Constructing Toronto

2015

TWIG TORONTO WORKFORCE INNOVATION GROUP

Contents

INTRODUCTION

Since the early 2000s, Toronto has experienced a construction boom caused by a surge in condominium development; a rapidly growing home-building and renovations market; the expansion of downtown office-space; the entry of US big-box retailers like Walmart; large infrastructure projects tied to the 2015 Pan Am games, Metrolinx's $50-billion Big Move, and the refurbishment of Toronto's ageing road and utility infrastructures, including the Gardner Expressway.

Not only is the pace of building activity and investment projected to expand, but construction is transforming as a result of new technologies, building processes, materials, competitive pressures, and regulatory challenges. New 'green building' models are creating demand for construction occupations that didn't exist until recently. As a result, existing labour markets, skill sets, and workforces are being reshaped and repurposed. This report examines prevailing worksite and occupational profiles that will be relevant moving forward. It also draws attention to what a more sustainable construction sector, which works for all Torontonians and is responsive to all relevant stakeholders, would look like. The report is divided into two principle sections: (1) a general overview of work in Toronto's construction sector, and (2) an overview of key occupations, as well as prevailing and projected labour market needs and trends.

Much of this building is limited to Toronto's downtown core. Toronto's priority neighbourhoods have largely been by-passed, while migrant workers, those in the underground economy, racialized trades-people, women, and youth continue to face obstacles in securing their rightful place in the industry. The decreasing stock of affordable housing downtown also means that many of those building Toronto's core are simultaneously priced-out of living there.

Summary of Key Findings

Employment Trends

- With 193,390 jobs, 2013 was a record-breaking year for employment in Toronto's construction sector, signaling a full recovery from the job-losses that followed the 2008 financial crisis. However, the gains from the recovery have been unevenly distributed.
- Industry stakeholders agree that projected investment in residential and in industrial, commercial and infrastructure (ICI) building across Ontario will create tighter labour markets due to increasing demand and an ageing workforce. Stakeholders project a labour shortfall of 40,000 construction workers in the coming decade.

Mapping the Workforce

- Construction displays high degrees of labour market segmentation along a range of variables. Gender, race, age and citizenship also influence labour market outcomes.
- Demographically, construction is dominated by core working-age individuals (25-54) and is also the most heavily masculinized sector in Toronto.
- Construction has above average employment in small firms and growing levels of self-employment. These practices encourage underground economic activity.

Working Conditions

- Hourly wages in construction are above average. In fact, there exists an inverse relationship between the level of education and reported weekly earnings.
- The share of non-standard work (part-time or temporary jobs) in construction is below average for Toronto among employees. However, the picture changes if self-employment is included.
- Labour force statistics tend to ignore the significant degree of undocumented migrant workers and underground labour in Toronto, among the most vulnerable workers in the industry.

- Construction continues to be the most dangerous industry sector in Ontario for the number of traumatic and occupational disease fatalities.

The Role of Unions

- Unionization in construction is above average for all industries in Toronto, though a general decline in union density is noticeable since pre-crisis peaks.
- The unionized construction sector has contributed $260-million in capital investment, and another $40-$60-million annually in province-wide training for new labour force entrants. It also provides an important corrective to occupational health and safety concerns in the sector.

Occupational Profiles and Projected Demand

- From an occupational standpoint, Toronto's construction sector is predictably characterized by professions in the 'trades, transport and equipment operation and related occupations' (NOC 7). Women dominate in 'business, financial and administration occupations' (NOC 1).
- Construction is dominated by skilled, mid-level, working jobs, defying the hourglass shape that predominates in Toronto's general labour force.
- ICI construction and civil and heavy engineering are projected to experience more acute occupational labour shortages than residential construction in Toronto.

Educating Tomorrow's Workforce

- The Ontario College of Trades and Apprenticeship Act (OCTAA 2009) regulates apprenticeship training, curricula and standards in the province. Ninety-five (95) specialized joint (labour/management) training centres are playing a growing role in construction workforce training.
- Current data suggests a significant improvement in overall educational attainment. This shift is primarily driven by increases in the number of individuals with postsecondary education.

Diversifying the Trades, Building Community

- Substantial barriers to diversifying the construction workforce to expand the representation of women, visible minorities, and indigenous peoples exist.
- Women, visible minorities, and indigenous peoples tend to be over-represented in a small cluster of occupations and under-represented in other areas.
- Important community initiatives provide positive models for addressing the diversity gap in construction and for building a more sustainable city. Particularly effective are targeted pre-apprenticeship programs, the negotiation of community benefits agreements (CBAs), and green-building initiatives.

METHODOLOGY

Data for this report came from Statistic Canada's 2011 National Household Survey (NHS)[1] and the City of Toronto's annual labour force survey (LFS)[2]. Both sources have information at the level of the Toronto census-metropolitan area (CMA). As a result, all statistical references are to the Toronto Census Metropolitan Area (CMA), unless otherwise stated. Since the 2011 NHS is substantially different from the 2006 census, it was used as a 'snapshot' of the industry at a given point in time rather than a point of comparison. The report relies on the City of Toronto's LFS data to trace labour market trends over time. The Canadian Socio-Economic Information Management System (CANSIM) database was another important source of data on the composition and size of firms in the industry.

The report uses the two most common labour market classification systems for identifying construction sector trends. The first type of data is based on the North American Industry Classification System (NAICS), which breaks down labour force data by industrial sectors. The relevant categories are those in 'Construction' (NAICS code 23) and the relevant subcategories: construction of buildings (236), heavy and civil engineering (237), and specialty trade contractors (238). When possible, more refined, four-digit NAICS classifications are used. The second classification system draws on the National Occupational Classification (NOC 2011) and NOC for Statistics (NOC-S 2006). NOC is used to profile the occupational distribution of workforces in different industries. The bulk of construction sector occupations fall under either the NOC broad occupational category of "Trades, transport and equipment operators and related occupations" (NOC 7) or under the NOC-S category of "Construction Trades" (NOC H1). Both NOC systems are used in this report, though they cover different categories of workers. The NOC system provides the basis for applying the skills/jobs matrix[3] to the construction sector (see Section 2 for details).

Finally, open-ended interviews with key construction stakeholders in Toronto, including representatives of industry, college, apprenticeship and vocational training programs, trade unions, and civil society actors were conducted, synthesized and included in the report. These interviews provided a richer understanding of current and projected employment trends in Toronto's construction sector; insights into trends not easily identifiable through available statistical data (for instance, about underground and undocumented labour); and, insider knowledge on projected skills shortages. The interviewees also offered insights into community based initiatives that are seeking to create a more inclusive and sustainable sector.

Part I - Mapping Construction Work in Toronto

This section, a general overview of work in Toronto's construction sector is divided into three parts: (1) a general statistical analysis of investment and employment trends in construction; (2) a look at sector specific features of employment and work in the industry; and, (3) an exploration of some relevant industry features not covered in the statistics.

Investment and Employment Trends in Construction

Investment

Toronto has experienced a burst of building activity in recent years, recovering from the lows following the real-estate crash in the early-1990s and the more recent 2008 financial crisis. Investment in the sector is projected to continue expanding until the end of the decade. BuildForce projects that between $32 billion and $35 billion will be invested on a yearly basis in Ontario's non-residential building industry till 2018. Over the same period, an additional $34 billion to $39 billion will be invested annually in residential construction. The bulk of this investment will flow to Toronto, which accounts for nearly half of the provincial workforce and more than half of provincial building starts. According to the Canadian Mortgage and Housing Corporation (CMHC), Toronto accounts for a significant share of provincial residential starts for singles (47.8%), semis (65.4%), rows (46.8%), and apartments/condos (69.5%), representing 58.4% of all residential starts in Ontario in 2013.

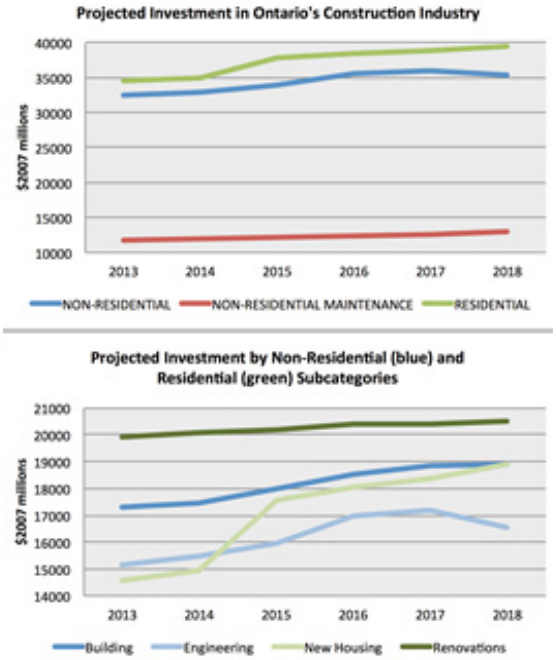


Figure 1.11 – Investment Trends in Ontario (Source: BuildForce)

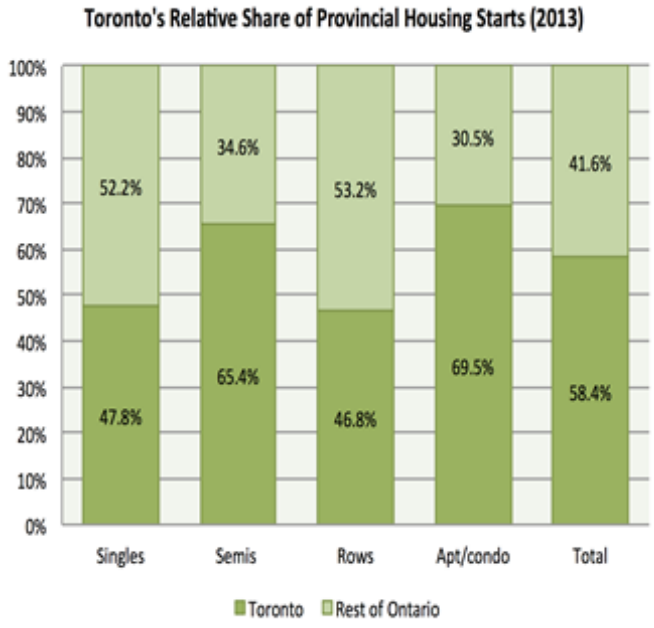
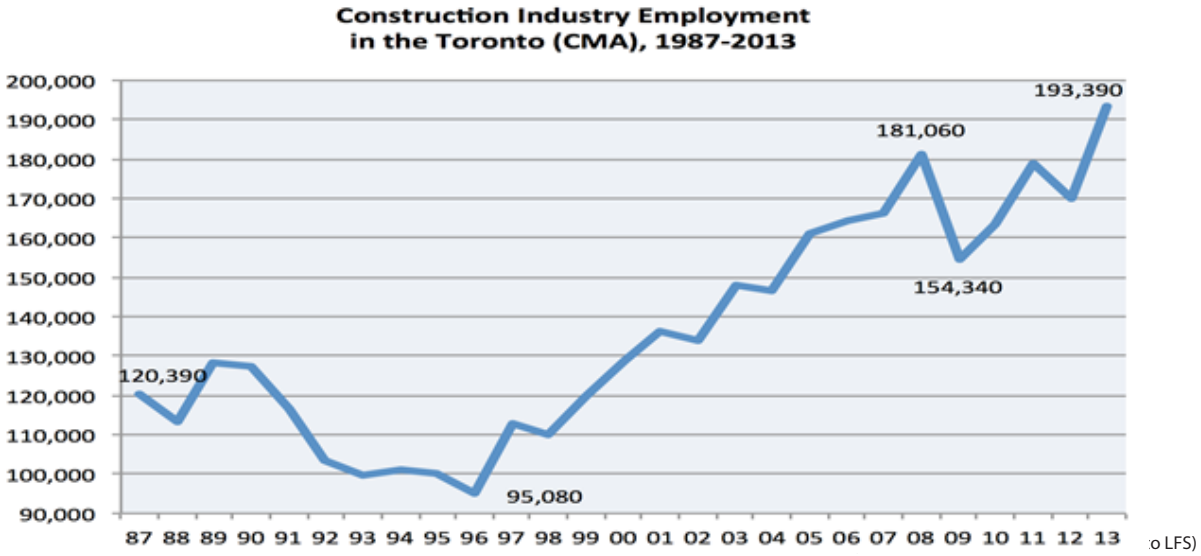


Figure 1.12 - Toronto's Share of Housing Starts (Source: CMHC)

As a result of this activity[4] the Greater Toronto Area (GTA) is the single largest metropolitan building market in the country. Currently, with 130 projects underway, Toronto ranks as the city with the most high-rise buildings under construction in North America. The impressive growth in residential and renovation building will be complimented by important infrastructure (ICI) projects, including provincially funded programs like the Metrolinx expansion, the building and refurbishment of venues for the Pan Am games, additional downtown office-space projected at 12.5-million square feet, new retail-space and other infrastructural renewal projects.

