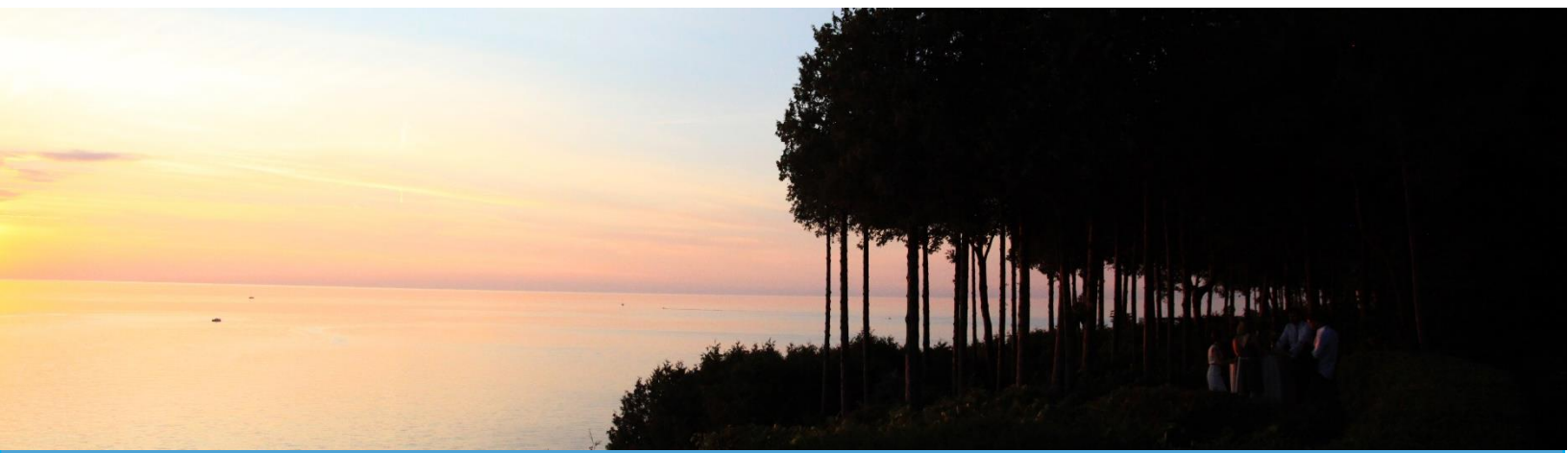


FOCUS ON RURAL ONTARIO

2019
FACT SHEET SERIES



**RURAL ONTARIO
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on Rural Ontario

The Rural Ontario Institute (ROI) is a non-profit organization committed to developing leaders and facilitating collaboration on issues and opportunities facing rural and northern Ontario. More information about ROI can be found on the [ROI website](#).

This edition of the *Focus on Rural Ontario Fact Sheet Series* includes 15 fact sheets on the following socio-economic themes:

- Change in Skill Levels by Industry
- Occupation Group by Sector
- Infrastructure in Rural Ontario
- Business Counts in Rural Ontario

Each theme has multiple Fact Sheets at varying levels of geography. These and other Fact Sheets are available on the Rural Ontario Institute's website at www.ruralontarioinstitute.ca/knowledge-centre/focus-on-rural-ontario

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Table of Contents

CHANGE IN SKILL LEVELS BY INDUSTRY

- 1 Change in occupation mix: All sectors 2006–2016
- 4 Change in occupation mix: Overview 2006–2016

OCCUPATION GROUP BY SECTOR

- 6 Change in occupation mix: Agriculture, forestry, fishing, & hunting 2006–2016
- 8 Change in occupation mix: Construction 2006–2016
- 10 Change in occupation mix: Manufacturing 2006–2016
- 12 Change in occupation mix: Wholesale trade 2006–2016
- 14 Change in occupation mix: Professional, scientific, & technical services 2006–2016
- 16 Change in occupation mix: Health care & social assistance 2006–2016

INFRASTRUCTURE IN RURAL ONTARIO

- 18 Overview: Public infrastructure in rural Ontario
- 20 Road infrastructure in rural Ontario
- 22 Bridge and tunnel infrastructure in rural Ontario
- 24 Culture, recreation, & sports infrastructure in rural Ontario

BUSINESS COUNTS IN RURAL ONTARIO

- 26 Number of businesses by sector in rural Ontario
- 28 Change in number of businesses by sector in rural Ontario
- 30 Percent change in number of businesses by sector in rural Ontario

Change in occupation mix: All sectors 2006–2016

Vol. 7, No. 1, 2019

Highlights

- In non-metro census divisions from 2006 and 2016, there was a smaller increase in the share (or percent) of employment in occupations usually requiring a university degree (i.e., Skill Group “A”), compared to the change in Ontario as a whole.
- This indicates a slower-paced shift towards occupations requiring a post-secondary degree, compared to the change for Ontario as a whole.
- However, there was a higher-paced shift towards occupations requiring a college diploma or apprenticeship training (i.e., Skill Group “B”) in non-metro census divisions.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

The kinds of occupations and the skills needed to fill those occupations is always evolving. For centuries, machines have been substituted for manual labour. There is an ongoing shift to more skilled workers (or knowledge workers) to design and to manage work-flow processes using machines to perform the work of various occupations in each industry sector.

The objective of this Fact Sheet is to show the change in the mix of occupations (by skill group¹) on average across all sectors from 2006 to 2016.² A summary of the data for each industry sector is in an appendix.³

Findings

Employment in Ontario increased by 12% from 2006 to 2016 (Table 1). The increase was smallest (1%) in

non-metro⁴ census divisions (CDs) followed by an 8% increase in partially non-metro CDs and a 17% increase in metro CDs.

The skill group with the largest number employed is Skill Group “B” (i.e., occupations that usually require a college diploma or apprenticeship training). This group represented 31% of workers in Ontario as a whole (and 33% in non-metro CDs).

The second largest skill group is Skill Group “C” (i.e., occupations usually requiring a high school diploma or occupation-specific training). This group comprised 28% of workers across Ontario in 2016 (and 30% of workers in non-metro CDs).

Across all CDs in Ontario, employment increased in each skill group. The largest increase (33%) was in the relatively smaller Skill Group “A” (i.e., occupations usually requiring a university education). The increase was led by a 37% increase in metro CDs, followed by a 27% increase in partially non-metro CDs and a 15% increase in non-metro CDs.

Bucking this province-wide trend, there were absolute declines in the number employed in both Skill Groups “O” and “C” in both partially-non-metro and non-metro CDs. Skill Group “O” includes management occupations and self-employed individuals. The non-metro decline was largely in the retail sector (including self-employed shop owners) and in agriculture (including self-employed farmers)³.

From 2006 to 2016, the direction of change in the share (or percent) of employment in a given skill group was the same in each type of census division. Specifically, in each type of census division, the share of employment:

¹ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011**

(<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

² From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

³ The details for each industry sector are included in an accompanying **Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016**.

⁴ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

- decreased in Skill Group “O”;
- increased in Skill Group “A”;
- increased in Skill Group “B”;
- decreased in Skill Group “C”; and
- in each type of CD, there was no change in the share of employment Skill Group “D” (i.e., occupations that usually do not require high school graduation). This would include occupations such as sales clerks and food service workers.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). As noted, Skill Group “A” represented 14% of total employment in non-metro CDs in 2016. When we take this 14% share and divide by the 21% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 69 (in Column 7) as a measure of the relative intensity of non-metro employment in Skill Group “A” relative to 100 for Ontario as a whole. A figure less than 100 indicates that this group has a lower share (or is less intensive) compared to Ontario as a whole.

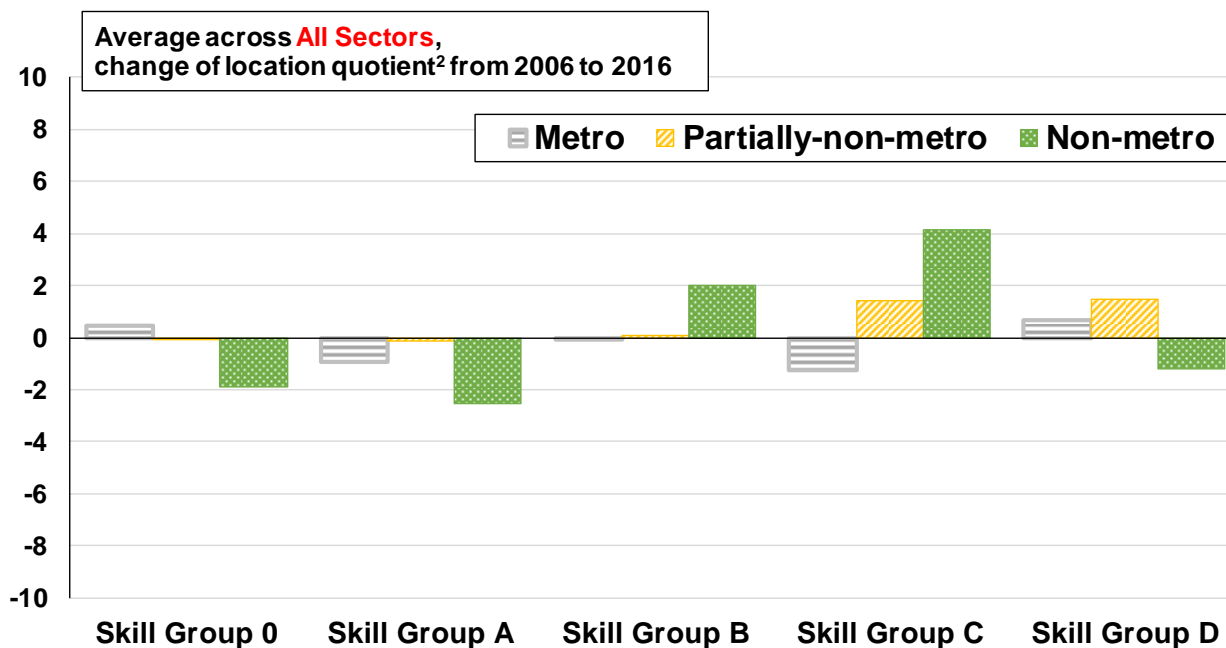
Since each type of census division showed the same direction of change in the percent distribution of their

workforce by skill group, then our measure of the change in skill structure is determined by the pace of structural change. Thus, if the share of employment in a skill group is increasing more slowly in a given type of CD, then our calculated change in the LQ will be negative. A positive change in the LQ indicates a faster change in the percent of employment in a given skill group.

From 2006 to 2016, the non-metro LQ for employment in Skill Group “A” declined by 3 points (Figure 1). This decline shows that non-metro employers have a slower pace of increasing employment in occupations requiring post-secondary degrees as compared to Ontario as a whole.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “B” and Skill Group “C” indicates a relative increase in the share of these occupations in non-metro CDs, compared to the change for Ontario as a whole.

Figure 1 On average, across All Sectors, the share of non-metro employment in Skill¹ Groups “B” & “C” increased relative to the Ontario average, 2006 to 2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

Source: OMAFRA, EMSI ANALYST database.

Chart by RayD.Bollman@sasktel.net

Summary

Employment changes in occupational groups represented in the non-metro and metro workforce show shifts in the qualifications that employers have been requiring between 2006 and 2016. Despite growth in the numbers employed in non-metro census divisions in occupations requiring a university degree, the relative intensity of employment in occupations requiring a degree declined in non-metro census divisions. This implies non-metro Ontario is lagging in the shift to an increasing proportion of occupations requiring a university degree, relative to Ontario as a whole.

However, among occupations requiring a college diploma or apprenticeship training, the share in non-metro census divisions increased faster than in metro or partially-non-metro census divisions.

Table 1. Level and change in skill¹ structure of employment, average across All Sectors, by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	404	432	-7	11	10	101	102	0
A	772	1,058	37	20	24	114	113	-1
B	1,111	1,336	20	29	30	97	96	0
C	1,176	1,219	4	31	27	98	97	-1
D	374	447	19	10	10	91	91	1
Total	3,836	4,492	17	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	170	167	-2	10	9	94	94	0
A	257	327	27	15	17	84	84	0
B	546	607	11	31	32	104	104	0
C	564	553	-2	32	29	103	105	1
D	207	229	11	12	12	110	112	1
Total	1,744	1,883	8	100	100	100	100	0
Non-metro census divisions⁴								
O	101	91	-10	11	10	107	105	-2
A	114	131	15	13	14	71	69	-3
B	290	306	5	32	33	106	108	2
C	288	271	-6	32	30	101	105	4
D	118	119	1	13	13	120	119	-1
Total	912	918	1	100	100	100	100	0
All census divisions								
O	675	691	2	10	9	100	100	0
A	1,143	1,516	33	18	21	100	100	0
B	1,948	2,249	15	30	31	100	100	0
C	2,028	2,043	1	31	28	100	100	0
D	699	794	14	11	11	100	100	0
Total	6,492	7,293	12	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.



Change in occupation mix: Overview by sector 2006–2016

Vol. 7, No. 2, 2019

Highlights

- Across all sectors in Ontario's non-metro census divisions, the share of employment in occupations requiring a university degree (i.e., skill Group "A") declined relative to the change at the Ontario level. This occurred because employment in Skill Group "A" increased less in non-metro census divisions.
- However, in 6 of the 19 sectors, the share of non-metro employment in Skill Group "A" increased, relative to the change in share at the Ontario level.
- These results indicate a different change in the needs for the level of training or academic credentials in the various sectors in non-metro Ontario.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group "B") are not less skilled than teachers (Skill Group "A")—the required skills are simply different.

