

NOVA SCOTIA

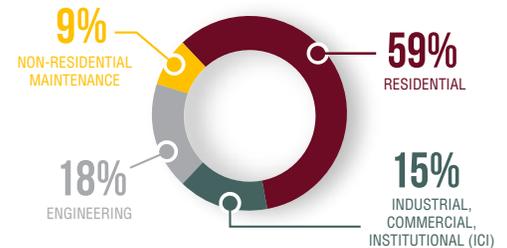
Finding a new balance amid market shifts

HIGHLIGHTS 2017-2026

The height of the resource expansion has passed, but a measured rise in non-residential building, engineering and maintenance requirements is expected to sustain construction employment at new current levels, even as residential demands decline. Slowing population growth and falling housing starts result in a gradual, but enduring shift in demands and skill requirements away from residential. The province's older population demographics may make recruiting young workers to replace expected retirements more challenging than in the past.

DISTRIBUTION OF CONSTRUCTION EMPLOYMENT IN 2017, NOVA SCOTIA

2017



2017 SECTOR INVESTMENT GROWTH OUTLOOK FOR NOVA SCOTIA (% change)

2017

0.4%



RESIDENTIAL INVESTMENT

0.1%



NEW HOUSING

0.3%



RENOVATIONS

1.4%



MAINTENANCE

-0.5%



NON-RESIDENTIAL INVESTMENT

-1.7%



ICI BUILDING

0.1%



ENGINEERING

0.7%



MAINTENANCE

10-YEAR WORKFORCE OUTLOOK FOR NOVA SCOTIA

2026

8,200
RETIREMENTS



5,800
NEW ENTRANTS



-1,700 (-6.0%)
EMPLOYMENT CHANGE



AVERAGE UNEMPLOYMENT RATE **12.4%**

HIGHLIGHTS

- Non-residential maintenance, industrial building and engineering construction demands provide stable sources of employment growth, contributing to generally balanced labour market conditions over the coming decade.
- Replacing workers expected to retire is significant, while the number of available new local youth entering the labour force declines. The anticipated retirement of 8,200 workers will be the principle driver of hiring requirements over the next 10 years.
- Total employment is expected to fall by 1,700 jobs, or 6 percent, over the 10-year scenario period, but remain near 2016 levels. This relatively small decline conceals a marked shift from residential to non-residential labour demand requirements across the scenario period.

BuildForce's LMI System

BuildForce Canada uses a scenario-based forecasting system to assess future labour market conditions in both residential and non-residential construction. This labour market information (LMI) system tracks measures for 34 trades and occupations. BuildForce consults with industry, including owners, contractors and labour groups, to validate the scenario assumptions and construction project lists, and seeks input from government on related analysis. The system distills labour market conditions into ranks to provide signals to industry employers.

NOVA SCOTIA CONSTRUCTION OUTLOOK

Total construction requirements are expected to continue edging lower in 2017 and gradually moderate across the remainder of the scenario period. Losses in residential employment reflect Nova Scotia's aging and declining population and are partially offset by modest gains in non-residential activity, buoyed by rising industrial and maintenance requirements.

Both residential and non-residential markets are expected to weaken in 2017 and 2018 before diverging in 2019. New housing construction is expected to be relatively unchanged in 2017 following a sharp decline in 2016. The prolonged housing down-cycle deepens in 2018 due to persistent declines in household formations³ that extend through to 2024. Over the 10-year scenario, new-housing-related employment is expected to contract by half from 2016 levels.

Non-residential activity was up in 2016 due to a rise in engineering requirements, related to both increased road, highway and bridge work and peak activity driven by a major transmission project. Industrial building, supported by rising shipbuilding and manufacturing activity, continues to rise to a high in 2019 and 2020 increasing overall non-residential building requirements.

Demands over the latter half of the decade are sustained by modest increases in heavy industrial and infrastructure-related engineering, along with growth in non-residential maintenance requirements.

Looking across all markets over the coming decade, construction employment is expected to fall by 1,700 jobs, with a loss of 3,000 jobs in residential, which are partially offset by a moderate rise in non-residential jobs. The shift from residential to non-residential labour demands will present changing conditions for individual trades and occupations across markets, creating potential mobility opportunities for workers with transferable skills.

