CONSTRUCTION & MAINTENANCE LOOKING FORWARD

ALBERTA

Transition to a more diverse workforce is underway

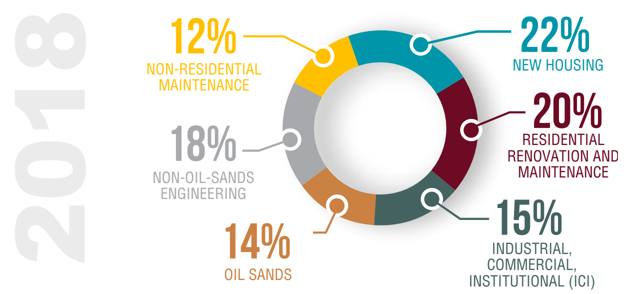
AB

HIGHLIGHTS 2018–2027

Alberta's construction industry is facing a significant change in the coming decade as new oil sands investment slows and is mostly unchanged from 2018 through to 2023; well below previous peaks. New job opportunities will shift toward oil sands sustaining capital and maintenance work, diversification, infrastructure, and other construction projects. The industry must replace 20 percent, or 40,000 of the province's 208,600 construction workers due to increasing retirement demands. Even if the industry is successful in recruiting the estimated 38,300 new entrant workers available to enter the industry, an additional 6,000 workers from outside the industry, the province, or the country will need to be recruited to keep pace with anticipated demand.

Over the 2018–2027 scenario period, non-residential-sector growth should resume at a modest level in 2019 followed by slightly higher growth-rate levels beginning in 2024 as anticipated renewed oil and gas investment returns. Although construction employment is not expected to return to the peak levels achieved in the mid to late 2000s, the need to sustain the workforce in the face of rising retirements along with moderate population growth and industrial diversification will keep workforce management issues top of mind for construction industry leaders. Rising to these challenges will be made more difficult given recent declines in construction activity and a significant out-migration of the existing workforce to other industries or to other provinces. Alberta is transitioning back to a stronger reliance on a local provincial workforce to meet future construction demands.

DISTRIBUTION OF CONSTRUCTION EMPLOYMENT IN 2018, ALBERTA



10-YEAR WORKFORCE OUTLOOK FOR ALBERTA

JOB AVERAGE UNEMPLOYMENT RATE 7%

HIGHLIGHTS

- The declines in oil-and-gas-sector investment persist through 2018, but are partially offset by the residential recovery underway and growth in other non-residential construction activity.
- Above-normal levels of planned industrial-sector maintenance and shutdown work will require thousands of specialized trades to meet peak demands during the spring of 2018.
- The 2018–2027 outlook scenario projects that total construction employment will decline in 2018 before broader growth resumes and gains momentum across the scenario period, adding 8,300 jobs by 2027.
- Construction labour markets continue to adjust to a new normal following consecutive years of record out-migration, but Alberta's growing youth population adds to housing demand.
- Alberta is not expected to return to past peak levels, but preparation for the future remains a priority while transitioning to a smaller construction workforce and the need to replace 40,000 skilled workers over the decade.

BuildForce's LMI System

BuildForce Canada uses a scenario-based forecasting system to assess future construction labour requirements in the heavy industrial, residential, and non-residential construction markets. This labour market information (LMI) system tracks 34 trades and occupations. To further improve the robustness of the system, BuildForce consults with industry stakeholders, including owners, contractors, and labour groups, to validate the scenario assumptions and construction project lists, and seeks input from government on related analysis. The information is then distilled into labour market condition rankings to help industry employers with the management of their respective human resources.

ALBERTA CONSTRUCTION OUTLOOK

Construction demands in Alberta decline further in 2018, but divergent trends have emerged between residential and non-residential construction markets, and there are signs of a broader recovery ahead. Oil sands expansion project demands are largely complete, releasing thousands of workers as current projects end; some are absorbed by the start of other smaller engineering projects and sustaining capital and maintenance/shutdown demands.

The residential recovery, now well underway, adds jobs in new housing and renovation segments for a second straight year, while non-residential ICI (industrial, commercial, institutional) building also contributes positively in 2018, driven by increased commercial investment, which slowed in 2017. On balance, labour markets continue to adjust following record out-migration of the out-of-province workforce that has been a staple of the Alberta industry for much of the past decade. As current major projects end, employment declines over the next few years will be increasingly absorbed by the local Alberta workforce with higher levels of unemployment.

Engineering construction will remain the dominant source of employment in Alberta, accounting for almost one third (32 percent) of total construction jobs in 2018. But with no new large major oil sands projects expected before 2024, and only modest levels of new utilities, pipeline, and infrastructure investment, overall engineering construction demands are expected to see further but small declines between 2019 and 2023. Seasonal industrial shutdown/turnaround and maintenance work will continue to add to employment opportunities, and specialized out-of-province workers will continue to play an important role in meeting peak demands.

Alberta's relatively young population, attributed to strong levels of in-migration during the extended resource expansion, is a key driver of construction investment growth over the coming decade. Positive natural population growth (births less deaths) and the expected arrival of 346,000 immigrants over the next 10 years is expected to sustain long-term growth in new housing, institutional, and commercial building requirements.

Over the decade, a modest, but enduring housing recovery slowly returns housing starts to near pre-downturn levels. Accompanied by steady growth in renovation activity, total residential employment is expected to rise by 6 percent between 2018 and 2027, with increases concentrated over the first five years of the scenario period. Institutional and commercial investments follow the upward trend in residential construction and are key drivers of non-residential construction growth over the scenario period.

The long-term outlook anticipates more balanced labour market conditions compared to the past, but the industry must contend with replacing an estimated 40,000 retiring skilled workers while transitioning to a more local construction workforce, and contend with shifting skills requirements needed to meet the growing demands of a diversifying economy.

SECTOR INSIGHTS

The following sections provide sector-specific insights into the oil sands, non-residential, and residential labour markets. The 2018 BuildForce LMI system provides an overview of market drivers and detailed occupational demand and supply-side analysis of labour market conditions in each sector for 34 trades and occupations tracked by BuildForce.