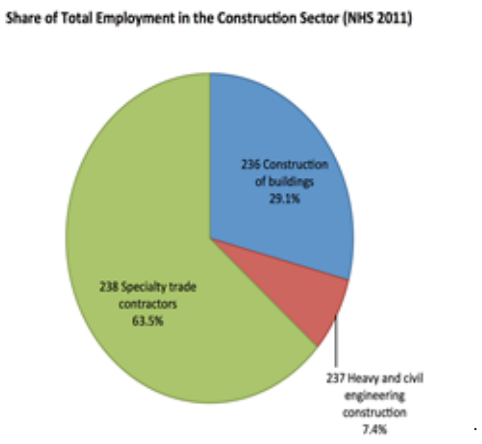
Employment

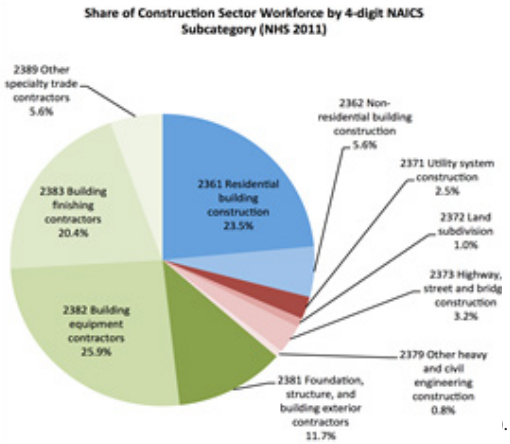
The surge in investment has increased demand for construction workers. As Figure 1.13 illustrates, 2013 was a record-breaking year in Toronto's construction sector, with more individuals employed than at any point since 1987. Employment now stands at 193,390 workers and is projected to grow[5]. Still, these trends are contingent on the pro-cyclical nature of building activity. Important bouts of job-losses in the early 1990s and late 2000s, with some 25,000 jobs lost in each instance, illustrate the fragility of employment for many construction workers. Fortunately, the recovery in employment was much more rapid during the 2008-2009 crash than in the 1990s. Toronto's construction sector has added 40,000 jobs since the lows experienced in 2009.



:o LFS)

Using the North American Industry Classification System (NAICS), it is possible to consider the distribution of jobs in construction by industry subcategories. According to these classifications, 63.5% of construction jobs were located among specialty trade contractors (238), 29.1% were in the construction of buildings, including residential and ICI construction (236), and 7.4% were in heavy and civil engineering (237). A more nuanced breakdown of employment distribution is possible by examining employment at the level of 4-digit NAICS codes (Figure 1.15). These figures emphasize the importance of residential construction and specialty trades as key employers.





Clearly, employment in building construction (236) has been growing at a faster rate than in other sub-sectors. This boom in building construction employment has been driven by the already noted residential condo

boom, housing renovations, as well as the increased investment in ICI construction. Figure 1.6 illustrates the comparative growth of employment in construction sub-sectors relative to all industries in Toronto.

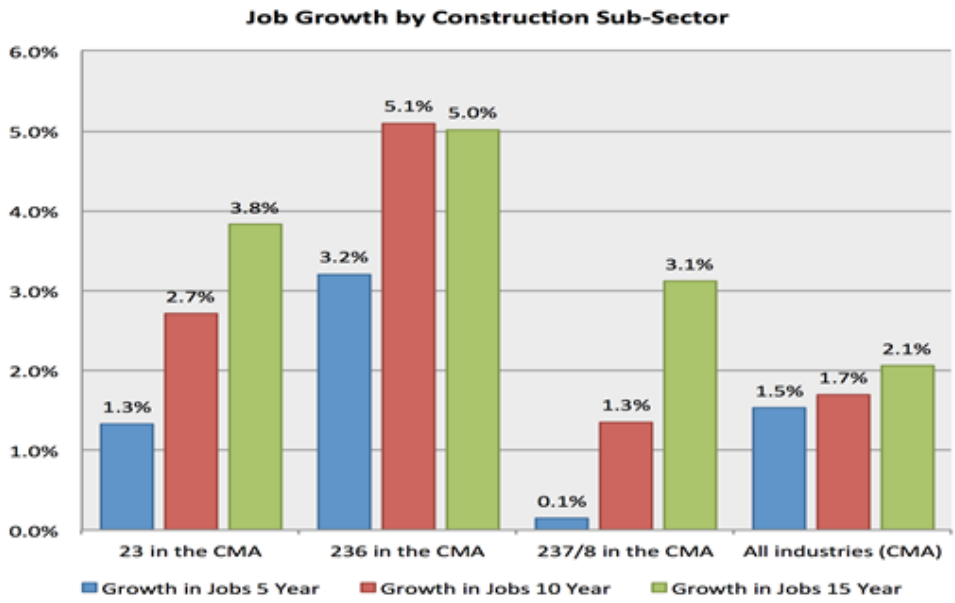


Figure 1.16 - Job Growth in Construction (Source: Toronto LFS)

Specific Features of Construction Work

This section examines more closely the unique features of construction sector work. There is a focus on: industry demographics (age and gender profile); firm size and the important role played by self-employment; tendencies towards greater precarity; wages; the importance of health and safety; and, the role of unions in shaping the industry.

Labour markets in construction are heavily segmented., Labour market segmentation takes many forms, stemming from differences between: unionized and non-unionized building; ICI and residential construction; the formal and underground economies; public and private procurement; the use of certified workers as opposed to uncertified workers; and, the influence of gender, race, citizenship status, and age on labour market outcomes. A key factor is the degree of labour market regulation.

Table 1.1 on page 9 illustrates these features. Those in the table's left hand column tend to cluster together, while those in the right hand column form similar clusters. Rather than seeing the two as shaping hermetically sealed labour markets, however, worksites often combine features from both. For example, while civil engineering projects are likely to use skilled, unionized workers, and rely on formal contractors; the presence of non-unionized, or semi-skilled labour, and underground operators is also possible on the worksite due to the long subcontracting chains characterizing construction.

TABLE 1.1 - Labour Market Segmentation in Construction	
More Regulated Labour Markets	Less Regulated Labour Markets
Unionized	Non-Unionized
ICI and Civil Engineering	Residential
Formal economy	Underground economy
Public procurement	Private procurement
Skilled and certified labour	Semi-skilled, unskilled and uncertified labour
Men, senior workers, citizens	Women, visible minorities, youth, and undocumented workers
Standard employment relations (full time, permanent employment)	Non-standard employment relation (part-time, temporary employment)

(A) Demographics: Age and Gender Profiles

Workforce Age Profile

In Toronto construction has a higher share of core working-age employees (25-54) than average for all industries. Yet, there is an increasing proportion of workers in the 55+ category (14.9%) relative to the <25 year-olds, (10.8%), and the replacement rate is not keeping up with the demand. The core-working-age population has experienced a slight hollowing-out over the past decade. This is more pronounced in the construction trades (NOC H1), where the core working-age population has declined substantially, from 81.3% in 1998 to 76.6% by 2013[6].

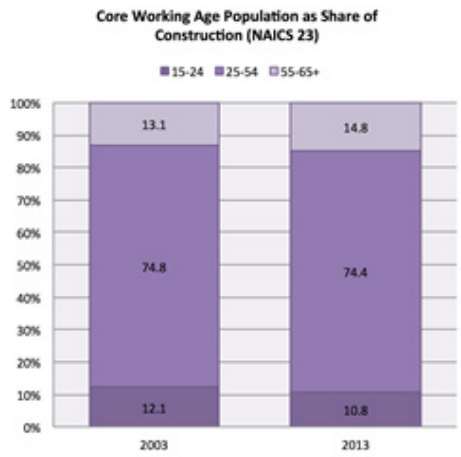


Figure 1.21 - Core Working-Age Share (Toronto, LFS)

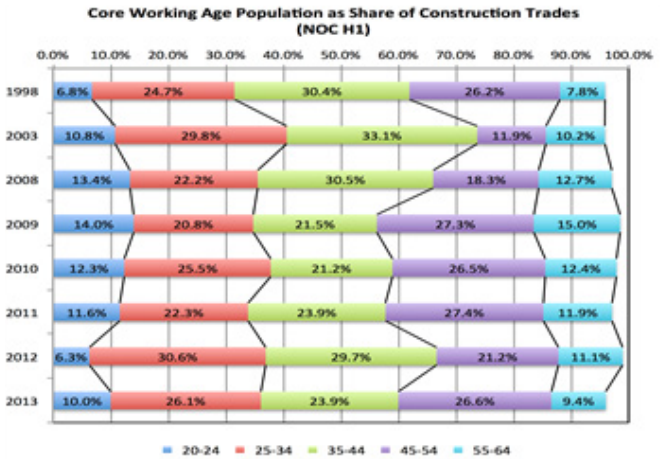


Figure 1.22 - Core Working-Age Share (Toronto, LFS)

In terms of construction sub-sectors: construction of buildings (236) had the highest share of young workers and heavy and civil engineering (237) had the lowest share of young workers. Speciality trades (238) had the lowest proportion of 55+ workers. These differences indicate lower barriers to entry for young workers in building construction and specialty trades relative to heavy and civil engineering, which is a more capital and knowledge intensive sub-sector. Heavy and civil engineering had the largest gap between the share of the workforce nearing retirement age (55+) and those just entering the workforce (<25), making projected labour shortages particularly acute.

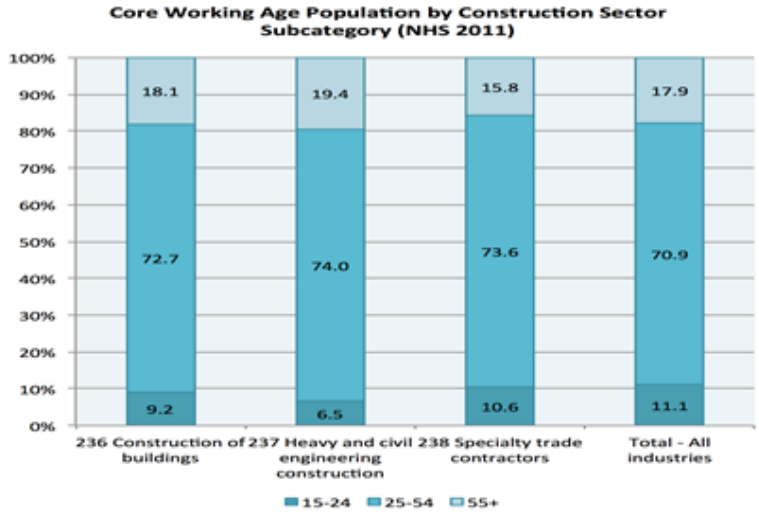


Figure 1.23 – Core Working Age Share (Toronto LFS)

Workforce Gender Profile

Construction is a male-dominated sector, with anywhere between 86-89% of jobs occupied by men in recent years. The sector has the lowest share of female workers among all industries in Toronto. While male employment has increased by 9.2% since the 2008 financial crisis, female employment has declined by 8.2%. These divergent trends reflect the more precarious and peripheral status of women in construction, accentuating the fact that the benefits of the recent post-crisis recovery remain unevenly distributed along gender lines. While male employment has surpassed pre-crisis levels, female employment is still below the peak it reached in the construction sector in 2008.