Why look at the mix of occupations?

Shifts in the kinds of occupations, types of work and the prerequisite for certificates or degrees to qualify for employment is an ever-evolving characteristic of the economy. Broadly, the trends of decreasing manual labour ushered in by the industrial revolution, along with advances in information technology and the rising share of service rather than goods-producing industries, has brought along with it the requirement for more skilled and knowledge workers. There is also a parallel phenomenon of "credentialism" where jobs once requiring high school diplomas now require university degrees.

The objective of this Fact Sheet is to summarize⁵ the change in the mix of occupations, grouped into skill groups⁶ within each industry from 2006 to 2016.⁷

Findings

Across all sectors, the change in the relative intensity of employment in a given occupation group (or skill group) (i.e., the change in the location quotient⁸) showed a relative increase in employment in Skill Groups "B" and "C" in non-metro⁹ census divisions (CDs) but a decrease in Skill Groups "O," "A," and "D" (last line of Table 1).

If we use Skill Group "A" (i.e., occupations that usually require a university education) as an indicator of the regional change in skills (or perhaps simply "credentials") in a given sector, we see a decrease in 13 of 19 sectors (compared to the change at the Ontario level) and an increase in 6 of 19 sectors (all of which were service-producing sectors).

However, in non-metro CDs, only 14% of employment was in Skill Group "A" in 2016¹⁰ (up from

⁵ The details for each industry sector are included in an accompanying **Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.**

⁶ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

⁷ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) "Occupational patterns within industry groups: A rural-urban comparison." **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

⁸ A location quotient (LQ) calculates a relative intensity. When we take the share of employment in a occupation (skill) group in a given sector in given type of area (e.g. non-metro CDs) and divide by the share of employment in this skill group in this sector for Ontario as a whole (and multiply by 100), we generate an LQ (or relative intensity) as measure of the relative intensity of non-metro employment in the given occupation group in the given sector, relative to 100 for Ontario as a whole. The positive change in the LQ may be interpreted as a relative increase in required credentials and a negative shift in an LQ may be interpreted as a relative decline in credentialization for non-metro in the given industry sector.

⁹ Defined in "Rural Ontario's Demography: Census Update 2016." **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

¹⁰ See Table 1 in the accompanying **Focus on Rural Ontario** "Mix of skills across all sectors".

13% in 2006), whereas about one-third of employment was in Skill Group “B” and one-third was in Skill Group “C”.

Within non-metro CDs, a relative increase in the share of employment in Skill Group “B” occurred in 9 of the 19 sectors from 2006 to 2016.

Within non-metro CDs, a relative increase in the share of employment in Skill Group “C” occurred in 14 of the 19 sectors from 2006 to 2016.

For any given skill group, there were sectors where the relative intensity increased in non-metro CDs and there were sectors where the relative intensity declined. Thus, there was no case where non-metro CDs showed an increase or a decrease in relative intensity of a skill group across every sector in the 2006 to 2016 period. This diversity in the direction of change reflected in the different sectors suggests a complex dynamic—and perhaps changing circumstances—in the way the work is being accomplished through changing roles and functions in particular sectors. If “credentialism” or inflation in qualification requirements for the same types of jobs was the only explanation for what was happening, we might expect to see more uniformity across the board.

Summary

From 2006 to 2016, the relative intensity of employment in occupations requiring post-secondary qualifications declined, overall, in non-metro census divisions even though the absolute numbers increased slightly (see Fact Sheet number?). This implies non-metro employers are not increasing, or do not need to increase, their workers in this occupation group as quickly as is the case for Ontario as a whole.

Occupation classified as Skill Group “B” (requiring

Table 1. Change in share (or percent) of employment in a skill¹ group, relative to the change for Ontario as a whole (i.e. change in location quotient^{2,3}) for each industry sector for non-metro census divisions, Ontario, 2006 and 2016

	Industry sector	Skill group ¹				
		O	A	B	C	D
		Among non-metro census divisions ⁴ , did the share (or percent) of employment in the occupations in this skill group go up or down, relative to the change in the share at the Ontario level (i.e. change in location quotient ^{2,3})				
11	Agriculture, forestry, fishing and hunting	Up	Down	Down	Up	Down
21	Mining, quarrying and oil and gas extraction	Down	Down	No change	Up	Down
22	Utilities	Up	Down	Down	Up	Up
23	Construction	Up	Down	Up	Up	Down
31-33	Manufacturing	Down	Down	Up	Up	Down
41	Wholesale trade	Down	Up	Up	No change	Up
44-45	Retail trade	Down	Up	Up	Up	Up
48-49	Transportation and warehousing	Down	Up	Down	Up	Down
51	Information and cultural industries	Up	Up	Up	Up	Down
52	Finance and insurance	Down	Down	Up	Up	Up
53	Real estate and rental and leasing	Down	Up	Up	Down	Up
54	Professional, scientific and technical services	Up	Down	Up	Up	Up
56	Administrative and support, waste management and remediation services	Up	Down	Down	Down	Up
61	Educational services	Up	Down	Down	Up	Up
62	Health care and social services	Down	Down	No change	Up	Up
71	Arts, entertainment and recreation	Up	Up	Down	Up	Down
72	Accommodation and food services	Up	Down	Down	Down	No change
81	Other (personal) services	Up	Down	Up	Down	Up
91	Public Administration	No change	Down	No change	Up	No change
Total	All sectors	Down	Down	Up	Up	Down

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in “Rural Ontario’s Demography: Census Update to 2016” **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

college diplomas or trades/apprenticeship qualifications) are becoming relatively more intense (i.e., a relatively higher share) in non-metro Ontario, compared to the change for the Ontario workforce as a whole. The same pattern is occurring for occupation in Skill Group “C.”

The pattern of whether non-metro is leading or lagging Ontario as a whole is not uniform across all sectors within any particular skill group.

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 NRagetlie@RuralOntarioInstitute.ca

Change in occupation mix: Agriculture, forestry, fishing, & hunting 2006-2016

Vol. 7, No.3, 2019

Highlights

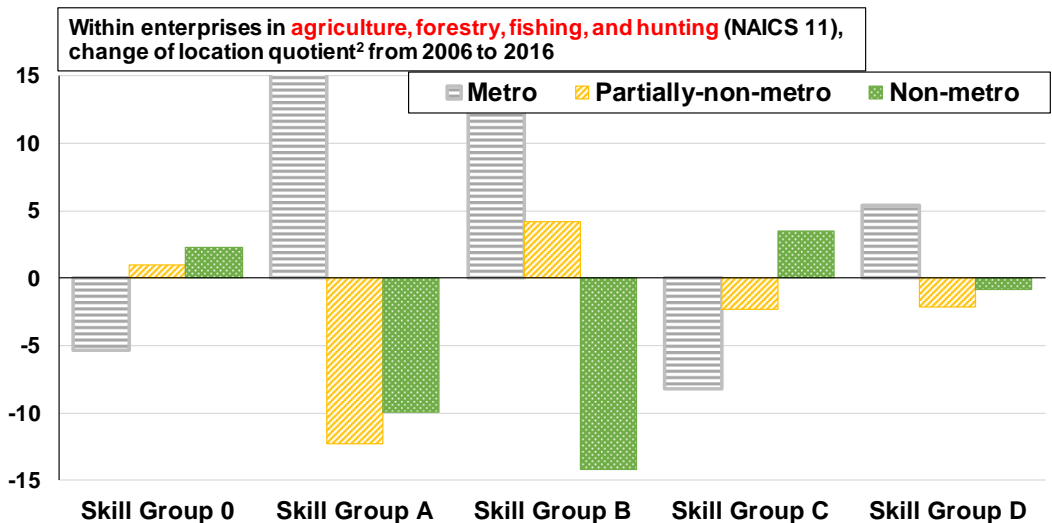
- Between 2006 and 2016, the relative intensity of employment in management (including self-employed operators) increased in non-metro census divisions in the agriculture, forestry, fishing, and hunting sector.
- Relative to Ontario as a whole, the share of employment in Skill Groups “A” and “B” in this sector declined in non-metro census divisions.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

For centuries, machines have been substituted for manual labour. In the agriculture and forestry sector, there is an on-going shift to larger and more sophisticated machines and the requisite skills to operate and maintain these machines.

The objective of this Fact Sheet is to show the change in the mix of occupations (grouped into skill groups¹¹) in agriculture, forestry, fishing, and hunting¹² (AFFH) from 2006 to 2016.¹³

Figure 1 Among enterprises in agriculture, forestry, fishing and hunting, the share of non-metro employment in Skill¹ Groups “O” & “C” increased, relative to the Ontario average, 2006-2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada, **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations.
2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).
Source: OMAFRA, EMSI ANALYST database. Chart by Ray D. Bollman@sasktel.net

Summary data for each sector is in an appendix.¹⁴

Findings

Employment in AFFH declined by 15% in Ontario from 2006 to 2016 (Table 1). The decline was largest (21%) in non-metro¹⁵ census divisions (CDs).

Employment declined in each skill group across each type of geography—except there was a small

groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

¹⁴ Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.

¹⁵ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

¹¹ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

¹² Specifically, NAICS 11 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?obid=12-501-X&objType=2&lang=en&limit=0>).

¹³ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry

increase in the numbers employed in Skill Groups “A” and “B” in metro CDs.

The skill group with the largest number employed was Skill Group “O” which includes managers and self-employed operators of enterprises in AFFH. This group constituted 47% of employment in AFFH in non-metro counties followed by 41% in partially-non-metro CDs and 30% in metro CDs. Employment in this skill group declined between 8% and 16%, depending upon the type of region, from 2006 to 2016.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “O” represented 47% of AFFH employment in non-metro CDs in 2016. When we take this 47% share and divide by the 42 share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 112 (in Column 7) as measure of the relative intensity of non-metro AFFH employment in Skill Group “O,” relative to 100 for Ontario as a whole. A figure more 100 indicates that this group has a higher share (or is more intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “O” increased by 2 points (Figure 1). This increase indicates that the share of workers who were managers or self-employed increased more in non-metro CDs, compared to the change for Ontario as a whole. Note that the absolute decline in this occupation group was larger in non-metro CDs (than in other types of CDs) but other occupations declined even more in non-metro CDs such that the share of employment in Skill Group “O” went up from 44% in 2006 to 47% in 2016.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “O” and Skill Group “C” indicates a relative increase in the share of these occupations in non-metro AFFH employment, compared to Ontario as a whole. In 2016, metro CDs showed a higher intensity in each occupation groups except manager / owner operators, and non-metro CDs displayed the reverse with only the manager / owner operator occupation

group being more intense than Ontario.

Summary

Between 2006 and 2016, the relative intensity of employment in management (including self-employed operators) increased in AFFH in non-metro census divisions. Relative to Ontario as a whole, the share of employment in Skill Groups “A” and “B” declined in non-metro census divisions (plus a small relative decline in Skill Group “D”).

Table 1. Level and change in skill¹ structure of employment in agriculture, forestry, fishing and hunting enterprises (NAICS 11), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	5	4	-12	31	30	77	72	-5
A	0	0	69	1	3	112	168	56
B	2	2	4	14	16	94	125	31
C	7	6	-10	44	43	125	116	-8
D	1	1	-17	9	8	120	125	5
Total	15	14	-8	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	17	16	-8	40	41	97	98	1
A	1	1	-3	1	2	116	104	-12
B	6	5	-22	14	13	95	99	4
C	16	15	-10	37	38	105	102	-2
D	3	2	-25	7	6	100	98	-2
Total	44	38	-12	100	100	100	100	0
Non-metro census divisions⁴								
O	22	19	-16	44	47	109	112	2
A	1	0	-15	1	1	82	72	-10
B	8	5	-42	16	12	106	92	-14
C	16	14	-14	31	34	88	92	3
D	3	2	-32	7	6	94	93	-1
Total	50	40	-21	100	100	100	100	0
All census divisions								
O	44	39	-13	41	42	100	100	0
A	1	1	4	1	2	100	100	0
B	17	12	-28	15	13	100	100	0
C	39	34	-11	35	37	100	100	0
D	8	6	-27	7	6	100	100	0
Total	109	92	-15	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

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 NRagettie@RuralOntarioInstitute.ca

Change in occupation mix: Construction sector 2006–2016

Vol. 7, No. 4, 2019

Highlights

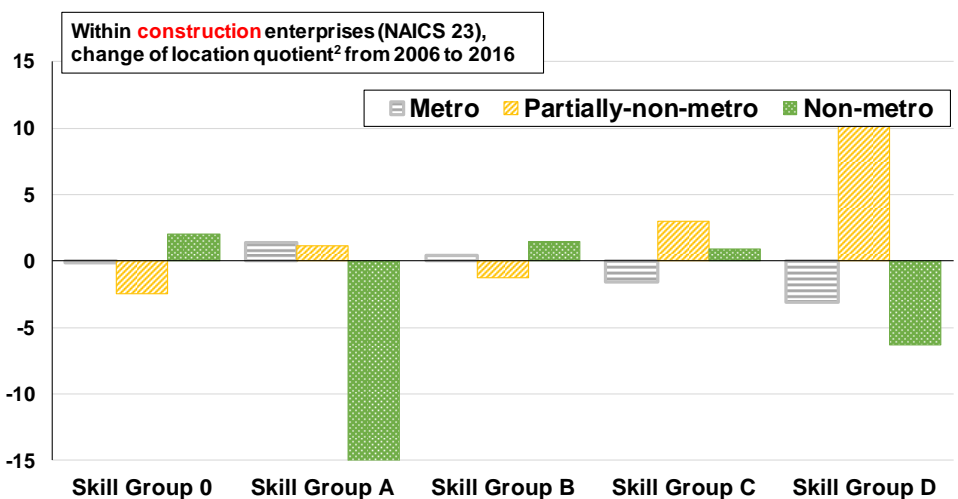
- In 2016, in the construction sector in non-metro census divisions, 59% of employment was in occupations usually requiring a college diploma or apprenticeship training (Skill Group “B”).
- From 2006 to 2016, there was a (very) slight shift towards these occupations in non-metro construction, relative to Ontario as a whole.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

Comparing the shift in the percent of employment in different skill groups in a sector shows whether the changing occupation mix in a given region is leading or lagging the changes in the province as a whole.

