

# GETTING OFF THE PROJECT ROLLER-COASTER

Building Strong  
Infrastructure Markets

**CANADA-US**  
**INFRASTRUCTURE**  
 **COUNCIL**



*Infrastructure Policy  
& Governance*

# TOWARDS GREATER CERTAINTY

## **Major infrastructure projects**

are delivered over many years and require major investments in skills and equipment from companies in the sector. Political and infrastructure timelines often do not work well together and have led to many cancelled and severely delayed projects over the years. With project funding rising and falling often around political cycles it becomes a roller coaster, making it difficult to plan long-term and invest in the skills and technology needed to drive productivity improvements in the sector.

A clear, evidence-based approach to prioritizing infrastructure ensures that the risk around projects being cancelled or delayed is significantly reduced. As this report shows, these practices are becoming more common in North America.

Uncertainty is very challenging for companies in the infrastructure sector. For a major project such as a large bridge or transit line, participating in a procurement process can cost millions and absorb the time of critical employees, without any guarantee of winning work. Unstable markets that become known for project cancellations or frequent delays become less attractive places to bid and the best talent is often posted to other locations or industrial and commercial projects as a result. For Canada and the United States, the multiple layers of government and their respective elections add significant risk and uncertainty.

Another issue created by political cycles is the undulating nature of funding for infrastructure. Infrastructure funding typically ramps up before elections and is scaled back shortly after, often as budgets are raided to plug gaps in funding for service delivery. In reality this means as work dries up, companies delivering the infrastructure are forced to lay off workers and cut back on investment in new equipment or technology. This uncertainty also ripples all the way through the construction supply chain.

Across the United States and Canada state and provincial governments are developing more structured approaches to infrastructure planning and delivery. These approaches are building more solid foundations for a strong, innovative infrastructure market that can deliver greater value for taxpayers and better services for people.

This paper explores some leading practices across provincial and state governments in North America and examines the approaches from Australia and United Kingdom to long-term planning and prioritization.

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## ABOUT THE CANADA-US INFRASTRUCTURE COUNCIL

Governments at all levels in Canada and the United States are looking for ways to improve the quality of infrastructure with major funding commitments promised. There are many examples of innovative approaches and policies that are currently in use that can be adapted and drive more value. The Canada-US Infrastructure Council (CUSIC) aims to promote best practices, bilateral dialogue and cross-border collaboration.

**CUSIC is an initiative of the US Consulate Toronto and the Infrastructure Lab**

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# KEY PRINCIPLES FOR INFRASTRUCTURE INVESTMENT

What companies look for in a good public infrastructure market:

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**1**

## **Focused**

based on clear objectives and goals that ensure that investments deliver benefits for the people using the infrastructure.

**2**

## **Transparent**

sharing information openly, and laying out why a project is a priority promotes better decision-making and helps industry plan for the future.

**3**

## **Independent and Evidence-Based**

developing plans and priorities around independent, evidence-based advice makes a strong case for the infrastructure need

**4**

## **Clear Process**

a clearly defined process for identifying and evaluating priorities, with opportunities to provide input and allowing for political scrutiny builds consensus on projects.

**5**

## **Stability and Certainty**

long-term, multi-year planning and funding underpins a strong infrastructure market and provides confidence throughout the infrastructure supply chain.

# THE INFRASTRUCTURE ROLLER COASTER

# 1

## PRE-ELECTION

government spending ramps-up as election approaches as there is greater comfort with project priorities and a desire to demonstrate local work being carried out. Companies try to rapidly hire and train skilled talent to complete work and project prices go up.

# 2

## POST-ELECTION

spending falls as a change in government brings different priorities and reviews of current projects. Re-elected governments scale back investments without election impetus. Fall-off in work means workers laid off and contracts with supply chain cut back.

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# BEST PRACTICES ACROSS NORTH AMERICA

## *Number 1*

### INFRASTRUCTURE LEGISLATION

A first step towards reducing any political risk around infrastructure planning is to formalize by law the principles and processes so that they are accepted across political lines. By laying out rules in legislation provides clarity and alignment on how priorities should be determined. If projects are prioritized based on agreed principles, backed by evidence, they are much more likely to survive any change in government.

### *Learning from Ontario and Quebec*

Ontario's *Infrastructure for Jobs and Prosperity Act* establishes mechanisms to encourage principled, evidence-based long-term infrastructure planning that supports jobs, economic growth and protects the environment. It sets out requirements for publishing long-term infrastructure plans, puts asset management plans at the centre of infrastructure planning, and gives guidance on evaluation criteria to determine priorities.