OIL SANDS CONSTRUCTION

The completion of work at the Fort Hills Oil Sands project marks the end of pre-oil-collapse mega projects. Despite a modest recovery in the price of oil over 2017, uncertainty about future oil prices continues and, with no new large major projects scheduled to start, new oil sands capital investment is mostly unchanged from 2018 through to 2023. The most significant employment losses have now passed, with the largest impacts felt by out-of-province workers in 2015 and 2016. BuildForce estimates that when 2018 declines are factored in, total oil sands construction employment will have contracted by 40 percent from the 2014 peak.

The 2018–2027 BuildForce scenario anticipates that investment declines level off by 2019, with sustaining capital and maintenance work accounting for a significant share of oil sands investment and job opportunities across the scenario period. Oil sands maintenance/shutdown requirements are expected to be significantly higher than normal in 2018, which may translate into recruiting challenges for some trades and occupations as work ramps up to a spring peak.

Based on this scenario, oil-sands-related engineering construction employment is expected to contract a further 5,200 jobs through 2021, or 18 percent from 2017 – most (3,100) of these losses are expected to occur in the first half of 2018.

A continued gradual increase in oil prices slowly restores confidence, and new oil sands investment is expected to resume over the long term. As oil sands construction demands recover, 2,500 jobs are restored by the end of the scenario period in 2027.

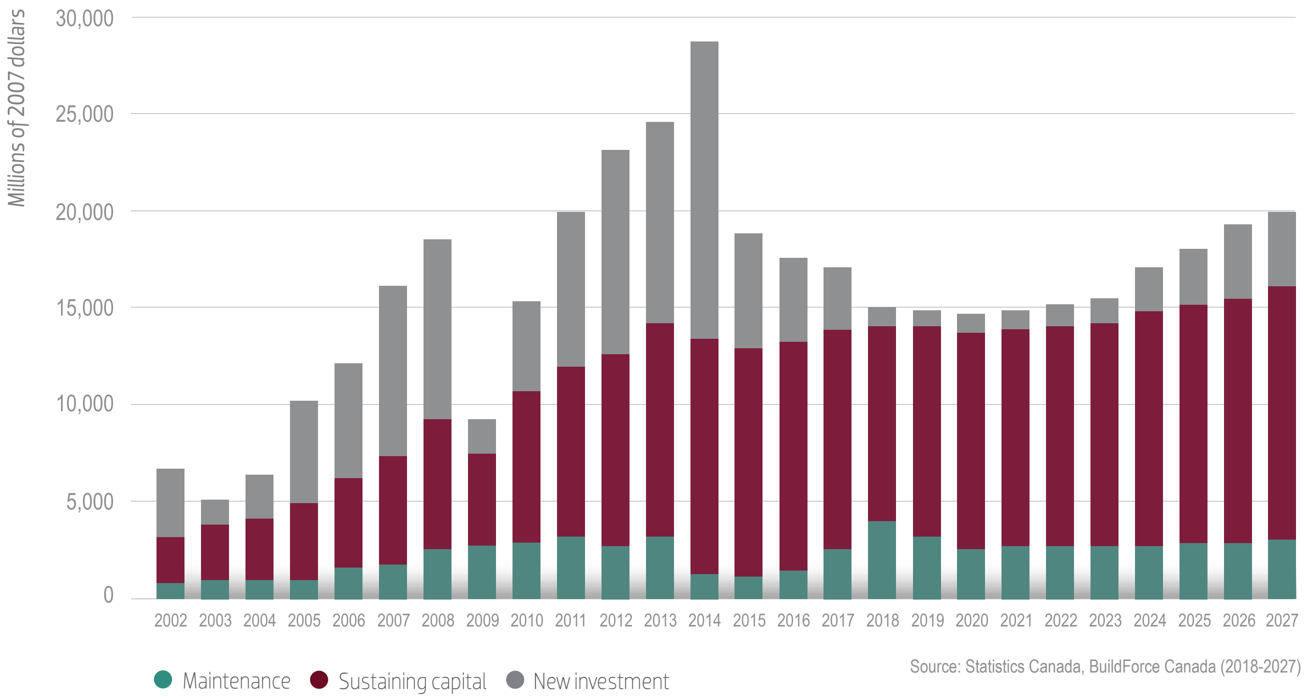
Declining investment and employment for new projects only describes part of the complex changing market dynamics. Sustaining capital[1] and maintenance work[2], which increased steadily across the last decade, continue to rise moderately across the scenario period as the total capacity of oil sands production increases. Sustaining and maintenance work requirements become an increasingly important source of employment, offsetting some of the job losses in new oil sands projects. Figure 1 captures the change in new investment and the steady increase in sustaining capital.

Shutdown/turnaround and maintenance demands are expected to result in isolated, but potential recruiting challenges during seasonal peak periods for some trades and occupations, including boilermakers, pipefitters, specialty welders, and other workers with specialized skills and work experience.

[1] **Sustaining capital** refers to the periodic addition (or replacement) of capital, which is required to maintain operations at existing levels.

[2] **Maintenance** refers to the process of maintaining equipment, including routine or on-stream work and turnaround/shutdown work, where an operating unit may be temporally taken out of production.

Figure 1: Alberta oil sands investment – construction, machinery, and equipment
(millions of 2007 dollars*)



Source: Statistics Canada, BuildForce Canada (2018-2027)

* $2007 millions indicates that the investment values are in year 2007 dollars (base year), that is, adjusted for inflation. This is used to calculate the real physical year-to-year change of the value of construction, factoring out growth (increase value) due to increases in prices.

NON-RESIDENTIAL SECTOR

The largest declines are in the past, but Alberta's non-residential workforce demands are likely to remain at 2018 levels for the first half of the coming decade. The pace of declines in 2017 has been more moderate compared to the abrupt losses in 2015 and 2016, which triggered significant levels of out-migration, but job losses are increasingly being absorbed by the local Alberta workforce.

Figure 2 tracks the change in employment by sector for key reference points across the scenario period, including the start in 2018, at the expected low in 2019, and then at the end of the period in 2027.