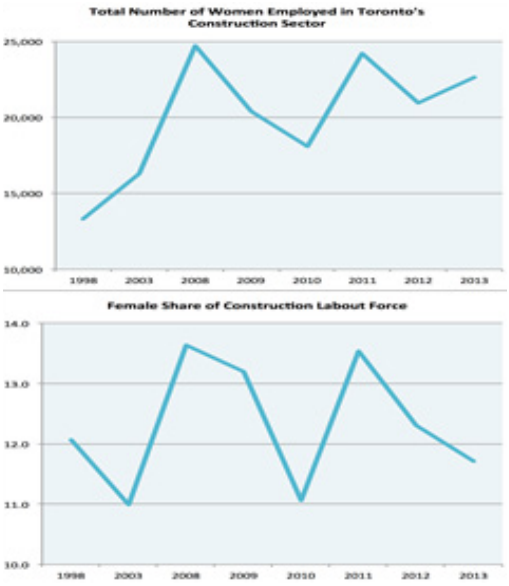


Figure 1.24 - Women in Construction (Source: Toronto LFS)

Data[7], heavy and civil engineering (237) has a slightly higher degree of female representation than other sub-sectors. At the level of 4-digit NAICS codes, women are well represented in land-subdivision (45.8%). Women are also present above the industry average in utility system construction (17.1%), non-residential building (16.3%), residential building (13.7%) and other heavy and civil engineering (13.5%). Yet, in all construction subcategories women are under-represented relative to their average proportion in all Toronto industries.

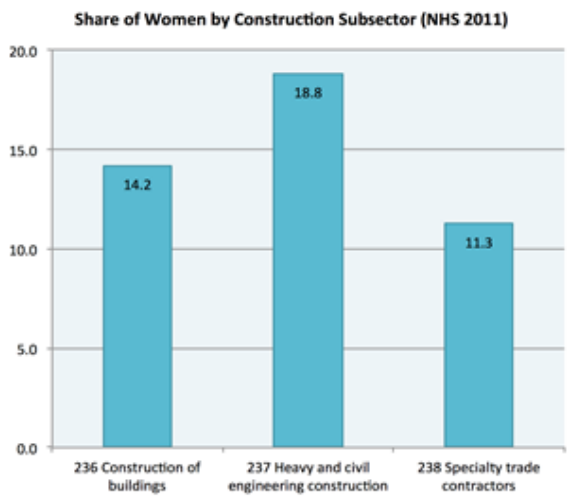


Figure 1.25 - Women in Construtions (NHS 2011)

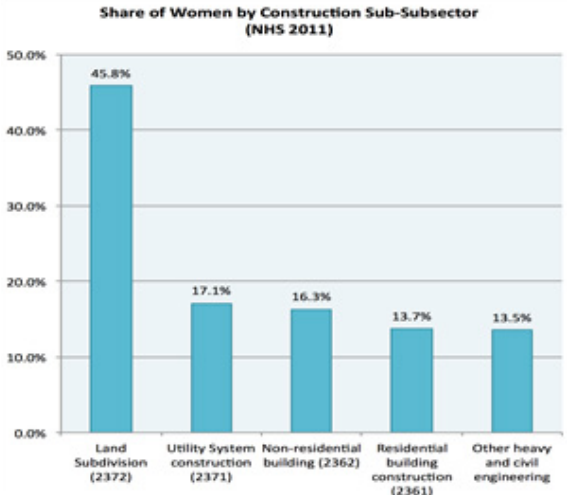


Figure 1.26 - Women in Construction (NHS 2011)

(B) Firm Size and Self-Employment

Construction is characterized by the predominance of small-firms as employers and higher than average levels of self-employment. The significant role played by small firms and the self-employed reflects the heavy reliance of the construction industry on extensive sub-contracting chains, and the growing influence of independent operators.

Small Firms and Employment Share

The construction sector[8] in Ontario has a higher than average share of indeterminate size firms, as well as firms with less than 5 and less than 10 employees. Figure 1.14 highlights variations between construction sub-sectors. Nearly 88.8% of firms in construction of buildings (236) have less than 10 or an indeterminate number of employees. Heavy and civil engineering (237), has the largest share of firms with more than 10 employees (23.9%), due to its capital and knowledge intensive nature. Important distinctions are evident within building construction (236).

Residential construction (2361) has a higher share of small or indeterminate size firms than non-residential (or ICI) construction (2362). Similarly, within heavy and civil engineering (237), the share of small or indeterminate firms ranges from 61.5% in highway street and bridge construction (2373) to 98.2% in land subdivision (2372).

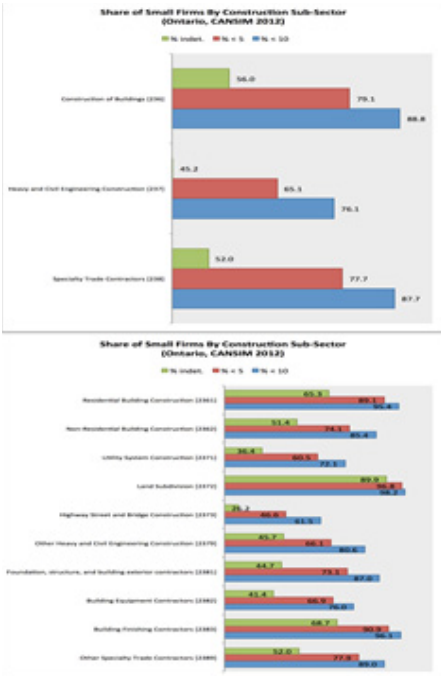


Figure 1.31 - Firm Size in Construction (CANSIM 2012)

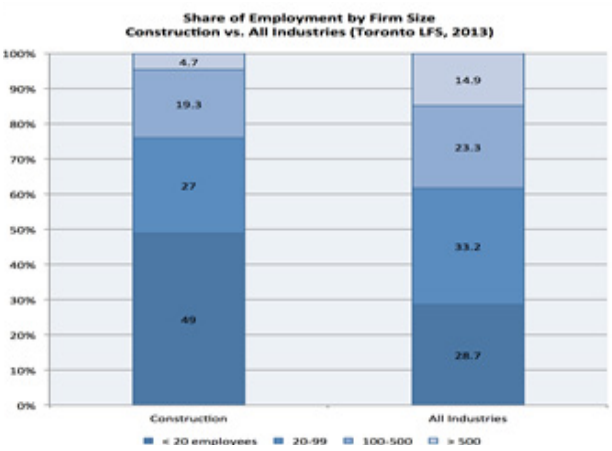


Figure 1.32 - Employment by Firm Size (Toronto LFS)

The predominance of small firms is reflected in their role as employers in construction. According to the City of Toronto's LFS data, 49% of those classified as 'employees' in Toronto were employed by firms with under 20 employees, while the average for all industries in the CMA was 28.7%.

Self-Employment

Self-employment is twice as prevalent (accounting for 34.7% of the workforce) in construction work than the average for all Toronto industries (at 16.5%). Among the self-employed, 66% are classified as working without paid help (in essence 'independent operators'), with 74.2% of this number working in unincorporated firms. The latter figure provides a good base indicator of underground employment in construction, illustrated by the chart below. In the last five years, self-employment has grown at a much faster rate than employment; further emphasizing that the recent jobs recovery is driven by non-standard employment.

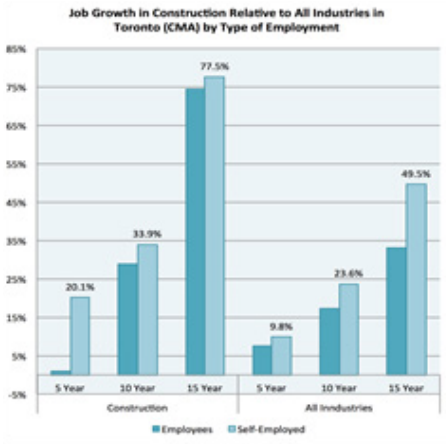
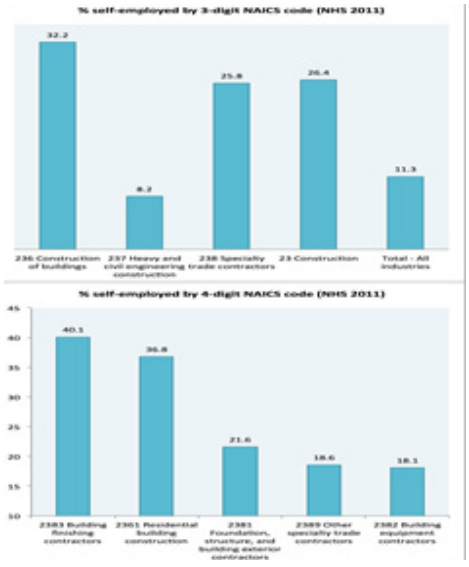


Figure 1.33 - Self-Employment Growth (Toronto LFS)



The share of self-employment varies by sub-sector. As Toronto's LFS data does not provide a sufficient degree of data disaggregation, we rely on the 2011 NHS data (which undercounts independent operators in the industry). Nevertheless the data is useful in pinpointing broad variations between sub-sectors. Construction of buildings (236) had the highest share of formal self-employment, while heavy and civil engineering (237) had the lowest share (below average for all industries in Toronto). At the level of 4-digit NAICS codes, the ICI portion of building construction (2362), posted below average rates of self-employment. The highest share of self-employment is found among building and finishing contractors (2383), residential building (2361), and foundation, structure and building exterior contractors (2381).

Figure 1.34 - Self-Employment by Subsector (NHS 2011)

The same trends are evident in the construction trades (NOC H1), in which self-employment is growing much faster than average for all occupations in Toronto. While 34.1% of the construction trades workforce is self-employed, the average self-employment rate for all occupations in Toronto is 16.5%. The occupations with the highest rates of self-employment in the trades were: floor covering installers (48.3%), tile-setters (48.2%), painters and decorators (45.6%), contractors and supervisors for other construction trades (38.8%), and plasterers, drywall installers and finishers and lathers (35.7%)[9].

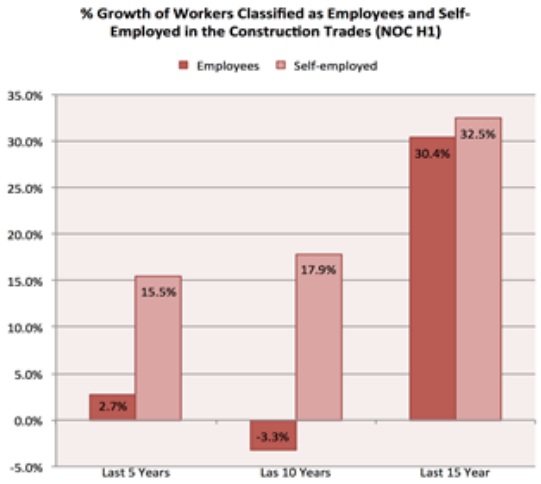


Figure 1.35 - Self-Employment in the Trades (NHS 2011)

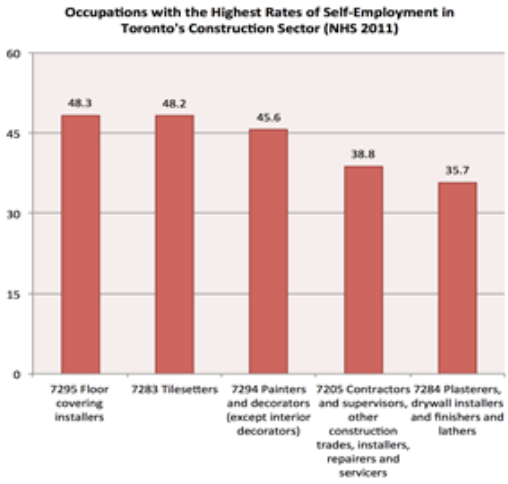


FIgure 1.36 - Self-Employment in the Trades (NHS 2011)

(C) Precarity at Work

Precarity, or precarious employment, takes different forms in different industries. While the construction industry is becoming more 'precarious' (especially since the 2008 financial crisis), other indicators suggest that construction has seen a more attenuated shift to precarious employment than other industries in Toronto.

Precarity at a Glance

Above average rates of unionization in construction may explain why those classified as 'employees' - about two thirds of the workforce – have lower levels of part-time and temporary work than average in Toronto. However, including the self-employed, 'independent operators,' and underground practices shows that non-standard employment may actually be more widespread in construction. Figure 1.41 presents three potential ways of gauging the extent of non-standard employment in construction over time, charting the share of workers who are either: (1) self-employed and in part-time work; (2) self-employed and in temporary work; and (3) self-employed, in part-time and temporary work. As the chart demonstrates, while the period in the immediate lead up to the financial crisis saw a decline in non-standard work, the period since 2008 has seen a precipitous increase.

