

Road infrastructure in rural Ontario

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Highlights

- The majority of roads (but not highways) are owned by municipalities – including 99% of local roads, 76% of collector roads and 52% of arterial roads.
- Municipalities in rural and small town areas reported 3,660 kilometres of local roads per 100,000 inhabitants in 2016, compared to 478 kilometres of local roads among municipalities in larger urban centres.
- Local roads in rural and small town municipalities were relatively older and in somewhat poorer condition.

Why look at public infrastructure?

Roads are a major public infrastructure asset for rural municipalities in Ontario. Some are approaching the end of their useful life and require repair while population expansion in some areas is causing a demand for additional public infrastructure.

Canada's Core Public Infrastructure Survey¹ was conducted by Statistics Canada in 2017 in order "to collect 2016 statistical information on the inventory, condition, performance and asset management strategies of core public infrastructure assets" owned or leased by each level of government in Canada.

The purpose of this Fact Sheet is to show the status of road infrastructure among incorporated towns and incorporated municipalities (hereafter "municipalities") (see Box 1) in rural Ontario.

Findings

Aside from highways, the majority of roads in Ontario are owned and managed by municipalities (Table 1). Specifically, 99% of local roads are owned by municipalities and well

over one-half of all roads in Ontario are local roads. In addition, municipalities own 76% of collector roads and 52% of arterial roads. Municipalities within RST areas (as defined in Box 1) reported 47,238 kilometres of local roads in 2016 (Table 1).

Box 1: Municipalities

"Municipalities" in Canada's Core Public Infrastructure Survey (CCPIS) refer to incorporated towns / cities and incorporated municipalities. The Statistics Canada terminology is "census subdivisions" (CSDs)." The focus of this Fact Sheet is the data for CSDs.

The CCPIS also enumerates the public infrastructure owned or leased by regional governments and by the provincial government. Counties serving rural regions are included as regional governments in the CCPIS. These data are included in the first column of our tables and thus the difference between the first column and the column for all CSDs represents the data for regional governments and for the provincial government.

Lower-tier municipalities (i.e., CSDs) are classified by population size within "Larger Urban Centres" (LUCs) and within "Rural and Small Town (RST) areas", as defined by du Plessis *et al.* (2001). Specifically, LUCs comprise Census Metropolitan Areas (CMAs) (with a population of 100,000 and over) and Census Agglomerations (CAs) (with a population of 10,000 to 99,999) and each includes neighbouring towns and municipalities where 50+% of employed residents commute to the CMA or CA. RST areas comprise all municipalities outside CMAs and CAs.

The data for each respondent to the survey (municipality, regional government, provincial department) are available from Statistics Canada, upon request (Statistics Canada, 2019).

References:

du Plessis, Valerie, Roland Beshiri, Ray D. Bollman and Heather Clemenson. (2001) "Definitions of Rural." **Rural and Small Town Canada Analysis Bulletin** Vol. 3, No. 3 (Ottawa: Statistics Canada, Cat. No. 21-006-XIE) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objid=21-006-X&objType=2&lang=en&limit=0>).

Statistics Canada. (2019) "Canada's Core Public Infrastructure Survey: Micro data, 2016," **The Daily** (Ottawa: Statistics Canada, Catalogue no. 11-001, November 7) (<https://www150.statcan.gc.ca/n1/daily-quotidien/191107/dq191107g-eng.html>).

¹ Statistics Canada. (bi-annual) **Canada's Core Public Infrastructure Survey** (Ottawa: Statistics Canada, Surveys and Statistical Programs) (<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=1256357>) and Infrastructure Canada. (2019) **Canadian Infrastructure Report Card 2019: Monitoring the State of Canada's Core Public Infrastructure** (Ottawa: Infrastructure Canada) (<http://canadianinfrastructure.ca/downloads/canadian-infrastructure-report-card-2019.pdf>).

