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Northwest Territories Labour Market Forecast and Needs Assessment.

At a Glance

- This briefing provides a socio-economic profile of the Northwest Territories (N.W.T.) along with an economic outlook and occupational demand forecast for resident and rotational workers up to 2030.

- This briefing is accompanied by a "companion" resource—entitled *Labour Market Information Resource*—containing more than 200 charts and over 170 tables (along with analysis) that make up the core of our Northwest Territories Labour Market Forecast and Needs Assessment (LMFNA).

Executive Summary

The Northwest Territories (N.W.T.) is opening a new chapter in its history. With the onset of devolution and progress in Aboriginal self-governance, alongside increased global trade and strong national interest in the North and its natural resources, the N.W.T. economy has substantial growth potential. Yet, with increasing socio-economic change and pressures to be more competitive and innovative come an urgent need to boost workforce readiness and skills development.

Recognizing these opportunities and challenges, the Government of the Northwest Territories (GNWT) launched Skills 4 Success, an initiative to improve employment success for N.W.T. residents, close skills gaps in the territorial labour force, and develop education and training programs that more effectively respond to employer and industry needs. With these goals in mind, the GNWT engaged The Conference Board of Canada to develop a Labour Market Forecast and Needs Assessment (LMFNA). Two main objectives guided the LMFNA project:

- help the GNWT and its stakeholders better understand the characteristics of the N.W.T.'s current labour market and resident labour force;
- help the GNWT and its stakeholders anticipate employer hiring needs under current market conditions and reasonable alternative scenarios up to the year 2030.

This briefing presents the results of the LMFNA project and provides a general introduction and overview of the LMFNA's key findings. It summarizes the general education and skill levels that the N.W.T.'s resident labour force will need to seize opportunities presented in the

LMFNA's occupational demand scenarios. In this respect, skills gaps are identified between the forecasted occupational demand and the current labour supply characteristics of the N.W.T.'s resident population.

In addition to this briefing and for readers who would like more detail, we have prepared a "companion" document—a Labour Market Information Resource (www.conferenceboard.ca/documents/NWT_LabourMarket_ Resource.pdf)—which presents in-depth analysis and discussion of the LMFNA, along with more than 200 charts and 170 tables.

Key Terms in Labour Market Forecasting

Base case, medium case, and high case: Our 15-year base case forecast of the N.W.T.'s economy uses a conservative set of assumptions that were believed to most likely apply at the time the forecast was developed in 2015. The base case is compared to two alternative medium and high forecasts that apply more optimistic assumptions about the territory's potential for economic growth. All three sets of assumptions were developed through consultation with the GNWT's Skills 4 Success Steering Committee and Advisory Group, and a cross-section of N.W.T. stakeholders under the Labour Market Information Working Group. The different sets of assumptions are applied for planning purposes to help decision-makers understand the forces and pressures shaping economic growth and occupational demand in the N.W.T.

Resident worker: A person who lives in the N.W.T. and works in the territory.

Rotational or fly-in/fly-out worker: A person who works in the N.W.T., but lives in another province or territory.

Replacement demand: Replacement demand represents positions that employers need to fill to replace workers who have retired, died, or migrated out of the territory.

Expansion demand: Expansion demand represents positions that need to be filled due to economic expansion, such as the opening of a new mine. Expansion demand creates new jobs in the economy, but when the economy contracts, existing jobs may also be lost.

Job openings: Job openings represent the combination of replacement demand and expansion demand.

In-demand jobs or occupations: Jobs for which our forecasts project a high number of job openings.

Employment: Employment represents the total number of jobs occupied by workers at a given time.

Source: The Conference Board of Canada.

The Five Key Findings

Five key findings emerged from the LMFNA documented in this briefing. Our first, second, and third key findings disclose the main sources of occupational demand under our base case and alternative forecasts— the medium case and high case scenarios. Our fourth and fifth key findings identify skills gaps and labour market inequalities that presently hold back the N.W.T.'s resident workforce from taking full advantage of labour market opportunities in the territory. An emphasis on skills is crucial given that almost 78 per cent of job openings projected in our base case will require a post-secondary certificate, diploma, or degree, and/or extensive work experience and seniority. In anticipation of these job openings, an important focus for educators and employers will be on the territory's Aboriginal youth and young adults.

Key Finding 1

In our base case forecast, the N.W.T. economy can expect real GDP growth of 4.5 per cent between 2015 and 2020. Yet, from 2020 to 2030, an expected contraction in GDP will limit the creation of new jobs. (See details in the briefing, and in chapters 4 and 5 of the companion resource.)

New job growth can be boosted by an improved outlook for the natural resources sectors.

In terms of the resident workforce, our base case forecast projects just under 500 new jobs to result from expansion demand over the entire 2015–30 forecast. Job growth is expected to be volatile among the mining, oil and gas, and construction industry sectors. These sectors are sensitive to pressures in the global commodities market, and their volatility will be most felt by the N.W.T.'s rotational workforce.

Furthermore, key mines driving the territory's GDP growth are expected to reach end of life during the forecast period. The interplay of growth and contraction in the base case forecast leads to a total net loss of just under 30 jobs from the rotational workforce over the 15-year period.

Key Finding 2
Compared with the base case, the two alternative medium and high forecasts provide insights into how greater job growth can arise under more optimistic economic conditions. These alternative forecasts and their respective occupational demand scenarios inform our second key finding.

New job growth can be boosted by an improved outlook for the natural resources sectors coupled with strategic government investments. (See details in the briefing, and in chapters 4 and 5 of the companion resource.) Under more optimistic assumptions, our medium case and high case scenarios, respectively, forecast that expansion demand could create over 3,500 and 5,500 new jobs for the resident workforce over the 2015–30 forecast period. The medium case and high case scenarios also forecast a greater expansion in the rotational workforce, in the order of approximately 600 and 1,000 total new jobs, respectively, over the 15-year period.

Among assumptions contributing to the more optimistic alternative forecasts is an improved global outlook for commodities and a stronger role for the GNWT. An improved global outlook for metals and minerals will be especially important for expansion demand in the rotational workforce. Closer to home, devolution coupled with new fiscal capabilities could enhance the GNWT's ability to invest in programs and

Replacement demand presents major opportunities and challenges for the N.W.T. economy.

critical infrastructure. Under these more optimistic assumptions, strategic investments in infrastructure, by public and private sectors, could help boost new job growth, particularly in the mining and construction fields.

Key Finding 3

Our third key finding shifts the focus from new job creation and expansion demand to the much greater occupational demand that is due to the N.W.T.'s changing population. More specifically, there will be substantial job openings as employers seek to replace an aging resident workforce and worker out-migration. This replacement demand presents major opportunities and challenges for the N.W.T. economy and for the application of education, hiring, and skills development policy.

Annual replacement demand in the base case averages out to approximately 1,800 job openings per year. By comparison, annual replacement demand in our medium and high forecasts averages out to about 1,900 and 2,000 job openings per year. Details on the skill requirements of these job openings are examined in the briefing and in Chapter 5 of the companion resource.

In the base case scenario, over 20 per cent of all job openings are management positions, particularly in retail and wholesale trade, construction, finance, and government. Additionally, just less than 34 per cent of the job openings will require a college certificate, while over 24 per cent will require a specialized university degree. These openings focus demand around such professions and technical occupations as registered nurses, teachers, and instructors (college, secondary, elementary, and kindergarten), as well as transportation officers and controllers (such as pilots, air traffic controllers, and related occupations).

In particular, a high replacement demand for teachers and instructors, from K–12 to college levels, presents an opportunity to re-examine incentives and recruitment strategies in the education sector and, more generally, to re-assess approaches to education and training. The large number of Aboriginal youth and young adults in the territory, and particularly in rural and remote areas where education

and employment opportunities may be limited, presents a significant opportunity for educators and employers to work creatively and collaboratively with communities.

Key Finding 4

The briefing and chapters 2 and 3 of the companion resource provide a socio-economic profile of the current N.W.T. labour force to help contextualize our forecast findings. The results of this socio-economic profile also inform our fourth and fifth key findings, which reinforce the need to bolster education attainment and skills development.

The resident N.W.T. labour force continues to come up short on skills development, both in terms of fundamental workforce competencies and skills to harness new economic opportunities. Of most concern is that disparities between Aboriginal and non-Aboriginal people set in at an early age (as shown through Alberta Achievement Tests and Functional Grade Levels). The disparities then escalate, both in terms of education attainment and in the demonstration of workplace skills, once individuals reach adulthood.