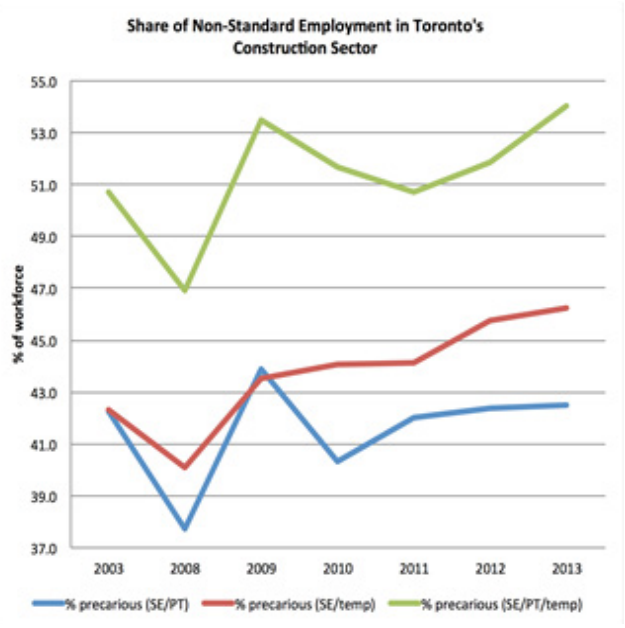


Figure 1.41 - Non-Standard Work in Construction (Toronto LFS)

Part-Time Employment

In construction the number of part-time jobs has grown at a consistently faster rate than full-time positions over the last fifteen years (Figure 1.42). Similar trends are also evident in the construction trades (NOC H1). (Figure1.43). In spite of these trends, employees in construction have higher rates of full-time employment than the average for all industries in Toronto.

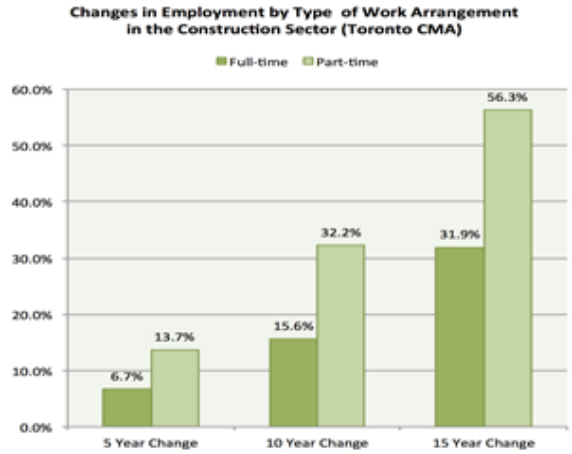


Figure 1.42 - Growth in Part-Time Work (Source: Toronto LFS)

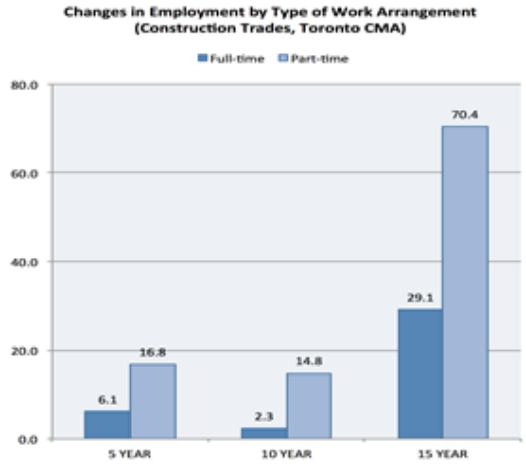


Figure 1.43 - Growth in Part-Time Work (Source: Toronto LFS)

The breakdown in the relative share of full time and part-time work in construction is heavily gendered and more women are employed in part-time work than men. In 2013, 94.2% of male employees were working full-time and only 77.6% of their female counterparts held full-time positions (Figure 1.44). Still, the gap seems to be narrowing as a greater share of women classified as 'employees' are now in full-time work. This trend seems to have been shaped by the greater rate of job-loss among part-time female workers (-12.9%) than job-loss among full-time female workers (-6.8%). For women in construction, talk of recovery has thus been temporary, as those with the most precarious work arrangements have experienced the greatest job-losses (Figure 1.45).

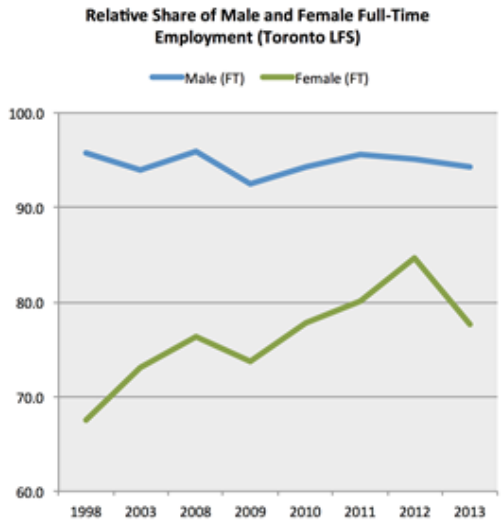


Figure 1.44 – Gender and Part Time Work (Toronto LFS)

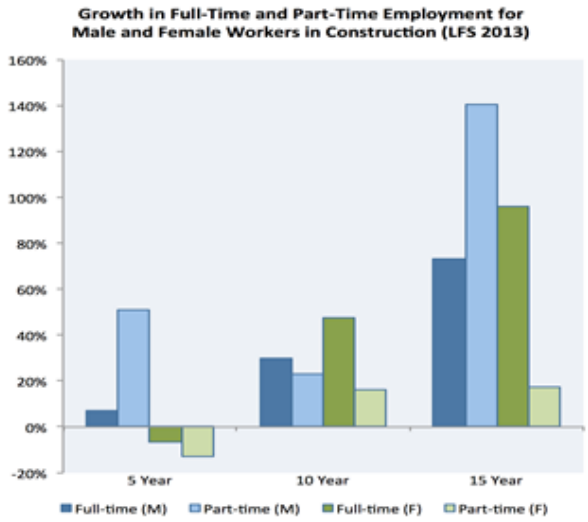


Figure 1.45 – Gender and Part-Time Work (Toronto LFS)

Temporary Employment

The share of temporary employees increased at a faster rate in construction than average, growing as a share of employed workers from 12.8% in 2003 to 17.6% in 2013. Building construction (236) saw the fastest growth rates in temporary employment, increasing by 147.6% in the last 5 years and 179.3% in the last 10 years (Figure 1.46). In the construction trades (NOC H1) the number of permanent employees shrunk by 10.4% in the past decade, while the number of temporary employees increased by 51.7%. Temporary employees now account for 18.1% of the construction trades workforce, up from 11.5% in 2003 (Figure 1.47).

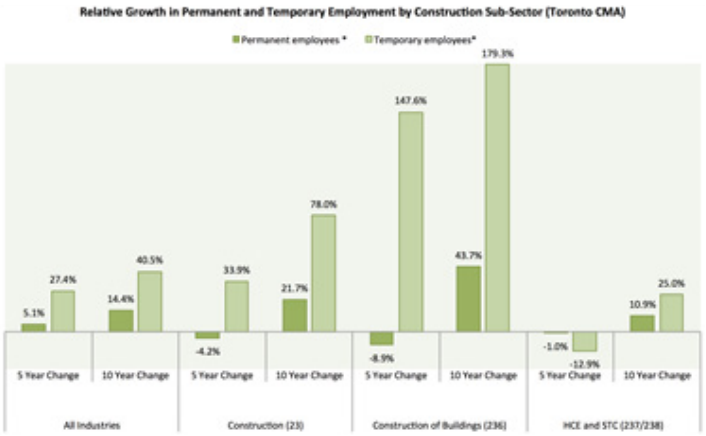


Figure 1.46 - Temporary Employment Growth (Toronto LFS)

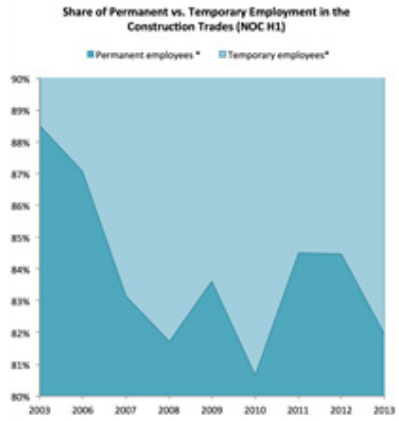


Figure 1.47 - Temporary Employment in the trades (Toronto LFS)

Workplace Stability

The construction industry, due to its very nature, has a very high share of workers with no-fixed workplace (Figure 1.48). In the 2011 NHS, only 10.9% of the workforce for all industries in Toronto reported 'no usual place of work,' while in construction this number stood at 52.5%. The situation is more acute in building construction (236) and among specialty trade contractors (238), with rates of over 50%, and is less pronounced in heavy and civil engineering, in which 37.1% reported having no fixed place of work. These figures indicate a split between building construction and specialty trades on the one-hand, and employment trends in heavy and civil engineering construction on the other. The trades' workforce typically moves from worksite to worksite depending on the demands of the specific job.

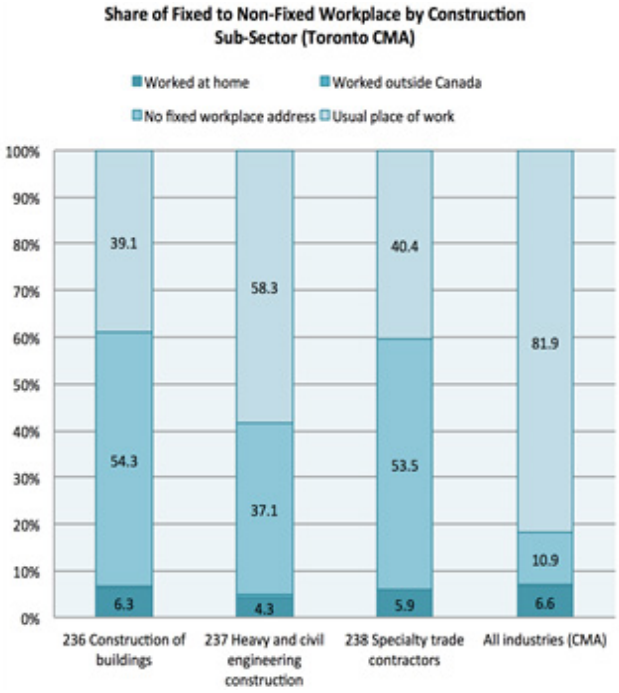


Figure 1.48 - No-fixed Workplace (NHS 2011)

(D) Wages in Construction

Construction has slightly higher hourly wages than the average for all industries in Toronto (Figure 1.51), despite the below average (post-secondary graduate) education levels. This is a break from the observed link between education and earnings.

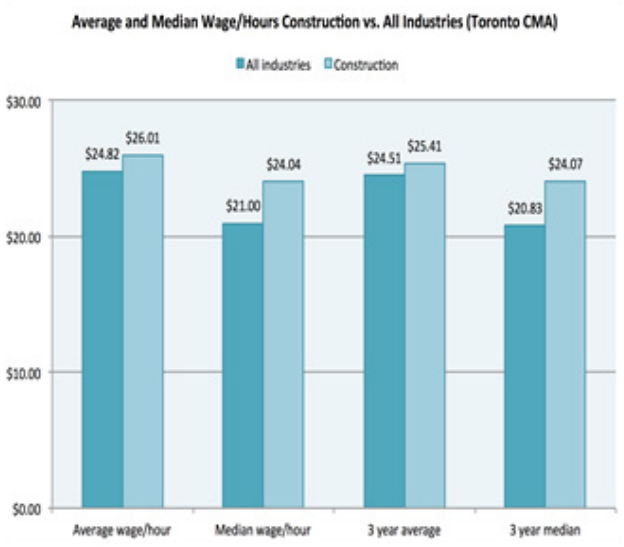


Figure1.51 - Wages in Construction (Toronto LFS)

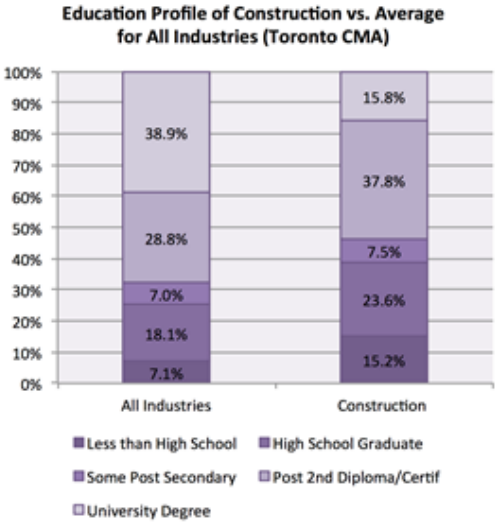


Figure 1.52 - Workforce by Education (Toronto LFS)

In fact, education plays an inverse role to earnings potential in construction. Weekly earnings are highest for employees without any high school, who earn $1,120 (median) or $1,171.25 (average) per week (Figure 1.53). Construction employees tend to earn considerably more than their peers with the same education (Figure 1.54). The simplest explanation is that senior workers in construction tend to have less formal or institutional education, but leverage greater on-the-job experience, seniority, networks or social capital. They may be counting trades training or their apprenticeships as separate from post-secondary education. Older workers are more likely to own their own business or hold supervisory and managerial positions. This doesn't apply to new entrants, who are increasingly expected to have completed some post-secondary education. The earnings differential is related more to seniority than formal education, a situation that may change as the current cohort of less formally educated but more experienced workers retires, and the more educationally qualified but less experienced cohort gains experience, seniority, and social capital.

