fair and efficient way to deliver a project based on criteria beyond lowest cost provides scope for innovation and better quality, longer lasting infrastructure.
- D** Delivering projects based on open communication, making decisions quickly, solving problems together, and incentivizing good performance reduces the risk of delays and cost overruns.
- E** Putting emphasis on the whole life and not just construction of infrastructure reduces running costs, delivers more functional working environments, better experiences for end users, and rewards responsible owners who keep their facilities maintained.
- F** Developing skills in the public and private sector to address gaps, improve the likelihood of successful project outcomes, and create well paying jobs across the country.



1 LONG TERM INFRASTRUCTURE PLAN

Infrastructure is a key enabler of economic success, and social and environmental progress. A long-term, evidence-based plan looking 10 years into the future provides a clear direction on the overarching goals of the province and how infrastructure investment can contribute to achieving those goals. These big picture plans include goals that help provide direction across all of government and a yardstick to measure the merits of individual projects against. Plans focus on outcomes such as improved connectivity between regions, improved educational achievement, better access to healthcare, and reduced risk of flooding. The plan should also focus on mapping out the steps needed to improve the planning, delivery, and maintenance of infrastructure to ensure that every dollar invested go further.

Why it matters:

-  Provides consistency and alignment across the public sector to encourage more joined up planning and execution
-  Helps ensure projects contribute to meeting policy goals and deliver wider benefits
-  Provides confidence to the private sector to invest for the long-term within the market
-  Provides basis for prioritizing projects and clarity to other levels of government on how their projects will be assessed
-  Sets priorities around where improvements can be made which will deliver greater value for money

Best Practice Quebec

Quebec releases a rolling updates to its 10-year infrastructure plan each year which provides both long-term visibility and continuity.

Prioritization is built around the current state of assets, with a focus on maintenance over building new infrastructure. It not only covers planned investments by sector, but also outlines how the government is working with industry to address issues with project delivery to help drive more value and reduce the risk of delays and cost overruns. Alberta recently too introduced a 20 year plan that provided a clear direction on what impact they would like to see investment have in the province, and how to improve decision-making and delivery.








Also check out:

- [Australian Infrastructure Plan](#)
- [New Zealand Infrastructure Strategy](#)
- [Netherlands Multi-year Infrastructure, Spatial Planning and Transport Programme](#)
- [NSW State Infrastructure Strategy](#)
- [Western Australia State Infrastructure Strategy](#)

2 EVIDENCE-BASED PROJECT SELECTION

How projects are selected and prioritized ensures investment delivers value, meets needs, and improves people's lives. This process should link to the actual condition of the infrastructure and provincial economic, social, and environmental goals. As different levels of government submit their project business cases, they can use the guidelines to help ensure they understand what makes a submittal compelling, and understand why a project does not meet the criteria for funding. Criteria can be used to encourage positive reform across government. Some jurisdictions have put a requirement to set aside a fixed amount for maintenance, look for coordination opportunities with other departments or private sector partners to help meet wider policy goals and provide greater value. Leading jurisdictions have set up independent bodies to assess projects against government priorities such as the National Infrastructure Commission in the UK, the Michigan Infrastructure Council, and Infrastructure Australia.

Why it matters:

-  A clear process helps to shape thinking early to drive good practices in project planning
-  Help focus investments where they are most urgently needed
-  Reduce unexpected costs from infrastructure breaking down or failing
-  Provide a better experience for people using the infrastructure such as schools, roads, or hospitals
-  Projects not built on sound business cases and that get cancelled undermine trust in the market and ultimately adds cost
-  Clearly stating the benchmarks by which projects are measured ensures that investment supports policy goals and focuses on improving people's lives
-  Criteria for project selection can be a tool to drive improvements in the delivery and maintenance of infrastructure

Best Practice North West Territories

The Northwest Territories Corporate Capital Planning Process clearly sets out how the government will aim to prioritize its capital funding needs based on available resources. It is built on accountability through establishing clear roles and responsibilities, setting accurate timelines for project planning, justifications for projects, and steps to control cost and risk. The government establishes committees to review, rank, and prioritize projects based on set primary and secondary criteria.

Also check out:

- [Green Book \(UK\)](#)
- [Infrastructure Australia Assessment Framework](#)
- [Dutch Gateway Review](#)
- [Public and Private Infrastructure Investment Management Center Process \(Korea\)](#)
- [NZ Gateway Review](#)

3 PUBLISHED PROJECT PIPELINE

A comprehensive, publicly available list of all projects over \$5 million, updated at regular intervals provides many benefits to both the broader public sector and the private sector. This project pipeline should be based on a stable annual budget to help ensure there is a steady flow of work across different sectors. A project pipeline should provide details on sector, location, current status, timeline for procurement and construction, estimated cost range, proposed delivery model, body responsible, and planned market consultations. Details that are not confirmed can be noted as being for guidance until they are confirmed. Changes to the pipeline should be communicated to the market in advance as early as possible to help companies adapt. Provinces and territories can also include long-term projects that are on the radar but not yet far enough advanced, or include unfunded projects that might present opportunities for private finance to play a role in accelerating delivery.

