

Construction: Durham Region

Definition and Context

The construction sector encompasses all establishments which perform activities related to the construction and renovation of buildings, as well as engineering works and the subdivision and development of land (Statistics Canada, 2018b). Construction includes parts of projects or complete projects, and while best known for being new construction projects, the definition also includes repairs or renovations to existing projects (Statistics Canada, 2018b). The construction industry is divided into three main subsectors of construction of buildings (e.g. homes, commercial buildings), heavy and civil engineering construction (e.g. highways, land subdivision) and specialty trade constructors who perform the required trade activities on constructed buildings and structures (e.g. masonry, electrical work) (Statistics Canada, 2018b).

According to Buildforce Canada (2019), there is projected demand in the construction sector in the next ten years for Ontario. Due to the older age of many workers in this sector, there are anticipated retirements of 91,100 with fewer anticipated new entrants of 77,800 (Buildforce Canada, 2019). This expected change in the labour force means that there will be nearly a 25 percent decline, affecting the ability to sustain record-high construction activity (Buildforce Canada, 2019). In the Greater Toronto Area, encompassing Durham Region, demand in non-residential construction is expected to outweigh demand for residential construction, particularly in the year 2020 (Buildforce Canada, 2019). During this period of time, there is increased demand for trades due to requirements for engineering projects, such as the Darlington nuclear refurbishment (Buildforce Canada, 2019).

Aging is the number one barrier to a declining construction labour force, causing the industry to look towards other industries, provinces or even countries to find adequate workers to meet construction demands (Buildforce Canada, 2019). In order to boost the number of workers with the right skill sets to join the industry, additional apprentices need to be registered and underrepresented groups of workers such as women, Indigenous Canadians and new Canadians need to be recruited (Buildforce Canada, 2019).

There are federally funded programs in place that help more people become skilled trades workers, to help address the anticipated shortage (Employment & Social Development Canada, 2018). In April 2018, an announcement was made by the Minister of Employment, Workforce Development and Labour that 10.2 million dollars would be invested in the Union Training and Innovation program, to help fund equipment and materials for Canadian unions (Employment & Social Development Canada, 2018). This funding program would allow apprentices to complete their training more speedily, and be able to enter the construction sector workforce (Employment & Social Development Canada, 2018). In addition, other federal funds including the Canada Apprentice Loans, Apprenticeship Grants program, Apprentice Incentive Grant for Women and Women in Construction fund, all form a strategic plan to attract more women to the trades, and help fund training to ensure apprenticeships are more accessible (Employment & Social Development Canada, 2018).

Overview and Highlights of Industry in Durham Region

According to the last publicly available Annual Building Activity Review report for Durham Region, there was a year-over-year increase of 20.3 percent for the total value of residential permits issued (Durham Region, 2018). The majority of the building permits were residential, nearing 1.4 million dollars in value, while non-residential building permits were valued near 600,000 (Durham Region, 2018). In particular, the year-over-year increase was larger for non-residential permits, with a 61.1 percent increase since 2016 (Durham Region, 2018). Oshawa received the highest number of residential permits, followed by Clarington (Durham Region, 2018). For non-residential permits in 2017, distribution was primarily in governmental and commercial development, followed closely by institutional permits (Durham Region, 2018).

Residential Construction: Oshawa is becoming a central locale in Durham Region for residential development, with many residential pre-construction projects from varied builders. The Harmony Gate townhouse development is being built by Sundance Homes, with 79 units available for sale (BuzzBuzzHome, 2019). Delpark Homes is responsible for The Brook Phase 2, which consists of 25 single family homes, and The Ross Towns, slated for 81 total townhomes (BuzzBuzzHome, 2019). Tribute Communities is also a major builder in Oshawa's residential construction with new developments of U.C. Towns 2 (40 townhomes), U.C. Tower Condominiums (25-storeys and 479 suites), and U.C. Community (800 single family homes)(BuzzBuzzHome, 2019).

Non-Residential Construction: The Municipality of Clarington is becoming a hub for new commercial developments, with the construction of a new distribution centre for Toyota in Bowmanville (O'Meara, 2018). The facility is expected to span 350,000 square feet, with over 40 million dollars budgeted towards its creation (O'Meara, 2018). 3D Cana Inc. is in the process of constructing a 21,000 square foot licensed cannabis production facility in Bowmanville, with plans for an additional expansion of 70,000 square feet (Clarington Board of Trade, 2018). There is also intent to develop a new two-storey commercial building in Clarington, including office space, restaurants and a café (Clarington Board of Trade, 2018).