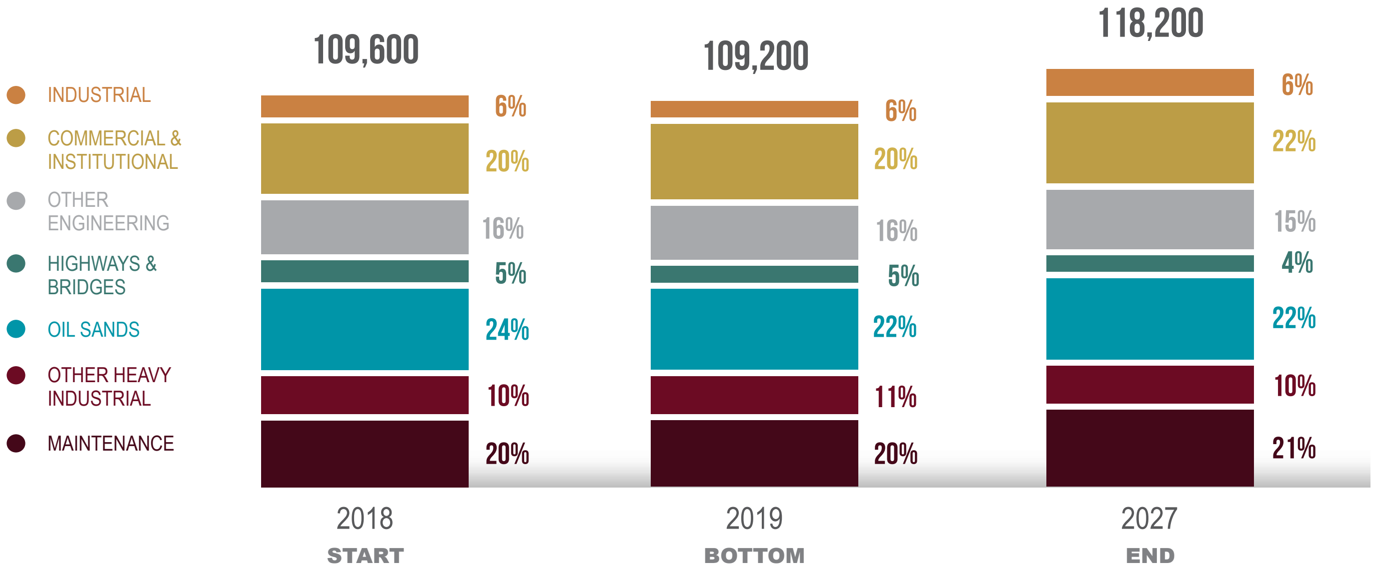
Looking forward, Alberta's non-residential construction market will continue to diversify as demands outside the oil and gas sector rise, but the sector remains a prominent source of overall employment. Strengthening ICI building investment, the emergence of new, smaller engineering construction projects, and rising industrial maintenance requirements have been increasingly offsetting the slowing rate of declines in oil sands investment. This trend accelerates after 2018, as institutional and commercial investments track population growth and new housing recovery, while engineering and oil and gas investment stabilizes.

Commercial and institutional building construction is expected to recover in 2018, following a slowdown in 2017, due to elevated office vacancy rates and declines in government revenues.

Engineering-sector requirements are expected to decline through 2023 as existing projects are completed and oil producers and transporters (i.e., pipelines) continue to control spending in anticipation of weak oil prices and slower new production growth across the scenario period. Slowing road, highway, and bridge activity and other engineering investment compound engineering employment losses between 2018 and 2020, while activity on Edmonton's Yellowhead Trail upgrades and Calgary's Ring Road project raise employment levels between 2021 and 2024. Overall declines are partially offset by infrastructure spending commitments and proposed industrial diversification projects.

Continuing growth in sustaining and maintenance work requirements will be an important source of employment opportunities. The intensive seasonal nature of some shutdown and turnaround maintenance employment requirements may generate recruiting challenges for skilled workers during spring and fall peak periods.

Figure 2: Non-residential employment distribution by sector, Alberta, 2018, 2019, and 2027



Source: Statistics Canada, BuildForce Canada

Table 1: Change in non-residential employment by sector, Alberta

SECTOR		% CHANGE 2018–2022	% CHANGE 2023–2027
Total non-residential employment		-1%	5%
ICI	Industrial	6%	14%
ICI	Commercial, institutional and government	10%	9%
Engineering	Highways and bridges	-10%	-4%
Engineering	Oil sands	-17%	9%
Engineering	Other heavy industrial	-5%	9%
Engineering	Other engineering	-15%	5%
Maintenance		5%	7%

Source: Statistics Canada, BuildForce Canada

Table 1 summarizes the percent change in employment by sector across two periods: the first captures the weaker five-year period to 2022, and the second shows the second half of the scenario period as overall conditions improve.

Figure 3 shows the employment trends by sector for non-residential construction.

THE AVAILABLE WORKFORCE

As oil prices fell in 2014 and new proposed projects were delayed or cancelled, out-of-province workers left Alberta as current projects ended. Statistics Canada estimates that Alberta lost 30,239 people between July 2015 and July 2017 due to interprovincial out-mobility following eight straight quarters of net declines.[3]