Disparities in education and skills may also, in turn, limit opportunities for Aboriginal workers to qualify for senior management positions and occupations that require a specialized post-secondary certificate, diploma, or degree.

Key Finding 5

Disparities in skills development contribute to disparities in labour market outcomes. However, our fifth and final key finding points to other systemic challenges that create labour market inequalities in the territory.

Although a higher education helps to level the playing field, labour market inequalities continue to exist in the N.W.T. In terms of the income advantages of higher education, Aboriginal men in the territory gain the most, on average, from having a post-secondary certificate, diploma, or degree. By comparison, Aboriginal women gain less, on average, than non-Aboriginal men and slightly more than non-Aboriginal women. Yet,

Non-Aboriginal men have the highest employment income, on average.

when we compare groups along similar levels of education, we find that non-Aboriginal men generally have the highest employment income on average. (See details in Chapter 3 of the companion resource.)

Between 19.3 and 20.1 per cent of job openings forecasted in our base case and alternative scenarios are management positions. Although the territory's top employers have achieved greater diversity in management, women and Aboriginal Peoples and, more generally, workers born in the territory continue to be under-represented in management positions throughout the contemporary N.W.T. economy, including the territorial public service. (See details in Chapter 2 of the companion resource.)

In this briefing and the companion resource, we have mainly described such labour market inequalities rather than tried to explain why they exist. Data limitations largely prevented us from learning about the reasons why. At the same time, we also encountered data that complicate the idea of labour market inequality. An examination of occupational skill levels by educational credentials, for example, reveals that substantial portions of the resident workforce have advanced to occupations that generally require a post-secondary certificate, diploma, or degree without actually possessing the formal qualifications. Such phenomena may reflect hiring practices, agreements, and social policies that take other qualifications into consideration; but they also call into question the adequacy of available labour market data, particularly when it comes to inferring employer hiring decisions and understanding the impacts those decisions may have on the economy. The need to understand the complex reality of what is going on in the N.W.T. labour market will require more research to support decision-making over the coming years.

Introduction

In 2015, the Government of the Northwest Territories (GNWT) engaged The Conference Board of Canada to develop a Labour Market Forecast and Needs Assessment (LMFNA) for the territory. The results of the assessment are presented in two separate documents: this briefing,

which summarizes the results of the LMFNA; and a "companion" document, the Labour Market Information Resource, which contains more than 200 charts and over 170 tables (along with detailed analysis) that make up the core of the LMFNA.

The LMFNA is a component of the GNWT's Skills 4 Success Initiative. It has two main objectives.

The first objective of the LMFNA, captured in detail in chapters 2 and 3 of the companion resource, is to provide an overview of current and historic labour market characteristics within the Northwest Territories (N.W.T.). The analysis draws on the 2014 NWT Community Survey.[1]

The second objective of the LMFNA, captured in detail in chapters 4 and 5 of the companion resource, is to provide a set of economic forecasts and related occupational demand scenarios for the N.W.T. up to 2030. This work is based on The Conference Board of Canada's Territorial Forecasting Model. Three separate forecasts and occupational demand scenarios are undertaken for both the resident workforce and the rotational workforce. In the latter case, rotational workers consist of people who work in the N.W.T. but live outside the territory. The rotational workforce is considerably smaller than the resident workforce. It is also more difficult to estimate, due to practical limitations in how Statistics Canada's labour market surveys are administered and reconciled with the System of National Accounts. In this report, our estimate of the rotational workforce is based on custom data from the 2011 National Household Survey (NHS). This approach was chosen because it enables us to forecast labour market demand in terms of education and skill requirements, an objective the GNWT held as a top priority in its scope of work for the LMFNA. In addition to capturing data on place of work, this NHS dataset corresponds to the National Occupational Classification 2011 (NOC), which provides insights into related education and skill levels for each occupation in the forecast. Please refer to Chapter 5 of the companion resource for details on the methodology behind this approach.

1   Northwest Territories Bureau of Statistics, *2014 NWT Community Survey*.

When the economy contracts, existing jobs may be lost.

Based on the NHS approach, in 2014 there were an estimated 1,943 rotational workers compared with 22,100 resident workers. Depending on the forecast, the average size of the rotational workforce is expected to be between 2,174 and 2,613 workers over the 15-year forecast period. By comparison, the average size of the resident workforce is expected to be between 23,600 and 26,417 workers over the 15 years.

The three forecasts, developed in 2015, are a base case under conservative market assumptions and two alternative cases under more optimistic assumptions (labelled medium and high). Each forecast scenario incorporates two kinds of occupational demand. There is occupational demand due to economic expansion, such as the opening of a new mine or the building of a new highway. Such "expansion demand" creates new jobs in the economy; but when the economy contracts—as has been the case in 2015 for the oil and gas and mining sectors—existing jobs may also be lost. Economic projects also have a limited life, and when a mine or highway construction project comes to an end, so do many of the temporary jobs that came with it. These aspects of economic activity are represented in our forecast of expansion demand.

In addition to expansion demand, the forecast scenarios also account for occupational demand that results from employers having to deal with population change, to replace workers who have retired, died, or migrated out of the territory. As we discuss in depth in Chapter 5 of the companion resource, this "replacement demand" will be much greater over the 15-year forecast period than the expansion demand. The need to replenish and renew the N.W.T.'s skilled labour force over the coming years presents a significant opportunity for education, recruitment, and skills development policy.

The Five Key Findings

Five key findings emerged from the LMFNA. In this briefing, we provide a general non-technical overview of these key findings for the reader.

Key Finding 1

In our base case forecast, the N.W.T. economy can expect real GDP growth of 4.5 per cent between 2015 and 2020. Yet, from 2020 to 2030, an expected contraction in GDP will limit the number of jobs created by expansion demand.

Although real gross domestic product in the N.W.T. is forecast to grow from 2015 to 2030, our base case forecast projects that, under current market conditions, employment in 2030 will be at approximately the same level as it was in 2014. (See Chart 1 and Table 1.)

This is not to say that employment growth will remain flat throughout the 2015–30 period. As diamond and metal mining ramp up, the base case employment is projected to increase significantly over the medium term, reaching its peak in 2020, at 24,521, before gradually declining thereafter as key mines shut down and the construction of new mines tapers off. (See Table 1.)

Under our base case forecast,[2] new job growth is largely limited. In terms of the resident workforce, our base case forecast expects a total expansion demand for about 500 new jobs over the 2015–30 forecast period. Of these new jobs, 20.7 per cent will be management positions, 28.9 per cent will require either a college certificate or university degree, 8.5 per cent will require high school or job-specific training, and 41.9 per cent will require less than high school.

Declines in the mining and construction sectors will also depress total expansion demand in the rotational workforce, which will see a total net loss of around 30 jobs over the 15-year period. (See Table 2.)

In this light, the forecast should be taken as a warning that robust employment growth in the N.W.T. is unlikely to emerge from the status quo. This reflects a deeper need to renew the institutions that develop local knowledge and fundamental skills, and calls for initiatives to

2   In technical terms, we call this new job growth "expansion demand." (See details in Chapter 5 of the companion resource.)

Chart 1

Real GDP in the N.W.T., by Scenario, 2012–30

(2007 $ billions)
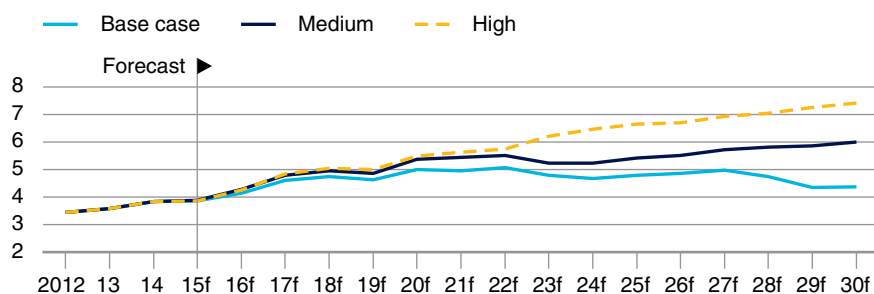
f = forecast
Source: The Conference Board of Canada.