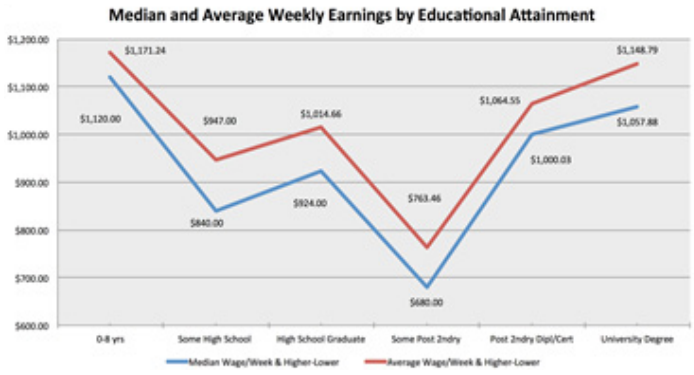


Figure 1.53 - Weekly Earnings (Source: Toronto LFS)

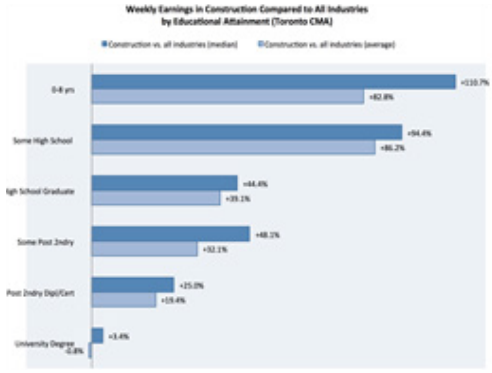


Figure 1.54 - Earnings by Education (Toronto LFS)

The gender wage gap relative to average earnings in construction varies between $0.30 cents to the dollar to $1.07 to the dollar by industry subsector. Women had only slightly higher reported annual incomes than average

in residential building construction (2361), highway, street and bridge construction (2373), and among building finishing contractors (2383)[10].

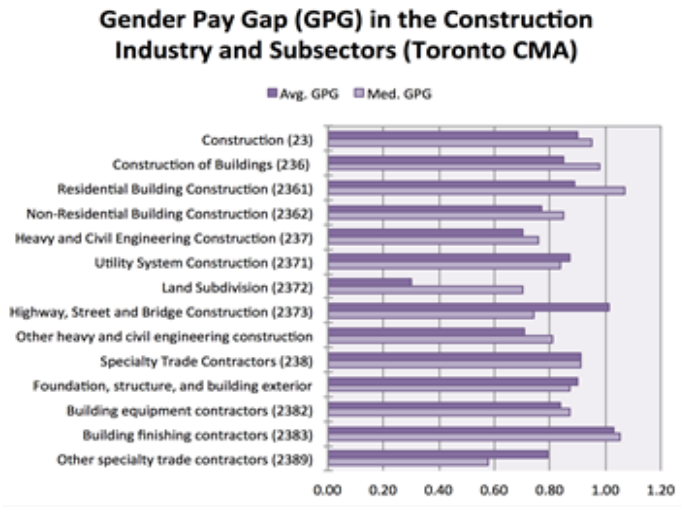


Figure 1.55 - Gender Pay gap (Source: NHS/TWIG 2011)

Over the past decade hourly wages in construction as a whole have stagnated in real terms. Hourly wages nominally increased by 20.2% (median) and 20.7% (average) in construction - and a 13.3% (median) and 16.9% (average) increase in the construction trades. In the same period the CPI in Toronto increased by 20.8%. In real terms this translates to hourly wage-stagnation in construction and an hourly wage-devaluation in construction trades.

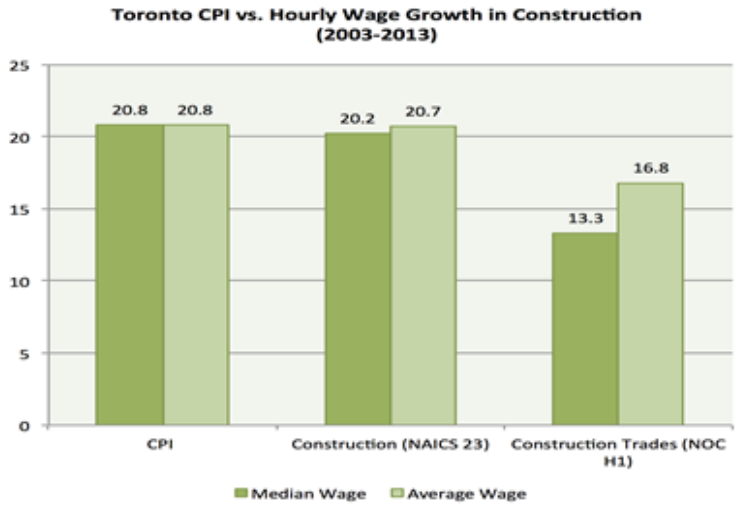


Figure 1.56 - Wage Stagnation (Source: Toronto LFS, StatCan)

(E) Workplace Health and Safety

On Christmas Eve in 2009, four construction workers, Alexander Bondorev, Fayzullo Fazilov, Aleksey Blumberg and Vladimir Korostin, died while they were working on a high-rise in Toronto. This was the worst incident in Toronto since the 1960 Hogg's Hollow disaster and highlights the dangers associated

with work in construction. According to the Workplace Safety and Insurance Board (WSIB), between 2004 and 2013, 190 fatalities occurred in construction in Ontario.

This accounts for 26.6% of all workplace fatalities in the province during this decade, in spite of the construction sector accounting for only 6.6% of provincial jobs. In the same ten year period, the construction sector led WSIB ranking for the highest number of occupational disease fatalities in the province, with 558 deaths recorded accounting for 27.2% of the total.

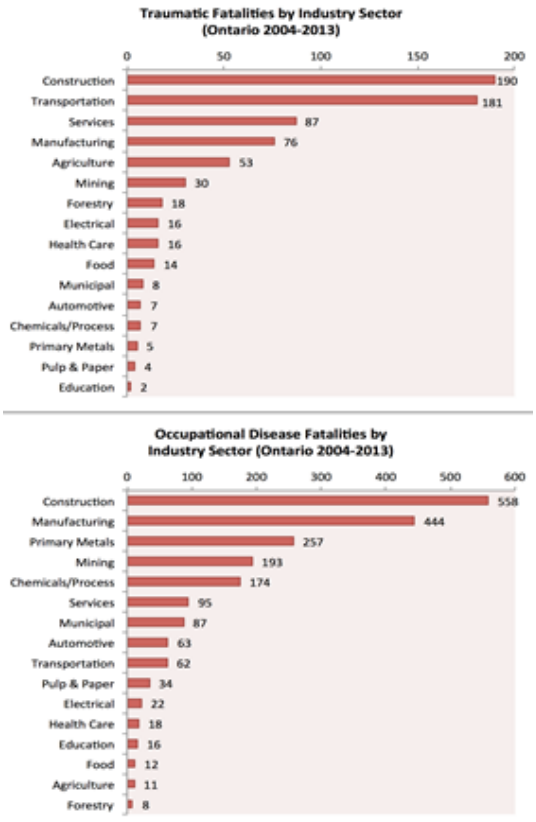


Figure 1.61 - Construction Fatalies (WSIB 2014)

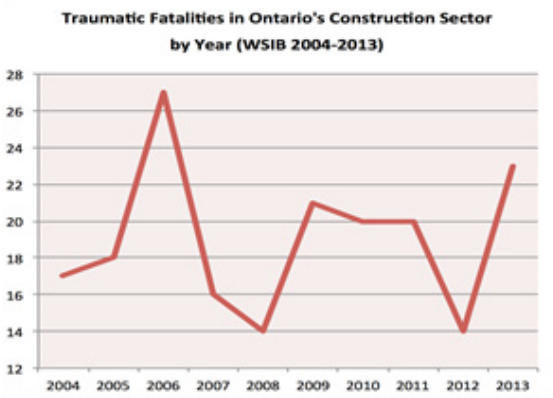


Figure 1.62 - Yearly Traumatic Fatalities (Source: WSIB)

The Government of Ontario has attempted to address these issues by increasing inspection blitzes at construction worksites, and creating A Strategy for Transforming Occupational Health and Safety (2013). It has also adopted a voluntary working at heights training standard for the construction industry. Despite this, traumatic fatalities have remained roughly the same since 2009 (Figure 1.62), including Toronto construction deaths in the summer of 2014[11].

(F) Union Membership and Density in Construction

Construction has a higher share of unionized workers than average for all industries in Toronto. According to LFS data, 23.5% of all construction workers are unionized as opposed to 19.7% across all industries in Toronto. Among those classified as employees, the share of unionization is even higher at 36.1%. The unionization rate for the construction trades (NOC H1) is also above average, at 33.2% of the workforce. While the absolute number of unionized workers sharply declined in the lead up to, and in the wake of the global financial crisis (2007-2009), since 2009 a renewal in absolute union membership is evident. The picture in terms of union density rates varies due to the faster growth of non-unionized jobs in most sub-sectors. The construction trades were the only ones to build employee union density to a new high of 50.4% in 2013.

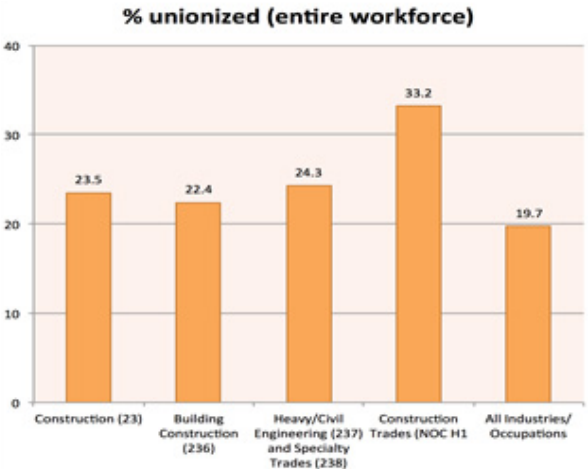


Figure 1.71 - Union Density (Source: Toronto LFS)

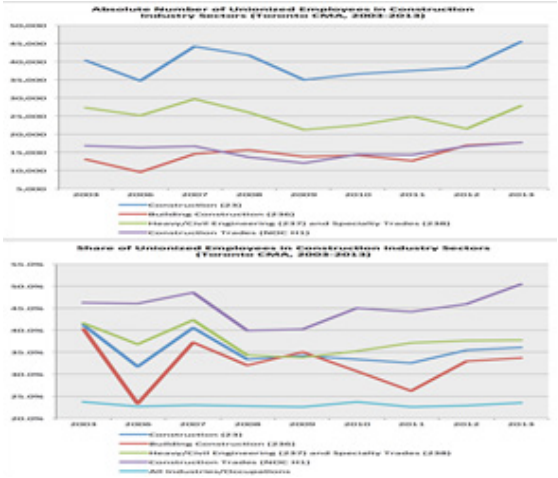


Figure 1.72 - Union Membership and Density (Source: Toronto LFS)

Unionized construction plays an important role in improving the nature and quality of employment in Toronto. Multimillion dollar union investment in training, facilities for new apprentices, and unions' participation in institutionalized province-wide collective bargaining, have been important contributions to ensuring construction workers maintain high wages and safe workplaces.