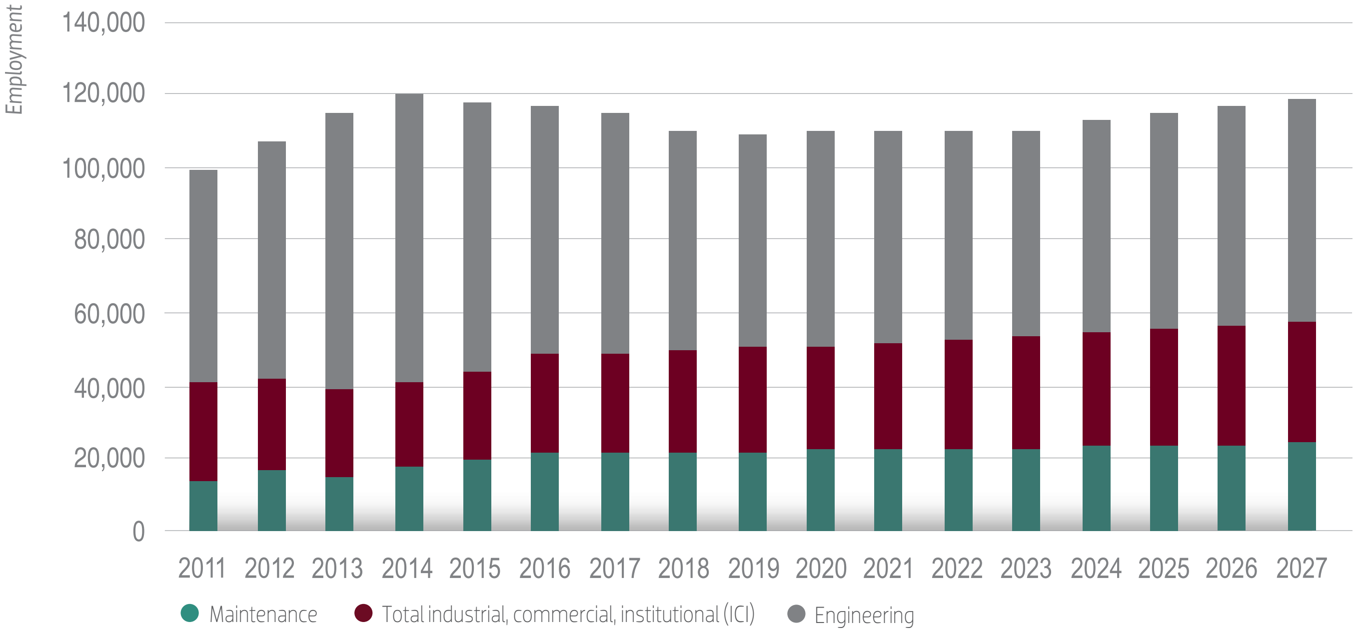
Strong drivers of out-mobility have been construction employment losses and rising unemployment rates, which have doubled to around 9 percent from the recent past. The outflow of workers has slowed, which means a larger proportion of the further declines anticipated in 2018 are likely to be absorbed by resident Albertans, and unemployment rates are not likely to fall. As moderate growth

[3] Quarterly Demographic Estimates, Statistics Canada, September 2017

NON-RESIDENTIAL HIGHLIGHTS

- Alberta's non-residential construction market will continue to diversify as non-oil-and-gas-sector demands rise, but the sector remains a prominent source of overall employment over the scenario period.
- Commercial and institutional building construction is expected to recover in 2018, following a slowdown in 2017, and rise steadily over the coming decade.
- Non-residential employment is anticipated to decline by a further 5,200 jobs through 2019. A recovery adds back close to 9,000 jobs across the remainder of the scenario period.

Figure 3: Non-residential construction employment growth outlook, Alberta



Source: Statistics Canada, BuildForce Canada

resumes after 2019, unemployment recedes with an expected greater reliance on a local workforce, but employers face potentially new recruiting challenges as job opportunities shift across markets, and the ongoing need to address an aging workforce over the coming decade.

The BuildForce LMI system tracks labour supply and accounts for the change in the available labour force, including retirements, new entrants[4], and net in-mobility[5]. While the exodus of interprovincial workers is a dramatic change, there are larger and longer-term demographic forces at work as well. In particular, retirements account for a large, growing and permanent loss to the workforce. First-time new entrants into the construction workforce aged 30 and younger and drawn from the local population will partly offset labour force requirements; however, attracting young workers during a prolonged down-cycle poses new challenges.

Table 2 provides a summary of changes in the provincial non-residential workforce in 2017, the five-year period between 2018 and 2022, and across the full 10 years of the scenario period.

NON-RESIDENTIAL RANKINGS, RISKS, AND MOBILITY

BuildForce assesses market conditions for 34 construction trades and occupations using a ranking system that combines measures of the change in employment, unemployment, net in-mobility, and adjustments based on industry input. The rankings reflect non-residential market conditions unique to Alberta based on current and proposed construction activity. In addition, assumptions on provincial economic and population growth, new entrants to the labour force, and migration patterns (interprovincial and international) are built into the forecast scenario and included in the ranking assessment.

The rankings for some trades working in the non-residential sector are suppressed due to the small size of the workforce (<100 workers) and limited statistical reliability when assessing labour market conditions at the sector level. Trades may also be excluded because they typically do not work in the sector being assessed (e.g., home building and renovation managers in non-residential). For Alberta, non-residential rankings are reported for 33 trades and occupations.

Table 3 provides non-residential rankings for Alberta, showing weak labour markets across the first part of the scenario period. The release of workers as the Fort Hills Oil Sands Project ends weakens overall employment demand for several trades and occupations. Demand for trades, including boilermakers, pipefitters, and specialty welders, will be elevated for parts of 2018 due to significant scheduled shutdowns. Seasonal challenges are also likely to persist for other trades and occupations with specific qualifications and experience, especially in spring 2018, when scheduled shutdown and turnaround work is expected to rise to peak levels of activity and create potential recruiting challenges for some trades and occupations.

[4] **New entrants** are measured by applying the traditional proportion of the provincial workforce that enters the construction industry. The projected estimate across the scenario period assumes that the construction industry can recruit this group in competition with other industries.

[5] **In-mobility** refers to the arrival of workers from outside the local construction industry. In-mobility includes the interprovincial employee workforce described above. Many members of this group will move quickly out of the province as work declines, and this out-mobility, even if it is a very short-term change, signals a weak market.

Table 2: Change in the non-residential workforce, Alberta

NON-RESIDENTIAL WORKFORCE ADJUSTMENT		2017	5 years 2018–2022	10 years 2018–2027
	Employment	-2,000	-4,900	3,700
Demand	Labour force change	-1,300	-7,700	1,000
	Retirements	2,200	11,100	23,100
Supply	New entrants	2,500	11,400	23,600
	Net mobility	-1,500	-7,900	500
Excess supply/(demand)		800	(2,800)	(2,700)

Source: BuildForce Canada

MARKET RANKINGS

1. Workers meeting employer qualifications are available in local markets to meet an increase in demand at the current offered rate of compensation and other current working conditions. Excess supply is apparent and there is a risk of losing workers to other markets.

2. Workers meeting employer qualifications are available in local markets to meet an increase in demand at the current offered rate of compensation and other working conditions.

3. The availability of workers meeting employer qualifications in the local market may be limited by large projects, plant shutdowns or other short-term increases in demand. Employers may need to compete to attract needed workers. Established patterns of recruiting and mobility are sufficient to meet job requirements.