Table 1

**Resident Labour Force: Employment Projections by Industry—
Base Case**

(employees, 000s)

Industry	2014	2020f	2025f	2030f
Goods	**3.9**	**4.9**	**4.4**	**3.8**
Mining and oil and gas	1.6	2.0	1.9	1.5
Other primary sector	0.1	0.1	0.0	0.0
Manufacturing	0.1	0.2	0.1	0.1
Utilities	0.3	0.3	0.3	0.3
Construction	1.8	2.3	2.1	1.8
Commercial services	**9.7**	**10.7**	**10.2**	**9.7**
Wholesale and retail trade	2.8	3.2	3.1	3.1
Transportation and warehousing	1.4	1.6	1.4	1.1
Finance, insurance, and real estate	1.0	1.1	1.1	1.1
Other commercial services	4.5	4.8	4.6	4.4
Health care and education	**3.9**	**4.3**	**4.4**	**4.4**
Public administration and defence	**4.6**	**4.6**	**4.7**	**4.7**
Total employment	**22.1**	**24.5**	**23.7**	**22.6**

f = forecast
Sources: Statistics Canada, custom dataset; The Conference Board of Canada.

**Rotational Labour Force: Employment Projections by Industry—
Base Case**
(employees, 000s)

Industry	2014	2020f	2025f	2030f
Goods	**1.3**	**1.7**	**1.5**	**1.3**
Mining and oil and gas	1.1	1.4	1.3	1.1
Other primary sector	0.0	0.0	0.0	0.0
Manufacturing	0.0	0.0	0.0	0.0
Utilities	0.0	0.0	0.0	0.0
Construction	0.2	0.3	0.3	0.2
Commercial services	**0.4**	**0.4**	**0.4**	**0.4**
Wholesale and retail trade	0.1	0.1	0.1	0.1
Transportation and warehousing	0.1	0.1	0.1	0.1
Finance, insurance, and real estate	0.0	0.0	0.0	0.0
Other commercial services	0.2	0.2	0.2	0.2
Health care and education	**0.1**	**0.1**	**0.1**	**0.1**
Public administration and defence	**0.1**	**0.1**	**0.1**	**0.1**
Total employment	**1.9**	**2.4**	**2.2**	**1.9**

f = forecast
Sources: Statistics Canada, custom dataset; The Conference Board of Canada.

boost innovation and entrepreneurship, so as to help nurture new
economic sectors and help the N.W.T.'s future workforce achieve
its greater potential.

Key Finding 2

New job growth can be boosted by an improved outlook for the natural
resources sectors coupled with strategic government investments. This
is modelled in our alternative forecasts. (See details in chapters 4 and 5
of the companion resource.)

Unexpected events can trigger strong shocks that significantly alter the economic landscape, and this is especially true for natural resources sectors, since much of their economic activity is contingent on potentially volatile commodity prices. The combination of slower demand and faster supply growth has brought the commodities boom to an end, and prices have begun to decline since they hit their peak in 2011. (See Chart 2.) Price declines have resulted in a severe reduction in mineral exploration, and have led to the cancellation or delay of several of the N.W.T.'s once-promising mine development projects. Mineral production, benefiting from strong investment over the past 15 years, may still perform well in the short term of the forecast (2015–20), but the reduced investment in exploration and mine development is expected to ultimately take its toll in the medium term.

Chart 2
Metals and Minerals Price Index
(US$; 1972 = 100)
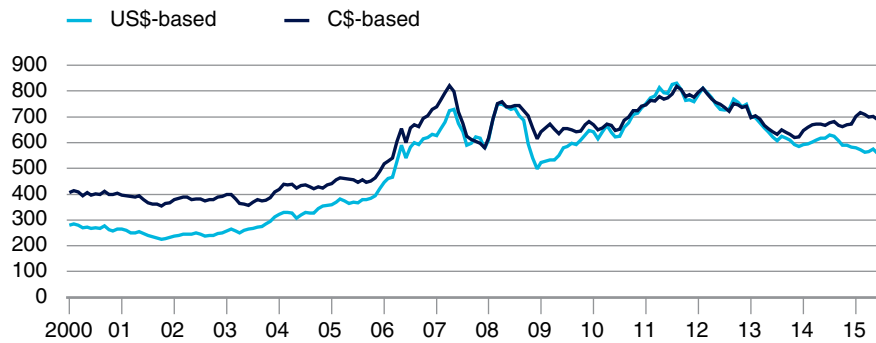
Source: Bank of Canada.

Given this weak environment, our base case projections for the N.W.T.'s mining sector are rather conservative. For this reason, we have added two alternative forecasts, the "medium" and "high," which recast our projections under more optimistic assumptions. In these alternative economic forecasts, commodity prices are assumed to recover faster than in the base case. The medium and high forecasts both include

several new projects between 2015 and 2030, with the high case including projects that most likely would go ahead only in the next decade (if circumstances are favourable).

Table 3

Employment Projections by Industry—Medium and High Scenarios

(employees, 000s)

Industry	2014		2020f		2025f		2030f	
Alternative scenarios	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**	**Medium**	**High**
Goods	**3.9**	**3.9**	**5.5**	**5.7**	**5.5**	**6.3**	**4.9**	**6.0**
Mining and oil and gas	1.6	1.6	2.1	2.1	2.0	2.5	2.3	2.8
Other primary sector	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Manufacturing	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
Utilities	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.4
Construction	1.8	1.8	2.8	3.0	2.9	3.2	2.1	2.5
Commercial services	**9.7**	**9.7**	**11.2**	**11.3**	**11.1**	**11.8**	**11.2**	**12.0**
Wholesale and retail trade	2.8	2.8	3.6	3.6	3.7	4.0	3.9	4.2
Transportation and warehousing	1.4	1.4	1.7	1.8	1.6	1.9	1.6	1.9
Finance, insurance, and real estate	1.0	1.0	1.1	1.1	1.1	1.2	1.1	1.2
Other commercial services	4.5	4.5	4.8	4.8	4.7	4.8	4.6	4.7
Health care and education	**3.9**	**3.9**	**4.5**	**4.6**	**4.6**	**4.6**	**4.7**	**4.7**
Public administration and defence	**4.6**	**4.6**	**4.8**	**4.9**	**4.8**	**4.9**	**4.9**	**4.9**
Total employment	**22.1**	**22.1**	**26.1**	**26.5**	**25.9**	**27.7**	**25.7**	**27.6**

f = forecast
Source: The Conference Board of Canada.

The more optimistic assumptions lead to a brighter outlook for the N.W.T. economy and employment. (See Chart 1 and Table 3.) Their difference from the base case is largely driven by the construction sector, which thrives in the alternative forecasts due to favourable economic circumstances that encourage mining expansion. These alternative forecasts also assume a slower decline in oil production than in the base case, and more generally benefit from higher projected

Population change will continue to present major opportunities and challenges for the N.W.T. economy.

population growth. Although no assumptions were specifically made about the rest of the economy, other sectors—such as wholesale and retail, and health care and education—will benefit from the more optimistic assumptions about population dynamics and the natural resources sectors' faster recovery. The alternatives are therefore not a radical restructuring of the status quo economy. They reflect the reasonably better prospects that could appear if the conditions driving the N.W.T.'s mainly resources-based economy become more favourable.

In all three forecast scenarios, the GNWT will continue to have a strategic role to play in contributing to economic development and employment in the territory. Devolution could prove to be an important economic lever. The introduction of greater resources royalties and new partnership opportunities could help the government finance needed programs and critical infrastructure projects. The possibility of an increase in the government's borrowing limit could also enhance its strategic investment capabilities.

Bold projects such as the government's Mackenzie Valley Fibre Link could, in turn, help to establish a platform for new economic opportunities and diversification, but due to intervening factors (such as the education and skills gaps profiled in Chapter 3 of the companion resource), their full implications for economic transformation remain unpredictable. More generally, however, multi-level government support for critical infrastructure development will contribute to a more favourable industrial outlook, and the more immediate impacts of such investments (e.g., on construction and resources sector employment) have been incorporated into our forecasts.

Key Finding 3

Population change, including workforce out-migration and an aging resident population, will continue to present major opportunities and challenges for the N.W.T. economy.

Despite the N.W.T.'s relatively young population (see Chart 3), the share of the 15 to 29 age cohort in the overall working-age population is forecast to shrink—from 30.6 per cent of the population in 2014 to 26.6 per cent in 2030. Meanwhile, the share of the population aged 65 and older will more than double over the forecast period, from 6.5 per cent in 2014 to 14 per cent of the population by 2030. The aging of the population will increase pressure on governments and families to provide supports, while also creating opportunities for employment in the health care sector.