Maintenance & Renovations: Many new construction projects are ongoing in Whitby, as of early 2019 (Whitby This Week, 2019). These municipal projects involve the construction of a snow storage facility on Garden Street, replacement of Brock Street and upgrade of Highway 401 which are anticipated to be a three-year project (Whitby This Week, 2019). A significant portion of Thickson and Winchester Roads will also be reconstructed (Whitby This Week, 2019). As part of the Capital Works Road Program, many other maintenance projects are planned annually, including resurfacing of roads, resurfacing of parking lots, replacement or creation of sidewalks and improvements to multi-use paths (Town of Whitby, 2018).

Planning & Zoning: Planning for the Seaton Community in the City of Pickering has been in progress for more than a decade (City of Pickering, 2018). In 2006, a Central Pickering Development Plan was drawn and approved by the Province of Ontario, demonstrating the potential for the 830-acre area to host 70,000 residents and create over 35,000 jobs, in addition to space for agricultural lands (City of Pickering, 2018). According to Hemson (2015), the location is able to expand and develop because of its proximity to major transit corridors, utilities servicing plans and employment plans due to balanced office, retail, service and residential designations. Businesses including, but not limited

to, food processing, graphics and design, education and research, data and communications, schools and places of worships, all have allocations within existing plans (Hemson, 2015).

Construction Employment by NOCS (2016)

The National Occupational Classification System (NOCS) is developed by the government of Canada, as the Canadian standardized taxonomy and framework for communicating about labour market information, and is sorted by skill levels and skill types (Government of Canada, 2018b). Occupations within this taxonomy are grouped by the type of work required for each job, including the employment requirements, job description and responsibilities, tasks and duties (Government of Canada, 2018b). Other factors that impact the classification of occupations include the complexity of the work, the types of services that are provided or the goods that are being made, and the responsibility required in the work (Government of Canada, 2018b). There are several levels to these occupational categories, beginning with a single digit, described as a broad occupational category code (e.g. 0 Management occupations) (Government of Canada, 2018b). The occupational codes become more specific as the number of digits increase: two-digits are major group codes (e.g. 00 Senior management occupations), three-digits are minor group codes (e.g. 001 Legislators and senior management) and four-digits identify the above three groups including a unit group (e.g. 0011 Legislators) (Government of Canada, 2018b).

The following table outlines the occupations represented in the construction sector, along with the total employed persons in Durham Region in those occupations, and their respective median and average employment incomes. This table contains the most recent data from the Statistics Canada Census by Place of Work (POW), meaning that all these jobs are within the Durham Region.

Occupation	Total Employed	Median Employment Income (\$)	Average Employment Income (\$)
0711 Construction managers	705	72833	89769
0712 Home building and renovation managers	295	32897	48256
2153 Urban and land use planners	185	75814	76507
2154 Land surveyors	40	51587	55775
2234 Construction estimators	150	60141	61703
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations	165	86617	102951
7202 Contractors and supervisors, electrical trades and telecommunications occupations	170	84647	94057
7203 Contractors and supervisors, pipefitting trades	35	85474	104013