Accounting for the Unaccounted

Many construction workers live and work without access to formal protections. Undocumented and underground workers[12] are particularly vulnerable. The undocumented and those working underground face a number of challenges that their peers with citizenship or in the formal economy seldom confront, including: higher rates of wage-theft; the lack of legal protections; less exposure to health and safety safeguards and training; much lower rates of union coverage; and loss of access to public insurance plans (including health care, employment and disability insurance, old age pensions, etc).

Undocumented Workers, Labour Demand, and Routes to Citizenship

An estimated 20,000 undocumented workers were employed in Toronto's construction sector during the mid-2000s (LIUNA 183, 2006). With the recent boom in employment, this number may be between 20,000 to 30,000 undocumented workers[13]. Canadian immigration policies that restrict routes to citizenship for temporary workers and the undocumented, most of whom initially came through legal channels, increase the vulnerability of this workforce. One of the main sources of migrant and undocumented labour in construction is the Temporary Foreign Worker Program (TFWP), which has been expanded to occupation categories covering unskilled workers.

The Federal Skilled Trades Program (FSTP), which does offer a route to citizenship, is capped at 5,000 applications per year for all skilled trades covered by the program at the national level. This results in difficulty for employers and their workers to regularize the status of undocumented migrants.

Informal Work in the Underground Economy

According to the Ontario Home Builders Association (OHBA), the size of the underground economy in the renovations segment of residential construction is estimated at approximately $5.2-billion. In 2010, 56% of homeowners admitted to paying cash for home repair or renovations. The fiscal cost of the underground economy in renovations - accounting for half of all underground construction - amounts to $298-million in lost GST, $1.6-billion in income taxes, and $767-million in lost CPP, WSIB, EHT and EI contributions. While the fiscal costs are critical, the circumventing of workplace regulations has important consequences for the nature of work in construction.

A 2010 report by the Ontario Construction Secretariat (OCS) notes that the reclassification of employees as 'independent operators' is a growing industry practice. As a result: "contractors achieve an unfair and illegitimate competitive advantage that can range from 20% of labour costs to as much as 50%," further "undermin the coverage of benefit plans and weaken support for apprenticeship and training." Important federal and provincial efforts at curtailing informal practices have "stemmed the flow of new entrants into the underground economy," though they have "not yet had a significant impact on those who already operate there."[14]

In January 2013, the Ontario government began implementing new legislation that extends mandatory WSIB coverage to all independent operators, sole proprietors, partners, and executive officers in corporations, ensuring that all employees receive coverage and protections. While the system still doesn't provide full employee coverage and protections, the shift in policy is an important step.

Part II - An Occupational Overview of Construction

Occupational Distribution

According to the 2011 NHS, the construction industry in Toronto is characterized by the dominance of trades, transport and equipment operators and related occupations (NOC 7), followed by management occupations (NOC 0) and business, finance and administration occupations (NOC 1). Other important occupational clusters are found in the natural and applied sciences (NOC 2) and in sales and services (NOC 6). The top three occupational categories account for roughly 90% of all jobs in construction, while trades accounts for 65%. The top five occupations were construction helpers and labourers (NOC 7611); carpenters (NOC 7271); electricians (7241); construction managers (NOC 0711); and home building/renovation managers (NOC 0712).

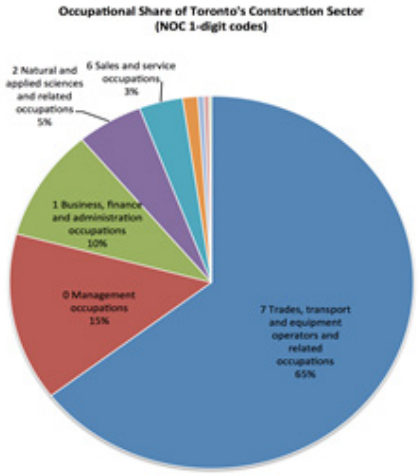


Figure 2.11 - Occupational Distribution (Source: NHS 2011)

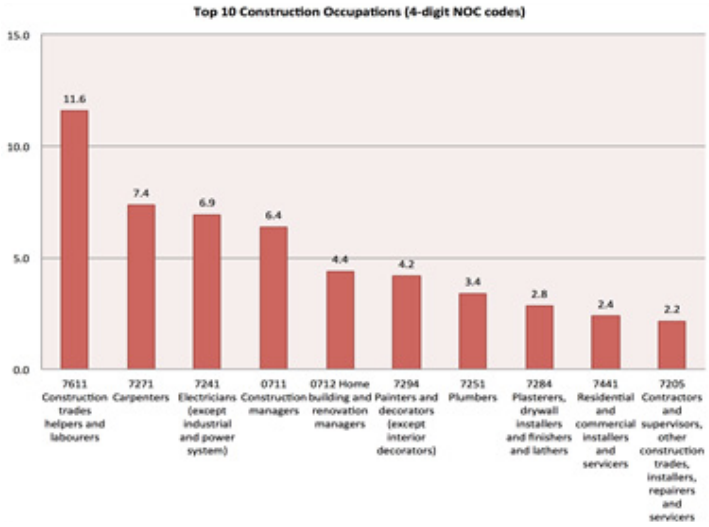


Figure 2.12 - Top 10 Occupations (Source: NHS 2011)

There are important sub-sector variations illustrated in Figure 2.13.

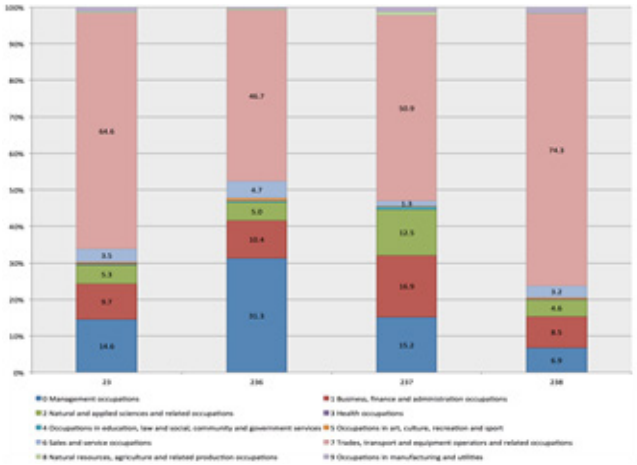


Figure 2.13 - Occupational Distribution (Source: NHS 2011)

- Due to its higher concentration of small enterprises, including owner-operated firms, construction of buildings (236) has a greater relative share of managerial (NOC 0) occupations (31.3%). This sub-sector has a higher relative share of all non-trades occupations, with less than 50% in the trades.
- Heavy and civil engineering (237) has the highest relative share of business, financial and administration (NOC 1) occupations, due to larger firm sizes. This results in higher administrative and accounting costs. Given its more knowledge-intensive nature, it also has the highest relative share of natural and applied science professions (NOC 2).
- Specialty trade contractors (238) has the highest relative share of trades (NOC 7) and the lowest relative share of non-trade occupations, with 74.3% of all jobs tied directly to trades.

Table 2.1 provides a summary of the top five occupations by industry subsector.

TABLE 2.1 - Top 5 Occupations by Construction Sub-Sector (4-digit NOC)		
Construction of Buildings	Heavy and Civil Engineering	Specialty Trade Contractors
Construction helpers and labourers (7611)	Construction helpers and labourers (7611)	Electricians (7241)
Constructions managers (0711)	Contractors and supervisors, heavy equipment operator crews (7302)	Construction helpers and labourers (7611)
Home building and renovation managers (0712)	Construction managers (0711)	Carpenters (7271)
Carpenters (7271)	Heavy equipment operators (7521)	Painters and decorators (not in-cluing interior) (7294)
Janitors (6733)	Transport truck drivers (7511)	Plumbers (7251)
60.1% (subsector share of Top 5 Jobs)	**42.2%** (subsector share of Top 5 Jobs)	**35.6%** (subsector share of Top 5 Jobs)

Occupational Skill Profiles

Another way of mapping occupations is by applying HRSDC's skill/sector matrix[15], revealing an inverse 'hourglass' distribution of skills/jobs in construction. This means that construction is evading the trend towards the hollowing out of mid-level jobs observable across Toronto's labour force[16]. In terms of overall skills composition, construction is heavily biased towards mid-level, working jobs.

In the construction subsectors, heavy and civil engineering has the highest share of knowledge jobs (24.4%), and entry-level jobs (31.5%). This distribution flows from larger firm sizes and higher capital intensity, making its 'knowledge' component more prominent. Heavy and civil engineering closely approximates the hourglass structure of Toronto's labour force[17]. Specialty trade contractors (238), on the other hand, exhibit an extreme inverse version of the hourglass, with their high relative share of mid-level working jobs. As a result, this also has the lowest share of all other skill/job types (Figure 2.21).

Figure 2.21 - Skills/Jobs Matrix in Construction (Source: TWIG 2010; NHS 2011)

Similar distinctions are evident in examining the relative share of knowledge, service, working and primary jobs in each subsector. Working sector jobs (whether entry or mid-level) tended to account for more than three-quarters of positions in building construction (236) and specialty trades (238). Heavy and civil engineering (237), once again, stands out with its much lower share of working jobs (61.7% of the total), and its higher share of both knowledge and service jobs (Figure 2.22)[18].

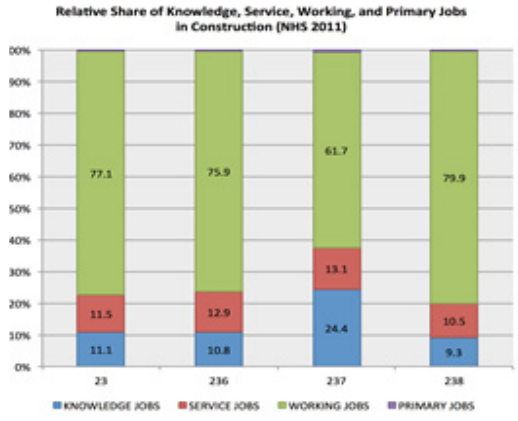


Figure 2.22 – Skills/Jobs Matrix in Construction (Source: TWIG 2010; NHS 2011

Apprenticeship Training and Education

Apprenticeship Training and Completion Rates

In Ontario, trades are regulated by the Ontario College of Trades and Apprenticeship Act (OCTAA 2009). A primary distinction is made by the College of Trades between the 22 designated compulsory trades requiring certification[19] in the province and the 134 non-compulsory skilled trades. For trades training there are 95 specialized union and union-employer training centres in the province, and numerous college training programs. Unionized construction contributes $260-million in capital investments, and another $40 to 60-million annually to support their apprenticeship training infrastructure. These "joint" training centres are negotiated through collective bargaining and paid for by employee/employer contributions. They represent an increasing share of enrolment in Ontario trades training. (Figure 2.31) .

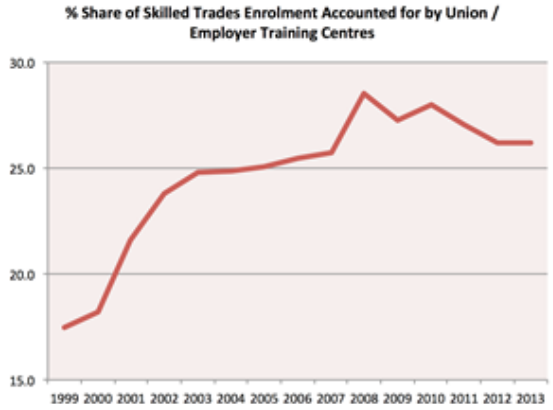


Figure 2.31 – Share of Enrolment in Union Training Centres (OCS 2013)

While apprenticeship training and certification is important, the retention and completion rates in the province remain low (Figure 2.32). The ratio of program completions to new registrants is below 50%. Legislative changes following OCTAA, as well as increasing enforcement inspections, have raised incentives to complete diplomas or certificates in skilled trades. A sharp upward trend in completions recently emerged, although there are still some structural barriers to apprenticeship completion[20].