The province's older age demographic will present additional challenges, with the expected retirements of 8,200 workers and fewer young people available to replace them.

SECTOR INSIGHTS

The following sections provide sector-specific insights into the non-residential and residential labour markets. The 2017 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.

NON-RESIDENTIAL SECTOR

The non-residential sector emerges as a stable source of construction employment growth in Nova Scotia over the coming decade.

Figure 1 tracks the change in non-residential employment by sector for key reference points across the scenario period, including the start in 2017, the middle of the period in 2021 and then at the end of the period in 2026.

Near-term demand is sustained by continued growth in commercial and industrial building and major project demands, including the completion of a power transmission project and ongoing road, highway and bridge work. The completion of current projects reduces labour requirements in 2017 and 2018, but demands shift over the medium term to meet anticipated increases in infrastructure investment. Rising manufacturing activity stemming from the shipbuilding expansion supports broader economic growth, which has some limited spillover effects, raising industrial building activity and maintenance requirements.

Non-residential requirements are expected to rise further after 2018, driven by stronger commercial and institutional building growth, surpassing the previous 2013 employment peak by 2020. Rising industrial, commercial and institutional (ICI) building and steady gains in engineering activity sustain moderate rates of employment growth for most trades and occupations. Across the 10-year scenario, overall non-residential employment is expected to rise 10 percent from the 2016 starting point.

Table 1 summarizes the percent change in employment by sector across two periods: the first captures the expected moderate rise over the next five years to 2021 and the second, the remainder of the period to 2026.

Figure 2 shows the employment trends by sector for non-residential construction.

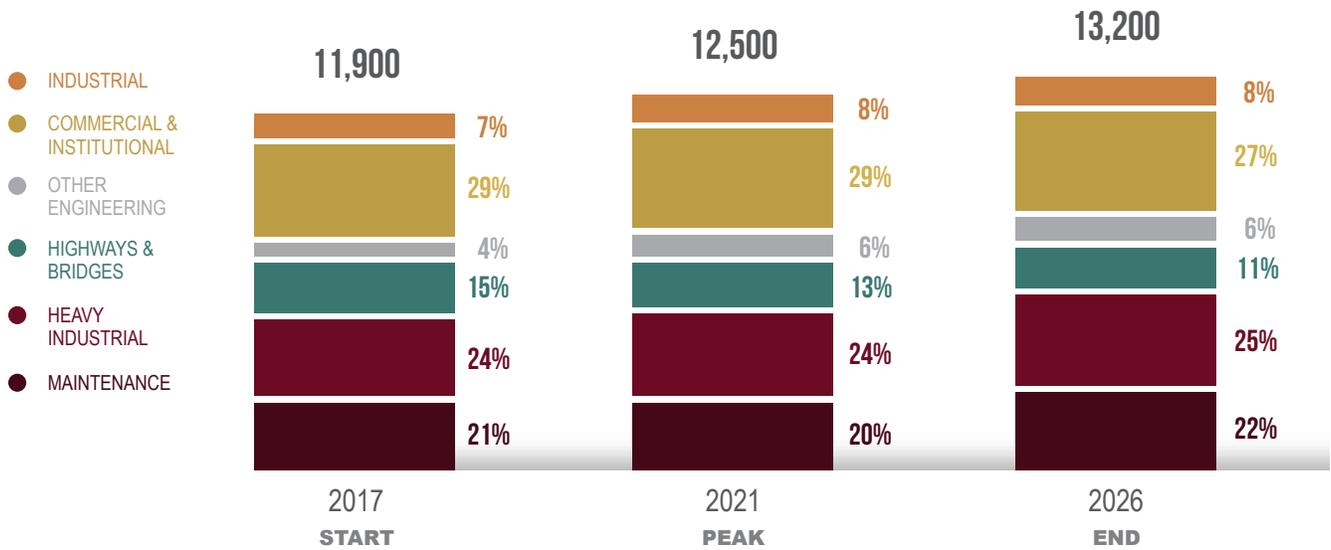
Table 1: Change in non-residential employment by sector, Nova Scotia

SECTOR		% CHANGE 2017–2021	% CHANGE 2022–2026
Total non-residential employment		5%	6%
ICI	Industrial	16%	7%
	Commercial, institutional and government	2%	-1%
Engineering	Highways and bridges	-8%	-11%
	Heavy industrial	14%	11%
	Other engineering	25%	10%
Maintenance		1%	16%