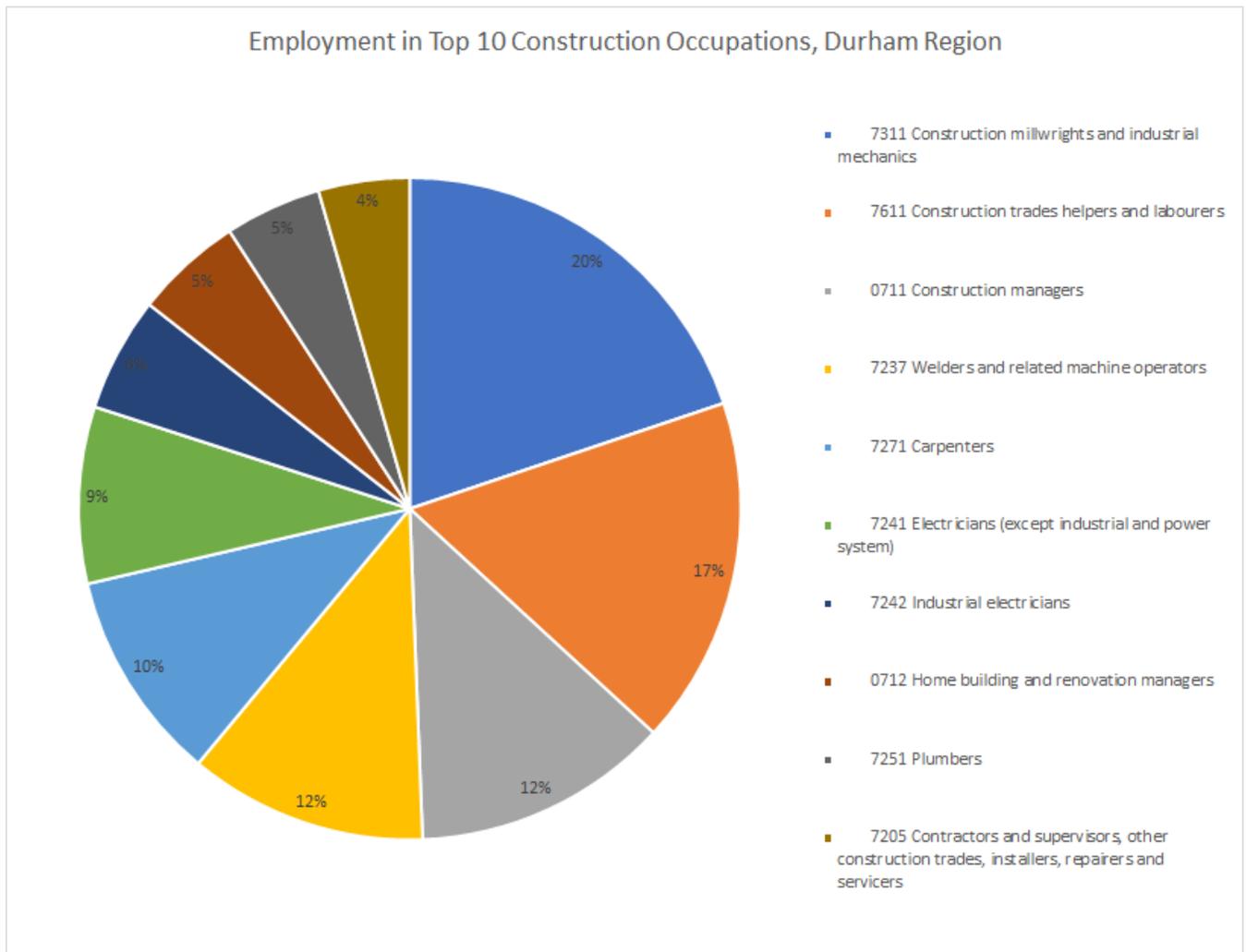
7204 Contractors and supervisors, carpentry trades	95	39477	50933
7205 Contractors and supervisors, other construction trades, installers, repairers and servicers	250	52136	58153
7233 Sheet metal workers	150	59552	60320
7234 Boilermakers	95	119051	115396
7235 Structural metal and platework fabricators and fitters	45	41963	49434
7236 Ironworkers	115	88033	89323
7237 Welders and related machine operators	655	46519	50716
7241 Electricians (except industrial and power system)	485	68426	70763
7242 Industrial electricians	315	91880	88024
7251 Plumbers	265	49997	60690
7252 Steamfitters, pipefitters and sprinkler system installers	165	68841	74479
7253 Gas fitters	110	38784	44858
7271 Carpenters	580	40048	44463
7272 Cabinetmakers	165	40534	39705
7281 Bricklayers	70	38007	35456
7282 Concrete finishers	25		
7283 Tilesetters	25		
7284 Plasterers, drywall installers and finishers and lathers	35	30322	28165
7291 Roofers and shinglers	90	35882	38367
7292 Glaziers	25		50266
7293 Insulators	90	89364	82616
7294 Painters and decorators (except interior decorators)	150	31524	44085
7295 Floor covering installers	65	24025	34129
7311 Construction millwrights and industrial mechanics	1115	93800	94816
7318 Elevator constructors and mechanics	50	73548	82270