Chart 3

Population in Different Age Groups as a Percentage of the Total Population in the N.W.T. and in Canada as a Whole, 2014

(per cent)
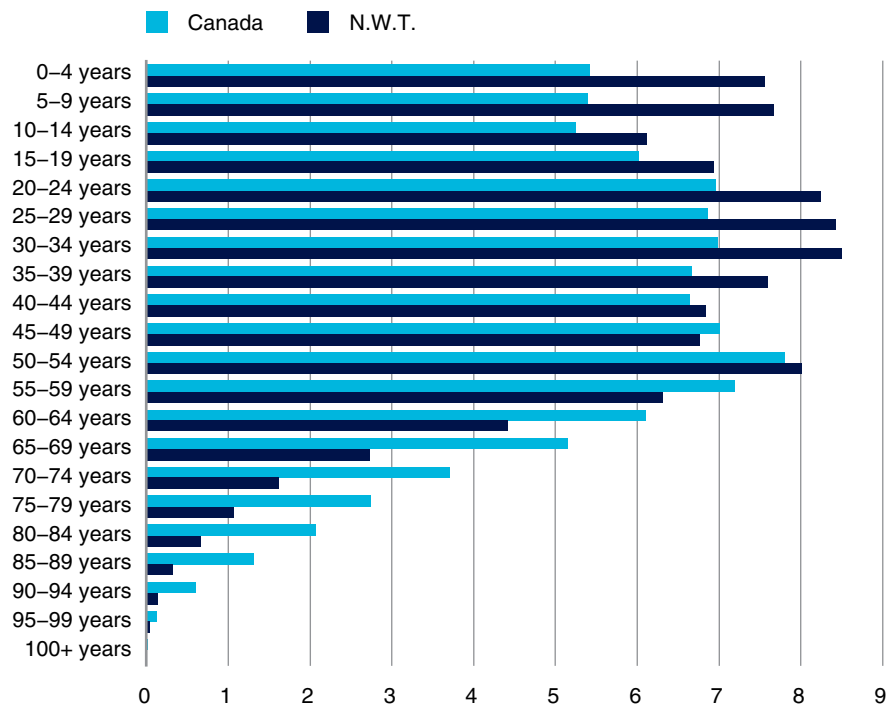
Sources: Statistics Canada, custom dataset; The Conference Board of Canada.

The regions where youth and young adults are most predominant in the N.W.T. are also regions where educational achievement and employment are lowest. That this finding also correlates with the presence of the majority of Aboriginal populations located in rural and remote environments indicates a need for creative solutions that are culturally sensitive and appropriate to the realities of small remote communities.

Equally problematic is that the non-Aboriginal working-age population is dominated by people who tend to be more mobile and less likely to take up long-term residence in the territory. In terms of migration, our base case forecast does not expect international immigration to be sufficient to offset negative net interprovincial migration. Under the base case scenario, economic growth in the N.W.T. will be muted by lower oil and diamond production over the long term, which will keep interprovincial out-migration above in-migration from other territories, provinces, and other countries. (See Chart 4.)

Chart 4
Out-Migration Exceeding In-Migration to the N.W.T.
(number of migrants, 000s)

— Out-migration to other parts of the country
— Migration to the N.W.T. from other parts of the country
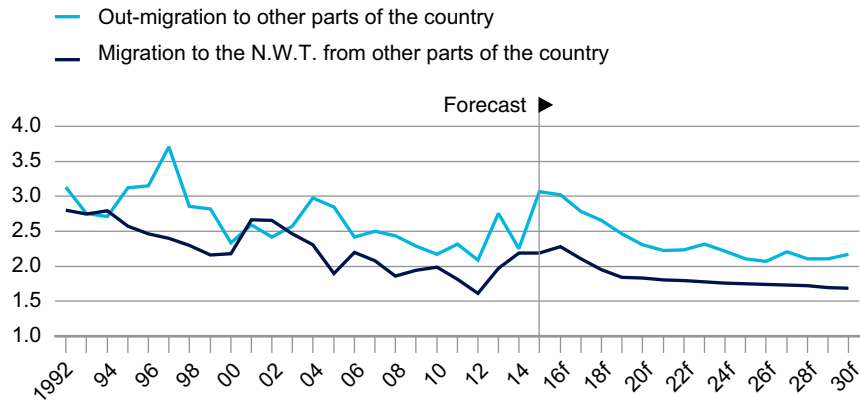
f = forecast
Sources: Statistics Canada, custom dataset; The Conference Board of Canada.

Under current conditions, the territory will face substantial challenges in growing its base of full-time employed permanent residents. This will challenge territorial employers, and may even limit the territorial government's capacity to deliver public services.

Our base case forecast reflects the need for renewal and bold initiatives in several ways. From 2015 until 2030, the N.W.T. will need to recruit 777 elementary and kindergarten school teachers, 577 secondary school teachers, 448 early childhood educators and assistants, and 382 college and vocational instructors to meet replacement and expansion demand in the education sector. This need to renew the education sector presents an opportunity for the territory to re-examine its fundamental role in the development of its labour force. What can the next generation of teachers and instructors do better to cultivate the skills and aptitudes that will help to diversify N.W.T.'s economy and expand its entrepreneurial and innovative potential? This is not a question that our forecast can answer, but it is one that may need to be front and centre as the N.W.T. moves forward with its Skills 4 Success initiative.

The best available data suggest that the resident N.W.T. workforce has some catching up to do. The results of our socio-economic profile in Chapter 3 of the companion resource highlight the need for improvements in adult workplace literacy, numeracy, and problem-solving in technology-rich environments. Under the status quo, employment is expected to be at about the same level in 2030 as it was in 2014. Yet the workforce of 2030 could be very different in terms of its educational qualifications and skills. This, however, depends on the education and work experience of the replacement workforce, as well as on the policies and hiring practices established by top employers between now and 2030.

Key Finding 4

The resident N.W.T. labour force continues to come up short on skills development, both in terms of fundamental workforce competencies and skills to harness new economic opportunities.

Notwithstanding one's view of the forces and possible events that will shape occupational demand in the N.W.T. economy, the conditions shaping the territory's labour supply will continue to challenge the labour market's capacity to meet demand.

The best available data indicate that skills development should be a concern for the N.W.T.'s employers, educators, and policy planners. In particular, special attention is required to close achievement and performance gaps between Aboriginal and non-Aboriginal populations. Studies of adult workplace skills such as the 2012 findings of the Programme for the International Assessment of Adult Competencies (PIAAC), discussed in Chapter 3 of the companion resource, indicate that the majority of the N.W.T.'s Aboriginal working-age population may not be performing adequately on tests of workplace literacy. (See Chart 5.)

Chart 5

Inadequate Literacy Skills, N.W.T. Population Aged 16 to 65, 2012
(per cent)
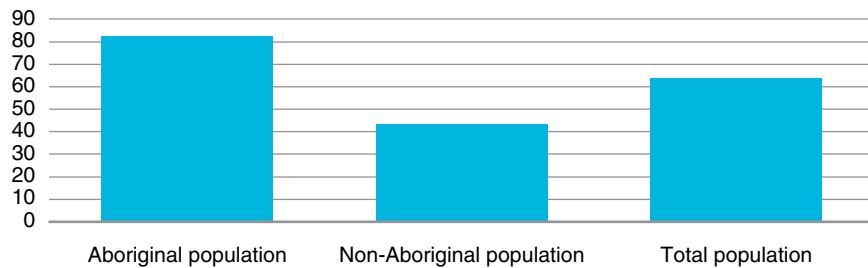
Source: Statistics Canada and Employment and Social Development Canada, *Skills in Canada*.

Inadequate numeracy also appears to be an issue for the majority of the N.W.T.'s Aboriginal working-age population and for over half of the N.W.T.'s non-Aboriginal working-age population. (See Chart 6.)

Chart 6

Inadequate Numeracy Skills, N.W.T. Population Aged 16 to 65, 2012
(per cent)
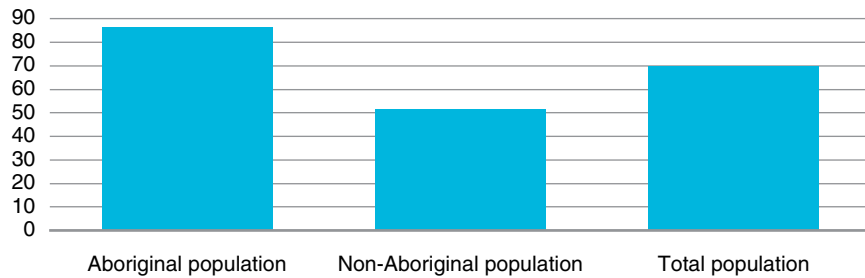
Source: Statistics Canada and Employment and Social Development Canada, *Skills in Canada*.