Source: Statistics Canada, BuildForce Canada

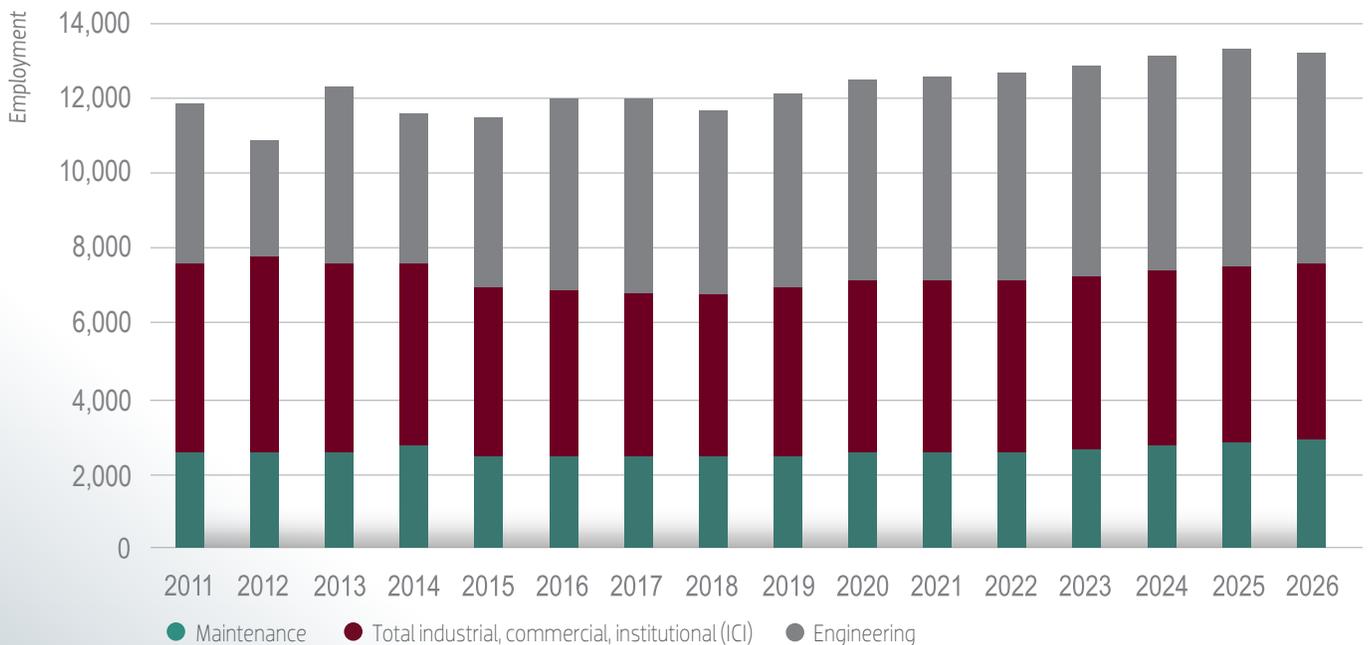
³ **Household formation** refers to the change in the number of households (persons living under one roof or occupying a separate housing unit) from one year to the next. It is the means by which population growth is transformed into demand for new housing.

Figure 1: Non-residential employment distribution by sector, Nova Scotia, 2017, 2021 and 2026



Source: Statistics Canada, BuildForce Canada

Figure 2: Non-residential construction employment growth outlook, Nova Scotia



Source: Statistics Canada, BuildForce Canada

THE AVAILABLE WORKFORCE

Nova Scotia has one of the oldest population age profiles across Canada. The population is expected to decline over the next decade due to negative natural population growth (deaths exceed births) and out-migration. This implies the pool of local youth entering the workforce is declining as expected retirements rise. These challenges are not new, but are complicated by even modest rising demands in non-residential construction.

Population demographics are also expected to lower normal rates of unemployment, reducing the pool of labour available to meet peak requirements. Meeting future demands will require planning and potentially attracting workers from outside the local non-residential construction market. The divergence between residential and non-residential demands also presents the potential for possible recruitment opportunities.

Growing shipbuilding may present some increased competition for selected construction trades such as boilermakers and welders etc.

