



Communities at risk

Aging infrastructure
is overwhelming
Canada's cities



Acknowledging and discussing the "big picture" will put us on the road to recovery

Despite recent distractions, the clock is still ticking on Canada's municipal infrastructure. That is, while the country is renowned for world-class communities and its enviable quality of life, stats¹ show that 13% of Canada's core municipal infrastructure assets (e.g., roads, pipes, treatment plants) are in significant decay and considered unreliable or unfit to meet our current needs. And as infrastructure needs and backlogs continue to grow, municipal leaders are challenged to act now or face significant risks.

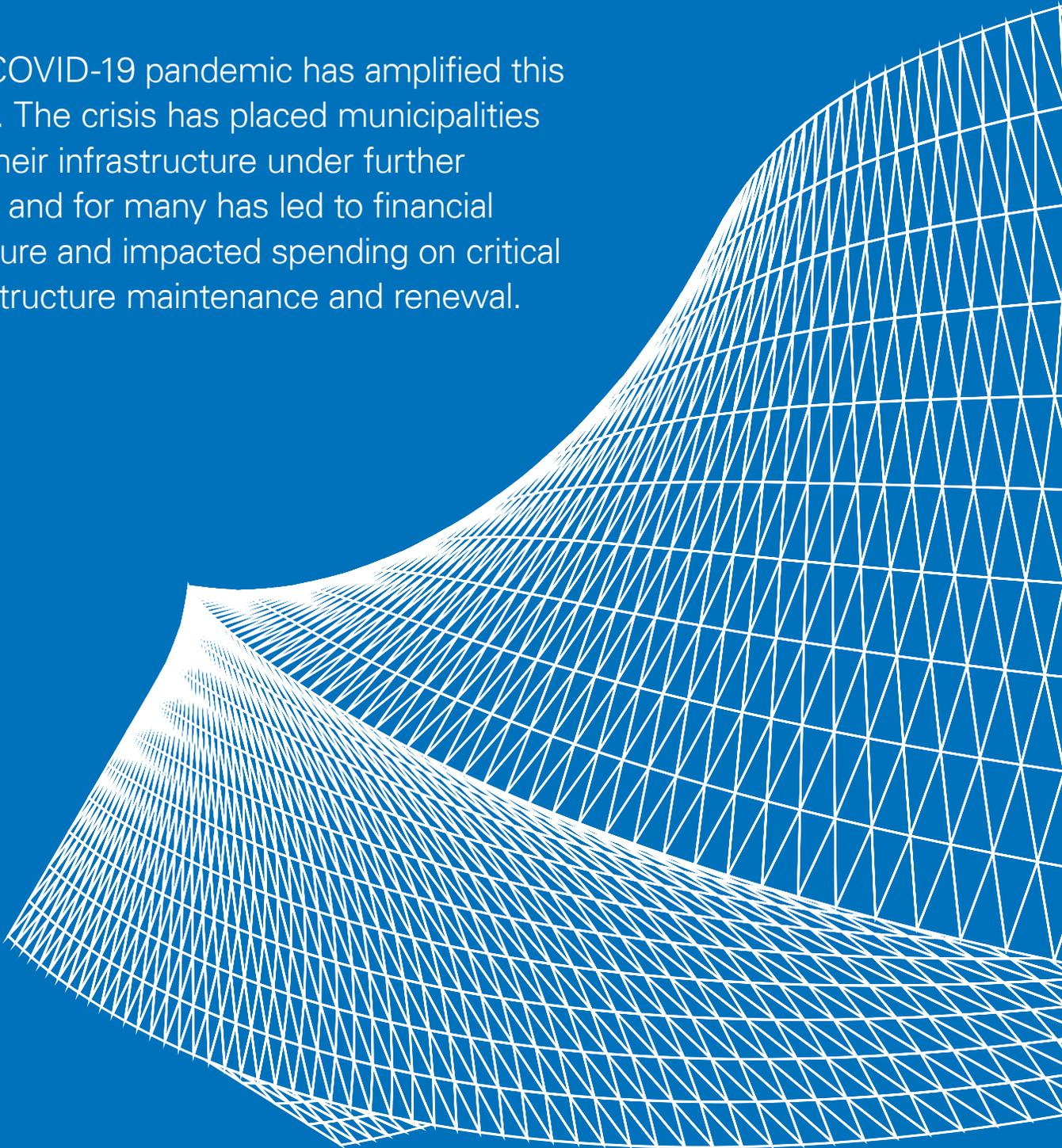
The COVID-19 pandemic has amplified this issue. The crisis has placed municipalities and their infrastructure under further strain and led to the delay of spending on critical

infrastructure maintenance and renewal. Moving forward, the coronavirus will continue to impact how we live, work and play in our communities, requiring a further modernization of the asset needed to support these everyday activities.