Quebec's *Public Infrastructure Act* is more process focused and sets out clear governance rules for public investments in infrastructure. It requires the production of a 10-year plan, and that all departments and public bodies produce asset management plans annually to guide decision-making.

### *Learning from California*

The Strategic Growth Council in California was created in 2008 and is made up of various state agencies with a vision to promote sustainability, economic prosperity and quality of life for Californians. Their goal is to improve water and air quality, improve natural resource protection, strengthen the economy, increase affordable housing, promote public health, improve transportation, revitalize urban centres, and encourage sustainable land-use planning. By law the Council must review and comment on the governor's annual infrastructure plan to ensure it aligns with their vision. It also recommends policies and investment strategies to the Governor, Legislature and state agencies, and helps improve capacity of local levels of government through sharing data and information.

## *Number 2*

### GOVERNMENT VISION

Infrastructure is one of the means by which public services are delivered and economic prosperity is enabled. As such, assets should be built with the intention of servicing a social or economic need that aligns with the long-term growth and the wellbeing of the nation, communities and businesses. By outlining a clear vision, it helps guide which physical infrastructure will be needed to meet those needs. It also sends a clear message to industry on what types of projects are a priority and what additional factors, such as skills development or environmental performance, will be determining factors in selecting winning bidders for future projects.

*Number 3***INDEPENDENT  
EXPERTISE**

An independent panel of experts provides a more technical perspective of what infrastructure is needed to meet social and economic needs. It can bring together a range of different skills to identify infrastructure that would most effectively deliver on the government vision. This is an increasingly common approach as it helps to take some of the political risk out of project selection.

*Learning from  
Michigan*

The Michigan Infrastructure Council was developed as a result of an extensive consultation called the 21st Century Infrastructure Commission. The MIC is made up of nine voting members from the public and private sectors, and nine non-voting members representing relevant state agencies. The voting members serve three-year terms with members being appointed by the Governor, the Senate Majority Leader, the Speaker of the House, the Senate Minority Leader, and the House Minority Leader and must have expertise in planning, design, construction, management, operations, maintenance, finance, procurement, or regional planning. The MIC is mandated under law with collecting data and developing a statewide asset management database, and producing a 30-year infrastructure investment strategy for the state.



*Number 4***COORDINATING  
BODY**

Infrastructure procurement and spending are spread across different government departments and agencies, resulting in capabilities and investment capital being dispersed across government in a sub-optimal way. Some governments have departments or ministries of infrastructure, or specialist agencies to help get the most out of infrastructure investments and ensure that efforts are coordinated, and there is continuous improvement. In many cases infrastructure is delivered by different government bodies which can lead to different processes, and inconsistencies. One ministry or agency should not necessarily deliver all capital work, but could look to drive greater coordination, and deliver more value and innovation. Independent oversight of investment decisions and project delivery is essential for high-performing government infrastructure programs.

*Learning from Ontario  
and Utah*

For complex projects, Infrastructure Ontario is the procurement and commercial lead in the province, providing access to expertise to help ensure larger projects are delivered successfully. The Building board in Utah has a number of core responsibilities with a mandate to provide quality facilities on time and on budget. This includes annually updating 5-year building plans reflecting present and future needs, allocating budgets and determining budget impacts, establishing design criteria, standards and procedures for new constructions, establishing operating and maintenance standards for state facilities, and reviewing and approving state agency master plans. More practical support and knowledge is provided by the state's Division of Facilities Construction & Management.

*Learning from D.C.*

The District of Columbia developed a detailed inventory of all assets to assess what assets they own, their current state, how to prioritize spending, and the funding available to address needs. This helps provide robust data to plan for the future, and provides greater understanding of the true costs of maintaining current assets. This information is the basis of their Capital Asset Replacement Scheduling System, a central database which as of 2018 covers all district-owned assets including land, buildings, roads, vehicles and equipment. The data is being further developed to incorporate more information on the condition of these assets. This inventory guides the government's annually updated Long-Range Capital Financial Plan produced by the Office of the Chief Financial Officer, and is being integrated with population development trends to identify where to invest in new assets and infrastructure.

*Number 5***INFRASTRUCTURE  
AUDIT**

Knowing the current state of infrastructure helps ensure funding is directed where it is most needed. This is an evolving area as governments look to take stock of the state of their infrastructure assets. At a basic level this means recording the characteristics of assets, including location, design and age, then moving towards recording the true condition based on maintenance records and visual inspections, with the most sophisticated owners using a technology and data-based approach and set standards for measurement. The more accurate this data, the more robust the case for investment, and the better value governments can get from targeting their infrastructure spending.