The BuildForce LMI system tracks supply and accounts for the change in the available labour force, including retirements, new entrants² and net in-mobility³. Just over 3,700 workers are likely to exit the non-residential workforce over the coming decade. This exceeds the estimated 2,700 first-time new entrants expected to be drawn into the construction workforce from the local population aged 30 and younger.

Table 2 provides a summary of changes in the non-residential workforce in 2016, the five-year period between 2017 and 2021 and across the full scenario period.

The BuildForce ranking system isolates market conditions specific to non-residential construction. The results are summarized in Table 3.

Table 2: Change in the non-residential workforce, Nova Scotia

NON-RESIDENTIAL WORKFORCE ADJUSTMENT		2016	5 years 2017–2021	10 years 2017–2026
	Employment	400	600	1,300
Demand	Labour force change	100	700	1,200
	Retirements	-300	-1,800	-3,700
Supply	New entrants	300	1,300	2,700
	Net mobility	200	1,200	2,200

Source: BuildForce Canada

NON-RESIDENTIAL HIGHLIGHTS

- Over the 10-year scenario non-residential employment, including maintenance, is expected to rise by 10 percent, adding 1,300 jobs.
- Rising industrial building demands add 200 jobs over the coming decade; a 24 percent increase compared to 2016.
- Engineering project demands are expected to rise steadily, adding 600 jobs across the scenario period.
- Slowing road, highway and bridge work and completion of a major transmission project lowers demands in 2018.

² **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 is able to recruit this group in competition with other industries.

³ **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.

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 Nova Scotia 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 Nova Scotia, non-residential rankings are reported for 22 trades and occupations.

Table 3 provides non-residential rankings for Nova Scotia, showing balanced labour markets, signalled by a rank of 3, across the entire scenario period. Requirements rise from 2019 for some trades, as modest increases in engineering activity coincide with rising non-residential ICI building demands, but market conditions remain balanced.

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.
N/A	The labour market assessment for some trades is limited by the small size of the workforce (<100 employed). In consultation with the provincial LMI committee, the rank is suppressed because of limited statistical reliability.

Table 3: Non-residential market rankings, Nova Scotia

TRADES AND OCCUPATIONS – NON-RESIDENTIAL	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Boilermakers	3	3	3	3	3	3	3	3	3	3	3
Bricklayers	3	3	3	3	3	3	3	3	3	3	3
Carpenters	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	4	3	3	3	3	3	3	3
Construction millwrights and industrial mechanics	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
Crane operators	3	3	3	3	3	3	3	3	3	3	3
Electricians	3	3	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
Insulators	3	3	3	3	3	3	3	3	3	3	3
Ironworkers and structural metal fabricators	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
Sheet metal workers	3	3	3	3	3	3	3	3	3	3	3
Steamfitters, pipefitters and sprinkler system installers	3	3	3	3	3	3	3	3	3	3	3
Trade 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
Welders and related machine operators	3	3	3	3	3	3	3	3	3	3	3

Source: BuildForce Canada

RESIDENTIAL SECTOR

A long-term contraction in new housing demand, reflecting anticipated population declines, alongside softening renovation activity contribute to a steady and widespread erosion of residential employment over the next decade.