The risks of inaction cannot be taken lightly. Aging infrastructure has the potential to make municipal services less reliable, less effective and more costly to deliver. What's more, the growing cost of closing the infrastructure gap places significant strain on city budgets, leading to an ongoing cycle of deferrals and backlogs that can never be overcome. Over time, the aging city infrastructure can have costly impacts to both government and citizens.

¹ <http://economistesquebecois.ca/app/webroot/files/documents/b8/95/8mai-saeed-mirza.pdf>

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Many factors at play

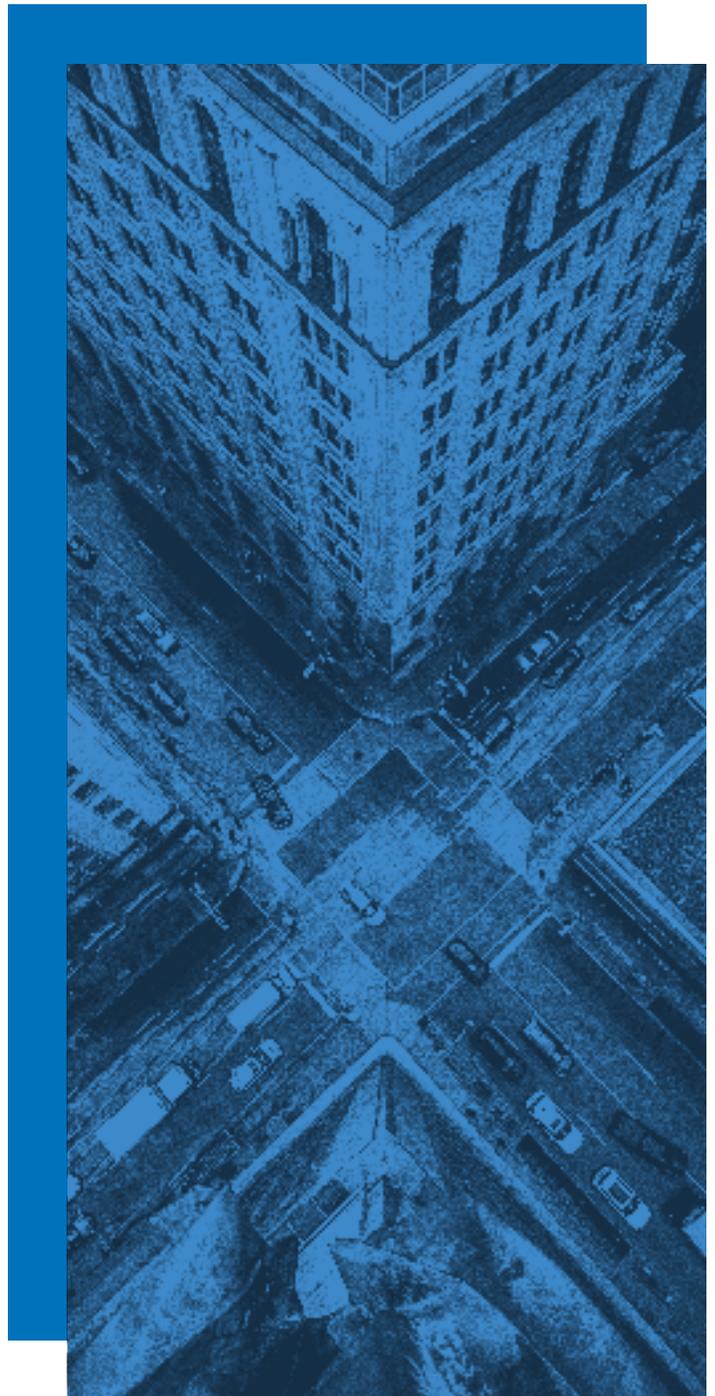
Many factors are converging to form a "perfect storm" of asset renewal challenges. In addition to ongoing financial pressures and growing population needs, the COVID-19 pandemic is forcing municipalities to squeeze more value from their already strained asset base. For some, this has meant putting preventative maintenance and needed investment on hold — a move that can lead to greater issues, risks and liabilities down the road.

Current environmental conditions and social drivers are also playing their part. The surge of extreme weather events and natural disasters has further stressed our existing infrastructure systems, resulting in service disruptions, setbacks in our economy, and damage to public and private property. According to the Canadian Infrastructure Report Card, it is estimated that cities will need more than \$5.3 billion over the next decade to mitigate the impacts of climate change², which will only amplify budget challenges and compound service risks.

