

Change in occupation mix: Construction sector 2006 - 2016

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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 groups¹) in construction² from 2006 to 2016³.

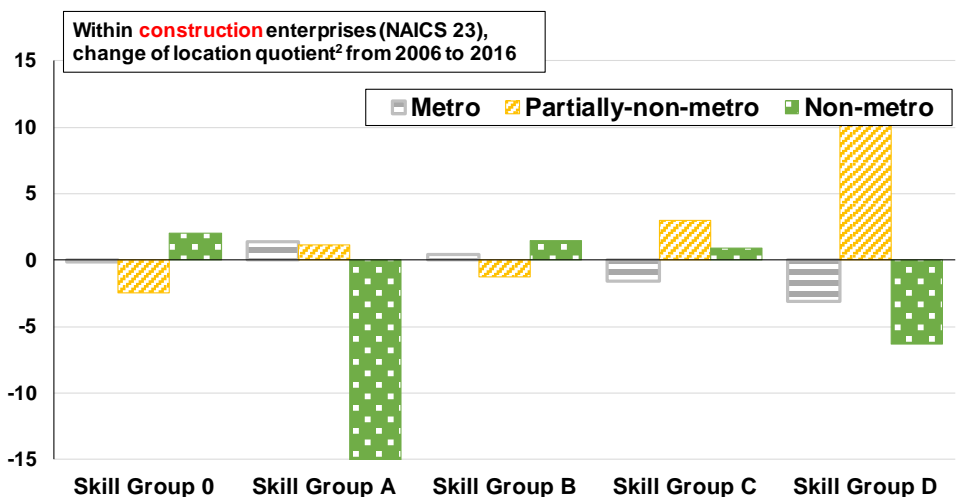
Summary data for each sector is in an appendix⁴.

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 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?objId=12-501-X&objType=2&lang=en&limit=0>).

³ 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).

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



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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

Findings

Employment in construction increased by 29% in Ontario from 2006 to 2016 (Table 1). The increase was the smallest (19%) in non-metro⁵ 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

⁴ 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.

⁵ 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.