4. Workers meeting employer qualifications are generally not available in local markets to meet any increase. Employers will need to compete to attract additional workers. Recruiting and mobility may extend beyond traditional sources and practices.

5. Needed workers meeting employer qualifications are not available in local markets to meet current demand so that projects or production may be delayed or deferred. There is excess demand, competition is intense and recruiting reaches to remote markets.

Table 3: Non-residential market rankings, Alberta

TRADES AND OCCUPATIONS – NON-RESIDENTIAL	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Boilermakers	3	▲4	3	3	3	3	3	3	3	3	3
Bricklayers	3	2	3	3	3	3	3	3	3	3	3
Carpenters	3	3	3	3	3	3	3	3	3	3	3
Concrete finishers	3	3	3	3	3	3	3	3	3	3	3
Construction estimators	2	2	3	3	3	3	3	3	3	3	3
Construction managers	3	3	3	3	3	3	3	3	4	3	3
Construction millwrights and industrial mechanics	3	▲3	2	2	3	3	3	3	3	3	3
Contractors and supervisors	3	2	3	3	3	3	3	3	3	3	3
Crane operators	3	3	2	2	3	3	3	3	3	3	3
Drillers and blasters	3	3	3	3	3	3	3	3	3	3	3
Electrical power line and cable workers	4	4	2	2	3	3	3	3	3	3	3
Electricians	3	2	2	3	3	3	3	3	3	3	3
Elevator constructors and mechanics	3	3	3	3	3	3	3	3	3	3	3
Floor covering installers	3	3	3	3	3	3	3	3	3	3	3
Gasfitters	2	2	3	3	3	3	3	3	3	3	3
Glaziers	3	3	3	3	3	3	3	3	3	3	3
Heavy equipment operators (except crane)	2	2	3	3	3	2	3	3	3	3	3
Heavy-duty equipment mechanics	3	3	3	3	3	3	3	3	3	3	3
Industrial instrument technicians and mechanics	3	2	2	3	3	3	3	3	3	3	3
Insulators	4	3	3	3	3	3	3	3	3	3	3
Ironworkers and structural metal fabricators	3	2	3	3	3	3	3	3	3	3	3
Painters and decorators (except interior decorators)	3	3	3	3	3	3	3	3	3	3	3
Plasterers, drywall installers and finishers, and lathers	3	3	3	3	3	3	3	3	3	3	3
Plumbers	3	2	3	3	3	3	3	3	3	3	3
Refrigeration and air conditioning mechanics	3	3	3	3	3	3	3	3	3	3	3
Residential and commercial installers and servicers	3	3	3	3	3	3	3	3	3	3	3
Roofers and shinglers	3	3	3	3	3	3	3	3	3	3	3
Sheet metal workers	3	2	3	3	3	3	3	3	3	3	3
Steamfitters, pipefitters and sprinkler system installers	3	▲4	3	3	3	3	3	3	3	3	3
Tilesetters	3	3	3	3	3	3	3	3	3	3	3
Trades helpers and labourers	3	2	3	3	3	3	3	3	2	3	3
Truck drivers	2	2	3	3	3	3	3	3	3	3	3
Welders and related machine operators	3	▲3	3	3	3	3	3	3	3	3	3

▲ Indicates that market conditions shown in the ranking reflect significant short-term demand increases for specialized trades and occupations related to scheduled shutdown and maintenance work in the industrial sector. Market conditions for the trade may be lower in other non-residential segments with different specialized skills and experience requirements.

Source: BuildForce Canada

Labour market conditions for trades involved in building construction should also strengthen in 2018 as overall economic conditions improve. Moderate increases in non-residential activity should return most markets to balance – signalled by a rank of 3 – at the start of a period of modest growth after 2019. Any significant new oil sands investments may begin to cause recruitment challenges, but those are currently not anticipated until after 2023.

RESIDENTIAL SECTOR

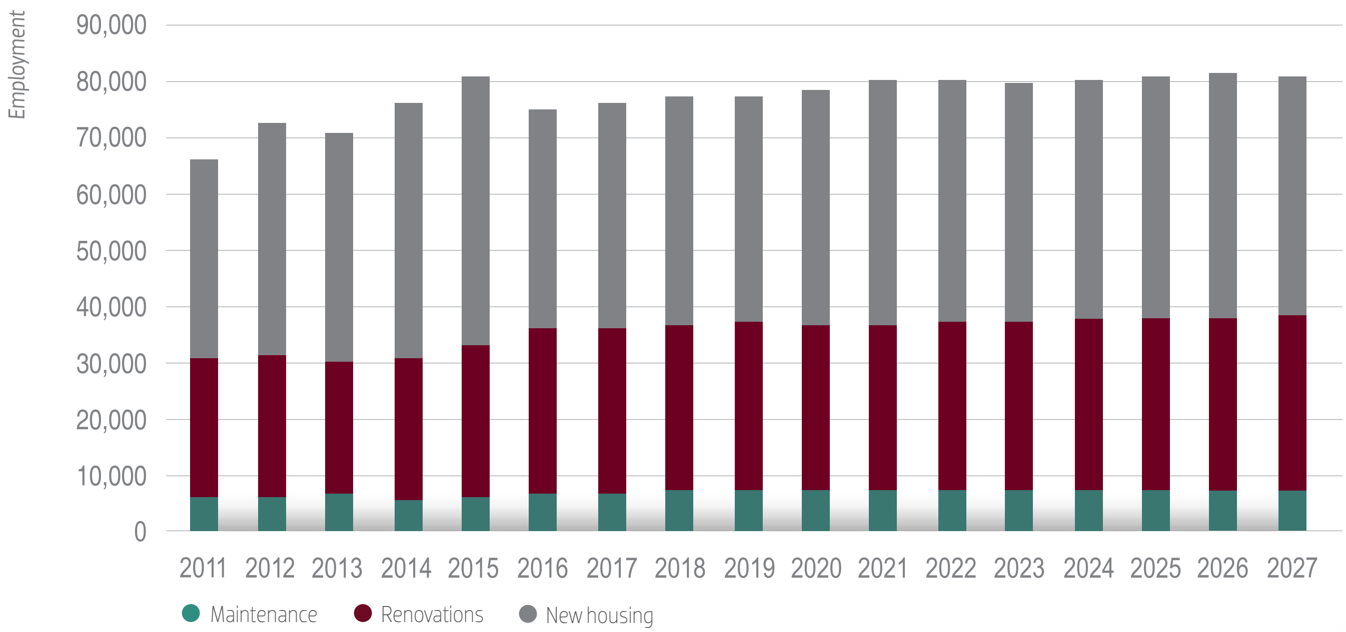
The housing down-cycle, driven down by rising unemployment and out-migration in 2015 and 2016, showed signs of a strong recovery in 2017.