Moreover, in an age when the Internet and new information technologies could help boost productivity and diversify the territorial economy, the PIAAC results indicate that over 47 per cent of the N.W.T.'s adult working-age population cannot adequately problem solve in technology-rich environments. (See Chart 7.) The potential success of new economic initiatives such as the Mackenzie Valley Fibre Link is in no small part tied to the uncertain ways that N.W.T. residents will adopt new information technologies both at home and in the workplace.

Chart 7

Inadequate Problem-Solving in Technology-Rich Environments, N.W.T. Population Aged 16 to 65, 2012
(per cent)
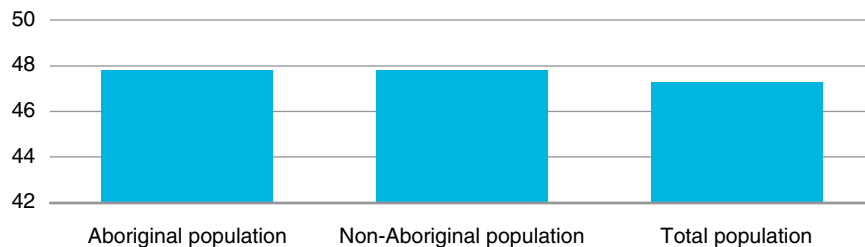
Source: Statistics Canada and Employment and Social Development Canada, *Skills in Canada*.

Our last key finding from the LMFNA summarizes our research on the outcomes of education attainment in the territory, tempered by the observation that labour market inequalities continue to persist in the N.W.T. economy.

Key Finding 5

Although higher education attainment helps to level the playing field, labour market inequalities continue to exist.

If we control for education among the N.W.T.'s working-age population, we find evidence that, regardless of whether one is Aboriginal or non-Aboriginal, higher education attainment helps to close performance gaps in fundamental workplace skills such as literacy and numeracy. The research data also show that, in terms of personal income growth, the greatest benefits of having a post-secondary certificate, diploma, or degree go, on average, to Aboriginal men. An Aboriginal man with a bachelor's degree in the N.W.T. makes, on average, $193 for every $100 he would make with just a high school diploma. For Aboriginal women, that relative advantage is $144, while for non-Aboriginal women and men, it is $143 and $147, respectively. Yet, despite these potential gains, non-Aboriginal men have, on average, the highest employment income compared with the other three groups sorted along similar levels of education—except in the case of workers with university degrees, where Aboriginal men as a group have a slightly higher income. (See Chart 8.)

The data show that education helps to level the playing field. Unfortunately, educational disparities between the N.W.T.'s Aboriginal and non-Aboriginal populations begin to set in early (as shown through Alberta Achievement Tests and Functional Grade Levels among elementary and secondary school students). The disparities then escalate, both in terms of education attainment and in the demonstration of workplace skills, once individuals reach adulthood.

Chart 8

**Income Inequality With the Non-Aboriginal Male as Base Case
for Each Category, Full-Time Employees, 2010**

($ earned compared with non-Aboriginal male with same level of education)
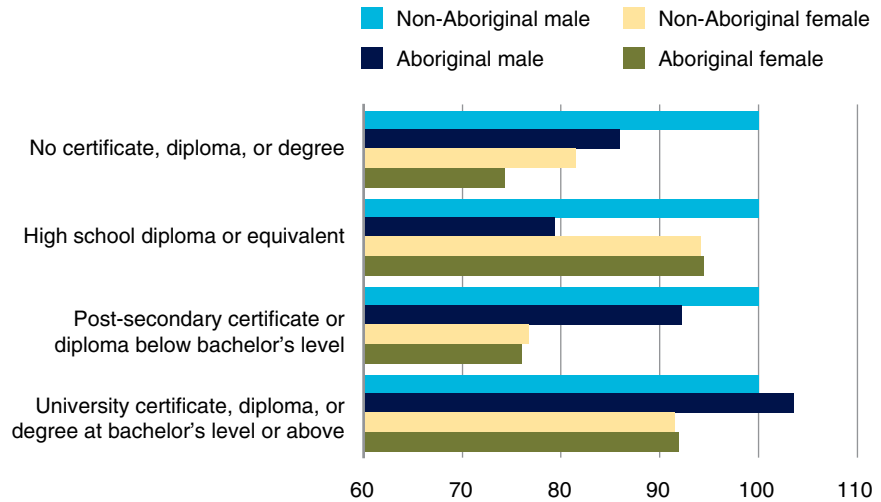
Source: Statistics Canada, *2011 National Household Survey.*

Aboriginal children and youth under 15 constituted 12.7 per cent of
the N.W.T.'s population in 2014, while those aged 15 to 24 constituted
an additional 9.6 per cent. The 2014 NWT Community Survey also
found that Aboriginal youth, aged 15 to 24, constituted 28 per cent of
the territory's labour supply,[3] while Aboriginal young adults, aged
25 to 44, constituted an additional 31 per cent. The labour market
qualifications of these two cohorts are considerably different from their
non-Aboriginal counterparts. For example, while in 2014, only 4.4 per
cent of the N.W.T.'s non-Aboriginal adults aged 25 to 39 had less than a
high school diploma, 32.8 per cent of their Aboriginal counterparts were

3   According to the 2014 NWT Community Survey definition, labour supply includes
people who during the year had been unemployed and were looking for work. It also
includes people who wanted to work in 2014, but had not been looking for work at the
time of the survey (for various reasons, such as a temporary illness). This latter
component of labour supply is, therefore, a subset of those N.W.T. residents who
were not in the labour force in 2014.

The challenge of meeting the potential of the N.W.T.'s youth and young adults will present important opportunities for educational renewal.

still at that level.[4] Given the large number of Aboriginal youth and young adults in the territory, and particularly in rural and remote areas where education and employment opportunities are limited, finding ways to nurture their potential will be key to promoting a strong and productive labour force in the coming years.

With the increased demand projected for new teachers, instructors, and early childhood educators between 2015 and 2030, the challenge of meeting the potential of the N.W.T.'s youth and young adults, both Aboriginal and non-Aboriginal, will present important opportunities for educational renewal and establishing new pathways for lifelong learning and skills development.

Between 55.5 and 57.7 per cent of job openings forecasted in our base case and alternative scenarios will require a university education, college education, or apprenticeship training.[5] (See Table 4.) The priority for educators should therefore be on developing the territory's future leaders, professionals, and skilled tradespeople. Furthermore, a substantial portion of the N.W.T. workforce will also benefit from on-the-job training, and governments and employers will have a responsibility to renew their human resources development programs and ensure that N.W.T. workers continue to improve and advance in their careers.

In terms of career advancement opportunities, between 19.3 and 20.1 per cent of job openings forecasted in our base case and alternative scenarios are management positions. (See Table 4.)

Our analysis in Chapter 2 of the companion resource, however, finds that, parallel to the education and skills gaps between Aboriginal and non-Aboriginal workers are disparities in their representation among professional and management occupations. In many job sectors, this means an under-representation of Aboriginal groups within management. Table 5 depicts the distribution of managers employed in the GNWT. In 2014, only 43 per cent of all GNWT managers consisted of employees

4   Northwest Territories Bureau of Statistics, *2014 NWT Community Survey.*

5   This number excludes managerial positions that require either post-secondary education or extensive subject matter expertise.

Table 4

Total Job Openings Among Resident Workforce for Base, Medium, and High Case Scenarios, by General Qualifications and Skill Levels

General qualifications and skill requirements	Per cent of total job openings (2015–30)		
	Base case	**Medium scenario**	**High scenario**
Management level	20.1	19.6	19.3
University education	24.2	22.1	20.9
College education or apprenticeship training	33.5	34.0	34.6
Secondary school and/or job-specific training	13.6	14.9	15.6
Low skill requirements with on-the-job training	8.6	9.3	9.5
Total job openings	**28,533**	**33,569**	**36,718**

Source: The Conference Board of Canada.

born in the territory. Within this group of managers, born in the territory, the proportion was almost evenly split between Aboriginal and non-Aboriginal (though slightly favouring the former). (See Table 5.)