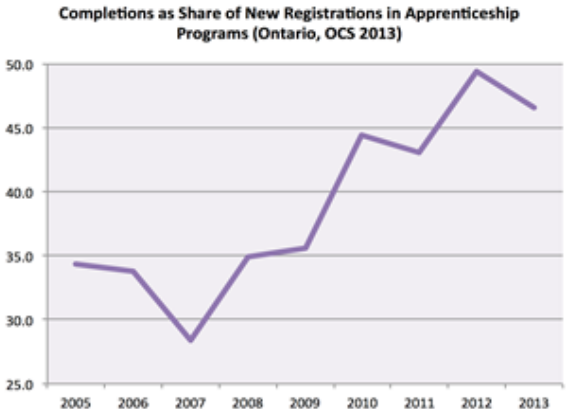


Figure 2.32 – Completion (Source: OCS 2013)

Educational Attainment

Toronto's construction sector boasts an increasingly educated workforce. Between 1998 and 2013, there was a significant reduction in the share of construction workers with high-school or less (dropping from 51% to 39%), and a corresponding increase in workers with at least some post-secondary education (rising from 49% to 61%).

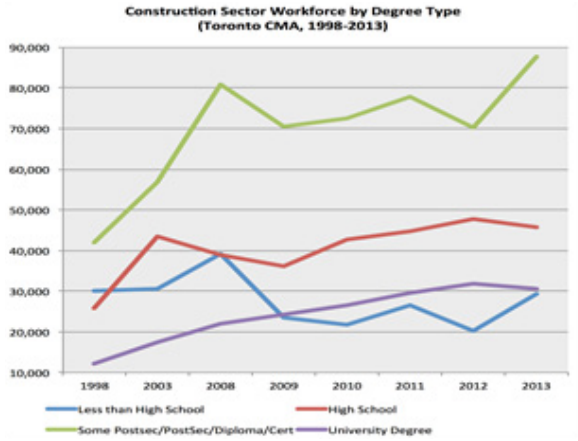


Figure 2.33 – Construction Education Levels (Source: Toronto LFS)

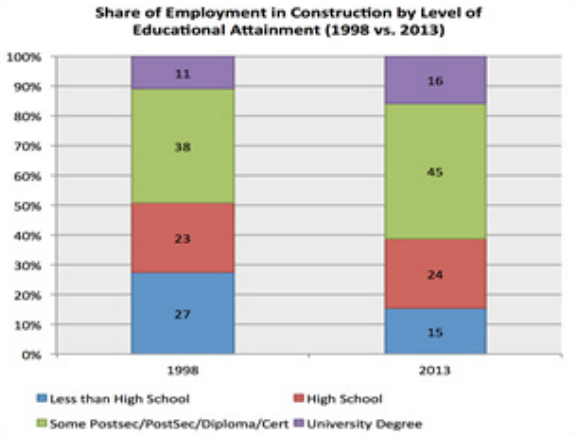


Figure 2.34 – Construction Education Levels (Source: Toronto LFS)

Similar trends are evident in the construction trades (NOC H1), demonstrating a shift from 61.5% of the workforce with a high school degree or less in 1998, to less than half (44.7%) with these qualifications by 2013. At the same time, the share of those with some post-secondary education or more rose from 38.5% in 1998 to 55.3% by 2013.

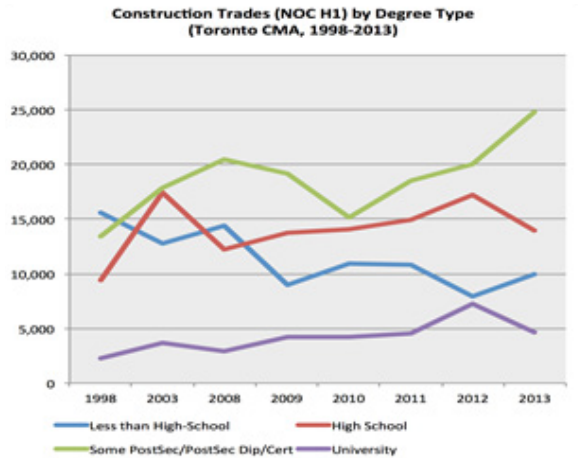


Figure 2.35 – Construction Trades Education Levels (Source: Toronto LFS)

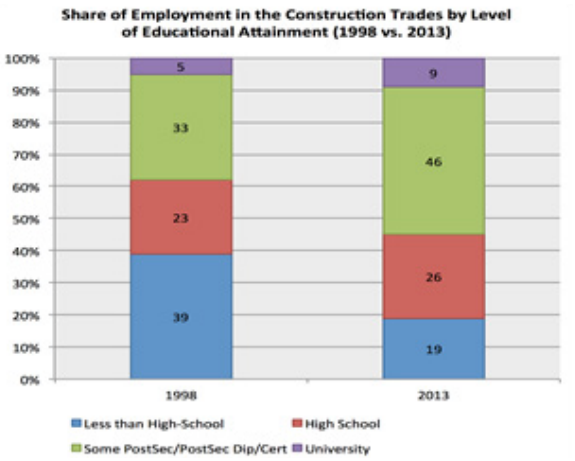


Figure 2.36 – Construction Trades Education Levels (Source: Toronto LFS)

Projected Industry Needs

"Commercial and industrial work in the GTA will provide a steady and moderate increase in jobs, with employment growth tied to major infrastructure projects, between 2014 and 2023[21]. According to BuildForce, the significant share of ICI and major civil and heavy engineering projects in Toronto's construction pipeline, including some of the largest engineering projects in Canada, will lead to an increased demand for skilled workers in non-residential trades, including: boilermakers, construction millwrights, electricians, elevator installers, glaziers, painters and decorators, plasterers and drywall installers, plumbers, refrigeration and air-conditioning mechanics, roofers and shinglers, and tile setters. Furthermore, BuildForce anticipates "residential employment holding its own" in the GTA with labour demand peaking by 2019.

BuildForce projects that Ontario will need to recruit more than 37,600 workers from outside the province to meet local demand in the coming decade. Toronto is destined to become a major locus for new inter-provincial or transnational migrant workers, the GTA may "the only market with consistent recruiting challenges." Their report highlights some of the most likely demand and supply restrictions affecting certain trades over the coming decade in the GTA[22].

LIUNA's John Mandarino agrees with this assessment, saying:

> "[T]he civil trades are going to be very important because of the ageing infrastructure we have in most of our cities, but obviously mostly in Toronto. As our population grows we're putting a greater burden on our utilities for example, on our sewers, on our water usage. This ageing infrastructure has to be replenished, roads for example and overpasses. What is going to be required are skills in form-work, concrete placement, rehabilitation, sewer and water main work, utilities. They're going to be important. Obviously, there's still going to be a need in areas like framing or house framing, because our subdivisions are also expanding to the north, to the east, and to the west. We need to accommodate our new population, whether it is through high-rise residential or through low-rise housing. So, obviously, that's going to be an issue. Now, I know that residential is going to grow at a lesser pace over the next decade, cause we've had a great boom there already, but certainly people that are skilled in building our infrastructure, our roads, our sidewalks, our telecommunications, our sewers, our water-mains, our bridges, that's where the great need is going to be."

The OCS's ICI Construction Barometer also points to increasing labour demand in Toronto, with "contractors… by far the most optimistic in the GTA thanks primarily to their bullish work forecasts for the commercial, industrial and engineering sectors." GTA contractors kept a positive outlook due to new projects, steady access to favourable financing, and carry-over work from previous years.

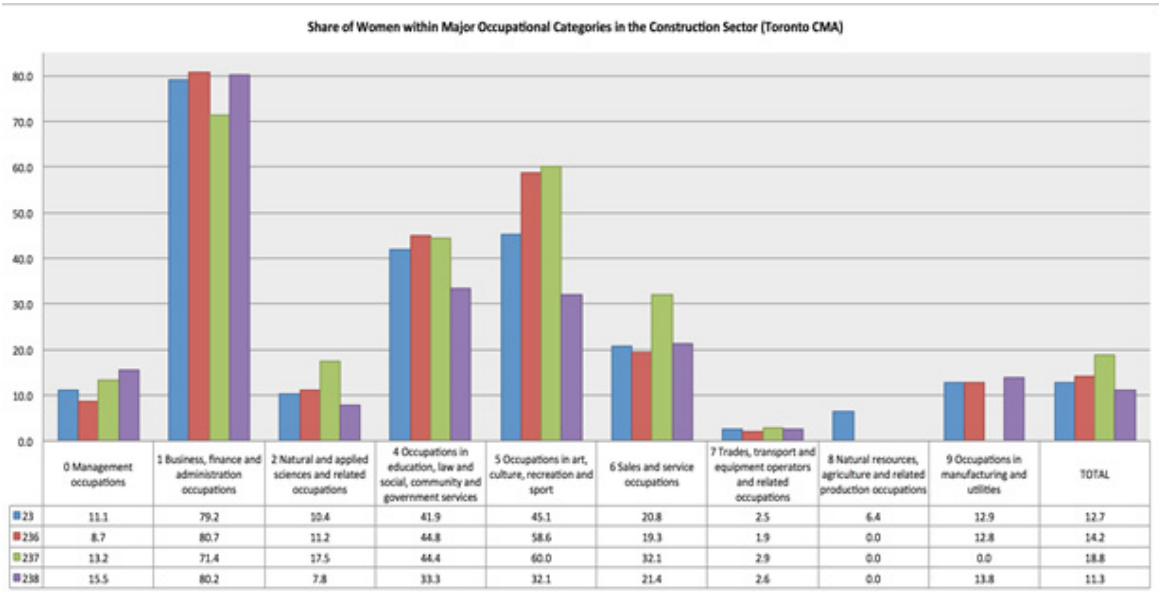
One of the major constraints on construction growth continues to be a shortage of skilled labour, with 72% of contractors reporting 'extreme' or 'somewhat' substantial labour shortages. According to the OCS, these shortages were less acute among unionized contractors. The trades currently in shortest supply in the GTA, according to the OCS survey were: plumbers/steamfitters, electricians and carpenters, operating engineers, and general labourers. In spite of these labour constraints, 41% of GTA firms projected hiring more employees during 2014.

Diversifying the Trades

The construction sector in Toronto suffers from a diversity deficit, with a lower share of women, visible minorities, and indigenous peoples represented than their average for all industries. A noticeable tendency towards the clustering of equity seeking groups in a narrow range of construction occupations indicates the presence of labour market segmentation along gender and racial lines in the industry.

Gender Diversity

The already low concentration of women in construction is compounded by marked differences in the occupational distribution of female and male workers. There are two illustrations of this point in the charts below. The first examines the share of women to men in individual occupational categories (Figure 2.41), the second shows the occupational distribution of women in construction (Figure 2.42). The highest concentration of women was in business, finance and administration occupations (NOC 1), where women represent between 70-80% of the workforce. Women constitute less than 3% of those employed in the trades (NOC 7), the core-occupational group for the construction sector as a whole.



	0 Management occupations	1 Business, finance and administration occupations	2 Natural and applied sciences and related occupations	4 Occupations in education, law and social, community and government services	5 Occupations in art, culture, recreation and sport	6 Sales and service occupations	7 Trades, transport and equipment operators and related occupations	8 Natural resources, agriculture and related production occupations	9 Occupations in manufacturing and utilities	TOTAL
23	11.1	79.2	10.4	41.9	45.1	20.8	2.5	6.4	12.9	12.7
236	8.7	80.7	11.2	44.8	58.6	19.3	1.9	0.0	12.8	14.2
237	13.2	71.4	17.5	44.4	60.0	32.1	2.9	0.0	0.0	18.8
238	15.5	80.2	7.8	33.3	32.1	21.4	2.6	0.0	13.8	11.3

Figure 2.41 – Female Share Relative to Males by Construction Occupation (Source: NHS 2011)

Business, financial and administration occupations (NOC 1) accounted for 60.4% of all female jobs in construction, followed by 12.8% in management occupations (NOC 0), and only 12.6% in construction trades (NOC 7). While sub-sector variations are noticeable, the already discussed occupational categories tend to dominate throughout.