Housing starts recovered significantly in 2017, buoyed by improved economic conditions and the rebuilding effort in Fort McMurray. Alberta's young population, a product of strong in-migration during the resource expansion, is expected to fuel the moderate recovery in new housing going forward in line with rising household formations and moderate population growth.

Housing starts are expected to recover to 33,300 units by 2021 and approach 37,000 units by 2027, but should not surpass the 40,600-unit peak reached in 2014. New-housing-related jobs may increase by 2,600. Combined new residential and renovation growth should add a modest 6 percent, or 4,500 jobs, restoring overall residential construction employment to 2014 levels by 2021.

Figure 4 shows the employment trends by sector for residential construction.

Figure 4: Residential construction employment growth outlook, Alberta



Source: Statistics Canada, BuildForce Canada

RESIDENTIAL HIGHLIGHTS

- Housing starts recovered significantly in 2017, buoyed by improved economic conditions and rebuilding in Fort McMurray.
- Housing starts recover to 33,300 units by 2021 and approach 37,000 units by 2027, but do not surpass the 40,600-unit peak reached in 2014.
- Combined new residential and renovation growth adds a modest 6 percent, or 4,500 jobs, restoring overall residential construction employment to 2014 levels by 2021, which remains below the 2014 peak.

[6] **Household formation** refers to the change in the number of households (persons living under one roof or occupying a separate housing unit) from one year to the next. It is how population growth is transformed into demand for new housing.

THE AVAILABLE WORKFORCE

Significant levels of out-migration from the province and the housing market downturn that ensued resulted in a significant rise in unemployment in the residential sector in 2015 and 2016. A recovery in new housing construction helped lower unemployment in 2017. The 2018–2027 outlook suggests unemployment will continue to decline as requirements rise, helping to restore some 3,800 residential jobs over the next five years. Long-term growth should be driven by continued strong levels of growth in immigration and population. During this period, the industry will need to contend with the challenges of an aging workforce and the need to replace an estimated 14,700 workers exiting the residential workforce over the coming decade. Adding to this challenge will be increased recruitment competition from the non-residential sector, as rising levels of activity in the latter half of the decade boost workforce demands. Attracting new entrants during periods of uncertainty and slower growth may pose challenges.

Table 4 provides a summary of the estimated changes in the provincial residential workforce in 2016, the five-year period between 2018 and 2022, and across the full 2018–2027 scenario period.

RESIDENTIAL RANKINGS, RISKS AND MOBILITY

High unemployment was rampant in 2016 and the balanced market conditions signalled by 3s in 2017 reflect a period of transition and the recovery underway. Unemployment is expected to remain at elevated levels, but unique localized demands (e.g., new housing in Fort McMurray) may create some short-term workforce challenges. Future conditions depicted in Table 5 anticipate a moderate strengthening in new housing demands and rising renovation activity. The industry may need to recruit back some of the workers lost during the downturn.

Table 4: Changes in the residential workforce, Alberta

RESIDENTIAL WORKFORCE ADJUSTMENT		2017	5 years 2018–2022	10 years 2018–2027
	Employment	1,400	3,800	4,600
Demand	Labour force change	1,400	2,600	3,200
	Retirements	1,500	8,100	16,900
Supply	New entrants	1,400	7,200	14,700
	Net mobility	1,500	3,600	5,400
Excess supply/(demand)		0	(1,200)	(1,300)

Source: BuildForce Canada

Table 5: Residential market rankings, Alberta

TRADES AND OCCUPATIONS – RESIDENTIAL	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Bricklayers	3	3	3	3	3	3	3	3	3	3	3
Carpenters	3	3	3	3	3	3	3	3	3	3	3
Concrete finishers	3	3	3	3	3	3	3	3	3	3	3
Construction estimators	3	3	3	3	3	3	3	3	3	3	3
Construction managers	3	3	3	3	3	3	3	3	3	3	3
Contractors and supervisors	3	3	3	3	3	3	3	3	3	3	3
Electricians	3	3	3	3	3	3	3	3	3	3	3
Floor covering installers	3	3	3	3	3	3	3	3	3	3	3
Gasfitters	3	3	3	3	3	3	3	3	3	3	3

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Table 5: Residential market rankings, Alberta (continued)

TRADES AND OCCUPATIONS – RESIDENTIAL	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Glaziers	2	2	3	3	3	3	3	3	3	3	3
Heavy equipment operators (except crane)	3	3	3	3	3	3	3	3	3	3	3
Heavy-duty equipment mechanics	3	3	3	3	3	3	3	3	3	3	3
Home building and renovation managers	3	3	3	3	3	3	3	3	3	3	3
Insulators	3	3	3	3	3	3	3	3	3	3	3
Painters and decorators (except interior decorators)	3	3	3	3	3	3	3	3	3	3	3
Plasterers, drywall installers and finishers, and lathers	3	3	3	3	3	3	3	3	3	3	3
Plumbers	3	3	3	3	3	3	3	3	3	3	3
Refrigeration and air conditioning mechanics	3	3	3	3	3	3	3	3	3	3	3
Residential and commercial installers and servicers	3	3	3	3	3	3	3	3	3	3	3
Roofers and shinglers	3	3	3	3	3	3	3	3	3	3	3
Sheet metal workers	3	3	3	3	3	3	3	3	3	3	3
Tilesetters	2	3	3	3	3	3	3	3	3	3	3
Trades helpers and labourers	3	3	3	3	3	3	3	3	3	3	3
Truck drivers	3	3	3	3	3	3	3	3	3	3	3

Source: BuildForce Canada

The rankings for some trades working in the residential sector are suppressed due to the small size of the workforce (<100 workers) and limited statistical reliability when assessing labour market conditions at the sector level. Trades may also be excluded because they typically do not work in the sector being assessed (e.g., boilermakers, millwrights, etc. in residential construction). For Alberta, residential rankings are reported for 25 trades and occupations.