7611 Construction trades helpers and labourers	955	40257	42793
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Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

The construction occupation with highest employment in the Durham Region is 7311 Construction millwrights and industrial mechanics (n=1115), with high median and average employment incomes of 93,800 and 94,816 respectively. These incomes are in stark contrast to the lower median and employment incomes in Durham Region, which are \$38,893 and \$50,161 respectively. The construction occupation with second highest employment in the Durham Region is 7611 Construction trades helpers and labourers, with 955 persons employed. The median and average incomes are similar to the overall average and median incomes of Durham Region, at 40,257 and 42,793 respectively.

The following figure shows a visual representation of the top 10 Construction occupations in Durham Region, according to the 2016 Census. The subsectors are separated by four-digit NOCS.



Source: Statistics Canada Census, 2016 (custom purchased by Durham Workforce Authority)

Construction Employment by NAICS (2016)

The North American Industry Classification System (NAICS) is a hierarchical classification system for industries, developed by the national statistical agencies of Canada, United States and Mexico. (Statistics Canada, 2017). This classification system divides the economy into 20 major sectors grouped by production criterion, which are further divided into 102 sub-sectors and 324 industry groups (Statistics Canada, 2017). The reason for the development of this system is to classify business establishments, and to segregate the establishments by the types of activities businesses specialize in (Statistics Canada, 2017). However, it is important to keep in mind that some large companies and enterprises may fall under several sectors in NAICS and cannot wholly be represented by one sector code (Statistics Canada, 2017). NAICS codes are available from broad categories of 2-digits (e.g. 31-33 Manufacturing) to more specific codes that are 6-digits (e.g. 335223 Major kitchen appliance manufacturing) (Statistics Canada, 2017). There are NAICS codes for 3-digits, 4-digits, and 5-digits (Statistics Canada, 2017).

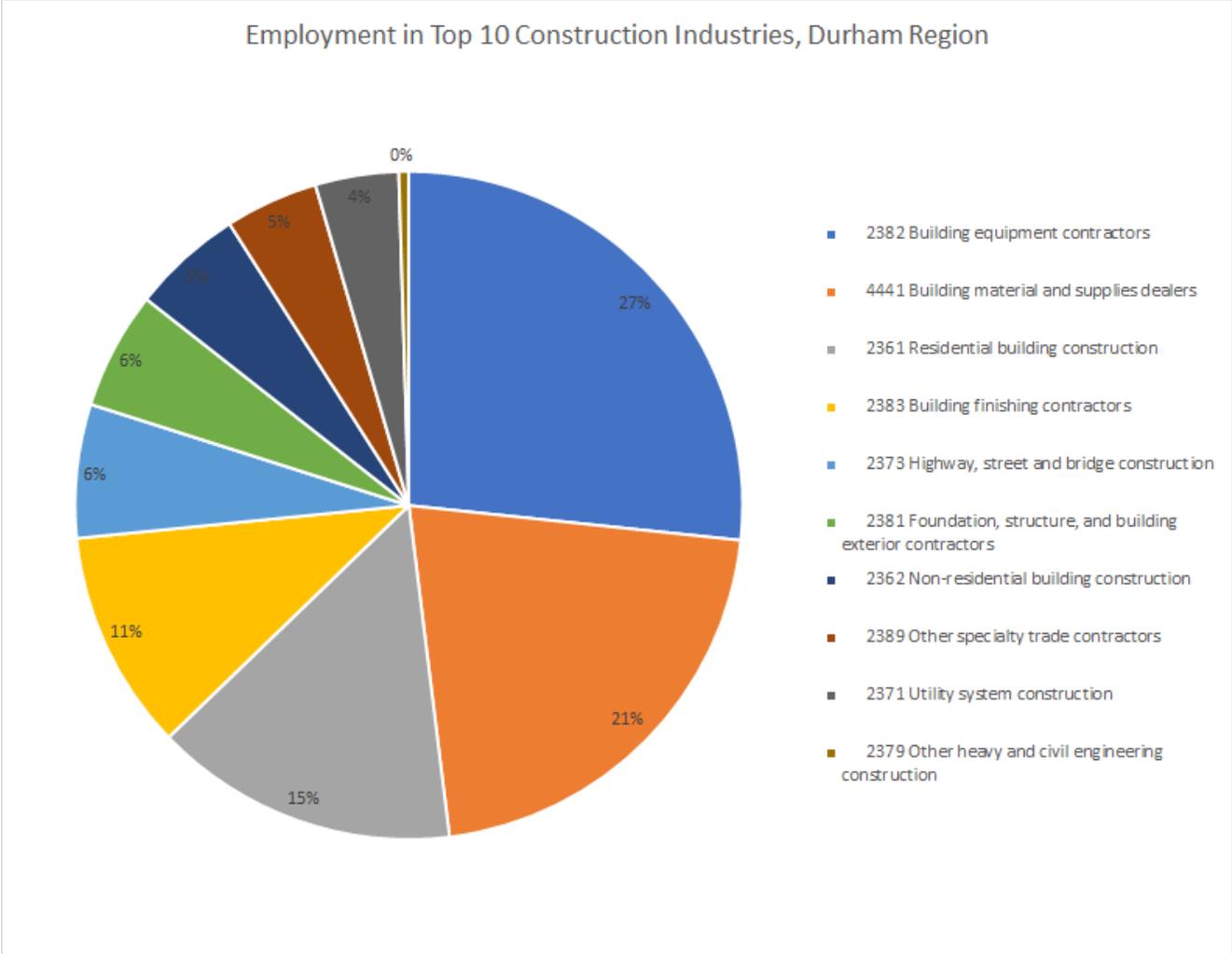
The following table outlines the industries represented in construction, along with the total number of employed persons in those industries within Durham Region, and the respective median and average employment incomes, classified by 4-digit NAICS. This table contains the most recent data from the Statistics Canada Census (2016) by Place of Work, meaning that all these jobs are located within Durham.