Why it matters:

- ✓ Provides opportunities for coordination between public sector bodies to deliver better value and outcomes for communities, for example by enabling co-location of facilities
- ✓ Aligns with local planning to ensure that development takes place in areas well served by local transit, schools, utilities, and other public services
- ✓ Ensures that there is visibility of what is being built when to help better schedule projects to reduce ebbs and flows in the market, and avoid labour or skills shortages
- ✓ Enables industry to plan to meet capacity over multiple years knowing where work will take place, number of projects, type, and scale
- ✓ Provides certainty and builds confidence in the market that enables companies to invest in skills development, equipment, and innovation

Best Practice British Columbia

The BC Major Infrastructure Projects Brochure provides details on projects over \$50 million from an early planning stage through to pre-procurement, and procurement. The brochure includes projects from the Province of British Columbia as well as from other public sector bodies in BC such as BC Hydro, Translink, and Metro Vancouver. It provides high level details on sector, government owner, located, anticipated dates for procurement and construction, cost indicators, and delivery model. BC also publishes a quarterly list of all projects public and private over \$15 million through their major project inventory. Ontario also has a long established pipeline, which up until now has been focused only being delivered with involvement of Infrastructure Ontario.





Also check out:

- [Australia & New Zealand Infrastructure Pipeline](#)
- [India Investment Grid](#)
- [National Infrastructure and Construction Pipeline \(UK\)](#)
- [Construction Project Forecast Tool \(Scotland\)](#)

4 SPECIALIST INFRASTRUCTURE AGENCY

Responsibility for project planning, procurement and delivery is spread across different organizations and levels of government. An organization within government responsible for improving coordination, and performance can help to significantly raise standards and improve the value to end users and tax payers from infrastructure investment. This group should be a centre of excellence for government and take a leadership role in complex projects and programs, driving innovation and best practice adoption. They should also work with other organizations within government to build capacity and effective tools, training, and processes that should be used across the public sector. Many places have two such agencies, one with a focus on long term planning and assessing the merits of projects; and the other focused on procurement and delivery.

Why it matters:

-  **Greater consistency of processes to help build trust and reduce time on project administration**
-  **Ownership for a process of continuous improvement that can drive best practice adoption across government**
-  **More dedicated skills in the public sector to deliver complex, major projects and reduce project risk that cause delays and cost overruns**
-  **More coordination across departments and different levels of government**

Best Practice Ontario

Infrastructure Ontario acts as the procurement and commercial lead for many major public infrastructure projects in the province. The agency primarily focuses on larger, more complex projects and programs, working in partnership with other public sector organizations. Recently Infrastructure Ontario has played a more active role in finding solutions to some of the more pressing challenges such as access to long-term care beds and access to broadband in rural communities. There are other strong examples across Canada with organizations such as the Ministry of SaskBuilds and Procurement, Infrastructure BC, and the Société québécoise des infrastructures, all playing important roles as centres of excellence within government.

Also check out:






- [Infrastructure and Projects Authority \(UK\) and National Infrastructure Commission](#)
- [Scottish Futures Trust](#)
- [Infrastructure NSW and Infrastructure WA](#)
- [Infrastructure and Commercial Advisory Office and Infrastructure Australia](#)



5 PROJECT DELIVERY ROADMAP

Large, complex projects are becoming increasingly common in Canada, but even smaller projects can present challenges for inexperienced owners. Steps taken early on in planning have the biggest impact on the overall success of the project. A clear guide that sets out policies and guidelines for assessing, procuring, financing, and delivering projects would help provide a common best practice approach across publicly funded projects in the province. Importantly this roadmap should include gates along the project timeline stating progress requirements that need to be met before a project is ready to move to the next stage. The roadmap can also provide a home for tools and templates to help implement the guidance in planning, procuring, and delivering projects, providing greater consistency and efficiency in project planning and delivery.

Why it matters:

-  Provides a solid foundation for good project management from the outset to reduce risk
-  Helps reinforce good practice and collaboration as a foundational principle of infrastructure delivery
-  Provides a consistent process for major projects to avoid unnecessary steps
-  Enhances capabilities of public sector project teams to steer project delivery and provides protection that projects can only proceed when they are ready
-  Helps learn from previous mistakes that have caused delays to improve overall processes

Best Practice Saskatchewan

Saskatchewan developed a Capital Project Delivery Guide as a tool for public entities to manage capital projects after project approval. It provides tools, templates, and best practices to help achieve the project's desired outcome. It touches on many key themes that impact all projects in some way and can be adapted based on project size. Saskatchewan also has a number of guidance documents around procurement, and provides training courses around procurement best practices for government employees.