MEETING LONG-RUN DEMANDS

Despite a weaker construction outlook for Alberta compared to the previous decade, the province may still experience tight labour markets in the long run due to changing demographics. Retirements over the next 10 years are estimated at 40,000 workers. This reflects a significant loss of skilled workers, requiring proactive planning to ensure a long-term sustainable workforce exists to meet the future needs of the construction and maintenance industry.

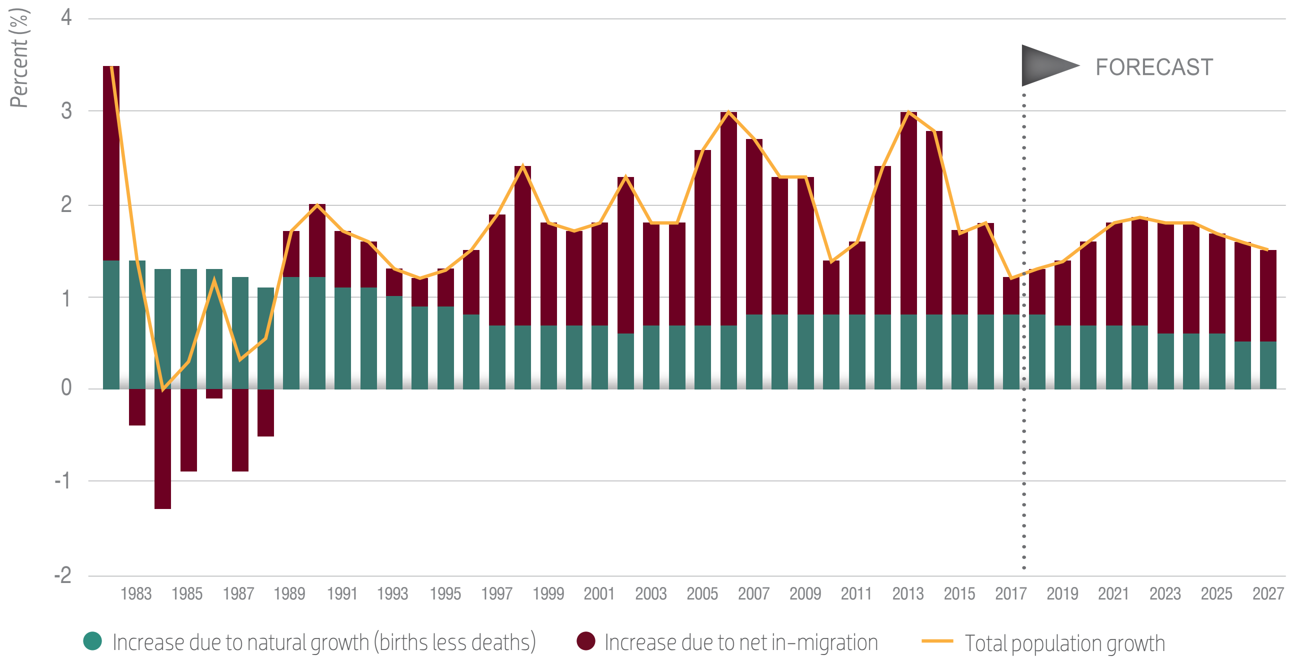
Alberta's booming oil sector attracted strong levels of migration into the province over the past decade, leading to average population growth of 2.4 percent between 2005 and 2014. Over the coming decade, population growth is expected to be more gradual, as economic activity is expected to make a slow recovery from the oil price collapse. Alberta's relatively young population creates a positive natural rate of population growth (births less deaths), although this source of population growth is expected to decline with the aging of the population. Net in-migration is expected to make a recovery, driven primarily by international migration over the near term, with net interprovincial migration returning to positive territory post 2019.

Slower population growth in Alberta is expected to limit labour force growth and potentially tighten labour markets, despite slower employment growth. Figure 5 shows the factors contributing to population growth in the province.

Although Alberta's population is relatively young, all industries in the province will need to cope with an aging population. Table 6 shows Alberta's population age distribution. Over the next 10 years, the share of the population in the older age bracket (65 years and over) is expected to increase, and at the same time, the share of the population at prime working age (25-54 years old) is expected to decline. Additionally, the share of the population that is potentially available to enter the workforce (15-24 years old) is expected to decline.

As a considerable share of the population moves into the older age bracket, the labour force participation rate (percent of the population 15 years and older in the labour force) is expected to fall steadily. Replenishing a retiring workforce may become increasingly difficult, as all industries will be recruiting from a relatively smaller pool of youth.

Figure 5: Sources of population growth (%), Alberta



Source: Statistics Canada, BuildForce Canada (2018–2027)

Over the long run, meeting market demands may require industry to access alternative sources of labour to fill the gap of retiring workers.

Based on historical trends, the Alberta construction industry is expected to draw an estimated 38,300 first-time new entrants from the local population aged 30 and younger over the next decade. In the scenario period, BuildForce expects the retiring workforce to exceed the number of youth coming into construction, forcing the industry to look to other industries and other provinces for additional new workers to augment the available pool of local new entrants. Increasing the number of new entrants could include initiatives to attract underrepresented sources of labour, including Indigenous people and women.