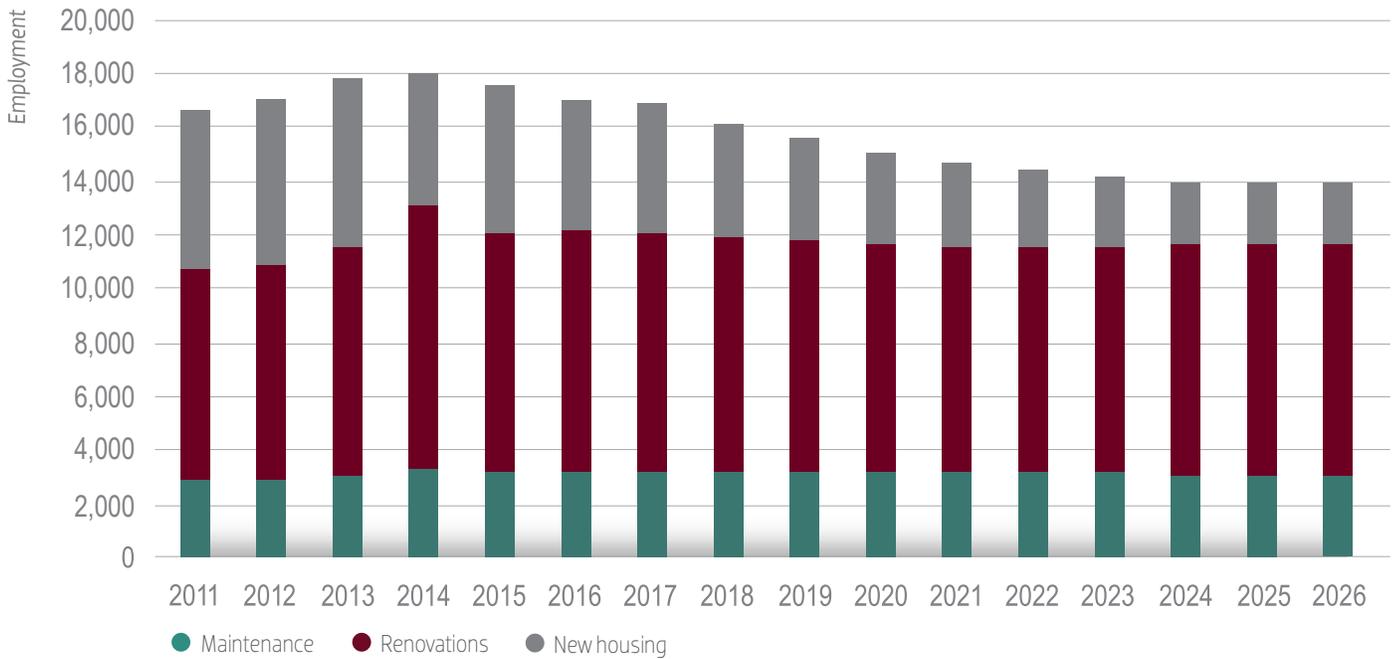
Housing starts, which have been on a downward trend for the last decade, are projected to continue dropping steadily across the scenario period. By 2024, housing starts and related employment requirements are projected to fall to half the number in 2016. Near-term residential sector demands are further weakened by slowing

renovation activity, which is limited by declines in disposable income and weak market conditions. Growth in renovation activity is expected to resume after 2021, providing stability for residential sector employment over the latter half of the scenario period.

At the end of the coming decade, residential employment is projected to be 18 percent lower compared to 2016, and renovation and maintenance demands are expected to account for a higher share of residential jobs in the province.

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

Figure 3: Residential construction employment growth outlook, Nova Scotia



Source: Statistics Canada, BuildForce Canada

THE AVAILABLE WORKFORCE

Net hiring requirements remain positive over the next decade, while employment losses in the residential sector are expected, due to slower growth. Industry must address an aging workforce and the anticipated exit of 4,500 retiring workers. Unemployment has come down in recent years due to declines in the labour force and out-mobility to other labour markets (occupations, industries or geographic regions).

Despite falling labour requirements, industry must continue to attract and train young workers to maintain long-term capacity. Accomplishing this task during a period of declining demand and falling population may be more difficult than in the past.

Table 4 provides a summary of the estimated changes in the residential workforce in 2016, the five-year period between 2017 and 2021 and across the full 2017–2026 scenario period.

RESIDENTIAL RANKINGS, RISKS AND MOBILITY

Table 5 shows that residential labour markets, which were still recovering in 2016, move toward more balanced conditions in 2017, but weaken between 2018 and 2020 as employment requirements fall. Out-mobility and more consistent levels of activity with only moderate declines contribute to re-balancing labour market conditions after 2020. Weaker conditions are anticipated for trades and occupations concentrated in new housing construction. Strengthening renovation demands help maintain balanced conditions over the latter half of the scenario period.

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 Nova Scotia, residential rankings are reported for 17 trades and occupations.

RESIDENTIAL HIGHLIGHTS

- Housing starts decline from 4,600 units in 2011 to an estimated 3,500 units in 2017. Starts follow declines in household formations to settle at around 1,700 units toward the end of the scenario period.

- Renovation activity, the dominant source of residential employment, is expected to decline in the near term and resume growth over the long term.
- Over the 2017–2026 scenario period, overall residential employment is expected to contract by 18 percent, a loss of 3,000 workers.