Gender is another source of labour market segmentation. Our analysis found that the job categories occupied by males and females in the N.W.T. generally mirrored gender differences in the Canadian labour market as a whole. Yet, more females in the N.W.T. appear to be employed outside of sales and services, which reflects their greater presence in sectors such as public administration, social assistance, and education. For their part, N.W.T. males, while confirming the Canadian male bias for trades, transport, and equipment operator occupations, appear to be less likely to enter sales and services, while also being more likely to occupy management-level positions than males in the general Canadian population. This labour market segmentation appears to be shifting among top employers such as the GNWT. Although men have historically made up more than half of management occupations in the GNWT, this number has gradually

been decreasing to near equity. (See Table 5.) Nevertheless, considering that women make up a greater proportion of the N.W.T.'s total workforce, they continue to be under-represented in managerial positions. This hierarchical division of labour between males and females in the N.W.T. economy suggests there is potential to develop more professional and management training programs tailored to the needs and outlooks of women.

Table 5

Distribution of Managers Employed in the GNWT by Sex and Ethnicity, 2004–14

Year of employment	All management employees		Born in the N.W.T.	
	Male	Female	Per cent Aboriginal	Per cent Non-Aboriginal
2004	282	160	17	19
2005	271	155	17	18
2006	288	170	18	17
2007	282	188	17	16
2008	275	196	17	17
2009	306	235	20	18
2010	305	246	20	20
2011	297	261	22	21
2012	304	271	22	23
2013	310	299	22	22
2014	347	326	22	21

Source: Government of the Northwest Territories, Department of Human Resources.

In Chapter 2 of the companion resource, we use the term "labour market segmentation" to discuss labour market inequalities and the unequal participation of different groups in labour market opportunities, whether in different sectors of the N.W.T. economy or in different positions of an occupational hierarchy (e.g., as reflected in the National

Occupational Classification). In this Labour Market Forecast and Needs Assessment (LMFNA), we have mainly described patterns of labour market segmentation rather than tried to explain why they exist. Data limitations largely prevented us from learning about the reasons why. At the same time, we also encountered data that complicate the idea of labour market segmentation. An examination of occupational skill levels by educational credentials, for example, reveals that substantial portions of the contemporary N.W.T. workforce have advanced to occupations that generally require a post-secondary certificate, diploma, or degree without actually possessing the formal qualifications. (See Table 6.) Such phenomena may reflect hiring practices, agreements, and social policies that take other qualifications into consideration, but they also call into question the adequacy of our current labour market data, particularly when it comes to inferring employer hiring decisions. How such patterns will affect the adequacy of the territory's response to future occupational demand is uncertain. The need to understand the complex reality of what is going on in the N.W.T. labour market will require more data and resources than our assessment had available.

Table 6
2011 NOC Skills Levels for Employed Workforce, by Location of Study, N.W.T. 2011
(percentage of number employed at each skill level)

	Number employed	No post-secondary certificate, diploma, or degree	Same as province/territory of residence	Another province/territory of residence	Location of study outside of Canada
All skill levels	21,200	39.9	13.3	41.1	5.7
A: Managers	2,940	30.4	11.7	52.0	5.9
A: Professionals	3,970	10.3	10.6	71.8	7.3
B: College or apprenticeship training	7,160	36.5	15.9	42.9	4.7
C: High school or job-specific training	4,795	56.8	14.9	23.1	5.2
D: On-the-job training	2,340	78.0	8.1	6.6	7.3

Source: Statistics Canada, *2011 National Household Survey*.

Summary

To conclude the LMFNA, we now distill information from chapters 2 to 5 in the companion resource to summarize the direction of occupational demand, the job opportunities available, and the potential skills challenges that the N.W.T.'s working-age population may need to overcome.

How Are Skill Levels Classified?

The National Occupational Classification (NOC) system includes skill levels to provide further information on basic job requirements.

- **Skill Level A Occupations:** These jobs can be classified as either "Management Occupations" or "Professional Occupations."
  – Management occupations are characterized by a high level of responsibility, accountability, and subject matter expertise. Expertise can be acquired either through formal education or through extensive work experience.
  – Professional occupations require a university degree (i.e., a bachelor's, master's, or doctorate).
- **Skill Level B Occupations:** These jobs usually require two to three years of post-secondary education at a college.
- **Skill Level C Occupations:** These jobs usually require secondary school or occupation-specific training (up to two years).
- **Skill Level D Occupations:** These jobs usually revolve around on-the-job training.

Source: Government of Canada.

The results of our base and alternative occupational demand forecasts correspond to the National Occupational Classification (NOC) system. In particular, each forecasted occupation corresponds to a NOC skill level that situates it with respect to general qualifications and skill requirements. Although this is only a general classification, it provides a good starting point for summarizing job opportunities and identifying potential skills gaps between occupational demand and current

labour supply. Table 7 provides summaries of total job openings, by NOC skill levels, for resident workers under the base, medium, and high case scenarios.

The data in Table 7 suggest that, based on the skill requirements of our projected job openings, the most important post-secondary training programs for N.W.T. workers will be at the levels of university, college/apprenticeships, and job-specific training. Such programs all presume a fundamental base of essential skills, such as literacy and numeracy. Our review of these essential skills in Chapter 3 of the companion resource identifies several skills deficits in this regard. Our findings from that chapter also motivate the present discussion.

Table 7

Total Job Openings Among Resident Workforce for Base, Medium, and High Case Scenarios, by NOC Skill Levels

(per cent)

2011 NOC skill levels	General qualifications and skill requirements	Per cent of total job openings (2015–30)		
		Base case scenario	Medium case scenario	High case scenario
A	Management level	20.1	19.6	19.3
A	University education	24.2	22.1	20.9
B	College education or apprenticeship training	33.5	34.0	34.6
C	Secondary school and/or job-specific training	13.6	14.9	15.6
D	Low skill requirements with on-the-job training	8.6	9.3	9.5
Total job openings		**28,533**	**33,569**	**36,718**

Source: The Conference Board of Canada.

The most in-demand occupations in the high, medium, and base case scenarios correspond to Skill Level B, which indicates that about a third of the job openings in each of the scenarios will require a college education and/or apprenticeship training. (See Chart 9.) The majority

of these job openings do not require an apprenticeship. However, in addition to subject matter expertise, they assume a sufficient command of essential skills such as literacy, numeracy, and problem-solving.

Forecasted Job Opportunities (by Job Openings) for Residents of N.W.T. by Skill Level, 2015–30

(number of positions, 000s)
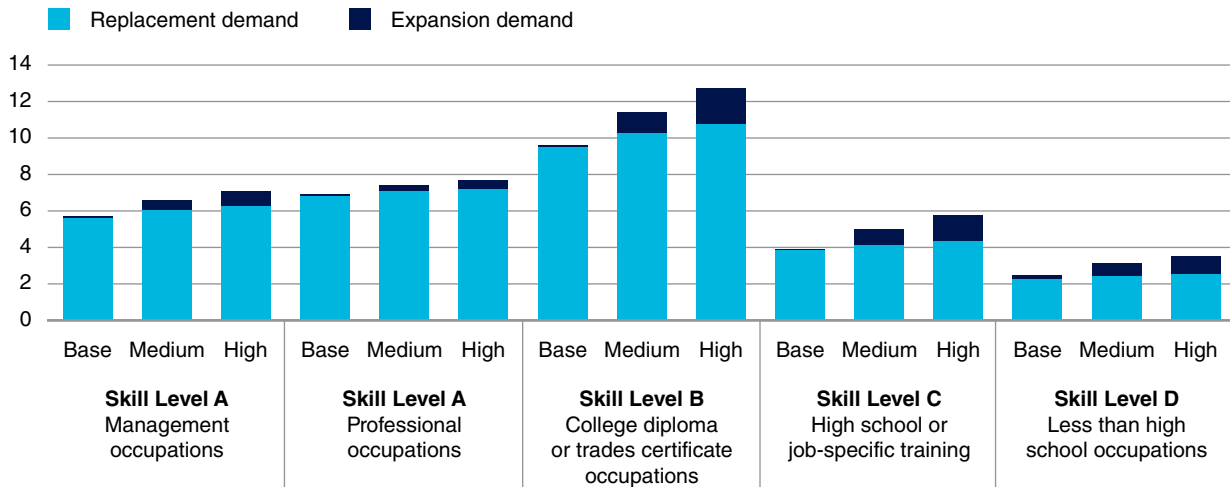
Source: The Conference Board of Canada.