The objective of this Fact Sheet is to show the change in the mix of occupations (as grouped into skill groups¹⁶) in construction¹⁷ from 2006 to 2016¹⁸.

Figure 1 Among construction enterprises, the share of non-metro employment in Skill¹ Groups “O” & “B” & “C” increased relative to the Ontario average, 2006-2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada, **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

Source: OMAFRA, EMSI ANALYST database. Chart by Ray D. Bollman@sasktel.net

Summary data for each sector is in an appendix.¹⁹

Findings

Employment in construction increased by 29% in Ontario from 2006 to 2016 (Table 1). The increase was the smallest (19%) in non-metro²⁰ census divisions (CDs) followed by a 21% increase in partially non-metro CDs and a 37% increase in metro CDs.

Employment increased in each skill group within each type of CD. The core skill group in construction is Skill Group “B” which includes occupations usually requiring a college education or apprenticeship training. This group represented 58% to 63% of

¹⁶ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

¹⁷ Specifically, NAICS 23 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?obid=12-501-X&objType=2&lang=en&limit=0>).

¹⁸ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

¹⁹ **Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.**

²⁰ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

construction employment, depending upon the year and the type of CD.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “C” represented 15% of construction employment in non-metro CDs in 2016. When we take this 15% share and divide by the 13% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 112 (in Column 7) as measure of the relative intensity of non-metro construction employment in Skill Group “C”, relative to 100 for Ontario as a whole. A figure more than 100 indicates that this group has a higher share (or is more intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “C” increased by 1 point (Figure 1). This increase may be interpreted as a relative (albeit small) increase in the share of employment in this skill group in non-metro construction employment, compared to the change for Ontario as a whole.

Note the increase in the LQ for Skill Group “O” in non-metro construction. This includes managers and self-employed operators of enterprises involved in construction

Note also the relative decrease in the share of non-metro construction employment in Skill Group “A” which is driven by a very small absolute change in employment in the occupations in this skill group.

Summary

Overall, the share of employment in the occupations in Skill Group “B” remained as the core group in 2016 (with 59% of total employment at the Ontario level and within non-metro census divisions). In each type of geography, the proportion of

construction employment in this skill group declined slightly between 2006 and 2016. The small positive change in the calculated location quotient for this occupation group in non-metro census divisions is a result of the share of construction employment that was employed in this occupation group experiencing a smaller proportionate decline than the decline for Ontario as whole.

Table 1. Level and change in skill¹ structure of employment in construction enterprises (NAICS 23), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	30	46	52	15	17	107	106	0
A	6	10	70	3	4	120	121	1
B	121	161	33	60	58	98	99	0
C	28	36	31	14	13	99	98	-2
D	17	24	39	9	9	97	94	-3
Total	202	277	37	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	15	19	31	13	14	94	92	-2
A	2	3	50	2	2	76	78	1
B	71	82	15	63	60	104	103	-1
C	15	18	21	13	13	96	99	3
D	9	13	41	8	10	96	106	11
Total	112	136	21	100	100	100	100	0
Non-metro census divisions⁴								
O	8	10	36	12	14	88	91	2
A	1	1	15	2	2	77	61	-16
B	37	43	17	60	59	99	100	1
C	9	11	17	15	15	111	112	1
D	6	8	19	10	10	117	111	-6
Total	62	74	19	100	100	100	100	0
All census divisions								
O	53	76	44	14	16	100	100	0
A	9	15	58	2	3	100	100	0
B	229	286	25	61	59	100	100	0
C	52	65	26	14	13	100	100	0
D	33	45	36	9	9	100	100	0
Total	376	486	29	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

Change in occupation mix: Manufacturing sector 2006–2016

Vol. 7, No. 5, 2019

Highlights

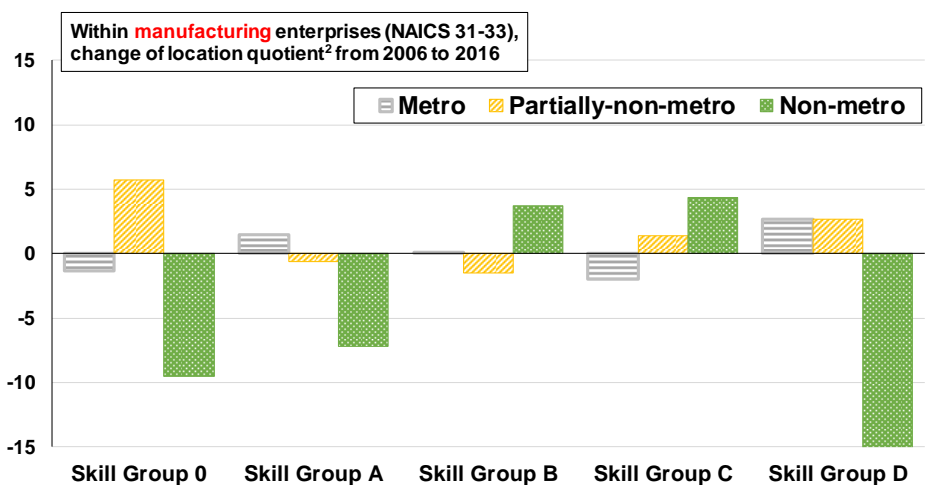
- From 2006 to 2016, there was a decline in manufacturing employment in each occupation group, except in occupations usually requiring a university degree (Skill Group “A”).
- In 2016, 81% of employment in non-metro manufacturing was in two employment groups (45% in occupations usually requiring a high school diploma or occupation-specific training [Skill Group “C”] and 36% in occupations usually requiring a college diploma or apprenticeship training [Skill Group “B”]).
- In terms of the share (or percent) of employment in each occupation group, the share of non-metro manufacturing employment in Skill Groups “B” and “C” increased (marginally), compared to the change for Ontario as a whole.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

For centuries, machines have been substituted for manual labour. There is an ongoing shift to more skilled workers (or knowledge workers) to design and to manage machines to perform the work of various occupations in each industry sector.

The objective of this Fact Sheet is to show the change in the mix of occupations (grouped into skill groups²¹) in manufacturing²² from 2006 to 2016.²³

Figure 1 Among manufacturing enterprises, the share of non-metro employment in Skill¹ Groups “B” & “C” increased relative to the Ontario average, 2006 to 2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada, **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations.
2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).
Source: OMAFRA, EMSI ANALYST database. Chart by Ray D. Bollman@sasktel.net

²¹ Occupations are classified to Skill Groups based on: Employment and Skills Development Canada, **National Occupational Classification Matrix 2011**

(<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals

²² Specifically, NAICS 31-33 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?obild=12-501-X&objType=2&lang=en&limit=0>).
²³ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics

Canada, Catalogue no. 21-006-XIE)
(www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

Findings

Employment in manufacturing declined by 21% in Ontario from 2006 to 2016 (Table 1). The decline was largest (24%) in non-metro²⁵ census divisions (CDs) followed by a 21% decline in partially-non-metro CDs and a 19% decline in metro CDs.

Canada, Catalogue no. 21-006-XIE)
(www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

²⁴ Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.

²⁵ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

Employment declined in each skill group—except there was an increase (16%) in employment in Skill Group “A” (i.e., occupations usually requiring a university education). The increase in this skill group was greater in metro CDs (20%) followed by an increase of 15% in partially non-metro CDs and followed by no change in non-metro CDs.

Given that employment declined in each other skill group, the increase (or no change) for Skill Group “A” meant that the share of manufacturing employment in Skill Group “A” increased from 2006 to 2016—from 5% to 7% of manufacturing employment in Ontario as a whole, and from 4% to 5% in non-metro CDs.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “A” represented 5% of manufacturing employment in non-metro CDs in 2016. When we take this 5% share and divide by the 7% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 67 (in Column 7) as a measure of the relative intensity of non-metro manufacturing employment in Skill Group “A”, relative to 100 for Ontario as a whole. A figure less than 100 indicates that this group has a lower share (or is less intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “A” declined by 7 points (Figure 1). This decline indicates a relative shift to a lower share of employment in this skill group, compared to the change for Ontario as a whole.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “B” and Skill Group “C” indicates a relative increase in the share of these occupations in non-metro manufacturing, compared to Ontario as a whole.

Note also the relative decline in the share of non-metro employment in Skill Group “D.”

Summary

In non-metro manufacturing from 2006 to 2016, there was an increase in the relative intensity of employment in the core occupation groups of Skill Group “B” and “C,” compared to the change for Ontario as a whole.

Table 1. Level and change in skill¹ structure of employment in manufacturing enterprises (NAICS 31-33), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	34	29	-13	7	8	114	113	-1
A	27	33	20	6	9	120	121	2
B	139	119	-14	30	32	96	96	0
C	220	156	-29	47	42	98	96	-2
D	43	37	-14	9	10	103	106	3
Total	464	375	-19	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	15	14	-8	5	6	83	89	6
A	11	12	15	4	6	79	78	-1
B	91	75	-17	33	34	105	103	-1
C	139	100	-28	50	45	104	105	1
D	22	19	-16	8	9	88	91	3
Total	277	219	-21	100	100	100	100	0
Non-metro census divisions⁴								
O	7	5	-27	6	5	87	77	-10
A	5	5	0	4	5	74	67	-7
B	43	35	-17	33	36	105	109	4
C	62	44	-29	48	45	99	103	4
D	13	9	-33	10	9	113	98	-16
Total	130	98	-24	100	100	100	100	0
All census divisions								
O	56	48	-14	6	7	100	100	0
A	43	50	16	5	7	100	100	0
B	273	230	-16	31	33	100	100	0
C	421	300	-29	48	43	100	100	0
D	79	65	-18	9	9	100	100	0
Total	872	693	-21	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in “Rural Ontario’s Demography: Census Update to 2016” **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

Change in occupation mix: Wholesale trade sector 2006–2016

Vol. 7, No. 6, 2019

Highlights

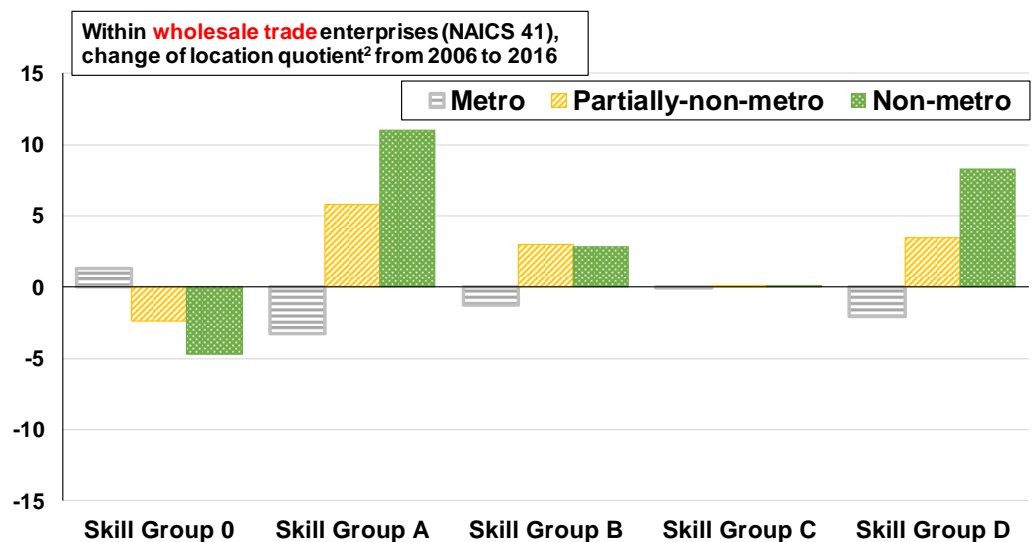
- In non-metro census divisions in 2016, 49% of employment in wholesale trade was in occupations usually requiring a high school diploma or occupation-specific training (Skill Group “C”).
- Between 2006 and 2016, the non-metro change in the share (or percent) of employment in this occupation group was the same as the change for Ontario as whole.
- Between 2006 and 2016, the relative intensity of employment in Skill Groups “A” and “B” increased in the non-metro wholesale sector. This implies a relative shift in non-metro wholesale trade towards these occupation groups, relative to Ontario as a whole.
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are not less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

Within each industry sector, the mix of occupations and the associated skills are changing over time. The change in the occupation mix in a given sector shows whether a type of region is gaining or losing employment in a given skill group, relative to the change in other regions.

