

# Canada's Core Public Infrastructure Survey: Roads, bridges and tunnels, 2018

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## Canada's publicly owned road network is over one million kilometres in length

Statistics Canada, in partnership with Infrastructure Canada, is pleased to release data for 2018 on the state of the nation's roads, bridges and tunnels. The data cover topics such as the stock, condition, performance and asset management strategies of Canada's core public infrastructure assets. This cycle of the Canada's Core Public Infrastructure Survey covers assets owned and operated by provincial, territorial, regional and municipal governments, as well as assets owned by select provincial Crown corporations and public transit authorities.

In 2018, there were 1,066,180 kilometres of publicly owned roads (two-lane equivalents) in Canada. Although this was a significant increase over the total road length reported in 2016 (766,099 kilometres), the target population for the 2018 survey cycle was expanded to include more small municipalities.

The impact of this change was mainly seen in Saskatchewan, which in 2018, accounted for the largest share of Canada's roads (23.6%). A large majority of Saskatchewan's road network was located in rural municipalities.

Local roads remained the most prevalent road type in Canada, accounting for 58.6% of total road length and 69.5% of all municipally owned roads. Saskatchewan had the highest volume of local roads in Canada (27.3%), followed by Alberta (20.0%) and Ontario (18.7%).

Highways, excluding rural highways, comprised 4.8% (51,093 kilometres) of all roads. These roads move high volumes of traffic and have controlled entrances and exits, with a strip that divides traffic travelling in opposite directions. Data on rural highways were collected separately for 2018, and accounted for 8.9% (94,443 kilometres) of all roads. These types of highways move varied volumes of traffic at medium to high speeds. Usually, they do not have a dividing strip, and they allow for direct access from adjacent developments.

In Yukon (68.5%) and the Northwest Territories (74.5%), most roads were highways. In Nunavut, where communities are scattered across numerous islands and the mainland, 3.5% of the roads were highways. In fact, Canada's National Highway System spans every province and territory except Nunavut.

## Road construction accelerated in 2017 and 2018 compared with previous years

In 2017 and 2018, 48,969 kilometres of new roads were constructed in Canada. Of these, 62.1% were local roads, and 11.7% were highways, including rural highways. Construction accelerated significantly in 2017 and 2018, at an average of 24,000 kilometres of new roads per year, compared with an average of 9,000 kilometres per year from 2000 to 2016.

## Fewer local roads are in poor or very poor physical condition

In 2018, 14.7% of local roads in Canada were deemed to be in poor or very poor physical condition, compared with 16.3% in 2016.

In Quebec, where most new local roads were constructed in 2017 and 2018, the share of local roads in poor or very poor condition decreased from 24.5% in 2016 to 18.0% in 2018.

## More road owners had a road network asset management plan in 2018 compared with 2016

In 2018, 56.8% of all road owners had an asset management plan, compared with 44% in 2016.



Among owners with an asset management plan, 32.1% updated the plan every year while 19.8% updated it every two to four years.

In Ontario, where the province introduced an asset management planning regulation that requires all municipalities to have an asset management plan in place by July 1, 2024, 93.2% of road owners had an asset management plan in place in 2018.

### The majority of bridges are owned by municipalities

In 2018, there were 51,717 publicly owned bridges in Canada. Ontario had the most bridges (15,534), followed by Alberta (9,400).

In Ontario and Alberta, most bridges are owned by municipalities, most of which are considered rural municipalities. Conversely, bridges in Atlantic Canada are largely owned by the provincial governments.

### More than a quarter of local road and rural highway bridges are more than 50 years old

Highway bridges, excluding rural highway bridges, were reported to be in the best condition of all types of bridges, with 70.9% in good or very good condition. In comparison, 42.1% of rural highway bridges were in good or very good condition.

Local road bridges and rural highway bridges were reported to be in the worst physical condition, with 15.7% and 14.1% respectively (excluding bridges in Quebec) in poor or very poor condition. More than a quarter of local road bridges (28.0%) and rural highway bridges (25.3%) were more than 50 years old. Furthermore, the year of construction was unknown for 23.6% of local road bridges and 24.7% of rural highway bridges.

### Just over half of bridge and tunnel owners have an asset management plan

In 2018, 50.3% of all public bridge and tunnel owners had an asset management plan, up from 41.9% in 2016.

**Table 1**  
**Length of publicly owned road assets, by type of road asset, Canada, 2018**

	length (kilometres)
<b>Total roads</b>	<b>1,066,180</b>
Highways	51,093
Rural highways	94,443
Arterial roads	113,428
Collector roads	161,201
Local roads	624,657
Lanes and alleys	21,359
<b>Other</b>	
Sidewalks	119,607

Source(s): Table [34-10-0176-01](#).

**Table 2**  
**Number of publicly owned bridge and tunnel assets, by type of bridge and tunnel asset, Canada, 2018**

	number
<b>Total bridges</b>	<b>51,717</b>
Highway bridges	8,514
Rural highway bridges	3,151
Arterial bridges	6,813
Collector bridges	6,626
Local bridges	23,425
Footbridges	3,187

**Table 2**  
**Number of publicly owned bridge and tunnel assets, by type of bridge and tunnel asset, Canada, 2018**

	number
<b>Other</b>	
Culverts (diameter greater than or equal to 3 metres)	39,930
Tunnels	495

Source(s): Table 34-10-0078-01.