Table 6: Population age distribution (%), Alberta

AGES	2017	2027
0–14	18.7	18.6
15–24	12.0	11.4
25–54	44.7	42.3
55–64	12.4	11.2
65+	12.3	16.5

Source: Statistics Canada, BuildForce Canada

10-YEAR AVERAGE

1.6% POPULATION GROWTH

58,700 BIRTHS

29,400 DEATHS

47,400 NET MIGRATION

BY 2027

41 AVERAGE AGE OF CONSTRUCTION WORKFORCE

19% PERCENT OF CURRENT LABOUR FORCE LOST TO RETIREMENT

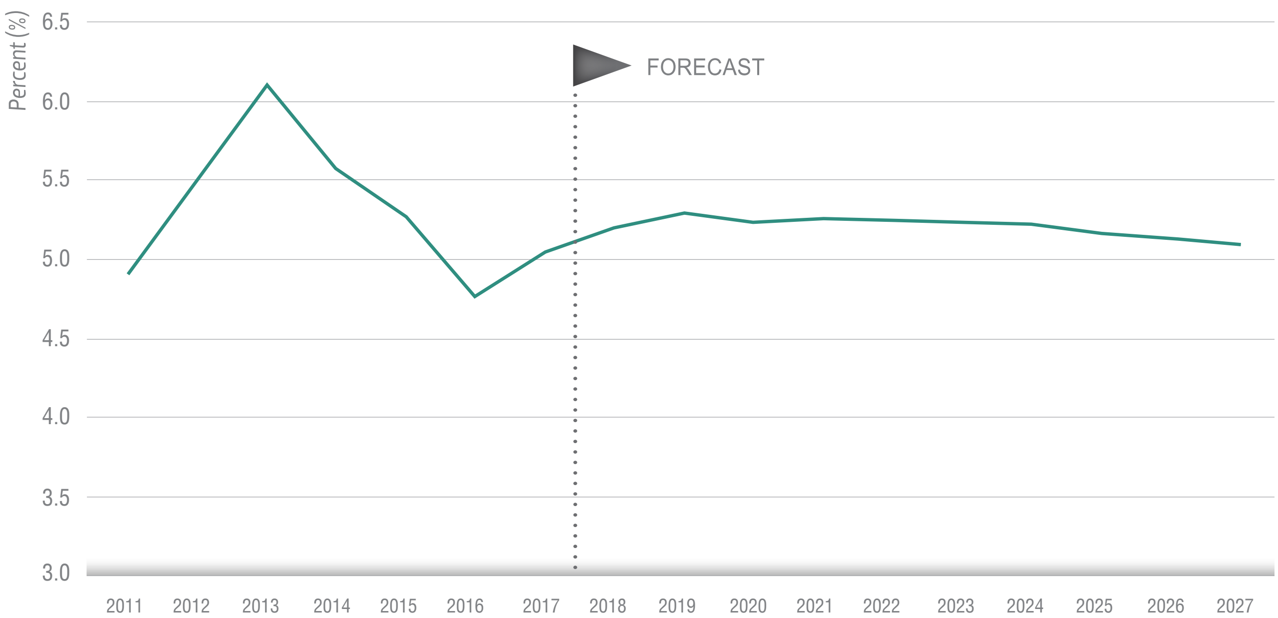
Indigenous people have the fastest-growing population in Canada, with approximately 17.5 percent of all Indigenous people residing in Alberta. Additionally, the Indigenous population in Canada has had a higher propensity to choose construction as a career path, as indicated by construction accounting for 10.6 percent of total Indigenous employment compared to 7.6 percent for their non-Indigenous counterpart. Currently, the Indigenous population accounts for 4.7 percent of the construction workforce in the province.

Women are also underrepresented in Alberta's construction industry. The province's construction workforce is made up of approximately 14 percent women, of which about 28 percent work directly on construction projects, while the remaining 72 percent work primarily in administrative and management-related occupations. This translates into women representing 5 percent of employment in direct trades and occupations.

Figure 6 illustrates the percentage of women directly involved in construction projects in Alberta. Rapid growth across all construction sectors between 2011 and 2013 encouraged women into the trades, driven by attractive wages and positive job prospects. The collapse in oil prices and receding construction activity was sufficient to discourage many women from the trades, leading to a sharp decline in the share of women in direct trades and occupations to 2016. Under current recruitment patterns, the gradual recovery currently underway should raise the share of women in construction to 2019, before it plateaus near 5.3 percent.

Table 7 shows total construction employment levels by gender for Alberta.

Figure 6: Share of women in direct trades and occupations, Alberta



* **Direct trades and occupations** refers to the 34 trades and occupations tracked by BuildForce Canada, which excludes administrative-type occupations.

Source: BuildForce Canada calculations based on Statistics Canada's Labour Force Survey (LFS) and 2011 National Household Survey (NHS)

Table 7: Construction employment by gender, Alberta (total direct trades and occupations)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	180,900	176,800	176,500	178,100	179,600	179,500	179,600	182,400	185,600	188,000	188,700
	9,600	9,700	9,900	9,900	10,000	10,000	9,900	10,000	10,100	10,200	10,100

Source: BuildForce Canada calculations based on Statistics Canada's Labour Force Survey (LFS) and 2011 National Household Survey (NHS)

CONCLUSIONS AND IMPLICATIONS

The effect of the oil price shock still reverberates in Alberta and labour markets across Canada. For the province, construction demands are expected to decline for a fourth straight year as remaining major oil and gas projects near completion, maintaining upward pressure on unemployment and driving many workers to seek opportunities in other provinces or other industries.

The 2018–2027 Construction and Maintenance Looking Forward scenario for Alberta anticipates another tepid year for labour markets due to continued declines in oil-and-gas-sector investment. Moderate employment growth is expected in 2019 and over the medium term, as non-residential building demands rise alongside the steady residential recovery already underway. Total employment recovers slowly, but workforce demands are more diverse and increasingly met by a local Alberta workforce.

Recruiting challenges may re-emerge in labour markets where employment growth is expected to be moderate and stable, even as other markets decline. For example, meeting the needs of major industrial shutdown and turnaround work with very distinct seasonal peak demands for specialized skills and experience for some trades and occupations requires careful monitoring.

In addition, the industry will need to plan for an aging workforce and the replacement of retiring workers. Although hiring and attracting new entrants following a period of decline may pose challenges, failing to do so could result in a loss of training capacity and skew the demographic age profile of the future workforce, resulting in potential skills gaps between older and younger workers.

The industry scenario-based approach developed by BuildForce Canada to assess future labour market conditions provides a powerful planning tool for industry, government, and other stakeholders to better track labour market conditions and identify potential pressure points. The anticipated labour market conditions reflect the current long-run oil price outlook and industry capital investment assumptions. Any changes to these assumptions present risks.

Timely construction forecast data is available online at **constructionforecasts.ca**. Create customized reports on a broad range of selected categories within sector, trade or province covering up to 10 years.

For more information, contact:

BUILDFORCE CANADA

Phone: 613.569.5552 | info@buildforce.ca

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Canada

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