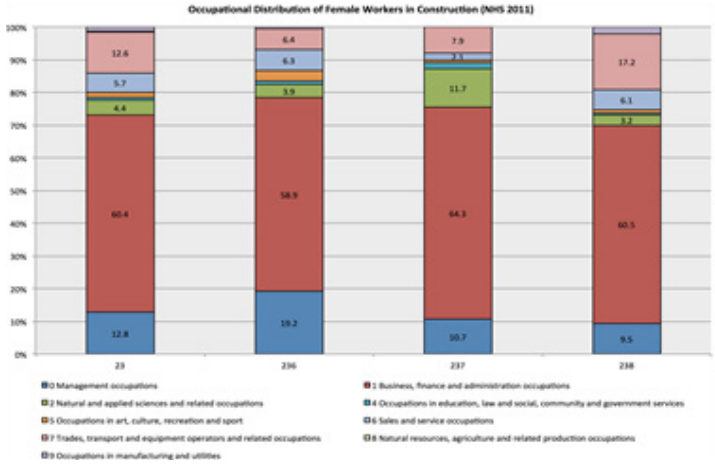


Figure 2.42 – Occupational Distribution of Women in Construction (Source: NHS 2011)

A 2010 report by the Construction Sector Council found major structural barriers facing women at each stage of the career development in the trades:

- **Recruitment**: the "industry's poor image; lack of role models, knowledge and career advice; gender-biased recruitment; peer pressure; and, poor educational experiences" all militate against greater female participation.
- **Education and Training**: unequal access to funding, the disparity between institutional technical training environments and worksite environments, isolation, discrimination and harassment during apprenticeships, a lack of role models and mentors, and inadequate funding undermine female enrolment and retention.
- **Employment**: difficulty finding employment (due to discrimination and stereotyping in hiring and apprenticeship training) as well as the lack of informal networks through which most positions are filled.
- **Workplaces**: unwelcoming work environments (including persisting harassment and discrimination); lack of gender appropriate facilities or accommodations; biased patterns informing wages, promotions and retention; and a lack of flexibility around parental duties.

These dynamics lead to a strong 'glass ceiling' effect in construction, a sector in which less than 10% of directors are women, among the lowest rates in Canada. These factors combined reinforce the heavily masculinized nature of construction.

Visible Minorities and Indigenous Peoples

According to the available data (NOC7), visible minorities and indigenous peoples are under-represented in the trades relative to their share of the overall labour force[23]. Visible minorities were only over-represented in a small cluster of trades, including:

- Welders and related machine operators (71.4%)
- Blacksmiths and die setters (70%)
- Metal Forming, Shaping and Erecting Trades (61.8%)
- Supervisors, machinists and related occupations (61.6%)
- Boilermakers (60%)
- Construction millwrights and industrial mechanics (51.2%)
- Telecommunications installation and repair workers (49.5%)
- Structural metal and platework fabricators and fitters (49.4%)
- Telecommunications line and cable workers (49.2%)
- Cabinetmakers (47.2%)
- Machinery and Transportation Equipment Mechanics (Except Motor Vehicle) (45.6%)

Indigenous workers were over-represented, relative to their share in the general labour force, in a wider range of occupations than visible minorities, but were statistically absent from many trades. Trades with more than 1% indigenous representation were:

- Contractors and supervisors, metal forming, shaping and erecting trades (5.3%)
- Ironworkers (3.2%)
- Supervisors, machinists and related occupations (2.7%)
- Public works and maintenance labourers (1.8%)
- Roofers and shinglers (1.5%)
- Telecommunications line and cable workers (1.5%)
- Bricklayers (1%)

There are overlapping occupational clusters in which indigenous workers and visible minorities are over-represented, suggesting potential stratification and segmentation of occupations based on race. The available data suggest that most trades still have work to do in ensuring the inclusion of visible minorities and indigenous peoples.

Community Based Initiatives

This section briefly examines community-based initiatives in Toronto that are creating opportunities in the trades for under-represented groups, or that seek to build more sustainable urban environments through the use of community benefits agreements[24].

Hammer Heads
A pre-apprenticeship program, funded by the Government of Ontario's Youth Challenge Fund, started in 2009 by the Central Ontario Building Trades (COBT). The program encourages the inclusion of under-represented youth in construction trades. The 14-week program offers hands-on-training, academic upgrading, health and safety awareness, and employability and life skills.

CHOICE Carpentry
This pre-apprenticeship program began in 2010 as a partnership between the Carpenter's Local 27 Training Centre and Toronto Community Housing (TCH). It offers 12 weeks of training to youth living in TCH accommodations, including 2 weeks of training at Local 27's Joint Training Centre in Woodbridge and another 10-weeks of workplace training supervised by program instructors. As part of the program, the YMCA covers the cost of participant tool sets and protective equipment. The program is intended to serve as an entry into apprenticeship programs or job placement upon completion.

Women in the Skilled Trades (WIST)
WIST is a multi-stakeholder initiative launched by the Government of Ontario, in conjunction with the Canadian Women's Foundation and RESCON (Residential Construction Council of Central Ontario). The program operates through local training centres, providing "pre-apprenticeship training geared towards increasing the number of women in skilled trades." It consists of a 39-40 week program designed to prepare women for a career in construction. Yearly grants are available to training centres and educational institutions willing to support the program.

Toronto Community Benefits Network (TCBN)
The TCBN came together as part of an earlier group working on revitalizing the shuttered Kodak factory in Toronto's Weston-Mt. Dennis neighbourhood. While the initial effort failed, this network of community organizations succeeded in negotiating an important community benefits framework (CBA) with Metrolinx and the provincial ministry of Training, Colleges and Universities (MTCU). The Framework ensures that the future project contractor for the new Eglinton Crosstown LRT will provide apprenticeship opportunities to residents from communities along the line. The TCBN hopes to manage the recruitment of apprentices through active community outreach in LRT communities.

Green Building Initiatives
Toronto's Green Building initiatives, including Tower Renewal, Green Standards, the water efficiency and rebate program, eco-roof incentive program and the Toronto atmospheric fund are a suite of programs developed to reduce greenhouse gas, promote the design and construction of energy-efficient new buildings and the use of renewable energy. Taken together, these programs have the potential to create employment in the trades and lead to a more sustainable region.

CONCLUSION

At the end of 2014, construction in Toronto is booming. There are more cranes in the downtown core than in any other North American metropolis. The construction workforce is characterized by skilled tradespersons, small business and growing levels of self-employment. A demand for energy-efficiency and an interest in "green buildings" is resulting in re-tooling existing skills sets. Yet, while the industry is thriving, a diversity deficit continues to exist. Building a more inclusive construction sector in Toronto will require community engagement, strategic policies and programs leading to innovative initiatives such as community benefits agreements.

Endnotes

1 National Household Survey
2 Labour Force Survey
3 ESDC
4 BuildForce
5 At present, Toronto accounts for 42% of all construction sector employment in Ontario (and 14.6% of all construction sector employment in Canada). Furthermore, construction accounts for 6.2% of jobs in Toronto, making it an important employer in the city.
6 Within this core population, further hollowing out is evident. Thus, while in 1998 workers in the 35-44 age group constituted the single largest demographic in construction trades, since 2009 the distribution of workers has been more heavily concentrated in the 45-54 and 25-34 age cohorts.
7 NHS (2011)
8 CANSIM data
9 NHS (2011)
10 These are highly partial figures. They are only for employees with a fixed workplace in the Toronto census division. The gap was calculated by measuring the ratio between female average and median yearly earnings to average and median yearly earnings in the construction industry as a whole. This version of the 'gap' represents a conservative approximation of the gender pay gap, which would be greater if female earnings would be directly compared to male earnings. These figures also don't provide any distinctions based on occupational profile, and only reflect gaps between workers on the basis of industrial category.
11 Incidents include: the June 23 death of Sarmand Iskander, a 22 year old construction worker from Baghdad who died when he toppled from the 28th floor of a downtown condo project at Wellesley and Bloor at Bay St. where he had been installing balcony railings; the June 27 death of a 46-year-old construction worker who died after a dump truck hit him in the Derry Rd.-Bronte St. area in Milton; and the July 24 death of a construction worker who suffocated after he became trapped in an unstable trench near Eglinton Ave. and Caledonia Rd.
12 Undocumented workers are workers without citizenship or legal status in Canada. They may be working in either the formal or underground economy. Underground workers are those employed in the underground economy, regardless of citizenship status. Earnings potential for undocumented and underground workers may be higher than average, or it may be lower than average. What creates vulnerability is their lack of legal protection, which makes both categories of worker vulnerable to exploitation. Thus, while many undocumented workers work in the underground economy, the underground economy is not reducible to the undocumented.
13 The estimate is in-line with a simple (and crude) comparison of the NHS (2011) data for construction sector employment, which lists 150,940 workers in Toronto's CMA, while NHS (2011) figures on language use at workplaces lists 173,235 construction workers employed in the same geographic region. Similarly, Toronto LFS data for the same year also lists 178,720 workers employed in construction. The gap between the NHS employment figures, on the one hand, and the NHS linguistic or the Toronto LFS figures on the other, provides a rough potential approximation of the size of the undocumented or undeclared workforce in the sector.
14 Ibid
15 Sifting Through the Sands: Changing the Hourglass, 2010, The skill/sector matrix divides all occupations into three broad skill categories: knowledge worker jobs (requiring a college diploma, a university degree or a highly refined skill), middle jobs (those that do not require a college diploma or a university degree or a highly refined skill), and entry-level jobs (requiring a high school diploma but otherwise requiring no experience, as well as the next-level jobs immediately accessible after a short period in an entry level position. Furthermore, middle and entry-level jobs are further divided by sector, including: service sector (services), working sector (manufacturing, the trades, and transportation), and the primary sector (agriculture, fishing, farming, and oil & mining).
16 Ibid
17 An Economy Out of Shape: Changing the Hourglass, Tom Zizys for Toronto Workforce Innovation Group, 2010
18 Shifting Through the Sands: Changing the Hourglass, TWIG, Tom Zizys, 2011
19 10 of these designated compulsory trades in Ontario are relevant to the construction sector, including: electricians (construction and maintenance, as well as domestic and rural), hoisting engineers (mobile and tower crane operators), plumbers, refrigeration and air conditioning systems mechanics, residential (low rise) sheet metal installers, residential air conditioning systems mechanics, sheet metal workers, and steamfitters.
20 A 2013 OCS study into low apprenticeship completion rates in the province identified several of the most significant barriers, including: opportunity costs and foregone wages during the in-school period; wages set too low - especially in the first and second year; length of time to complete; risks of cyclical employment and job loss; low social status sometimes associated with apprenticeship; system complexity; lack of information on duration and rewards; lack of clearly defined career paths; family pressures (40% of apprentices report having children). Furthermore, employers identified additional barriers to hiring apprentices from their point of view, including: long completion times, apprenticeships fail to alleviate immediate shortages; poaching by competitors eliminates employer's investment in the apprentice; employers may perceive that training costs outweigh the benefits; in-school training cycle may interfere with the employer's work schedule especially if the in-school portion comes during peak demand thereby generating a shortage of workers.
21 Ibid
22 Shortages will be particularly acute in the following categories: Boilermakers: who will see "modest employment growth driven by increased activity" in the GTA (and other jurisdictions) through to 2017. Employers are expected to compete to attract additional workers with recruiting extending beyond traditional sources/practices. Concrete finishers: where tighter labour market conditions are projected in 2019 and 2020 due to civil and other engineering projects. Crane operators: where demand will become more pronounced over the medium-term (till 2019) as a result of high-rise residential requirements "and then slowing down across the remainder of the scenario period." Peak demand will occur in 2015. Elevator constructors and mechanics: where demand will similarly be influenced by high-rise residential construction, with a similar tightening of labour market conditions till 2019, followed by a tapering-off thereafter. Glaziers: will also face tightening labour markets as a result of increasing demand in the high-rise residential construction sector up to 2019, and then becoming more regular afterwards. Steamfitters, pipe fitters and sprinkler system installers: where demand will be driven by "engineering projects and maintenance work" till 2017, thus creating tighter labour markets. Employment growth in this profession is expected to be "driven by increased activity in the GTA." As a result of tightening labour markets, recruitment from outside may be required.
23 The figures are based on 2006 census data. Disaggregated data on the basis of visible minority or indigenous participation in particular occupations was not available at the same level of refinement in the 2011 NHS.
24 A CBA is a commitment to provide jobs and other benefits for local residents. In many countries, communities demand CBAs when new industries or public sector projects are built. http://communitybenefits.ca/?page_id=12