Table 4: Changes in the residential workforce, Nova Scotia

RESIDENTIAL WORKFORCE ADJUSTMENT		2016	5 years 2017–2021	10 years 2017–2026
	Employment	-500	-2,400	-3,000
Demand	Labour force change	-600	-3,300	-4,400
	Retirements	-500	-2,500	-4,500
Supply	New entrants	400	1,700	3,100
	Net mobility	-400	-2,500	-3,000

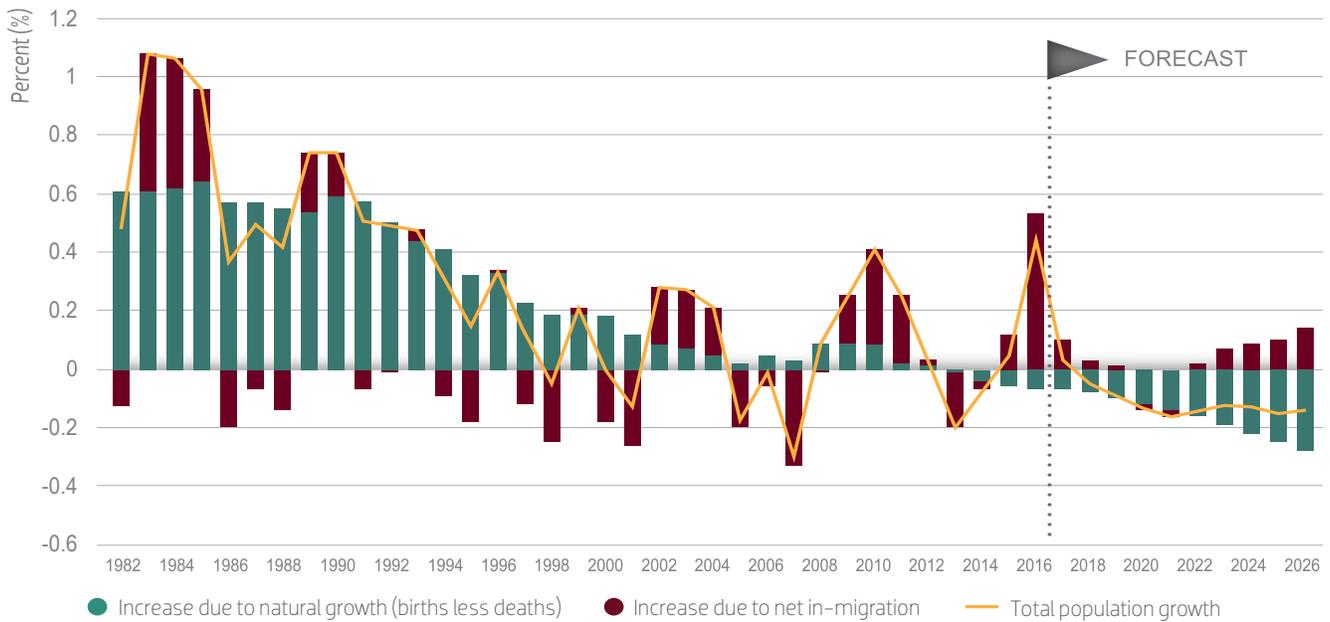
Source: BuildForce Canada

Table 5: Residential market rankings, Nova Scotia

TRADES AND OCCUPATIONS – RESIDENTIAL	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Bricklayers	3	3	2	3	3	3	3	3	3	3	3
Carpenters	3	3	2	2	2	3	3	3	3	3	3
Construction estimators	2	3	2	2	2	2	3	3	3	3	3
Construction managers	2	3	2	2	2	2	3	3	3	3	3
Contractors and supervisors	3	3	3	3	3	3	3	3	3	3	3
Electricians	2	3	2	2	2	3	3	3	3	3	3
Floor covering installers	2	3	3	3	3	3	3	3	3	3	3
Heavy equipment operators (except crane)	3	3	2	2	3	3	3	3	3	3	3
Home building and renovation managers	3	3	3	4	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	2	3	3	3	3	3	3	3	3
Plumbers	2	3	2	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	2	3	2	2	2	2	3	3	3	3	3
Trade helpers and labourers	2	3	2	2	2	3	3	3	3	3	3
Truck drivers	3	3	2	2	2	3	3	3	3	3	3

Source: BuildForce Canada

Figure 4: Sources of population growth (%), Nova Scotia



Source: Statistics Canada, BuildForce Canada (2016–2026)

PLANNING FOR SLOWER GROWTH AND AN AGING WORKFORCE

Economic downturn in Nova Scotia brings about slower growth and declining employment; however, as labour markets adjust to changing demographics, potential recruiting challenges may prevail. Retirements (includes mortality) are expected to draw an estimated 8,200 workers from the construction industry over the next 10 years. Such a shift in the workforce creates the potential for a significant skill vacuum that requires proactive planning.