The objective of this Fact Sheet is to show the change in the mix of skills²⁶ in wholesale enterprises²⁷ from 2006 to 2016.²⁸

Figure 1 Among wholesale trade enterprises, the share of non-metro employment in Skill Groups “A”, “B” & “D” increased relative to the Ontario average, 2006-2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada, **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).
Source: OMAFRA, EMSI ANALYST database. Chart by Ray D. Bollman@sasktel.net

²⁶ Occupations are classified to Skill Groups based on:

Employment and Skills Development Canada, National Occupational Classification Matrix 2011 (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

²⁷ Specifically, NAICS 41 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?obid=12-501-X&objType=2&lang=en&limit=0>).

Summary data for each sector is in an appendix.²⁹

Findings

Employment in wholesale enterprises increased by 8% in Ontario from 2006 to 2016 (Table 1). The

²⁸ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

²⁹ **Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.**

increase was smaller (5%) in non-metro³⁰ census divisions (CDs) but was 8% in each of partially non-metro CDs and metro CDs.

Employment increased in each skill group in each type of census division—except there was a small decline in non-metro CDs in Skill Group “O” (-2%) and Skill Group “C” (-1%).

About one-half of total employment in wholesale enterprises is in Skill Group “C” (45% to 53%, depending upon the year and the type of census division). Slightly over one-quarter are employed in Skill Group “B.” Finally, 13% are employed in Skill Group “O” (which includes managers and self-employed operators).

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “B” represented 29% of wholesale sector employment in non-metro CDs in 2016. When we take this 29% share and divide by the 27% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 107 (in Column 7) as a measure of the relative intensity of non-metro wholesale employment in Skill Group “B”, relative to 100 for Ontario as a whole. A figure greater than 100 indicates that this group has a higher share (or is more intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “B” increased by 3 points (Figure 1). This increase indicates a shift in non-metro wholesale employment towards Skill Group “B,” compared to the size of the shift for Ontario as a whole.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “A” and Skill Group “B” indicates a relative increase in the share of these occupations in the non-metro wholesale sector, compared to Ontario as a whole.

Summary

Between 2006 and 2016, the relative intensity of employment in Skill Groups “A” and “B” increased in the non-metro wholesale sector. This indicates a relative shift in non-metro employment in wholesale trade towards these occupation groups, relative to Ontario as a whole. Nonetheless, both non-metro and partially-non-metro parts of Ontario remain more weighted to skills groups B, C and D than metro Ontario is.

Table 1. Level and change in skill¹ structure of employment in wholesale trade enterprises (NAICS 41), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	32	34	6	13	13	101	102	1
A	19	27	42	8	10	121	118	-3
B	63	69	10	26	26	99	98	-1
C	117	118	1	48	45	97	97	0
D	12	13	10	5	5	101	99	-2
Total	243	262	8	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	9	10	3	13	12	97	94	-2
A	3	4	62	4	5	55	61	6
B	19	22	15	26	28	101	104	3
C	39	40	2	53	49	107	107	0
D	4	4	16	5	5	99	102	3
Total	74	80	8	100	100	100	100	0
Non-metro census divisions⁴								
O	4	4	-2	13	13	102	97	-5
A	1	1	84	2	4	38	49	11
B	8	9	12	27	29	104	107	3
C	16	16	-1	52	49	106	106	0
D	1	2	19	5	5	96	104	8
Total	30	32	5	100	100	100	100	0
All census divisions								
O	46	48	5	13	13	100	100	0
A	22	33	46	6	9	100	100	0
B	90	101	11	26	27	100	100	0
C	171	173	1	49	46	100	100	0
D	17	19	12	5	5	100	100	0
Total	347	374	8	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

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 NRagettie@RuralOntarioInstitute.ca

³⁰ Defined in "Rural Ontario's Demography: Census Update 2016." **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

Change in occupation mix: Professional, scientific & technical services 2006-2016 Vol. 7, No. 7, 2019

Highlights

- From 2006 to 2016, there was an increase in non-metro employment in every skill group in enterprises providing professional, scientific, and technical services.
- In this sector, the core occupation group is Skill Group “A” (i.e., occupations usually requiring a university degree) which comprised 45% of employment in non-metro census divisions in 2016.
- Relative to Ontario as a whole, there was a relative decline from 2006 to 2016 in the share of non-metro employment in Skill Group “A” (i.e., occupations usually requiring a university degree).
- Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada that is based on the level of educational attainment usually required for a given occupation. However, non-metro workers know that heavy equipment mechanics (Skill Group “B”) are ‘not’ less skilled than teachers (Skill Group “A”)—the required skills are simply different.

Why look at the mix of occupations?

There is an on-going shift to so-called “knowledge workers” who assess and design and evaluate the products and the processes of various sectors. Enterprises in professional, scientific, and technical services (typically, consulting agencies in a wide range of specializations) provide these services.

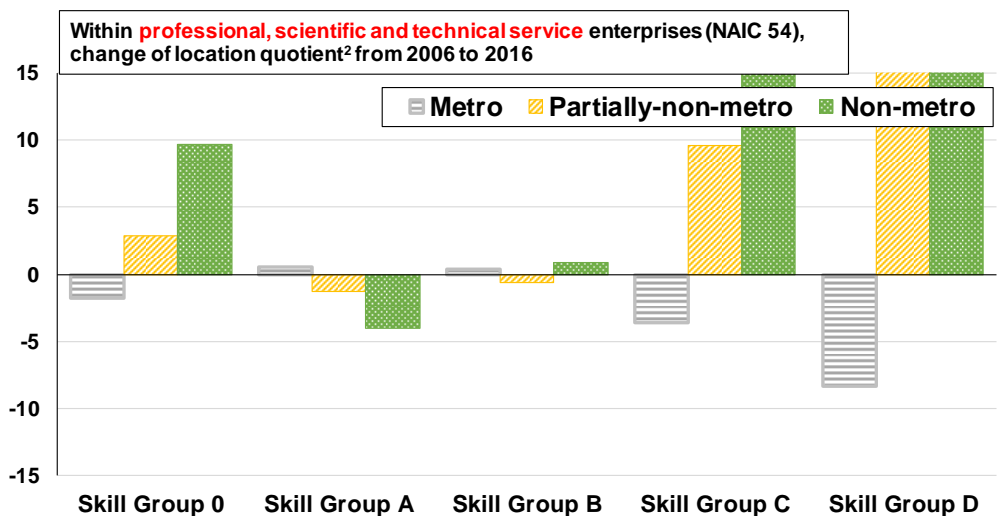
The objective of this factsheet is to show the change in the mix of occupations (grouped into skill groups³¹) in enterprises providing professional, scientific, and technical services³² from 2006 to 2016.³³

³¹ Occupations are classified to Skill Groups based on: **Employment and Skills Development Canada. National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; and **Group O** includes management occupations & self-employed individuals.

³² Specifically, NAICS 54 in Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objId=12-501-X&objType=2&lang=en&limit=0>).

³³ From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and

Figure 1 Among professional, scientific & technical service enterprises, the share of non-metro employment in Skill Group “A” declined, relative to the Ontario average



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; Group O includes management occupations
2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).
Source: OMAFRA, EMSI ANALYST database. Chart by Ray D. Bollman@sasktel.net

Summary data for each sector is in an appendix.³⁴

Findings

Employment in professional, scientific, and technical services increased by 26% in Ontario from 2006 to 2016 (Table 1). The increase was the smallest (11%) in non-metro census divisions (CDs) followed by a 26% increase in metro CDs and a 28% increase in

Alessandro Alasia. (2004) “Occupational patterns within industry groups: A rural-urban comparison.” **Rural and Small-Town Canada Analysis Bulletin** Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE) (www5.statcan.gc.ca/bsolc/english/bsolc?catno=21-006-X&CHROPG=1).

³⁴ **Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.**

partially-non-metro CDs in non-metro³⁵ census divisions (CDs) followed by a 26% increase in metro CDs and a 28% increase in partially-non-metro CDs.

Employment increased in each skill group at the Ontario level and for each skill group in non-metro and partially-non-metro CDs. Within metro CDs, the number employed in the Skill Groups “C” and “D” declined slightly.

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “A” represented 45% of non-metro employment in professional, scientific, and technical services employment in non-metro CDs in 2016. When we take this 45% share and divide by the 54% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 83 (in Column 7) as a measure of the relative intensity of non-metro manufacturing in Skill Group “A,” relative to 100 for Ontario as a whole. A figure less than 100 indicates that this group has a lower share (or is less intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “A” declined by 4 points (Figure 1). This decline indicates a (slight) relative decline in the non-metro share of employment in this skill group, relative to the Ontario level change. While the proportion in Group “A” in non-metro CDs in this sector increased, it failed to keep pace with the scale of the increase in Ontario thus showing a declining LQ.

In fact, within non-metro enterprises in professional, scientific, and technical services, in four of the five skill groups, the share of employment in the skill group increased relative to the change for the province as a whole. The change in the location quotient was positive in each skill group—except Skill Group “A.” Relative to the Ontario average change, the share of employment in non-metro CDs increased in Skill Group “O” (management occupations which would include self-employed consultants). However, the share in Skill Group “A” decreased slightly (Figure 1) in non-metro professional, scientific and technical services enterprises, relative to the change across all CDs in Ontario.

From 2006 to 2016, the positive change in Figure 1 for the non-metro LQ for Skill Group “B” and Skill Group “C” indicates a relative increase in the share of these occupations in non-metro professional, scientific and technical services enterprises, compared to Ontario as a whole.

Summary

Between 2006 and 2016, there was an increase in non-metro employment in every skill group in enterprises providing professional, scientific, and technical services. However, relative to Ontario as a whole, in non-metro census divisions, the share of employment in Skill Group “A” did not increase as fast as the share at the Ontario level.

Table 1. Level and change in skill¹ structure of employment in professional, scientific and technical services (NAICS 54), by type of census division in Ontario, 2006 and 2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	26	30	15	8	7	105	103	-2
A	175	238	36	52	56	103	104	1
B	92	114	24	27	27	93	94	0
C	38	38	-1	11	9	99	95	-4
D	4	3	-6	1	1	106	97	-8
Total	334	423	26	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	5	6	23	7	6	90	93	3
A	37	51	35	46	49	91	90	-1
B	28	35	25	34	33	117	116	-1
C	10	11	13	12	11	103	113	10
D	1	1	28	1	1	87	108	21
Total	81	104	28	100	100	100	100	0
Non-metro census divisions⁴								
O	2	2	18	5	5	70	79	10
A	14	16	14	44	45	87	83	-4
B	12	13	10	38	37	129	130	1
C	4	4	4	12	11	103	118	15
D	0	0	36	1	1	71	107	36
Total	31	35	11	100	100	100	100	0
All census divisions								
O	33	38	17	7	7	100	100	0
A	226	304	34	51	54	100	100	0
B	132	162	23	29	29	100	100	0
C	52	53	2	12	9	100	100	0
D	5	5	2	1	1	100	100	0
Total	447	562	26	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in “Rural Ontario’s Demography: Census Update to 2016” **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

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 NRagetlie@RuralOntarioInstitute.ca

³⁵ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).



Change in occupation mix: Health care & social assistance 2006–2016

Vol. 7, No. 8, 2019

Highlights

- Over 90% of employment in organizations providing health care and social assistance services is in Skill Groups "A," "B," and "C."
Between 2006 and 2016, the share of employment in these occupation groups in non-metro census divisions changed at the same pace as in Ontario as a whole. A location quotient measuring relative change showed virtually no difference in the pace of change.
Cautionary caveat: We are using a delineation of skills as delineated by Employment and Skills Development Canada...

Why look at the mix of occupations?

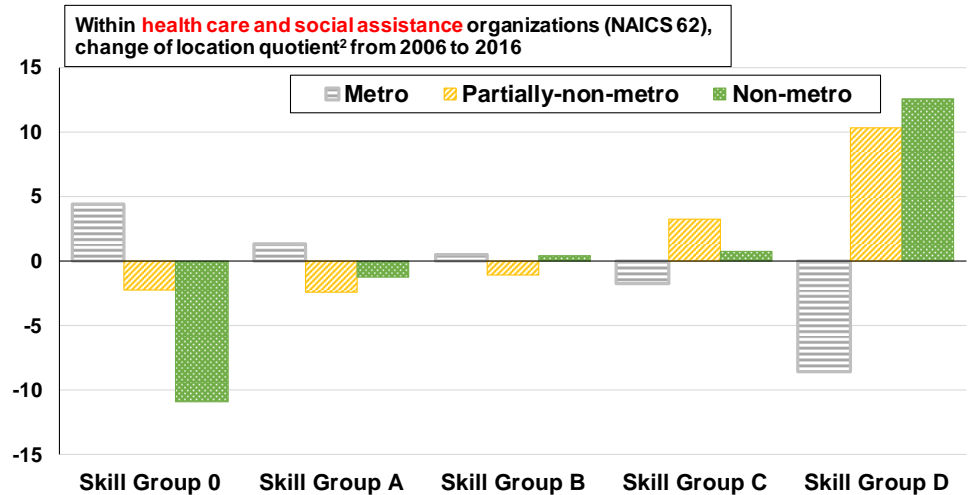
The change in the occupation mix in a given sector shows whether a type of region is gaining or losing employment in a given skill group, relative to the change in other types of regions.