### Note to readers

Canada's Core Public Infrastructure Survey 2018 was conducted in partnership with Infrastructure Canada.

Data are based on responses from approximately 2,520 government organizations selected from Statistics Canada's Business Register, the central repository of information on public and private organizations operating in Canada. The Business Register is used as the main frame for most of Statistics Canada's economic statistical programs. The following organizations are included in the survey:

- provincial and territorial departments and ministries
- regional governments
- urban municipalities
- rural municipalities
- select Crown corporations.

The survey results cover nine asset types (roads; bridges and tunnels; culture, recreation and sports facilities; potable water; public transit; public social and affordable housing; solid waste; storm water; wastewater) and information on asset management practices.

Throughout this release, the term **publicly owned** refers to an asset that is owned or leased by provincial, territorial, regional or municipal orders of government.

Road lengths have been reported in terms of two-lane equivalent kilometres, where one kilometre of a four-lane highway is counted as two kilometres.

Respondents were provided the following definitions for road and bridge assets:

**Highways** are roads that move high volumes of traffic and have controlled entrances and exits. They have a dividing strip between traffic travelling in opposite directions, and typically they have two or more lanes in each direction. Highways do not provide access to property, and generally do not accommodate cyclists or pedestrians.

**Rural highways** move varied traffic volumes depending on location, are medium to high speed, and usually have one, but sometimes two, lanes in each direction. These highways usually have no dividing strip and allow for direct access from adjacent developments.

**Arterial roads** move moderate to high traffic volumes over moderate distances between principal areas of traffic generation. They gather traffic from collector roads and local roads, and move it to the highway system. Arterial roads are generally designed for medium speed, have capacity for two to six lanes, and may be divided—with limited or controlled direct access from adjacent developments—and with on-street parking discouraged.

**Collector roads** move low to moderate traffic volumes within specific areas of a municipality, and collect local traffic for distribution to the arterial or highway system. Collector roads are generally designed for medium speed, have capacity for two to four lanes, are usually undivided—with direct access from adjacent development permitted, but usually controlled—and have controlled on-street parking usually permitted.

**Local roads** provide for low volumes of traffic and access to private properties. Local roads are designed for low speeds and have capacity for two undivided lanes of traffic. Through traffic is discouraged, and parking is usually permitted, though often controlled.

Respondents were provided the following condition rating scale when asked to rate the overall physical condition of their assets:

**Very poor:** Immediate need to replace most or all of the asset. There are health and safety hazards that present a possible risk to public safety, or the asset cannot be serviced or operated without risk to personnel. Major work or replacement is required urgently. The operating asset has less than 10% of its expected service life remaining.

**Poor:** Failure likely and substantial work required in the short term. Asset barely serviceable. No immediate risk to health or safety. The operating asset has less than 40% of its expected service life remaining.

**Fair:** Significant deterioration is evident; minor components or isolated sections of the asset need replacement or repair now, but the asset is still serviceable and functions safely at an adequate level of service. The operating asset has at least 40% of its expected service life remaining.

**Good:** Acceptable physical condition; minimal short-term failure risk, but potential for deterioration in the long term. Only minor work required. The operating asset has at least 80% of its expected service life remaining.

**Very good:** Sound physical condition. The asset is likely to perform adequately. The operating asset has at least 95% of its expected service life remaining.

An **asset management plan** defines how a group of assets is to be managed over time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from the assets, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

Between 2016 and 2018, the questionnaire for Canada's Core Public Infrastructure Survey underwent several major changes:

- The questionnaire was collected through an electronic platform instead of a paper questionnaire.
- Questions were streamlined to reduce response burden.
- The survey included a census of all municipalities with at least 1,000 inhabitants, and a sample of municipalities with between 500 and 1,000 inhabitants.
- For Quebec, the survey was conducted by the Institut de la statistique du Québec.

Because of improved coverage and definitions, and changes in survey methodology, estimates for 2018 may not be comparable with those for 2016.

Information on other asset types will be released over the coming months.

**Available tables:** [34-10-0068-01](#) to [34-10-0078-01](#) , [34-10-0120-01](#), [34-10-0144-01](#), [34-10-0165-01](#), [34-10-0167-01](#) to [34-10-0174-01](#) , [34-10-0176-01](#) and [34-10-0177-01](#).

**Definitions, data sources and methods:** survey number [5173](#).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; [STATCAN.infostats-infostats.STATCAN@canada.ca](mailto:STATCAN.infostats-infostats.STATCAN@canada.ca)) or Media Relations (613-951-4636; [STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca](mailto:STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca)).

For more information about why the survey was conducted and how it will inform infrastructure policy and program development and investment decisions, please contact Infrastructure Canada (toll-free: 1-877-250-7154 or 613-948-1148 or by email at [infc.info.infc@canada.ca](mailto:infc.info.infc@canada.ca)) or Infrastructure Canada Media Relations (toll-free: 1-877-250-7154 or 613-960-9251 or by email at [infc.media.infc@canada.ca](mailto:infc.media.infc@canada.ca)).