Industry (NAICS)	Total Employed	Median Employment Income (\$)	Average Employment Income (\$)
2361 Residential building construction	1550	36009	47057
2362 Non-residential building construction	565	62255	84348
2371 Utility system construction	425	70369	79308
2372 Land subdivision	35		
2373 Highway, street and bridge construction	680	66289	72880
2379 Other heavy and civil engineering construction	50	95020	161410
2381 Foundation, structure, and building exterior contractors	600	42923	52885
2382 Building equipment contractors	2805	56756	65460
2383 Building finishing contractors	1120	36368	43770
2389 Other specialty trade contractors	475	44783	51365
4441 Building material and supplies dealers	2250	24713	31351

Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

The construction industry with highest employment in the Durham Region is 2382 Building equipment contractors, with a total of 2805 employed persons. The median employment income is 56,756 and the average employment income is 65,460, which is higher than the median and average employment incomes for Durham Region, which are \$38,893 and \$50,161 respectively. The second highest employed industry in the construction sector is 4441 Building material and supplies dealers, with a total of 2250 employed persons. The median and average employment incomes are slightly lower than overall incomes for Durham Region, at 36,368 and 43,770 respectively.

The following figure is a visual representation of the top 10 Construction industries in Durham Region, according to the 2016 Census. The subsectors are separated by four-digit NAICS.



Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

Canadian Business Patterns (December 2018): Construction

The Canadian Business Counts are published twice annually, and are available publicly available at the national and provincial levels (Statistics Canada, 2018a). Canadian Business Counts by Census Subdivision (e.g. Durham Region) are purchased collectively by the Workforce Planning Boards of

Ontario, including Durham Workforce Authority. These counts provide information about the number of businesses, as classified by three-digit industrial classification (NAICS) and employment-size categories (e.g. 1 to 4 employees), and are taken from the Statistics Canada Business Register (Statistics Canada, 2018a). Each operating location is classified as a separate business, so if a company has more than one location (e.g. headquarter office, 2 branches), they will each be counted individually (Statistics Canada, 2018a). Using the Canadian Business Counts is beneficial in understanding the composition of businesses in the Durham Region by industry, as well as the number of SMEs (small and medium enterprises) and their role in the local economy.

The following table outlines the number of businesses represented in the construction sector, categorized by 3-digit NAICS (North American Industrial Classification System) and number of employees. This table contains the most recent data from the Canadian Business Register in December 2018 by Place of Work (2018), meaning that all these businesses are located within Durham Region.