The objective of this Fact Sheet to show the change in the mix of occupations (grouped into skill groups) in organizations providing health care and social assistance from 2006 to 2016.

Summary data for each sector is in an appendix.

Figure 1

Among health care and social assistance organizations, the share of non-metro employment in Skill Groups "A", "B" & "C" changed very little, relative to the Ontario average, 2006-2016



1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. National Occupational Classification Matrix 2011... 2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole...

36 Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. National Occupational Classification Matrix 2011

(http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11). Group A usually requires a university education; Group B usually requires a college education or apprenticeship training; Group C usually requires a secondary school or occupation-specific training; Group D usually requires on-the-job training; and Group O includes management occupations & self-employed individuals.

37 Specifically, NAICS 62 in Statistics Canada. (2017) North American Industry Classification System: 2017 (Ottawa: Statistics Canada, Catalogue no. 12-501)

38 From 1991 to 2001 in most industries, the share of employment in higher-skilled jobs increased (slightly) more in urban areas than in rural areas. See Erik Magnusson and Alessandro Alasia. (2004) "Occupational patterns within industry groups: A rural-urban comparison." Rural and Small-Town Canada Analysis Bulletin Vol. 5, No. 6 (Ottawa: Statistics Canada, Catalogue no. 21-006-XIE)

39 Appendix: Tables and Charts showing the Level and Change of Employment by Skill Group for each Industry Sector, by Type of Census Division, Ontario, 2006–2016.

Findings

Employment in health care and social assistance increased by 34% in Ontario from 2006 to 2016 (Table 1). The growth was somewhat smaller (25%) in non-metro census divisions (CDs) compared to a 32% increase in partially-non-metro CDs and a 38% increase in metro CDs.

The growth was relatively even across skill groups in non-metro and in partially non-metro CDs. In metro CDs, growth was higher in Skill Group "O" and growth was lower in Skill Group "D."

40 Defined in "Rural Ontario's Demography: Census Update 2016." Focus on Rural Ontario (Guelph: Rural Ontario Institute, March) (http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx).

A location quotient (LQ) calculates a relative intensity (Columns 6 and 7 in Table 1). For example, Skill Group “A” represented 31% of employment in health care and social assistance in non-metro CDs in 2016. When we take this 31% share and divide by the 34% share at the Ontario level (and multiply by 100), we generate an LQ (or relative intensity) of 91 (in Column 7) as a measure of the relative intensity of non-metro manufacturing employment in Skill Group “A,” relative to 100 for Ontario as a whole. A figure less than 100 indicates that this group has a lower share (or is less intensive) compared to Ontario as a whole. From 2006 to 2016, the non-metro LQ for employment in Skill Group “A” declined by 1 point (Figure 1). This decline may be interpreted as a relative (albeit very small) decline in the share (or percent) of non-metro employment in this occupation group, compared to the change for Ontario as a whole.

In 2016, the share of employment in each of the core occupation groups in health care and social assistance are essentially similar in non-metro CDs, compared to Ontario as whole. In non-metro CDs, 31% of employment was in Skill Group “A,” 33% of employment was in Skill Group “B” and 27% of employment was in Skill Group “C.” These shares were exactly the same in 2006. The stability (i.e., no change) in the shares (as shown by the lack of change in the LQs) indicates the stability in the shares in non-metro CDs was the same as for Ontario as a whole.

From 2006 to 2016, note the relatively larger decline in the LQ for Skill Group “O” and the relatively larger increase in the LQ for Skill Group “D.” These skill groups do not make up a large proportion of employment in the sector.

Summary

The relative intensity of employment in the main skill groups (i.e., Skill Groups “A” and “B” and “C”) stayed essentially the same from 2006 to 2016 in non-metro health care and social assistance. Small changes in absolute numbers did generate a relatively higher change in the relative intensity of non-metro employment in Skill Groups “O” and “D.”

Table 1. Level and change in skill¹ structure of employment in health care and social assistance organizations (NAICS 62), by type of census division in Ontario, 2006-2016

Skill group ¹	Number employed (,000)		Percent change, 2006 to 2016	Number employed as percent of total		Location quotient ²		
	2006	2016		2006	2016	2006	2016	Change ³
Metro census divisions⁴								
O	11	17	49	4	4	100	105	4
A	110	156	42	35	36	104	105	1
B	102	141	38	32	32	99	99	1
C	79	106	35	25	24	98	96	-2
D	16	18	15	5	4	92	83	-9
Total	317	437	38	100	100	100	100	0
Partially-non-metro census divisions⁴								
O	6	8	33	3	3	99	96	-2
A	57	75	31	32	32	97	95	-2
B	59	76	30	33	33	102	101	-1
C	45	61	35	25	26	100	103	3
D	10	13	33	6	6	105	116	10
Total	177	233	32	100	100	100	100	0
Non-metro census divisions⁴								
O	4	4	16	4	3	102	91	-11
A	31	39	26	31	31	92	91	-1
B	33	41	25	33	33	100	100	0
C	27	34	26	27	27	107	107	1
D	6	8	27	6	6	116	129	13
Total	102	127	25	100	100	100	100	0
All census divisions								
O	21	29	38	4	4	100	100	0
A	198	270	37	33	34	100	100	0
B	194	259	33	33	32	100	100	0
C	151	201	33	25	25	100	100	0
D	32	39	23	5	5	100	100	0
Total	595	798	34	100	100	100	100	0

1. Occupations are classified to Skill Groups based on: Employment and Skills Development Canada. **National Occupational Classification Matrix 2011** (<http://noc.esdc.gc.ca/English/NOC/Matrix2011.aspx?ver=11>). **Group A** usually requires a university education; **Group B** usually requires a college education or apprenticeship training; **Group C** usually requires a secondary school or occupation-specific training; **Group D** usually requires on-the-job training; **Group O** includes management occupations and self-employed individuals.

2. A location quotient is a measure, for each industry sector, of the relative intensity of employment in a skill group in, say, non-metro census divisions, compared to the employment in the skill group for Ontario as a whole. It is calculated as the percent of employment in a skill group in an industry sector for, say, non-metro census divisions, divided by the percent of employment in the skill group in the industry sector for Ontario as a whole (and then multiplied by 100).

3. The change in the location quotient indicates whether a given geographic group (e.g., non-metro census divisions) reported an increase or decrease in the percent of their employment in a given skill group, relative to Ontario as a whole.

4. The classification of census divisions is shown in Table 2 in "Rural Ontario's Demography: Census Update to 2016" **Focus on Rural Ontario** (March, 2017).

Source: OMAFRA, EMSI ANALYST database.

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Overview: Public infrastructure in rural Ontario**Vol. 7, No. 8, 2020**

Highlights

- **Most rural municipalities have public infrastructure, such as roads (all municipalities), culture, recreation, or sports facilities (97%), bridges (92%) and stormwater facilities (89%).**

Why look at public infrastructure?

Public infrastructure (roads, bridges, etc.) is a public policy issue because some facilities are approaching the end of their useful life and population expansion in some areas is causing a demand for additional public infrastructure. There is ongoing debate over the revenue streams for funding infrastructure and the ensuing maintenance costs. Municipal governments, both regional and lower tier, own much of the public infrastructure that make communities function. In Ontario, an unending stream of programs, negotiations and advocacy surrounds the terms of fiscal transfers between the orders of government for infrastructure. The Association of Municipalities of Ontario argues that there is a fiscal gap between the capacity of the local tax base to provide revenue and the monies needed to maintain and build needed infrastructure.

<https://www.amo.on.ca/AMO-Content/Backgrounds/2017/AMOPolicyHighlights.aspx>

Canada's Core Public Infrastructure Survey⁴¹ 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 present an overview of public infrastructure among incorporated towns and incorporated municipalities (hereafter "municipalities") (see Box 1) in rural Ontario. Subsequent Fact Sheets will

show the situation for each type of public infrastructure, such as roads, bridges, etc.

Findings

Among municipalities in rural and small-town (RST) areas (defined in Box 1),

- All have some road infrastructure;
- 97% have a culture, recreation or sports facility;
- 92% have one or more bridges;
- 89% have a stormwater facility;
- 77% have a solid waste facility;
- 73% have a potable water facility;
- 70% have a waste water facility
- 11% have public transit; and
- 4% have social housing (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-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.htm>).

⁴¹ 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>).

Among municipalities within each of LUCs and RST areas, municipalities with a larger population size are more likely to have each public infrastructure asset (Table 1).

For most types of assets, municipalities in LUCs and RST areas were (about) equally likely to have a documented asset management plan (Table⁴² A2) and they had similar schedules to update their asset management plans (Tables A3 and A4). Spreadsheets were the most popular type of information system for asset management—used by 64% of RST municipalities and 78% of LUC municipalities followed by off-the-shelf asset management software and paper records (Table A5). Many municipalities are factoring climate change into their decision-making processes for core

infrastructure assets. For municipalities with a population of 30,000 or over within LUCs, 71% consider climate change for decision-making regarding assets dealing with stormwater facilities (Table A6). However, at the time of the survey, a consideration of climate change was not a factor considered in the decision-making for any infrastructure asset for 44% of RST municipalities and 35% of the municipalities within LUCs.

Summary

Most rural municipalities (outside areas of 10K+) have public infrastructure such as roads (all municipalities), culture, recreation, or sports facilities (97%), bridges (92%), and stormwater facilities (89%). By contrast public transit and social housing assets are more prevalent among the larger municipalities within Census Metropolitan Areas or Census Agglomerations. Solid waste facilities are more prevalent in the smaller population size municipalities likely because they also may have less population density.

Table 1. Number of organizations that own each type of public infrastructure asset, Ontario, 2016

Type of core infrastructure asset	All organizations (provincial, regional, municipal) that own core infrastructure assets	All lower-tier municipalities with owned (or leased) assets	Infrastructure assets owned (or leased) by lower-tier municipalities (census subdivisions ¹)								
			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)			All census subdivisions (included in survey)	
			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	All CSDs in Rural and Small Town Areas with population of 1,000 or more (subtotal)		
Number of organizations											
	367	337	59	68	21	148	95	94	189	337	
Number of organizations that own (or lease) each type of public infrastructure asset											
Public transit	82	76	36	19	1	56	13	F	20	76	
Potable water	255	246	46	55	7	108	77	62	138	246	
Stormwater	328	307	59	64	15	138	92	77	169	307	
Wastewater	251	241	48	52	8	108	72	62	133	241	
Solid waste	245	230	35	31	19	84	64	81	146	230	
Roads	367	337	59	68	21	148	95	94	189	337	
Bridges and tunnels	344	314	59	61	20	140	91	83	174	314	
Social and affordable housing	49	28	19	2	0	21	4	F	7	28	
Culture, recreation and sports facilities	350	330	59	68	20	147	94	89	183	330	
Number of organizations that own each type of public infrastructure asset as a percent of the total number of organizations											
Public transit	22	23	61	28	5	38	14	F	11	23	
Potable water	69	73	78	81	33	73	81	66	73	73	
Stormwater	89	91	100	94	71	93	97	82	89	91	
Wastewater	68	72	81	76	38	73	76	66	70	72	
Solid waste	67	68	59	46	90	57	67	86	77	68	
Roads	100	100	100	100	100	100	100	100	100	100	
Bridges and tunnels	94	93	100	90	95	95	96	88	92	93	
Social and affordable housing	13	8	32	3	0	14	4	F	4	8	
Culture, recreation and sports facilities	95	98	100	100	95	99	99	95	97	98	

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).

Source: Statistics Canada, Core Public Infrastructure Survey, 2016, Tables 34-10-0260-01 and 34-10-0261-01.

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 NRagette@RuralOntarioInstitute.ca

⁴² Tables labelled with an "A" are available in the accompanying "Appendix Tables: Canada's Core Public Infrastructure Survey, 2016."

Road infrastructure in rural Ontario

Vol. 7, No. 9, 2020

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 Survey⁴³ 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>).

⁴³ 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	
				Kilometres ² 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 (Table⁴⁴ 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).

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 Ray.D.Bollman@sasktel.net. Any comments or discussions can be directed to NRagetlie@RuralOntarioInstitute.ca

⁴⁴ Tables labelled with an "A" are available in the accompanying "Appendix Tables: Canada's Core Public Infrastructure Survey, 2016."

Bridge and tunnel infrastructure in rural Ontario

Vol. 7, No. 10, 2020

Highlights

- Lower-tier municipalities categorized as within Rural and Small-Town areas in Ontario owned 2,691 bridges in 2016, which represents 18% of all bridges in Ontario.
- A higher share of the bridges owned by municipalities in Rural and Small-Town areas are in fair or poor condition, compared to those owned by municipalities in Larger Urban Centres.
- The smaller population sized lower-tier municipalities in Rural and Small-Town areas own a larger share (47%) of municipal culverts compared to 30% of municipal bridges.

Why look at public infrastructure?

Bridges are an important public infrastructure asset for rural municipalities in Ontario. Some are approaching the end of their useful life and population expansion in some areas is causing a demand for additional public infrastructure.