*Number 6*

## PUBLISHING A LONG TERM PLAN

A long-term infrastructure plan should align with an economic vision and the delivery of public services where they are most needed. Many jurisdictions now produce 5-year plans, some have 10-year plans, the UK produced a 30-year plan, and Australia even produced a 50-year plan. This provides confidence that the government is committed to investing in infrastructure in the long-term. In many cases there is no clear, overarching plan that covers all public infrastructure but individual departments or agencies may publish their own plans, and some may only outline their expected investments for the year ahead.

### *Learning from Quebec*

Quebec is required by law to produce a 10-year Quebec Infrastructure Plan which it updates annually through their specialist infrastructure agency the Société québécoise des infrastructures. The plan is built around asset management plans drawn up by each government department and public body involved in delivering infrastructure. This ensures priorities are based around the actual infrastructure conditions and requirements for service capabilities moving forward. The plan prioritizes asset maintenance and replacement, and a rigorous approach to planning new major projects. Critically it maintains a consistent level of funding from year to year between C\$8.6 and C\$10 billion. This plan is at the heart of a more robust approach to better governance and transparency around infrastructure. Alberta is also looking at producing a 20-year capital plan.



*Number 7***UPDATED  
PROJECT  
PIPELINES**

Publishing detailed pipelines of infrastructure projects holds governments to account and provides certainty to companies bidding on work. For companies, especially those entering a new market, knowing that there are a number of projects to bid on provides reassurance that they can invest in the market knowing that they have a greater chance of winning work eventually. This pipeline should be updated regularly to give clarity to the supply chain to help with their business planning, be as detailed as possible, and be publicly available.

*Learning from British  
Columbia and Alberta*

British Columbia publishes the BC Major Projects Inventory on a quarterly basis through the province's Ministry of Advanced Education, Skills and Training. The MPI lists all public and private sector construction projects in the province with an estimated capital cost of over C\$15 million with a pipeline of almost 1,000 projects currently valued at over C\$400 billion. The MPI provides a brief project description, current status, anticipated start and completion dates, and estimated costs. The Province of Alberta, also in Canada's west, publishes all its major projects valued at over C\$5 million that were recently completed, are under construction, or are due to start construction in the next two years.

*Learning from Oklahoma,  
New York and Virginia*

Oklahoma's Long-Range Capital Planning Commission developed a scoring framework to evaluate and prioritize projects. The principles-based evaluation is based on nine criteria: impact on capital costs; impact on operating costs; opportunity to leverage other sources of funding; legal obligations; impact on service to the public; urgency of maintenance needs; prior phases completed; agency mission and strategic goals; and health and safety. New York has ten criteria for evaluating infrastructure projects funded by the state as well as specific procedural guidelines that look at factors like maintenance, location, coordination between government departments, community engagement, mobility, and sustainability. Virginia's Department of Transportation developed SmartScale to transparently evaluate priorities looking at issues like road safety, congestion, economic development, and environmental impacts.

*Number 8***EVALUATION  
CRITERIA**

Clear evaluation criteria and a strong business case provide clear reasons and data on why projects are priorities. There is no easy way to directly compare a transit line to a new school, but providing a framework builds public understanding and political consensus. State and provincial governments are developing more data-driven, evidence-based approaches to evaluating priorities that are linked to the current state of the infrastructure and future needs.

## Number 9

# CLEAR, CONSISTENT PROCESS

A structured process for selecting priorities is critical to ensuring that infrastructure projects stand up to scrutiny if there is a change in government. If each project is fairly assessed in a transparent and consistent way, with an opportunity for political scrutiny from the legislature it provides more legitimacy to projects that have been put forward. For major priority projects such as Crossrail and HS2 the United Kingdom introduced specific hybrid bills in parliament that could ensure the projects received cross-party support.

## *Learning from Quebec and Oklahoma*

Quebec has a highly structured process where a preliminary project sheet is put forward, if Cabinet approves it the project is considered “under study” and an opportunity case is developed. The opportunity case helps assess the project’s relevance and ensures it is the best long-term option for meeting a need. If the opportunity case is approved the project moves into planning phase where a business case is developed, if this is then approved it moves into the execution phase.

Oklahoma’s Long-Range Capital Planning Commission is an appointed group of eight experts with experience in asset management and capital finance. They are responsible for putting forward an 8-year plan with priority projects listed which is submitted to the state legislature. Legislators have 45 days when they can remove projects from the list, but are not able to add any projects.