3-Digit Industry (NAICS)	Without employees	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500 +
236 - Construction of buildings	1321	105	38	25	5	3	2	0	0
237 - Heavy and civil engineering construction	263	8	11	10	7	2	0	0	0
238 - Specialty trade contractors	2773	331	161	58	14	8	1	0	0
444 - Building material and garden equipment and supplies dealers	82	32	21	9	2	7	2	0	0

Source: Statistics Canada, December 2018, Canadian Business Patterns, Data purchased by Durham Workforce Authority

Most construction businesses in the Durham Region are 238 Specialty trade contractors, without any employees (n=2773), followed by 236 Construction of building businesses, without any employees (n=1321). There are very few Durham-based large construction enterprises with 200 to 499 employees, and no Durham-based large construction enterprises with 500 employees or more.

According to the 2018 Canadian Business Register, a significant portion of construction sector businesses are considered small-medium enterprises (SMEs).

Educational Attainment (Census, 2016)

Educational attainment in the construction sector varies due to the varied skill requirements and tasks associated with the breadth of occupations. The following table outlines employment in the Construction sector in Durham Region by highest level of educational attainment and 3-Digit NAICS (North American Industrial Classification System). Please refer above for the full context and definition of NAICS.

Industry (3-Digit NAICS)	No certificate, diploma or degree	Secondary (high) school diploma or equivalency certificate	Apprenticeship or trades certificate or diploma	College, CEGEP or other non-university certificate or diploma	University certificate or degree (bachelor and above)
236 Construction of buildings	255	655	310	565	285
237 Heavy and civil engineering construction	160	370	120	310	230
238 Specialty trade contractors	475	1430	1120	1455	445

Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

The majority of workers in construction sectors have educational attainment above a secondary school diploma or equivalent. For 236 Construction of buildings (27%) and 238 Specialty trade contractors (29%), many workers have a college diploma or equivalent and for 237 Heavy and civil engineering construction, a large proportion of workers in Durham Region have a high school diploma or equivalent (31%).

The following table outlines employment in the Construction sector in Durham Region by highest level of educational attainment and 4-Digit NOCS. Please refer above for the full context and definition of NOC (National Occupational Classification).

Occupation (NOCS)	No certificate, diploma or degree	Secondary (high) school diploma or equivalency certificate	Apprenticeship or trades certificate or diploma	College, CEGEP or other non-university certificate or diploma	University certificate or degree (bachelor and above)
0711 Construction managers	40	150	90	220	200
0712 Home building and renovation managers	70	100	40	50	30

2153 Urban and land use planners		20		10	140
2154 Land surveyors				20	10
2234 Construction estimators	10	40	10	50	40
7201 Contractors and supervisors, machining, metal forming, shaping and erecting trades and related occupations	20	40	60	30	
7202 Contractors and supervisors, electrical trades and telecommunica tions occupations	10	30	40	80	10
7203 Contractors and supervisors, pipefitting trades			20	10	
7204 Contractors and supervisors, carpentry trades		50	30	20	
7205 Contractors and supervisors, other construction trades, installers, repairers and servicers	40	90	40	50	20
7233 Sheet metal workers	10	60	60	30	

7234 Boilermakers			60	30	10
7235 Structural metal and platework fabricators and fitters		20	10	20	
7236 Ironworkers		20	70	10	10
7237 Welders and related machine operators	90	150	240	170	
7241 Electricians (except industrial and power system)	10	40	260	150	20
7242 Industrial electricians			130	150	20
7251 Plumbers		50	100	100	10
7252 Steamfitters, pipefitters and sprinkler system installers		10	110	60	
7253 Gas fitters		20	60	30	
7271 Carpenters	60	150	200	130	30
7272 Cabinetmakers	30	70	30	20	10
7281 Bricklayers	10	20	30	10	
7282 Concrete finishers		20	10		
7283 Tilesetters	10	20			
7284 Plasterers, drywall installers and finishers and lathers	10	20			10

7291 Roofers and shinglers	30	30	30		
7292 Glaziers			10	10	
7293 Insulators	10	30	20	10	10
7294 Painters and decorators (except interior decorators)	10	50	30	40	
7295 Floor covering installers	10	30		10	10
7311 Construction millwrights and industrial mechanics	20	140	460	470	30
7318 Elevator constructors and mechanics		20	20	10	
7611 Construction trades helpers and labourers	210	420	80	180	40