Canada's Core Public Infrastructure Survey⁴⁵ 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 factsheet is to show the status of bridge infrastructure among Ontario's rural municipalities (See Box 1).

Findings

Rural and urban municipalities in Ontario own a majority (61%) of all bridges⁴⁶ in (Table 1). For example, 95% of local bridges, 74% of bridges on collector roads and 68% of larger culverts (3+ metres in diameter) are owned by municipalities.

Municipalities in RST (defined in Box 1) areas own 2,691 bridges. This represents 30% of bridges

owned by municipalities and about 18% of all bridges in Ontario.

In RST municipalities, more than one-half of all bridges were built before 1970 (61% of collector bridges, 57% of local bridges and (the exception) 39% of arterial bridges) (Table⁴⁷ A14).

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.htm>).

⁴⁵ 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>).

⁴⁶ Respondents were asked to simply report the number of bridges. This measure differs from the data published by the Ontario Ministry of Municipal Affairs where the bridges and tunnels are measured as the total square meters of surface area of bridges and tunnels.

Table 1. Bridge and Tunnel Infrastructure in Ontario, 2016

Type of road asset	Bridges and tunnels owned by all organizations ² (provincial, regional, municipal)	Bridges and tunnels owned (or leased) by lower-tier municipalities	Percent municipal owned	Bridge and tunnel infrastructure owned (or leased) by lower-tier municipalities (census subdivisions ¹)								
				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)				All census subdivisions (included in survey)
				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)		
				Number ² of bridges / tunnels								
Total bridges	14,498	8,905	61	4,960	1,070	183	6,213	2,258	433	2,691	8,905	
Highway/expressway bridges	3,616	418	12	405	-	-	405	7	F	13	418	
Arterial bridges	3,030	1,450	48	1,280	124	9	1,412	31	F	37	1,450	
Collector bridges	2,021	1,496	74	1,153	90	5	1,248	236	F	248	1,496	
Local bridges	5,123	4,860	95	1,605	767	168	2,540	1,931	389	2,320	4,860	
Footbridges	709	682	96	518	89	1	608	52	F	74	682	
Culverts (diameter greater than or equal to 3 metres)	12,580	8,515	68	3,428	900	153	4,481	3,633	400	4,034	8,515	
Tunnels	35	20	57	15	3	-	18	2	-	2	20	

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. 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 34-10-0078-01 and 34-10-0120-01.

The condition of bridges among RST municipalities is worse than in LUC municipalities. In RST municipalities, the share of bridges that were in fair to poor condition was 42% for local bridges and 41% for collector bridges (Table A15). For LUC municipalities, these shares were 37% and 27%, respectively.

New bridges in RST municipalities have a (slightly) shorter expected useful life compared to new bridges in LUC municipalities (Table A16).

The share of municipalities with an asset management plan for bridges is slightly low(er) in RST municipalities, compared to LUC municipalities (83% and 86%, respectively) (Table A17).

For the management of bridge assets, spreadsheets are the most common type of information system being used (53% of RST municipalities and 65% of LUC municipalities) (Table A18). Virtually all municipalities (97% of RST and 99% of LUC) had some form of information systems, such as paper records, custom asset management software and off-the-shelf management software.

Municipalities in RST areas own a larger share of municipal culverts (47%, 4,034 of 8,515 municipal culverts) compared to their share of municipal bridges (30%, 2,691 of 8,904 municipal bridges).

Summary

Municipalities in rural and small-town areas in Ontario own 30% of the bridges owned by municipalities, which represents 18% of all bridges in Ontario.

At the time of the survey, a higher share of the bridges owned by municipalities in rural and small-town areas were in fair or poor condition, compared to the bridges owned by municipalities associated with larger urban centres.

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Highlights

- Lower-tier municipalities in rural and small-town Ontario own 1,526 facilities providing culture, recreation, or sport services.
- The bulk of facilities were built in the three decades of the 1970s, 1980s and 1990s.
- However, for some facilities, a sizeable share was built from 2000 to 2016 (such as 10% of indoor ice arenas, 63% of outdoor ice arenas, 32% of libraries, 23% of outdoor sports fields, 22% of museums and archives, 20% of community centres, and 10% of indoor ice arenas).

Why look at public infrastructure?

Facilities providing culture, recreation, and sports services are important public infrastructure assets for rural municipalities in Ontario and a key component of the local quality of life for citizens. Some are approaching the end of their useful life and population expansion in some areas is causing a demand for additional public infrastructure.

Canada's Core Public Infrastructure Survey⁴⁸ 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 the infrastructure of culture, recreation and sports facilities among incorporated towns and incorporated municipalities (hereafter "municipalities") (See Box 1) in rural Ontario.

Findings

Almost all facilities providing culture, recreation or sport services are provided by municipalities (Table 1). Only four groups⁴⁹ of facilities have some (up to 8% of the total) provided by other tiers of government.

In 2016, there were 15,384 separate facilities in Ontario. One group (outdoor sports fields) had 6,772 facilities (44% of the total).

Lower-tier municipalities in RST (defined in Box 1) areas in Ontario own 1,526 facilities providing culture, recreation, or sport services.

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?obid=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.htm>).

⁴⁸ 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>).

⁴⁹ Specifically, galleries, libraries, museums and archives and presentation and performance spaces (Table 1).

Due to low population density, RST areas have more facilities per 100,000 residents. Undoubtedly, these facilities are smaller than in LUC areas as each facility would be designed for a small population base.

The bulk of facilities were built in the three decades of the 1970s, 1980s and 1990s (Table⁵⁰ A22). For example, 69% of RST indoor ice arenas (with a single pad) were constructed in this 3-decade period. However, another 10% were built in the 16 years from 2000 to 2016.

However, 32% of RST libraries were built in the 2000-2016 period but only 5% of indoor curling rinks were built in this period.

In 2016, 46% of RST (single pad) indoor ice arenas were rated with a physical condition of fair to poor (Table A23). A fair to poor rating applied to 27% of libraries and 35% of community centres. In some

cases, a small share of facilities was rated as “poor” but a larger share was rated as fair: 2% and 24% respectively for curling rinks and 8% and 23% respectively for outdoor sports fields.

On average, one-half of municipalities in both RST and LUC areas reported having an asset management plan (Table A25). (average of 37 years) (Table A10).

Summary

Lower-tier municipalities in rural and small-town areas of Ontario own 1,526 facilities providing culture, recreation, or sport services.

The bulk of facilities were built in the three decades of the 1970s, 1980s and 1990s.

Table 1. Number of publicly-owned culture, recreation and sports facilities, Ontario, 2016

Cultural, recreational and sport facilities	Facilities owned by all jurisdictions (provincial, regional, municipal)	Facilities owned (or leased) by lower-tier municipalities	Percent municipal owned	Culture, recreation and sport facilities owned (or leased) by lower-tier municipalities (census subdivisions ¹)																	
				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)				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)				All census subdivisions (included in survey)
				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	All CSDs in Rural and Small Town Areas with population of 1,000 or more (subtotal)	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	All CSDs in Rural and Small Town Areas with population of 1,000 or more (subtotal)			
Number of facilities											Number of facilities per 100,000 residents										
Indoor ice arenas, single pad	506	506	100	241	56	7	304	117	85	203	506	2	5	13	3	11	32	16	4		
Indoor ice arenas, 2 or 3 pads	141	141	100	93	34	-	127	15	-	15	141	1	3	-	1	1	-	1	1		
Indoor ice arenas, 4 pads	23	23	100	23	-	-	23	-	-	0	23	0	-	-	0	-	-	-	0		
Indoor ice arenas, 5 pads or more	1	1	100	1	-	-	1	-	-	0	1	0	-	-	0	-	-	-	0		
Outdoor ice arenas	706	703	100	503	56	12	571	80	52	132	703	5	5	23	5	8	19	10	5		
Indoor pools, 25 metres	221	221	100	169	22	-	191	20	F	30	221	2	2	-	2	2	-	2	2		
Indoor pools, 50 metres or longer	13	13	100	11	1	-	12	1	-	1	13	0	0	-	0	0	-	0	0		
Indoor pools, leisure pools	116	116	100	90	11	-	102	9	F	15	116	1	1	-	1	1	-	1	1		
Outdoor pools	263	263	100	192	20	1	214	39	F	49	263	2	2	2	2	4	-	4	2		
Wading pools	240	240	100	215	10	-	225	9	F	15	240	2	1	-	2	1	-	1	2		
Splash pads	759	759	100	620	65	1	686	54	19	72	759	6	6	2	6	5	7	6	6		
Galleries	66	63	95	46	5	-	51	9	F	12	63	0	0	-	0	1	-	1	0		
Libraries	777	728	94	371	89	13	472	147	110	256	728	3	9	25	4	14	41	20	5		
Museums and archives	317	292	92	140	39	5	184	53	55	107	292	1	4	10	2	5	20	8	2		
Presentation and performance spaces	193	192	99	97	28	4	130	46	F	63	192	1	3	8	1	5	-	5	1		
Community centres (senior and youth centres)	1,252	1,252	100	643	161	18	823	277	152	429	1,252	6	16	34	7	27	56	33	9		
Indoor skate parks	8	8	100	5	-	-	5	-	F	F	8	0	-	-	0	-	-	-	0		
Outdoor skate parks	363	363	100	201	61	6	268	67	27	95	363	2	6	11	2	7	10	7	3		
Indoor curling rinks	66	66	100	11	9	3	23	18	25	43	66	0	1	6	0	2	9	3	0		
Indoor stadiums	13	13	100	8	2	-	10	-	F	F	13	0	0	-	0	-	-	-	0		
Outdoor stadiums	47	47	100	36	4	-	40	1	F	F	47	0	0	-	0	0	-	-	0		
Indoor tennis courts	36	36	100	34	1	-	35	1	-	1	36	0	0	-	0	0	-	-	0		
Outdoor tennis courts	2,437	2,437	100	1,984	213	10	2,207	167	63	230	2,437	18	21	19	18	16	23	18	18		
Indoor sports fields	48	48	100	41	5	-	46	2	-	2	48	0	0	-	0	0	-	0	0		
Outdoor sports fields	6,772	6,770	100	5,178	810	27	6,015	582	174	756	6,770	47	79	52	50	57	65	59	51		
Total number of facilities	15,384	15,301	2,480	10,953	1,701	107	12,765	1,714	762	2,526	15,301										

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%+ 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).

Source: Statistics Canada, Canada's Core Public Infrastructure Survey, 2016, Tables 34-10-0065-01 and 34-10-0067-01.

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 NRagelie@RuralOntarioInstitute.ca

⁵⁰ Tables labelled with an “A” are available in the accompanying “Appendix Tables: Canada’s Core Public Infrastructure Survey, 2016.”

Number of businesses by sector in rural Ontario**Vol. 7, No. 12, 2020**

Highlights

- **In 2019 across non-metro census divisions, the sector with the most enterprises (with employees) was the speciality trade contractor sector (e.g., enterprises providing services such as electrical, plumbing, heating, roofing, painting, etc.).**
- **The sector with the second-largest number of enterprises in non-metro census divisions was the professional, scientific, and technical services sector (which includes enterprises providing legal, accounting, architectural, engineering, and consulting services).**
- **Farms with employees constituted the third-largest sector in non-metro census divisions.**
- **Enterprises in these sectors represent more employers than in any other sector in non-metro census divisions.**

Why look at the number of business enterprises by industry sector?

About 75% of Ontario workers are employed in sectors that are not government, education, or health care. These private-sector enterprises are a key source of economic activity in both urban and rural regions and consequently are a prime focus for local economic development strategies. Knowing the number of enterprises in each sector, in addition to the number employed in each sector,⁵¹ is key for local development initiatives. For example, business succession planning needs to know the number of small, locally owned enterprises. For supply-chain analysis, one needs to know the number of businesses in particular stages in these chains to find opportunities for diversification and market development. For Business Retention and Expansion programs, knowing which sectors to target for interviews and follow-up support is necessary. Moreover, since most employment growth is generated by small businesses adding incremental employees rather than from growth in the largest businesses, it is important to have data not just on the number of employees in a sector but also the numbers and size of the enterprises.⁵²

Perhaps obviously, the number of businesses in a sector depends upon how businesses are grouped into sectors. Our focus is the count of businesses (with employees) within each sector defined at the 3-

digit level of the NAICS classification.⁵³

Findings

In 2019 non-metro⁵⁴ census divisions (CDs), the sector with the most businesses (with employees) (5,124 enterprises) was speciality trade contractors⁵⁵ (NAICS 238) (Table 1). This sector ranked as one of the top three sectors in terms of the number of businesses in 23 of the 24 non-metro CDs.

The sector with the second-largest number of businesses was the sector providing professional, scientific, and technical services⁵⁶ (NAICS 541) with 3,682 enterprises. This sector ranked as one of the top three sectors in 17 of the 24 non-metro CDs.

Farms (NAICS 111-112) contributed the third-largest number of businesses with 3,477 enterprises with employees. This sector ranked as one of the top three sectors in 8 non-metro CDs. Farm enterprises were relatively more prevalent in southern CDs (both southwest and southeast) but not in northern CDs.

⁵³ See Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objId=12-501-X&objType=2&lang=en&limit=0>).