We cannot dismiss the social and demographic factors driving infrastructure demand. Evolving public preferences, pressures and utilization needs are pushing many municipalities to prematurely invest in asset renewal and augmentation. This trend will only increase as we move to adapt to post-pandemic life.

Demands for more modern, aligned and eco-conscious amenities are also growing, resulting in the crowding and overuse of new facilities while leaving many older assets to languish and rust. Naturally, being all things to all people isn't financially feasible, and difficult decisions will need to be made to right-size and shift our portfolios to best serve the public good.

All combined, these economic, environmental, and social conditions make renewing Canada's municipal infrastructure a formidable task. Promisingly, however, there are strategies to turn the tide.



² <https://fcm.ca/en/focus-areas/infrastructure>

Taking action

Estimates of Canada's infrastructure deficit vary widely, averaging at more than \$150 billion. Given that municipalities own and maintain nearly 60% of Canada's core public infrastructure, city leaders and asset managers are at the frontlines of this challenge.

It would be reassuring if the answer were as simple as replacing more assets. In reality, current backlogs have by far outstripped our means, and eliminating this deficit is no longer financially feasible, even for Canada's richest communities. As it stands, addressing the erosion of Canada's municipal assets will require tough choices from our civic leaders, as well as a willingness to look beyond traditional "more is better" strategies to those which focus on what really matters.

With no shortage of needs, targeted investments will be critical to protecting key municipal services now, while positioning to meet the longer-term needs of our communities. Better decisions are possible; however, these will require municipal leaders to think holistically and use data in guiding their next steps.

- 1. Setting the framework**, by introducing rigor and consistency in how needs and priorities are identified and set. Clarity around the approach, criteria and governance are needed to create a level playing field on which informed and effective plans and decisions can be made.
- 2. Creating alignment**, by mapping the relationships between physical infrastructure assets and the frontline services they support. Only by uncovering these linkages and by communicating them openly will we be able to engage in meaningful and transparent discussions with leaders and stakeholders.
- 3. Being selective**, by honestly considering which services are and aren't essential to community safety and wellbeing. Resources are limited and accepting that we have flexibility in delivering many of our services will be key to determining infrastructure needs and priorities going forward.
- 4. Minding the gap**, by understanding and using risk to target capital and operating investments where they matter most. The key to this is recognizing that Canada's aging infrastructure problem has progressed beyond the point where communities can simply "catch-up" on deferred investment and accepting that some level of risk tolerance is needed to deliver on our needs in a cost-effective manner.
- 5. Building resiliency**, by giving due consideration to how infrastructure and its internal and external drivers will change over time. After all, change is constant, and many of our assets have been built for conditions that no longer exist. Therefore, planning and building assets for today will leave us ill prepared for tomorrow.

The road to recovery

Aging municipal infrastructure is a snowballing problem for all. Changing conditions and underinvestment in maintenance and renewal are overstressing city assets, driving up costs and leading to the erosion of the frontline services they support. Many of our old ways of doing business of thinking are no longer working and fresh mindsets are required to reverse this trend.

The good news is that many Canadian municipalities are taking meaningful steps to move beyond these issues and position themselves for future success. By embracing robust and consistent planning and decision-making and focusing spending on current and future risks to service delivery, they are driving value and creating measurable outcomes for their communities. While their problems are far from solved, progress is being made.

Change is long and never easy, but every journey starts by taking the first step.



Leading the way

Despite growing concern, there is hope for communities facing aging infrastructure challenges. Ahead, we are pleased to share a few stories from jurisdictions that have turned the corner and are gaining ground.



The City of Winnipeg

Winnipeg's evolution is marked by periods of early growth, with much of the City's core footprint being developed between 1900 and 1930 and throughout the 1950s. A drive to enhance the City's economic competitiveness beginning in the late 1990's and through the 2000's earned it some of the lowest property taxes in Canada, but limited revenues made it difficult to keep up with much-needed infrastructure renewal and replacement. As a result, today's leaders were left to deal with a structural deficit and significant backlogs of deferred maintenance.

Faced with its aging infrastructure challenge, the City of Winnipeg embarked on a multi-year journey to standardize and enhance its approach to asset management, investment planning and decision-making. While each of its departments had plans and strategies for managing their various pieces of infrastructure, these lacked a common vision or alignment on what they were trying to achieve. The roll-out of a city-wide approach to investment planning and decision-making — structured around robust value-for money analysis — was instrumental in getting everyone to “talk the same language” and work in a common direction.



With everyone identifying and presenting departmental needs and budget requests using a similar set of goals and criteria, it became possible to evaluate needs on an apples-to-apples basis and identify priorities that offered the best value for Winnipeggers. Guided by this approach, leaders are now bringing aging infrastructure issues into the spotlight and using data to quantify and communicate infrastructure issues to the City Council, the public and stakeholders. By enhancing the consistency, transparency and defensibility of the information being presented, the City has started to de-politicize the budget process and transition to a four-year budget that targets needed outcomes. It is also using regular reporting to manage expectations, track progress and demonstrate results.