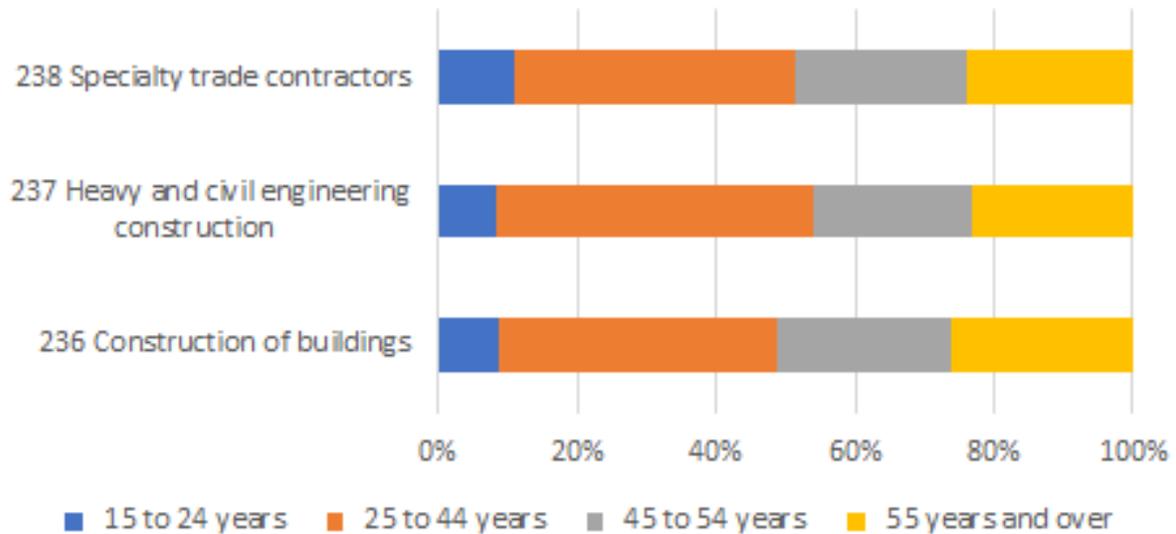
Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

The educational attainment trends are similar when sorted by NAICS and NOCS, with the majority of workers (91%) obtaining a secondary school diploma or higher. For certain occupations such as 7311 Construction millwrights and industrial mechanics, the majority of workers (41%) have an apprenticeship or trades certificate.

[Workforce Age Breakdown by NAICS \(Census, 2016\)](#)

The following table illustrates employment in the Construction sector in Durham Region (POW) by age group and 3-Digit NAICS (North American Industrial Classification System). Specifically, for people who work in the construction industries within Durham Region, this chart shows the age distribution by 3-Digit NAICS.

Age Distribution in Construction Industries, Durham Region



Source: Statistics Canada, 2016 Census, Data custom purchased by Durham Workforce Authority

The age distribution chart above shows that the majority of workers are within the core-aged working population (25 to 44 years). However, almost half the workers in the three construction industries are 45 years and over, which can have implications for workforce availability in the future.

Key Performance Indicators: Durham College

Each year, Durham College produces a Graduate Employment Report based on information compiled from the KPI survey. The information contained in the report profiles the employment status of Durham College graduates from post-secondary programs in 2016. Six months after graduation, graduates are contacted by an independent consulting firm (hired by the Ministry of Training, Colleges and Universities), regarding their employment status. The table below represents programs and indicators for the construction sector.

Program Name	Total Graduates	Percentage Working (Related)	Percentage Working
Construction and Hoisting Techniques (COHT)	30	57	100
Construction Carpentry-Sustainable (CCST)	23	60	80
Gas Technician 2 (GFIT)	27	25	50
Heating, Ventilation and Air Conditioning Techniques (HVAC)	51	50	83
Mechanical Techniques-Plumbing (MPLU)	60	25	75
Trades Fundamentals (TRDE)	59	0	86

Welding Techniques (WELD)	60	61	89
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Source: Durham College, 2017, Key Performance Indicators, Employment Rate of 2014 Graduates in Undergraduate Programs

UOIT performance indicators will not be included in this sector profile because there is insufficient data on construction-related programs.

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