The next most in-demand group of occupations corresponds to Skill Level A, which generally characterizes professional occupations that require a university degree. Skill Level A occupations take up between 20.9 and 24.2 per cent of the forecasted job openings, depending on the scenario.

The third-highest group of in-demand occupations also presumes a high level of skill, as well as significant work experience. These are management-level occupations, which fall under Skill Level A. Management occupations take up between 19.3 and 20.1 per cent of total forecasted job openings.

Many Skill Level D jobs have limited potential for career advancement.

The remainder of the job openings consists of occupations that revolve around job-specific training and on-the-job training. Of this category, occupations grouped under Skill Level C, requiring secondary school and job-specific training, constitute between 13.6 and 15.6 per cent of the forecasted total job openings. These are not necessarily low-wage or low-skilled jobs, but include jobs such as heavy equipment operators, motor vehicle and transit drivers, mine service workers, and operators in oil and gas drilling, among others. Such jobs can also be technically sophisticated and physically demanding.

Finally, occupations grouped under Skill Level D do not necessarily require a secondary school qualification, but generally include on-the-job training. Skill Level D occupations constitute between 8.6 and 9.5 per cent of total forecasted job openings. They include cashiers, light-duty cleaners, trade helpers, and natural resources labourers, and may place a heavy emphasis on physical labour. Many of these Skill Level D jobs have limited potential for career advancement.

While the base case scenario forecasts 28,533 job openings from 2015 to 2030, just over 98 per cent of these openings can be attributed to replacement demand. (See Chart 9.) As a result, fewer than 500 job openings will result from expansion demand in the base case. Due to greater mining activities, investments in infrastructure, and exploration activities among other things, the medium case scenario experiences a significantly higher number of job openings from expansion demand. In this scenario, just under 11 per cent of job openings (3,557) from 2015 to 2030 can be attributed to expansion demand. In the high case scenario, expansion demand is even greater and accounts for 5,505 job openings (roughly 15 per cent) from 2015 to 2030. (See Chart 10.)

The remaining job openings are forecasted to be filled by rotational workers. Specifically, rotational workers are forecasted to see 3,861 job openings in the base case scenario, 4,848 job openings in the medium case scenario, and 5,664 job openings in the high case scenario.

Replacement and Expansion Demand by Occupational Skill Level for N.W.T. Residents, 2015–20
(number of positions, 000s)
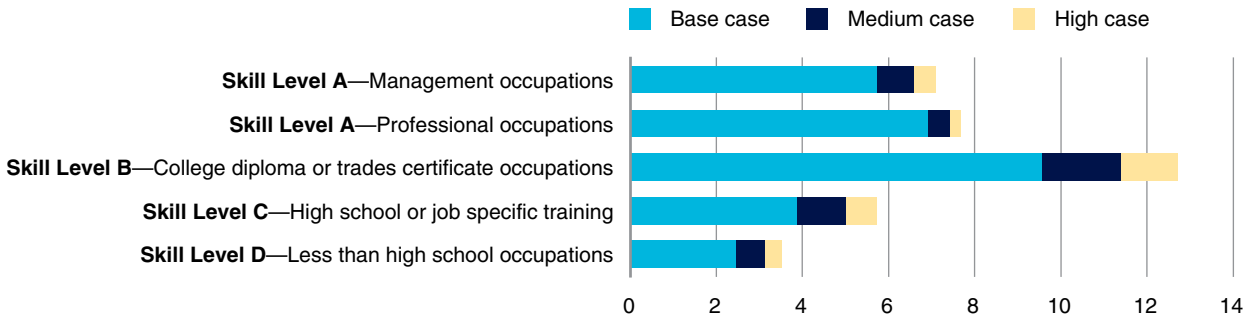
Source: The Conference Board of Canada.

Table 8 provides summaries of total job openings for rotational workers, by NOC skill levels, under the high, medium, and base case scenarios. Compared with the profile in Table 7, Table 8's featured job openings among the rotational workforce are most heavily weighted in favour of occupations that require a college education or apprenticeship training. The top occupations in this regard include underground production and development miners; construction millwrights and industrial mechanics; mining and quarrying supervisors; industrial electricians; welders and related machine operators; carpenters; and heavy-duty equipment mechanics. Similarly, job openings for management occupations among the rotational workforce are also concentrated around construction and mining.

The rotational workforce scenarios include job openings for a number of key professions from Skill Level A, including general practitioners and family physicians, registered nurses, and pharmacists. They also include skilled professions related to the mining industry, including mining engineers and geoscientists.

The remaining forecasted job openings for rotational workers fall under Skill Level C or Skill Level D. Skill Level C occupations are forecasted to see from 450 to 624 job openings for rotational workers from 2015 to

Table 8

Total Job Openings Among Rotational Workforce for Base, Medium, and High Case Scenarios, by NOC Skill Levels
(per cent)

2011 NOC skill levels	General qualifications and skill requirements	Per cent of total job openings (2015–30)		
		Base case scenario	Medium case scenario	High case scenario
A	Management level	10.3	10.4	10.3
A	University education	15.8	14.4	13.3
B	College education or apprenticeship training	59.5	61.6	63.2
C	Secondary school and/or job-specific training	11.7	11.2	11.0
D	Low skill requirements with on-the-job training	2.8	2.4	2.1
Total job openings		**3,861**	**4,848**	**5,664**

Source: The Conference Board of Canada.

2030. Roughly 30 per cent of these job openings are forecasted to be filled by heavy equipment operators, emphasizing the need for workers in natural resources settings. Skill Level D occupations are forecasted to see a relatively few number of job openings throughout the forecast, from a low of 107 in the base case scenario to a high of 120 in the high case.

Similar to the resident workforce, job openings for rotational workers can be attributed primarily to replacement demand. (See charts 11 and 12.) In the base case scenario, the overall employment of rotational workers is forecasted to shrink by 26 positions from 2015 to 2030 (i.e., a negative expansion demand of 26 positions). In contrast, the medium case scenario sees an expansion demand of 565 positions, and the high case scenario sees an expansion demand of nearly 1,000 positions.

With a general understanding of the skill requirements that the forecasted job openings introduce, we need to better understand how they match the N.W.T.'s labour supply. For its 2014 Community Survey, the Northwest Territories Bureau of Statistics included a labour supply variable that captures, for the year, anyone aged 15 and over who was not working but wanted a job. According to its definition, labour supply therefore includes people who during the year had been unemployed

Chart 11

Forecasted Job Opportunities (by Job Openings) for Rotational Workers by Skill Level, 2015–30

(number of positions, 000s)
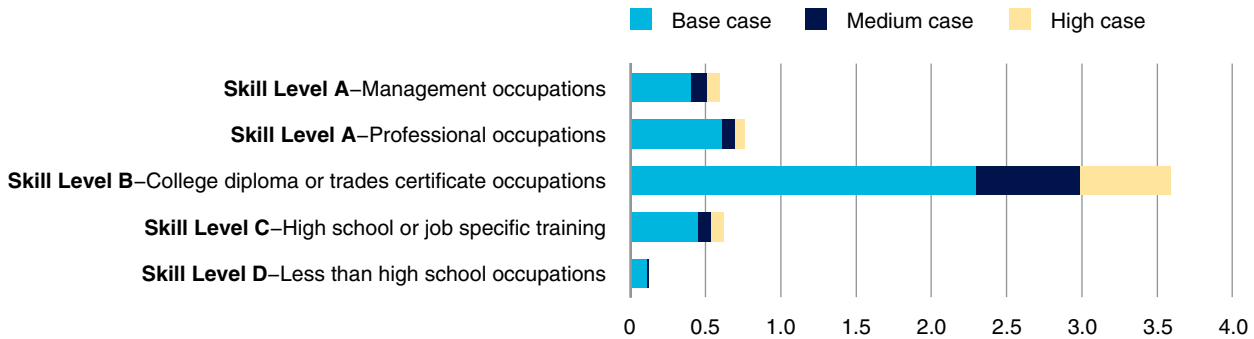
Source: The Conference Board of Canada.