⁵⁴ Defined in "Rural Ontario's Demography: Census Update 2016." **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

⁵⁵ NAICS 238 includes enterprises providing masonry, roofing, siding, electrical, plumbing, heating, painting, etc. for new buildings and for repairing older buildings.

⁵⁶ NAICS 541 includes enterprises providing legal, accounting, architectural, engineering, design, management consulting and public relations services, etc.

⁵¹ For employment levels and trends by industry sector, see earlier issues of **Focus on Rural Ontario** (Vol. 1, No. 15; Vol. 3, No. 8-15; Vol. 6, No. 10-22; Vol. 7, No. 1-7).

⁵² Details for each census division are shown in the accompanying document "**Number of businesses by industry sector and by size of business (in terms of number of employees) for each census division, Ontario, 2019.**"

Two of the top three sectors (i.e., the provision of professional, scientific, and technical services and the farm sector) provide services and goods that are “exportable” (i.e., could be provided to customers outside the non-metro CD.

Ambulatory health services⁵⁷ (NAICS 621) ranked as one of the top three sectors in terms of number of businesses in 11 non-metro CDs. Note that we are ranking sectors by the count⁵⁸ of enterprises with employees.

Summary

Two of the top three sectors could potentially be selling their services or products outside their own census division.

An understanding of these patterns, and the patterns for each census division, is a complement to other forms of community and regional economic analysis.

Name of census division	Name of industry sector ¹ (3-digit level) with:		
	Highest number of businesses (with employees)	Second highest number of businesses (with employees)	Third highest number of businesses (with employees)
Ontario: All census divisions	Professional, scientific & technical services (NAICS 541)	Ambulatory health services (NAICS 621)	Specialty trade contractors (NAICS 238)
Metro CDs (subtotal)	Professional, scientific & technical services (NAICS 541)	Ambulatory health services (NAICS 621)	Truck transportation (NAICS 484)
Partially-non-metro CDs (subtotal)	Professional, scientific & technical services (NAICS 541)	Specialty trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)
Non-metro CDs (subtotal)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Farms (NAICS 111-112)
CD ID	Each non-metro census division²:		
3501 Stormont, Dundas & Glengarry	Specialty trade contractors (NAICS 238)	Farms (NAICS 111-112)	Professional, scientific & technical services (NAICS 541)
3509 Lanark	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Food services & drinking places (NAICS 722)
3513 Prince Edward	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Farms (NAICS 111-112)
3514 Northumberland	Professional, scientific & technical services (NAICS 541)	Specialty trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)
3516 Kawartha Lakes	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Construction of buildings (236)
3528 Haldimand-Norfolk	Farms (NAICS 111-112)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)
3531 Perth	Farms (NAICS 111-112)	Specialty trade contractors (NAICS 238)	Construction of buildings (236)
3532 Oxford	Farms (NAICS 111-112)	Specialty trade contractors (NAICS 238)	Truck transportation (NAICS 484)
3536 Chatham-Kent	Farms (NAICS 111-112)	Specialty trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)
3538 Lambton	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Ambulatory health services (NAICS 621)
3540 Huron	Farms (NAICS 111-112)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)
3541 Bruce	Professional, scientific & technical services (NAICS 541)	Specialty trade contractors (NAICS 238)	Farms (NAICS 111-112)
3542 Grey	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Ambulatory health services (NAICS 621)
3544 Muskoka	Specialty trade contractors (NAICS 238)	Construction of buildings (236)	Professional, scientific & technical services (NAICS 541)
3546 Haliburton	Specialty trade contractors (NAICS 238)	Construction of buildings (236)	Professional, scientific & technical services (NAICS 541)
3547 Renfrew	Specialty trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)	Professional, scientific & technical services (NAICS 541)
3548 Nipissing	Ambulatory health services (NAICS 621)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)
3549 Parry Sound	Specialty trade contractors (NAICS 238)	Construction of buildings (236)	Professional, scientific & technical services (NAICS 541)
3551 Manitoulin	Ambulatory health services (NAICS 621)	Accommodation services (NAICS 721)	Specialty trade contractors (NAICS 238)
3554 Timiskaming	Specialty trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)	Food services & drinking places (NAICS 722)
3556 Cochrane	Ambulatory health services (NAICS 621)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)
3557 Algoma	Ambulatory health services (NAICS 621)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)
3559 Rainy River	Accommodation services (NAICS 721)	Ambulatory health services (NAICS 621)	Construction of buildings (236)
3560 Kenora	Accommodation services (NAICS 721)	Specialty trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)

1. For a description of the types of businesses in each NAICS industry group, see Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objId=12-501-X&objType=2&lang=en&limit=0>).

2. Detailed data for each census division is in the accompanying document **Number of businesses by industry sector and by size of business (in terms of number of employees) for each census division, Ontario**.

Source: Statistics Canada, Canadian Business Patterns.

⁵⁷ NAICS 621 includes offices of physicians, dentists, optometrists, community health centres, home care services, etc.

⁵⁸ Statistics Canada warns users that changes over time are due to two factors: 1) an actual change in the number of businesses with a given specialty; and/or 2) a change/improvement in the classification of a business to a given code. For example, over time, many gas stations have become convenience stores that also sell gasoline. At some point, the NAICS code assigned for these businesses will change from “gas stations” to “convenience stores.” Hence, caution is required in placing undue emphasis on a change in the count of businesses with a given NAICS code.

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.

Change in number of businesses by sector in rural Ontario**Vol. 7, No. 13, 2020**

Highlights

- From 2014 to 2019 in non-metro census divisions, the sector with the largest increase in the number of businesses was the speciality trades contractor sector (i.e., enterprises providing electrical, plumbing, heating, roofing, drywall, etc., services).
- The sector with the second-largest growth in the number of businesses was the telecommunications sector with enterprises providing telephone, wireless, satellite, internet, etc., services.
- The third-largest growth in the number of businesses was the sector providing professional, scientific, and technical services such as legal, architectural, engineering, and other consulting services.

Why look at the change in number of business enterprises by industry sector?

About 75% of Ontario workers are employed in sectors that are not government, education, or health care. A change in the number of private-sector enterprises indicates entrepreneurial activity (or the lack thereof) which is a key input to local economic development strategies. Knowing the change in the number of enterprises in each sector, in addition to the change in the number employed in each sector,⁵⁹ will provide a baseline for local development initiatives. For example, business succession planning needs to know the actual (and the expected) change in small, locally owned enterprises. For supply-chain analysis, one needs to know the change in the number of businesses in particular stages in these chains to find new diversification and market development opportunities. Business Retention and Expansion programs want to minimize exits (i.e., a negative change) and to foster new and expanding enterprises (i.e., a positive change). Moreover, since most employment growth is generated by small businesses adding incremental employees rather than from growth in the largest businesses, it is important to have data not just on the number of employees in a sector but also the numbers and size of the enterprises.⁶⁰

Perhaps obviously, the number of businesses in a sector depends on how businesses are grouped into sectors. This Fact Sheet looks at the sectors with the

largest increase in the number of businesses in rural Ontario. Our focus is the change⁶¹ in the count of businesses (with employees) within each sector defined at the 3-digit level of the NAICS classification.⁶²

Findings

From 2014 to 2019 in non-metro⁶³ census divisions (CDs), the sector with the largest increase in the number of business enterprises (with employees) was speciality trade contractors⁶⁴ (NAICS 238) (Table 1). This sector ranked as one of the top three sectors in terms of the increase in the number of businesses in 15 of the 24 non-metro CDs.

The sector with the second-largest increase in the number of businesses was telecommunications⁶⁵ (NAICS 517).

The sector with the third-largest increase in the

⁶¹ Statistics Canada warns users that changes over time are due to two factors: 1) an actual change in the number of businesses with a given specialty and / or 2) a change / improvement in the classification of a business to a given code. For example, over time, many gas stations have become convenience stores that also sell gasoline. At some point, the NAICS code assigned for these businesses will change from “gas stations” to “convenience stores.” Hence, caution is required in placing undue emphasis on a change in the count of businesses with a given NAICS classification.

⁶² See Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objId=12-501-X&objType=2&lang=en&limit=0>).

⁶³ Defined in “Rural Ontario’s Demography: Census Update 2016.” **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

⁶⁴ NAICS 238 includes enterprises providing masonry, roofing, siding, electrical, plumbing, heating, painting, etc. for new buildings and for repairing older buildings.

⁶⁵ NAICS 517 includes enterprises providing telephone, cable, satellite, wireless and Internet services, etc.

⁵⁹ For employment levels and trends by industry sector, see earlier issues of **Focus on Rural Ontario** (Vol. 1, No. 15; Vol. 3, No. 8-15; Vol. 6, No. 10-22; Vol. 7, No. 1-7).

⁶⁰ Details for each census division are shown in the accompanying document “**Number of businesses by industry sector and by size of business (in terms of number of employees) for each census division, Ontario.**”

number of businesses was the sector providing professional, scientific, and technical services⁶⁶ (NAICS 541). This sector ranked as one of the top three sectors in 9 of the 24 non-metro CDs. Note that we are ranking sectors by the change⁶⁷ in the count of enterprises with employees.

Two of the top sectors in terms of growth of businesses would be focussed on the local market but the sector providing professional, scientific, and technical services provides services that are “exportable” (i.e., could be provided to customers outside the non-metro CD).

Summary

In 2019 in non-metro census divisions, the sector with the largest absolute increase⁶⁸ in the number of businesses involved contractors providing speciality services for building construction and maintenance.

An understanding of these patterns, and the patterns for each census division, are a complement to other forms of community and regional economic analysis. A supplementary set of tables provides detailed data for each census division.

Name of census division	Name of industry sector ¹ with:		
	Highest absolute increase ² in the number of businesses enterprises (with employees) from 2014 to 2019	Second highest absolute increase ² in the number of businesses enterprises (with employees) from 2014 to 2019	Third highest absolute increase ² in the number of businesses enterprises (with employees) from 2014 to 2019
Ontario: All census divisions	Professional, scientific & technical services (NAICS 541)	Truck transportation (NAICS 484)	Ambulatory health services (NAICS 621)
Metro CDs (subtotal)	Professional, scientific & technical services (NAICS 541)	Truck transportation (NAICS 484)	Ambulatory health services (NAICS 621)
Partially-non-metro CDs (subtotal)	Speciality trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Truck transportation (NAICS 484)
Non-metro CDs (subtotal)	Speciality trade contractors (NAICS 238)	Telecommunications (NAICS 517)	Professional, scientific & technical services (NAICS 541)
CD	Each non-metro census division³:		
3501 Stormont, Dundas & Glengarry	Professional, scientific & technical services (NAICS 541)	Speciality trade contractors (NAICS 238)	Ambulatory health services (NAICS 621)
3509 Lanark	Professional, scientific & technical services (NAICS 541)	Speciality trade contractors (NAICS 238)	Administrative & support services (NAICS 561)
3513 Prince Edward	Speciality trade contractors (NAICS 238)	Beverage & tobacco product manufacturing (NAICS 312)	Real estate (NAICS 531)
3514 Northumberland	Professional, scientific & technical services (NAICS 541)	Administrative & support services (NAICS 561)	Speciality trade contractors (NAICS 238)
3516 Kawartha Lakes	Speciality trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Construction of buildings (236)
3528 Haldimand-Norfolk	Speciality trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Telecommunications (NAICS 517)
3531 Perth	Miscellaneous store retailers (NAICS 453)	Telecommunications (NAICS 517)	Health & personal care stores (NAICS 446)
3532 Oxford	Truck transportation (NAICS 484)	Rail transportation (NAICS 482)	Speciality trade contractors (NAICS 238)
3536 Chatham-Kent	Speciality trade contractors (NAICS 238)	Support activities for agriculture & forestry (NAICS 115)	Telecommunications (NAICS 517)
3538 Lambton	Telecommunications (NAICS 517)	Securities, commodity contracts, & other financial investments & related activities (NAICS 523)	Farm product merchant wholesalers (NAICS 411)
3540 Huron	Speciality trade contractors (NAICS 238)	Food services & drinking places (NAICS 722)	Farms (NAICS 111-112)
3541 Bruce	Professional, scientific & technical services (NAICS 541)	Educational services (NAICS 611)	Telecommunications (NAICS 517)
3542 Grey	Speciality trade contractors (NAICS 238)	Professional, scientific & technical services (NAICS 541)	Administrative & support services (NAICS 561)
3544 Muskoka	Speciality trade contractors (NAICS 238)	Administrative & support services (NAICS 561)	Personal and laundry services (NAICS 812)
3546 Haliburton	Administrative & support services (NAICS 561)	Construction of buildings (NAICS 236)	Personal and laundry services (NAICS 812)
3547 Renfrew	Ambulatory health services (NAICS 621)	Telecommunications (NAICS 517)	Professional, scientific & technical services (NAICS 541)
3548 Nipissing	Telecommunications (NAICS 517)	Construction of buildings (NAICS 236)	Nursing & residential care facilities (NAICS 623)
3549 Parry Sound	Speciality trade contractors (NAICS 238)	Construction of buildings (NAICS 236)	Administrative & support services (NAICS 561)
3551 Manitoulin	Insurance carriers & related activities (NAICS 524)	Miscellaneous store retailers (NAICS 453)	Administrative & support services (NAICS 561)
3554 Timiskaming	Telecommunications (NAICS 517)	Speciality trade contractors (NAICS 238)	Repair & maintenance (NAICS 811)
3556 Cochrane	Telecommunications (NAICS 517)	Personal & laundry services (NAICS 612)	Construction of buildings (NAICS 236)
3557 Algoma	Telecommunications (NAICS 517)	Health & personal care stores (NAICS 446)	Publishing industries (NAICS 511)
3559 Rainy River	Construction of buildings (236)	Professional, scientific & technical services (NAICS 541)	Speciality trade contractors (NAICS 238)
3560 Kenora	Telecommunications (NAICS 517)	Speciality trade contractors (NAICS 238)	Heavy & civil engineering construction (NAICS 237)

1. For a description of the types of businesses in each NAICS industry group, see Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objid=12-501-X&objType=2&lang=en&limit=0>).