In Nova Scotia, the number of deaths exceed the number of births, leading to a negative natural rate of population growth (births less deaths) across the scenario period. The rapidly aging population indicates that the province may need to depend on migration as the key driver to population growth. Weaker economic conditions may also lead to workers leaving the province in search of job opportunities elsewhere, adding to labour market challenges and contributing to a declining population. Figure 4 shows the factors contributing to population growth in Nova Scotia.

An aging population continues to be a source of concern for all Canadian provinces. Table 6 shows Nova Scotia’s population age distribution. By 2026, the share of the population in prime working age (25 to 54 years old) is expected to decline and at the same time the share of the population in older age brackets (65 years and over) is expected to increase. This trend indicates that the share of

Table 6: Population age distribution (%), Nova Scotia

AGES	2016	2026
0–14	14.0	13.8
15–24	11.8	9.5
25–54	39.4	37.0
55–64	15.4	14.1
65+	19.4	25.6

Source: Statistics Canada, BuildForce Canada

the population that is potentially exiting the labour force is increasing while the share of the population that is potentially entering the labour force is declining.

Labour force participation by older individuals is much lower than for those in their prime working years. As a considerable share of the population moves into the older age brackets, the labour force participation rate (percent of the population 15 years and older in the labour force) is expected to fall steadily.

As the construction industry workforce continues to age, industry stakeholders may need to find alternative sources of labour to fill the gap of retiring workers.

Based on historical hiring trends, the province's construction industry is expected to draw an estimated 5,800 first-time new entrants from the local population, aged 30 and younger, over the next 10 years. In the scenario period, the retiring workforce exceeds the youth coming into the industry. Such market pressure will require the industry to acquire workers from outside of the province or from other industries, or find new ways to improve its share of new entrants.

Increasing the number of new entrants will require industry leaders to increase initiatives to engage under-represented sources of labour, including Indigenous people and women, when targeting new entrants, which presents significant opportunities.

Canada's Indigenous population has the country's highest rate of population growth and a higher propensity to choose construction as their career choice. An estimated 7.5 percent of all Indigenous people in Canada reside in the Atlantic Provinces and currently account for about 2.9 percent of the construction workforce in Atlantic Canada.

Across the scenario period, Nova Scotia's female population is expected to grow faster than their male counterparts. The province's construction workforce is made up of approximately 8 percent women, of which about 30 percent work directly on construction projects, while the remaining 70 percent work in support or office-related occupations in the construction industry. This translates into women representing 2.8 percent of the province's direct construction workforce.

CONCLUSIONS AND IMPLICATIONS

The 2017–2026 *Construction and Maintenance Looking Forward* scenario for Nova Scotia anticipates a gradual decline in employment as trends in residential and non-residential construction diverge, but total demand remains mostly unchanged compared to 2016, down 6 percent by 2026. Workforce retirements and steady growth in non-residential building and maintenance requirements present potential challenges, but also opportunities to rejuvenate the workforce. The divergence between sectors also presents a potential recruitment pool, with strategies to provide additional training, to meet rising non-residential demands.

The province's older population demographics makes recruiting young workers more challenging. Meeting the significant replacement demands of an already old and aging workforce will place greater emphasis on mobility, in-migration and international immigration.

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 current industry expectations of economic growth and the timing of major projects. Any changes to these assumptions presents risks and potentially alters anticipated market conditions.

10-YEAR AVERAGE

-0.1%



POPULATION GROWTH

8,500



BIRTHS

10,000



DEATHS

500



NET MIGRATION

BY 2026

42



AVERAGE AGE OF CONSTRUCTION WORKFORCE

24%



PERCENT OF CURRENT LABOUR FORCE LOST TO RETIREMENT

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