Chart 12

Replacement and Expansion Demand by Occupational Skill Level for Rotational Workers, 2015–30

(number of positions, 000s)
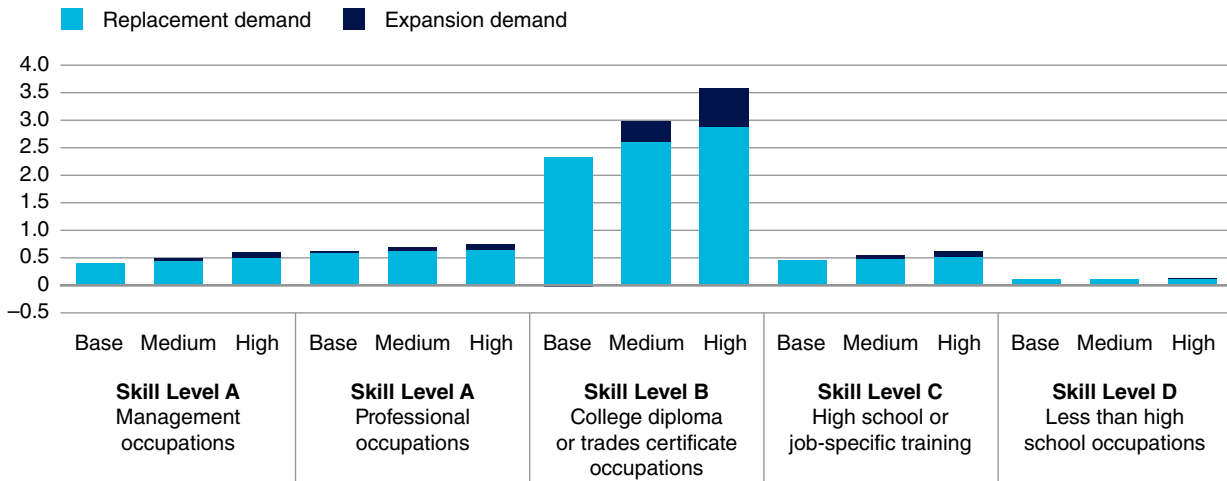
Source: The Conference Board of Canada.

and were looking for work. It also includes people who wanted to work in 2014, but had not been looking for work at the time of the survey (for various reasons, such as a temporary illness). This latter component of labour supply is a subset of those N.W.T. residents who were not in the labour force in 2014.

The 2014 labour supply variable provided by the Northwest Territories Bureau of Statistics can help us better understand the gaps that may arise between available skills and available job openings. Our intention here is exploratory, for to make a comparison between our forecast data and the 2014 Community Survey data assumes that the current profile of the N.W.T.'s yearly labour supply will remain relatively constant over the next 15 years. Nevertheless, we believe the comparison serves a useful purpose for understanding skills gaps and general program needs.

Tables 9 and 10 compare the average yearly job openings of our high, medium, and base case scenarios with the 2014 N.W.T. labour supply by corresponding general qualifications and levels of education. Table 9 examines the resident workforce while Table 10 examines the rotational workforce. In both tables we have had to aggregate management, university, and college/apprenticeship levels, due to how the 2014 Community Survey was administered. But this still leaves us with a reasonable assumption that the majority of jobs in this aggregate category require a college certificate or university degree.

A clear policy concern appears when we compare the data. If the 2014 labour supply featured in Table 9 was the only available source of labour to match the job openings of our three forecast scenarios, there would be an overabundance of lower-skilled labour available. By contrast, there would not be enough qualified workers with college or university experience to match the yearly job openings for Skill Level A and B occupations among the resident workforce (featured in Table 9 on the left side).

Table 10 should be read in the context of Table 9 and the 2014 N.W.T. labour supply data. It presents a much smaller pool of yearly job openings among the rotational workforce and re-emphasizes the skills

Table 9

Average Yearly Job Openings Among Resident Workforce for High, Medium, and Base Case Scenarios, Sorted by General Qualifications and Skill Levels

(number)

General qualifications and skill levels	Base case scenario		Medium case scenario		High case scenario		Education level	Total	Aboriginal	Non-Aboriginal
	Base case scenario		Medium case scenario		High case scenario					
Management level	358	1,387	412	1,589	443	1,718	College certificate or university degree	1,315	765	550
University education	432		464		481					
College education or apprenticeship training	598		713		794					
Secondary school and/or job-specific training	242		314		358		High school diploma	1,254	846	408
Low skill requirements with on-the-job training	154		195		219		Less than high school	2,578	2,381	197

Sources: The Conference Board of Canada; Northwest Territories Bureau of Statistics, *2014 NWT Community Survey*.

Table 10

Average Yearly Job Openings Among Rotational Workforce for High, Medium, and Base Case Scenarios, sorted by General Qualifications and Skill Levels

(number)

General qualifications and skill levels	Base case scenario		Medium case scenario		High case scenario	
Management level	25	206	31	262	36	308
University education	38		44		47	
College education or apprenticeship training	144		187		224	
Secondary school and/or job-specific training	28		34		39	
Low skill requirements with on-the-job training	7		7		8	

Sources: The Conference Board of Canada; Northwest Territories Bureau of Statistics, *2014 NWT Community Survey*.

gaps in Table 9. Based on our analyses of the rotational workforce, it is clear that these job openings concentrate demand around highly technical occupations and skilled professions that are not currently being met by the resident workforce.

To help qualify these profiles further, the Northwest Territories Bureau of Statistics notes that, of the total 2014 labour supply of 5,212 persons, aged 15 and over, 1,862 people were aged 15 to 24. Within this subgroup, 746 were full-time students, 103 were part-time students, and 1,013 were not students. This means that over 19 per cent of the 2014 labour supply consisted of youth who were not in school but wanted to work. Without better information, we cannot say precisely how many of these youth had a secondary school or post-secondary qualification in 2014, but their situation suggests that a focus on essential skills and bridging opportunities between secondary and post-secondary could be beneficial to ensure that these youth are eligible for the higher-skilled jobs that we expect to see in the next 15 years.

Conclusion

The education and skill levels of the N.W.T.'s resident population will be crucial in determining whether or not its local communities are able to meet future occupational demand and create new economic opportunities.

The territory's Aboriginal population generally lags behind its non-Aboriginal counterparts on education attainment and essential skills. However, when education levels are taken into account, the literacy and numeracy skills of the Aboriginal population are generally on par with the non-Aboriginal population. Improving educational outcomes among the Aboriginal population goes far to equalize opportunities,[6] and the need to address the inequality in skills development is not exclusively a territorial

6   Council of Ministers of Education, *PIAAC in Canada*.

Finding ways to nurture their potential will be key to promoting a strong and productive labour force in the coming years.

or even an economic challenge. As former Prime Minister Paul Martin told a national conference in 2011, improving the educational outcomes of Aboriginal youth is a critical moral issue that all of Canada must face.[7]

Outside the Yellowknife and South Slave regions, Aboriginal peoples constitute the majority of the N.W.T.'s resident workforce. Moreover, according to the *2014 NWT Community Survey*, Aboriginal youth and young adults, aged 15 to 44, constituted 59 per cent of the 2014 labour supply. Given the large number of Aboriginal youth and young adults in the territory, particularly in rural and remote areas where educational and employment opportunities are limited, finding ways to nurture their potential will be key to promoting a strong and productive labour force in the coming years.

While the data show that education helps to level the playing field, educational disparities between the N.W.T.'s Aboriginal and non-Aboriginal populations begin to set in early among elementary and secondary school students. The disparities then escalate, both in terms of education attainment and in the demonstration of workplace skills, once individuals reach adulthood.[8]

The factors that shape educational outcomes in the N.W.T. and similar Northern regions are many and complex, and take us beyond the scope of this present LMFNA. Socio-economic factors such as unsuitable housing, food insecurity, substance abuse, and young single-parent families have emerged as vulnerabilities that inhibit Northern education attainment. By contrast, The Conference Board of Canada's research has found that suitable housing, good food choices, healthy active living, positive role models, and civic engagement within Northern communities all act as protective factors, meaning that they help to create a suitable environment that supports educational achievement and nourishes personal development. The need to understand the complex reality of what is going on in and around the N.W.T. labour market will require more research, more data, and more resources from stakeholders. The

7   Martin, "Human Capital and Economic Development."

8   Northwest Territories Bureau of Statistics, *2014 NWT Community Survey*.

goal of this LMFNA is to help orient stakeholders and decision-makers to the labour market opportunities and needs that are affected by these deeper socio-economic issues.

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APPENDIX A
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Acknowledgements

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