2. Part of the change over time may be due to changes / improvements in the classification of enterprises by Statistics Canada.

3.. Detailed data for each census division is in the accompanying document **Number of businesses by industry sector and by size of business (in terms of number of employees) for each census division, Ontario**.

Source: Statistics Canada, Canadian Business Patterns.

⁶⁶ NAICS 541 includes enterprises providing legal, accounting, architectural, engineering, design, management consulting and public relations services, etc.

⁶⁷ Statistics Canada warns users that changes over time are due to two factors: 1) an actual change in the number of businesses with a given specialty; and / or 2) a change / improvement in the classification of a business to a given code. For example, over time, many gas stations have become convenience stores that also sell gasoline. At some point, the NAICS code assigned for these businesses will change from “gas stations” to “convenience stores.” Hence, caution is required in placing undue emphasis on a change in the count of businesses with a given NAICS code.

⁶⁸ A ranking by the change in absolute numbers is more likely to show sectors with a large(r) number of enterprises which could then generate a large(r) absolute change in the number of enterprises. An accompanying fact sheet ranks sectors by the percent change which would be more likely to identify sectors with small(er) absolute numbers and where a given absolute change would show a large(r) percent change.

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Percent change in number of businesses by sector in rural Ontario**Vol. 7, No. 14, 2020**

Highlights

- **From 2014 to 2019, the two sectors with the highest percent growth in the number of businesses were the telecommunications sector and the beverage manufacturing sector.**
- **Across the 24 non-metro census divisions, there was a diverse range of sectors ranked in the top three in the census division in terms of the percent growth in the number of businesses.**

Why look at the rate of change in the number of business enterprises by industry sector?

A percent change (or a rate of change) in the number of private-sector enterprises indicates the pace of change in entrepreneurial activity (but not the size of the change, as reviewed in the Fact Sheet on the absolute change in the number of businesses).

About 75% of Ontario workers are employed in sectors that are not government, education, or health care. Documenting the sectors with the fastest pace of change in the number of enterprises would inform local economic development strategies. This information would need to be combined with the pace of change in employment levels⁶⁹ in order to see the wider picture. Policy and program analysts focussed on business succession planning, on supply-chain analysis and Business Retention and Expansion initiatives would benefit from knowing the sectors with the fastest pace of change in the number of businesses.

Perhaps obviously, the number of businesses in a sector depends upon how businesses are grouped into sectors. We have used the 3-digit level of the NAICS classification⁷⁰ and our focus is the percent change⁷¹ in the count of businesses (with

employees) within each sector. A calculated percent change can be very high if the count of enterprises is (very) low in the beginning period. The top three sectors reported in Table 1 with a "high(er) percent change" in the number of enterprises had a count of 1 or more in 2014 and a count of 4 or more in 2019.

Findings

From 2014 to 2019 in non-metro⁷² census divisions⁷³ (CDs), the sector with the largest percent increase (and meeting the criteria in the above paragraph) was the rail transportation sector (NAICS 482) (Table 1). This was due, almost solely, to a large increase in the number of enterprises in the Oxford CD.

The sector with the second-largest increase in the number of businesses was telecommunications⁷⁴ (NAICS 517). Note that this was the top-ranking sector in metro and in partially non-metro CDs. From 2014 to 2019, 190 of 24 non-metro CDs reported this sector had the ranked as one of the top three sectors in terms of the rate of growth⁷⁵ in the number of business enterprises.

The non-metro sector with the third-largest rate of change in the number of enterprises was the beverage and tobacco product manufacturing sector (NAICS 312). This was led by the growth in

⁶⁹ For employment levels and trends by industry sector, see earlier issues of **Focus on Rural Ontario** (Vol. 1, No. 15; Vol. 3, No. 8-15; Vol. 6, No. 10-22; Vol. 7, No. 1-7).

⁷⁰ See Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-olc.action?objId=12-501-X&objType=2&lang=en&limit=0>).

⁷¹ Statistics Canada warns users that changes over time are due to two factors: 1) an actual change in the number of businesses with a given specialty and / or 2) a change / improvement in the classification of a business to a given code. For example, over time, many gas stations have become convenience stores that also sell gasoline. At some point, the NAICS code assigned for these businesses will change from "gas stations" to "convenience stores." Hence, caution is required in placing undue emphasis on

a change in the count of businesses with a given NAICS classification

⁷² Defined in "Rural Ontario's Demography: Census Update 2016." **Focus on Rural Ontario** (Guelph: Rural Ontario Institute, March) (<http://www.ruralontarioinstitute.ca/focus-on-rural-ontario.aspx>).

⁷³ Details for each census division are shown in the accompanying document "**Number of businesses by industry sector and by size of business (in terms of number of employees) for each census division, Ontario.**"

⁷⁴ NAICS 517 includes enterprises providing telephone, cable, satellite, wireless and Internet services, etc.

⁷⁵ Some non-metro CDs were excluded from the calculation of percent change as they had no telecommunication enterprises in the initial period (2014).

breweries followed by the growth in wineries. The rate of growth in these enterprises ranked in the top three sectors in 2 non-metro CDs.⁷⁶ This sector also showed strong growth in the number of enterprises in metro and partially non-metro CDs.

In metro and partially non-metro CDs, the combination of strong growth in telecommunication enterprises and trucking enterprises illustrates the growth in online shopping which relies on the internet and needs delivery trucks. In non-metro CDs, the number of trucking enterprises actually declined from 2014 to 2019.

Table 1 indicates the sectors with fast(er) growth in the number of businesses (with employees) in each non-metro CD. There is no apparent pattern/conclusion in the list of sectors with a fast(er) growth in the number of businesses. There is a wide range of sectors with a fast(er) growing number of businesses.

Summary

In non-metro census divisions from 2014 to 2019, the two sectors with a fast(er) growth⁷⁷ in the number of businesses were the telecommunications sector and in the beverage manufacturing sector.

⁷⁶ New brewery and winery enterprises appeared in many CDs, but our ranking required at least one enterprise in 2014 and 4 or more enterprises in 2019 to be included.

⁷⁷ A ranking by the percent change would be more likely to identify sectors with small(er) absolute numbers and where a given absolute change would show a large(r) percent change. An accompanying fact sheet ranks sectors by the absolute change which would be more likely to identify sectors with large(r) absolute numbers which could then generate a large(r) absolute change in the number of businesses.

Table 1. Industry sectors¹ (3-digit level) ranked by the percent increase² in the number of business enterprises (with employees) from 2014 to 2019, Ontario

Name of census division	Name of industry sector ¹ with:		
	High(er) ³ percent increase ² in the number of businesses (with employees) from 2014 to 2019	Second high(er) ³ percent increase ² in the number of businesses (with employees) from 2014 to 2019	Third high(er) ³ percent increase ² in the number of businesses (with employees) from 2014 to 2019
Ontario: All census divisions	Telecommunications (NAICS 517)	Beverage & tobacco product manufacturing (NAICS 312)	Truck transportation (NAICS 484)
Metro CDs (subtotal)	Telecommunications (NAICS 517)	Beverage & tobacco product manufacturing (NAICS 312)	Truck transportation (NAICS 484)
Partially-non-metro CDs (subtotal)	Telecommunications (NAICS 517)	Beverage & tobacco product manufacturing (NAICS 312)	Truck transportation (NAICS 484)
Non-metro CDs (subtotal)	Rail transportation (NAICS 482)	Telecommunications (NAICS 517)	Beverage & tobacco product manufacturing (NAICS 312)
CD ID	Each non-metro census division:		
3501 Stormont, Dundas & Glengarry	Telecommunications (NAICS 517)	Utilities (NAICS 221)	Other information services (NAICS 519)
3509 Lanark	Beverage & tobacco product manufacturing (NAICS 312)	Waste management & remediation services (NAICS 562)	Telecommunications (NAICS 517)
3513 Prince Edward	Gasoline stations (NAICS 447)	Non-metallic mineral product manufacturing (NAICS 327)	Machinery manufacturing (NAICS 333)
3514 Northumberland	Miscellaneous manufacturing (naics 339)	Food manufacturing (NAICS 311)	Furniture & related product manufacturing (NAICS 337)
3516 Kawartha Lakes	Support activities for agriculture & forestry (NAICS 115)	Waste management & remediation services (NAICS 562)	Telecommunications (NAICS 517)
3528 Haldimand-Norfolk	Telecommunications (NAICS 517)	Motion picture & sound recording industries (NAICS 512)	Electrical equipment, appliance & component manufacturing (NAICS 335)
3531 Perth	Beverage & tobacco product manufacturing (NAICS 312)	Performing arts, spectator sports & related industries (NAICS 711)	Waste management & remediation services (NAICS 562)
3532 Oxford	Rail transportation (NAICS 482)	Primary metal manufacturing (NAICS 331)	Forestry and logging (NAICS 113)
3536 Chatham-Kent	Telecommunications (NAICS 517)	Support activities for agriculture & forestry (NAICS 115)	Performing arts, spectator sports & related industries (NAICS 711)
3538 Lambton	Telecommunications (NAICS 517)	Computer & electronic product manufacturing (NAICS 334)	Farm product merchant wholesalers (NAICS 411)
3540 Huron	Telecommunications (NAICS 517)	Primary metal manufacturing (NAICS 331)	Food manufacturing (NAICS 311)
3541 Bruce	Farm product merchant wholesalers (NAICS 411)	Motor vehicle & motor vehicle parts & accessories merchandise wholesalers (NAICS 445)	Telecommunications (NAICS 517)
3542 Grey	Mining and quarrying (except oil and gas) (NAICS 212)	Telecommunications (NAICS 517)	Support activities for agriculture & forestry (NAICS 115)
3544 Muskoka	Telecommunications (NAICS 517)	Performing arts, spectator sports & related industries (NAICS 711)	Personal and laundry services (NAICS 812)
3546 Haliburton	Educational services (NAICS 611)	Mining and quarrying (except oil and gas) (NAICS 212)	Furniture and home furnishing stores (NAICS 442)
3547 Renfrew	Telecommunications (NAICS 517)	Motion picture & sound recording industries (NAICS 512)	Fabricated metal product manufacturing (NAICS 332)
3548 Nipissing	Telecommunications (NAICS 517)	Aboriginal public administration (NAICS 914)	Wood product manufacturing (NAICS 321)
3549 Parry Sound	Miscellaneous manufacturing (NAICS 339)	Telecommunications (NAICS 517)	Business-to-business electronic markets, & agents and brokers (NAICS 419)
3551 Manitoulin	Insurance carriers & related activities (NAICS 524)	Personal & laundry services (NAICS 812)	Miscellaneous store retailers (NAICS 453)
3554 Timiskaming	Building material & supplies merchant wholesalers (NAICS 416)	Telecommunications (NAICS 517)	Support activities for transportation (NAICS 488)
3556 Cochrane	Furniture & related product manufacturing (NAICS 337)	Telecommunications (NAICS 517)	Couriers & messengers (NAICS 492)
3557 Algoma	Telecommunications (NAICS 517)	Publishing industries (NAICS 511)	Heritage institutions (NAICS 712)
3559 Rainy River	Telecommunications (NAICS 517)	Wood product manufacturing (NAICS 321)	Support activities for agriculture & forestry (NAICS 115)
3560 Kenora	Telecommunications (NAICS 517)	Support activities for mining, oil & gas extraction (NAICS 213)	Motor vehicle & motor vehicle parts and accessories merchandise wholesalers (NAICS 415)

1. For a description of the types of businesses in each NAICS industry group, see Statistics Canada. (2017) **North American Industry Classification System: 2017** (Ottawa: Statistics Canada, Catalogue no. 12-501) (<http://www5.statcan.gc.ca/olc-cel/olc.action?objid=12-501-X&objType=2&lang=en&limit=0>).

2. Part of the change over time may be due to changes / improvements in the classification of enterprises by Statistics Canada.

3. A calculated percent change can be very high if the count of enterprises is (very) low in the beginning period. The top three sectors shown in this table with a "high(er) percent change" in the number of enterprises had count of 1 or more in 2014 and a count of 4 or more in 2019. For a complete list of "top" sectors, see the accompanying document **Number of businesses by industry sector and by size of business (in terms of the number of employees) for each census division in Ontario**.

Source: Statistics Canada, Canadian Business Patterns.

Across the 24 non-metro census divisions, there was a wide range of diverse sectors apart from telecommunications and beverage production that ranked in the top three sectors with the fastest percent growth of the number of businesses in the census division.

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 NRagettie@RuralOntarioInstitute.ca.



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