

CANADIAN INFRASTRUCTURE REPORT CARD 2012

Highlights





REPORT SUMMARY

Canada's first report card on municipal infrastructure offers an objective assessment of the state of infrastructure, and infrastructure management, in 123 municipalities. This report card consolidates data obtained from a voluntary survey of Canadian municipalities, which was designed to assess the condition of municipal infrastructure in 2009–2010.

The full report card provides an assessment of the condition of four primary asset categories of municipal infrastructure: drinking-water systems, wastewater and stormwater networks, and municipal roads. This is the first assessment of its kind in Canada, and features the most comprehensive analysis and reporting to date on Canada's municipal infrastructure.

This report is well timed. Following two decades of declining public investment in infrastructure, all governments have begun to reverse this trend by significantly increasing investment in the transportation, water and wastewater systems upon which Canadians rely each day.

The importance of investing in modern infrastructure has become synonymous with Canada's economic competitiveness and quality of life. During the recent financial crisis, all governments pooled resources and cooperated to an unprecedented degree, channeling stimulus funds into local infrastructure to create jobs, while also renewing the physical foundations of this country.

The Building Canada Plan will soon expire, casting a shadow over recent progress made in addressing Canada's municipal infrastructure needs. This report highlights how critical it is to continue building and renewing the infrastructure that is key to our continued economic vitality as a country.

While surveyed municipalities scored well in three of the four infrastructure categories, the ways in which governments may approach future management of these assets is more troubling. The immediate findings of this report show that municipal drinking-water and wastewater systems ranked "Good: Adequate for now," and that stormwater systems ranked "Very good: Fit for the future". Roads received an overall grade of "Fair: Requires attention."

A closer analysis of the data reveals that good overall grades are not cause for complacency, for a number of reasons.

Infrastructure Rated Fair or Poor

Overall report-card ratings for the four asset categories show that a significant amount of municipal infrastructure ranks between “fair” and “very poor”—on average about 30%. The replacement cost of these assets alone totals \$171.8 billion, nationally.



Municipal roads require urgent attention. An overall grade of “Fair” means the infrastructure “shows general signs of deterioration and requires attention, with some elements exhibiting significant deficiencies.” More than half the roads surveyed fall below a rating of “good”: 32% are in “fair” condition, and 20.6% are in “poor” to “very poor” condition, for a total of 52.6%.

One in four Canadian roads is operating above capacity, highlighting a real challenge to moving goods and people within our communities in the short and medium term. The estimated replacement cost of the roads in fair to very poor condition is \$91.1 billion, nationally. For the average Canadian household, this amounts to a cost of \$7,325.

A mixed picture emerges for wastewater infrastructure, with about 40% of wastewater plants, pumping stations and storage tanks in “fair” to “very poor” condition, and 30.1% of pipes in “fair” to “very poor” condition. The replacement cost for the wastewater infrastructure in “fair” to “very poor” condition is \$39 billion, or \$3,136 per Canadian household. With wastewater infrastructure now subject to new and more stringent federal regulations, even good or very good wastewater infrastructure may require upgrading or replacement.

Despite its overall “good” rating, drinking-water infrastructure also presents some cause for concern: 15.4% of the systems were ranked “fair” to “very poor” for the condition of their pipes. The figures were not much better for plants, reservoirs and pumping stations, where 14.4% ranked “fair” to “very poor”. Only 12.6% of plants, reservoirs and pumping stations ranked “very good”, as did just 4.2% of pipes. Considering the potential impact of drinking-water systems on human health, these deficiencies have significant importance. The replacement cost for the drinking-water infrastructure in “fair” to “very poor” condition is \$25.9 billion, or \$2,082 per Canadian household.

Canada’s stormwater management systems are the best of the infrastructure classes covered in the report card. These were rated “very good”. Even here, however, 12.5% of stormwater installations surveyed fall below “good” condition, with that figure rising to 23.4% for stormwater pipes. The replacement cost for stormwater infrastructure in “fair” to “very poor” condition is \$15.8 billion, or \$1,270 per Canadian household.

A Penny Now, or a Dollar Later

The report card points to the cost of delaying infrastructure repairs, rehabilitation, or renewal. Under current practices (investment, operations, maintenance), most infrastructure, even if in good-to-very-good condition now, will require ever-increasing investment as it ages.

The report card emphasizes the importance of having an asset-management system in place to establish practices that will increase the longevity of the assets and optimize investments in maintenance and rehabilitation.



Needs Improvement: The State of Asset Management in Canada

When assessing the state of municipal infrastructure management, the report finds many municipalities lack the internal capacity to accurately assess the state of their infrastructure. This is not to say that the municipal sector lacks the wherewithal to undertake rigorous internal reviews of their assets; rather, that finite financial resources, staff and time preclude a more thorough, real-time evaluation of the state and performance of their physical infrastructure.

For example, about 30% of respondents had limited data on their water-treatment plants, reservoirs or pumping stations. A large percentage of municipalities reported having no data on the condition of their buried infrastructure: 41.3% for distribution pipes and 48.2% for transmission pipes. While it is clear that municipalities monitor the quality of their drinking water through rigorous testing and monitoring, evaluating the physical condition of their treatment plants and buried distribution networks remains a significant, on-the-ground challenge for many municipalities to undertake on their own.

With respect to roads, many respondents do not have regular condition-assessment programs: 41.2% reported that they do not have an inspection program for their highways, while the percentage dropped to between 20–25% for arterial, collector and local roads.

The need to support additional capacity at the municipal level is a crucial finding of this report, for all four asset categories.

Objectives and Methodology

The project's primary objective was to develop a rigorous, repeatable process for assessing the condition of Canada's infrastructure to inform the public, decision-makers and other stakeholders. This study provides useful qualitative information on municipal infrastructure and its management, which municipal governments can use to develop their asset-management capacity. Forecasting of trends or future conditions was not part of this study.

A total of 346 municipalities registered for the survey. The final analysis was based on responses by 123 municipalities distributed across all provinces. These municipalities represent from 40.7–59.1% of the Canadian population, depending on the infrastructure assets. This proportional representation made it possible to extrapolate the sample to provide a national estimate.

For a first report card, representation (on a population, demographics and geographical basis) exceeded the expectations of the Project Steering Committee. As this report card is repeated over several editions, a higher percentage of municipalities may participate, and results will be more representative nationally. Other types of infrastructure assets, such as bridges, buildings, facilities, public transit—and possibly privately owned public infrastructure, such as ports and airports—may be added in the future.

For More Information

For other highlights and a copy of the full report, go to canadainfrastructure.ca.