Table 1. Public Road Infrastructure in Ontario, 2016

Type of road infrastructure ²	Roads owned by all organizations ³ (provincial, regional, municipal)	Road assets owned (or leased) by lower-tier municipalities	Percent municipal-owned	Road infrastructure owned (or leased) by lower-tier municipalities (census subdivisions ¹)								All census subdivisions (included in survey)
				Census subdivisions ¹ (CSDs) within Larger Urban Centres (i.e., within Census Metropolitan Areas and Census Agglomerations)				Census subdivisions ¹ (CSDs) within Rural and Small Town Areas (i.e., outside Census Metropolitan Areas and outside Census Agglomerations)				
				CSDs with population 30,000 or more	CSDs with population of 5,000 to 29,999	CSDs with population 1 to 4,999	All CSDs in Larger Urban Centres (subtotal)	CSDs with population of 5,000 and over	CSDs with population of 1,000 to 4,999	CSDs in Rural and Small Town Areas with population of 1,000 or more (subtotal)		
				Total kilometres ² of roads								
Highways	21,967	753	3	504	-	-	504	49	F	F	753	
Arterial roads	29,020	15,144	52	12,379	1,460	104	13,942	619	F	1,201	15,144	
Collector roads	23,493	17,875	76	13,605	2,119	66	15,790	1,937	F	2,085	17,875	
Local roads	106,478	104,930	99	38,666	15,233	3,792	57,692	29,497	17,741	47,238	104,930	
Lanes & alleys	1,976	1,976	100	1,365	81	5	1,450	272	F	F	1,976	
Sidewalks	45,002	44,997	100	37,099	3,407	188	40,694	3,552	751	4,303	44,997	
Kilometres² per 100,000 residents												
Highways				5	-	-	4	5	F	F	6	
Arterial roads				113	142	199	116	61	F	93	113	
Collector roads				124	206	126	131	190	F	162	134	
Local roads				352	1,481	7,245	478	2,889	6,581	3,660	786	
Lanes & alleys				12	8	10	12	27	F	F	15	
Sidewalks				338	331	359	338	348	279	333	337	

1. Municipalities in the Core Public Infrastructure Survey have been identified using the concept of a census subdivision (CSD). A CSD is the general term for incorporated towns and municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories). Municipal status is defined by laws in effect in each province and territory in Canada. A CSD is classified as urban (**Larger Urban Centre**) if it falls within a Census Metropolitan Area (CMA) or Census Agglomeration (CA) and is classified as rural otherwise. CMAs have a total population of 100,000 or more (with 50,000 or more in the core) and includes all neighbouring towns and municipalities where 50+% or more of the workforce commutes into the core. CAs have a core population of 10,000 or more and includes all neighbouring towns or municipalities where 50+% of the workforce commutes into the urban core. Rural CSDs (**Rural and Small Town Areas**) have no population centres over 10,000 and have less than 50% of employed individuals who commute to a CMA or CA for work. Excluded are 140 Indian Reserves (comprising 64 thousand residents) and 84 census subdivisions within rural and small town areas with a population of 1 to 999 inhabitants (comprising 43 thousand residents).

2. Respondents were asked to "report the length of road network in terms of 2-lane equivalent kilometres, where one kilometre of a four-lane highway is counted as two kilometres".

3. Organization refers to municipal, regional, provincial, federal government or Indigenous entities (such as a Band council) who own a core public infrastructure.

Source: Statistics Canada, Core Public Infrastructure Survey, 2016, Tables 34-10-0176-01 and 34-10-0177-01.

This represents 3,660 kilometres of local roads per 100,000 residents. This may be compared to 478 kilometres of local roads per 100,000 residents for municipalities within LUCs.

Local roads are relatively older in RST municipalities, compared to municipalities in LUC areas. In RST area, 47% of the kilometres of local roads were constructed before 1970, compared to 22% of the kilometres of local roads within LUC municipalities (Table² A8).

The condition of local roads in RST areas is somewhat worse than in LUC municipalities. In RST municipalities, 43% of road kilometres were in fair or poor condition, compared to 38% in LUC municipalities (Table A9).

New local roads in RST area have a relatively shorter expected useful life (26 years on average) compared to local roads in LUC municipalities (average of 37 years) (Table A10).

² Tables labelled with an "A" are available in the accompanying "Appendix Tables: Canada's Core Public Infrastructure Survey, 2016."

The share of municipalities with a road asset management plan is similar in RST municipalities, compared to LUC municipalities (89% and 87%, respectively) (Table A11).

For the management of road assets, spreadsheets are the most common type of information system being used (66% of RST municipalities and 62% of LUC municipalities) but one-third or more also reported other information systems, such as paper records, custom asset management software and off-the-shelf management software (Table A12).

Summary

Municipalities in rural and small town areas reported 3,660 kilometres of local roads per 100,000 inhabitants in 2016, compared to 478 kilometres of local roads among municipalities in larger urban centres. Local roads in rural and small town municipalities were relatively older and in somewhat poorer condition.

The Rural Ontario Institute gratefully acknowledges the work of Ray Bollman in preparing this edition of *Focus on Rural Ontario*. Questions on data sources can be directed to RayD.Bollman@sasktel.net. Any comments or discussions can be directed to NRageltie@RuralOntarioInstitute.ca