## *Learning from British Columbia*

Partnerships BC in British Columbia has a long track record of undertaking and publishing project reports upon completion. These reports examine the value for money achieved, draw out lessons learned from each project, and highlight potential best practices. These reports have also often been signed off by the province’s Auditor General. Partnerships BC also provides an easily accessible trove of project information to make learning from one project to the next much easier.

## Number 10

# LEARNING AND IMPROVING

Continuous improvement is an important element of any successful infrastructure program. There is much to learn from individual projects that can benefit other specific projects and improve overall processes to ensure that they are delivering what they are designed to do. By not undertaking a project assessment an opportunity is missed that could see mistakes repeated and money wasted. Many jurisdictions will undertake ad-hoc assessments of project success, but greater benefits are derived from a more systematic approach.

# INTERNATIONAL APPROACHES

There are examples of leading jurisdictions around the world, including places such as the Netherlands, Singapore and New Zealand. Drilling down, both Australia and the UK have been amongst the most active at putting in place structures, processes and policies that have helped to improve infrastructure delivery at the national level.

This has filtered down to other levels of government within both countries who are establishing long-term plans, and building better governance, expertise and policies on infrastructure planning and prioritization. They have long-term plans in place, use independent experts and panels to steer the process. They have frameworks in place to look at the business case for investing in a particular project over another, and make that information available publicly.

Although it is very difficult to completely insulate projects from changing political landscapes, the steps taken by the UK and Australia have certainly helped. Of projects listed on the UK's long-term national priority infrastructure list, 98 percent have been delivered or are on track to be delivered since 2010.

Despite relatively frequent changes in government and a similar federal structure to the U.S. and Canada, Australia is seen as an attractive, low risk destination for infrastructure investors.

The main elements of their infrastructure policies are outlined below:



# UNITED KINGDOM

## 1. Construction 2025

provides a shared vision on where the industry should be in 2025 with a focus on innovation, talent and sustainability. The goal is to reduce costs by one third and half the delivery time on projects.

## 2. National Infrastructure Assessment

looked at the UK's future economic infrastructure needs up to 2050 and made key recommendations for delivering transport, energy, digital networks, reducing waste, and identifying funding approaches.

## 3. National Infrastructure Delivery Plan

sets out major projects and programmes, policy milestones, and details of the government's efforts to improve prioritisation, performance and delivery of infrastructure.

## 4. National Infrastructure Commission

provides the government with impartial, expert advice on major long-term infrastructure challenges, has freedom and autonomy to identify on the infrastructure of most value to the economy and people in the UK.

## 5. Infrastructure and Projects Authority

the UK Government's centre of expertise for infrastructure and major projects it aims to continuously improve the way infrastructure and major projects are delivered.

## 6. Project Initiation Routemap

is a process that outlines key considerations for initiating major projects and includes tools and guidance to help manage complexity and builds more robust business cases.

## 7. National Infrastructure and Construction Pipeline

published annually, it details planned public and private infrastructure and construction investment over the next 10 years.



# AUSTRALIA



## 1. Australian Infrastructure Audit

provided a top-down assessment of the value-add, and economic contribution of infrastructure, looks at future demand, and provided an evidence base for further gap analysis, long term planning and future investment priorities.

## 2. Australian Infrastructure Plan

a 15-year rolling infrastructure plan that sets out challenges and opportunities Australia faces and solutions to drive productivity growth and maintain and enhance living standards.

## 3. Infrastructure Australia

is an independent statutory body with a mandate to prioritise and progress nationally significant infrastructure, providing independent research and advice to all levels of government.

## 4. Assessment Framework

sets out how initiatives and projects are assessed, helping guide proponents in developing submissions to become priorities and lays out a clear process for projects to be considered for the priority list.

## 5. Decision-making Principles

sets out to ensure major infrastructure investments deliver the best outcomes for the community and the best value for taxpayers and to provide greater transparency and accountability.

## 6. The Infrastructure Priority List

lists 100 priority projects and proposals of national significance. They are supported by robust business cases and represent the infrastructure Australia most needs over the following 15 years.

## 7. National Infrastructure Construction Schedule


contains information on all infrastructure projects over \$50 million from national, state, territorial, and local government. Separately the Australia and New Zealand Infrastructure Pipeline is published by an Australian think-tank.

## 8. Post Completion Analysis

to ensure lessons are learned from each project, there is a process of post completion analysis that looks at the expected costs and benefits against what was delivered. This helps to improve the process and share learnings across projects.



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