Also check out:

- [UK Construction Playbook and Project Initiation Routemap](#)
- [Delivering Outcomes](#) (Australia) and [Decision Making Principles](#)
- [Standards of Good Practice](#) (NZ)

6 INFRASTRUCTURE SECTOR CHARTER

The successful delivery of infrastructure relies on a collaborative relationship between the public and private sector, and across the supply chain. Shared commitments and responsibilities in areas such as project planning, procurement, risk, contract management, rewarding performance, and skills development and diversity can reap dividends by improving previously adversarial behaviour. By setting out expectations and shared principles it helps provide the basis for a more productive relationship that will see public and private sector working together and focusing on what they do best. Charters outline commitments to change in areas that have become ingrained that demonstrably cause adversity and inefficiency. Many jurisdictions set up standing industry groups to liaise with government to develop shared sector-wide commitments and to drive progress.

Why it matters:

-  Provides a basis for a more collaborative approach that will reduce project risks that can lead to delays and added costs
-  Sets clear expectations across organizations in the public and private sector on reforms that drive more positive project outcomes
-  Instills good practices as the norm and reduces issues arising that need to be escalated or go through legal channels
-  Improves productivity that spreads across wider construction sector

Best Practice Quebec

Quebec's Action Plan for the Construction Sector aims to support and develop market capacity to deliver Quebec's infrastructure projects. The plan covers five main categories: acceleration of the Quebec infrastructure Plan through focus on approval processes and regulatory measures to make contract adjudication more flexible; refining terms and conditions of calls for tender and project management; access to labour; increased productivity for the sector; and support for small and medium businesses. To date Quebec is the only province in Canada to publish such a plan for the sector.







Also check out:

- [NSW 10 Point Commitment to the Construction Sector](#)
- [New Zealand Construction Sector Accord](#)
- [Scottish Construction Accord](#)
- [Construction Leadership Council](#)

7 DIGITAL COMMITMENT

The performance of the sector could be transformed by greater use of data and digital tools at every stage from planning, through to operations and maintenance of buildings. Processes can still be very paper-based, or disjointed with important information contained across individual drawings and documents. Better collection and use of data should align with international standards to better compare approaches and feed learnings to drive greater productivity. Technology and data can help make processes and decision-making become more evidence-guided and systematic, and improve visibility on the status and issues facing a project at any given point in time. Many governments, including Quebec, now require the use of Building Information Modelling on their projects to enable architects, engineers, contractors, and government to work from one 3D model.

Why it matters:

-  Better information management improves productivity and yields direct cost savings
-  Provides greater visibility to project managers and government
-  Improves coordination on the project at every stage from planning, design, construction, and operations
-  Avoids errors and defects in construction that cause delays and add costs
-  Creates an understanding of impacts on lifecycle, end use, and emissions of project choices from the design and procurement stage
-  Improves infrastructure operations and maintenance and reduces lifecycle costs through guiding predictive maintenance

Best Practice Quebec

Quebec launched its roadmap for Building information Modelling in 2021 with specific plans to accelerate its adoption within provincial government ministries, at Hydro Quebec, and in both Montreal and Quebec City. The shift is identified as a key way to raise industry productivity, address labour shortages, and attract talent. The province has also provided funding to set up [l'Initiative Québécoise pour la Construction 4.0](#) to support the digital shift across 350 companies in the construction sector. Alberta has also released a series of guidance documents for digital transformation covering the use of Building Information Modelling, asset information, and collaboration. Ontario recently announced a commitment to leverage more technology in infrastructure planning, delivery, and operations in its 2023 budget.

Also check out:

- [Integrated Digital Delivery Framework Singapore](#)
- [Roadmap to Digital Transition \(Ireland\)](#)
- [Iowa DOT Strategic Plan for Digital Delivery](#)
- [UK BIM Framework and Digital Built Britain](#)



CONCLUSION

With huge investments coming in the United States it is important that Canada builds a strong system that promotes stability, enables companies to compete on value and innovation, and focuses on improving delivery across the project lifecycle in order to remain an attractive place for companies to invest and operate. Strong project governance that lays out a comprehensive approach to build an evidence-based, independent approach to planning and delivering infrastructure will provide greater value for investment, improve the health of the market, and ensure companies can be profitable. There are many lessons to learn from jurisdictions within Canada, and clear opportunities to work together based on the leadership demonstrated.

As many provinces and territories have established tools and processes that can lead to good project outcomes there are always opportunities to evolve and improve by learning from each other. This analysis was based on publicly available information, there may be great tools and processes developed, but by sharing them it accelerates the development of best practices in Canada that can benefit all.

Key takeaways:

- 1** A robust, stable project pipeline that provides confidence to the market, a steady flow of work and government spending, and visibility across government for better planning and staging of projects
- 2** Development and continual improvement of best practice approaches and tools to support project delivery and grow expertise to give projects the best possible chance of being delivered on time and on budget
- 3** Focus on transparency and dialogue between governments, and with industry, to share and build on best practices and drive up standards for project planning and delivery across Canada





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