Like most Canadian municipalities, the COVID-19 pandemic has led to massive disruptions for the City of Winnipeg. Managing this crisis has required many service adjustments and led to increased costs and shrinking revenues that have placed the City in a difficult financial position. Even still, Winnipeg's robust and transparent approach to investment planning and decision-making has been instrumental in helping the City and its leaders weather this storm. Having a four-year budget window and clear understanding of infrastructure drivers, needs and priorities has given the City the insight and agility to defer or restructure spending to create flexibility while also minimizing citizen impact.

The City of Cornwall

Cornwall is Ontario's easternmost city, located on the St. Lawrence River, where it serves as the urban hub for many smaller communities throughout the region. With roots dating back to the 1830's, Cornwall underwent a significant growth period in the late 1800s and early 1900s driven by canal and railway development and industrial expansion. While many of its original assets have long since been replaced, the City is no stranger to aging infrastructure and the need for ongoing investment to sustain its assets and enable effective local service delivery.

Despite the financial pressures facing all municipalities, Cornwall credits the early adoption of integrated asset management thinking in being able to coordinate and manage the infrastructure maintenance and renewal requirements needed to maintain safe and reliable service. While practicing forms of asset management for many years, the term was not widely used by the City until 2006, with the introduction of its first Asset Management Report and subsequent Critical Infrastructure Report. Since this time, Cornwall has invested heavily formalizing its approach to asset management and in adopting the standards, practices, data and tools needed to support proactive, informed planning and decision making.



Using its enhanced asset management system, expanded datasets, and GIS-based analysis, Cornwall is now able to take a hard look at its assets, their performance, and how they work together to contribute to the delivery of key public services. Armed with this information, the administration can proactively identify risks and spending requirements and engage with Council and the public in defining how best to best balance the needs of its aging infrastructure with demands for new and upgraded service. In addition to positioning the City for future success, early advancements in asset management have allowed it to proactively meet its requirements under O.Reg.588/17, the Province of Ontario's municipal asset management planning regulation.

In recent months, COVID-19 has placed municipalities under increased financial pressure. Cornwall's structured and robust approach to asset management and investment planning have helped it maintain focus and keep up with its needed infrastructure investment, even while many such programs are facing cutbacks and spending deferrals. Additionally, having a firm understanding of infrastructure spending priorities and impacts leaves the City well positioned to respond to pandemic-driven stimulus and funding programs, as they are released.

Quebec City

Quebec City is one of the oldest cities in North America. Founded by explorer Samuel de Champlain in 1608, the provincial capital expanded dramatically in 2002 through an amalgamation with twelve surrounding towns. Today, the municipality is a mixture of historic sites and newer neighborhoods, as well as home to a diverse range of assets and infrastructure, some of which were built centuries ago. Faced with growing needs and limited resources, the City found itself falling behind on maintenance and deferring renewal, putting current and future public services at risk.

Like many municipalities, Quebec City understood it had a problem but had a hard time quantifying the issue and explaining its impacts to residents and provincial and federal stakeholders. While many records were available, they lacked consistency. Moreover, many were paper-based, which made it difficult to assemble and present a unified view of assets, needs and priorities across the organization. Leaders recognized that demonstrating need and telling its story would be critical to getting Council and others on-side. The City embarked on a journey to digitize its approach to asset management.

Since introducing its data-driven approach to planning and decision-making, the City has been able to monitor conditions, examine scenarios, and demonstrate need and progress in addressing the City's infrastructure deficit. Through the presentation of unified municipal infrastructure assessments, leaders have been able to quantify and show the optimal type and level of investment needed, allowing it to secure over \$650 million in funding from higher levels of government to drive associated works. While more work is still needed to create long-term sustainability, 92% of Quebec City's infrastructure is now listed in "good" condition and prepared to deliver effective service for years to come.

As a result of the COVID-19 slowdown, provincial and federal governments across Canada are looking to infrastructure spending as an efficient way to restart our local economies. The Quebec government is itself accelerating the release of hundreds of local projects to drive economic activity in the province. As demonstrated through past success, advanced data-driven planning methods allow the City to rank needs and package spending priorities based on different evaluation criteria, leaving it well-positioned to capitalize on stimulus funding opportunities.



Over the coming months, we will continue our examination of Canada's aging infrastructure challenges from the perspective of other asset-intensive industries, and explore how owners, operators and service providers can effectively work together to address this crisis and enable national prosperity and success.

Follow our journey at [#aginginfrastructure](#)

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