

North Peace Fringe Area Economic Growth Impact Study

Prepared in support of
North Peace Fringe Area Official Community Plan Update

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Peace River
Regional
District

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EXECUTIVE SUMMARY

The North Peace Fringe Area surrounding the City of Fort St. John is facing significant growth pressure. Approved and potential projects in the region will create many economic benefits for the Fringe Area but will also directly and indirectly create demand for residential, commercial and industrial land.

This Economic Growth Impact Study includes three growth scenarios that consider, through an integrated model of the regional economy: (1) projected employment growth in key sectors, like natural gas, as well as business support industries and population-serving industries, (2) projected population growth in response to the demand for workers, as well as the net migration of non-working family members, retirees and others, (3) projected changes in population demographics, (4) projected housing demand of different types, and (5) projected demand for residential, commercial and industrial land.

All three scenarios feature positive growth. The Low scenario is more like a “status quo” scenario than a “worst case” scenario, simply because if the economy turns out to be weaker than the Low scenario, the planning challenge of accommodating rapid growth and land demand will cease to exist.

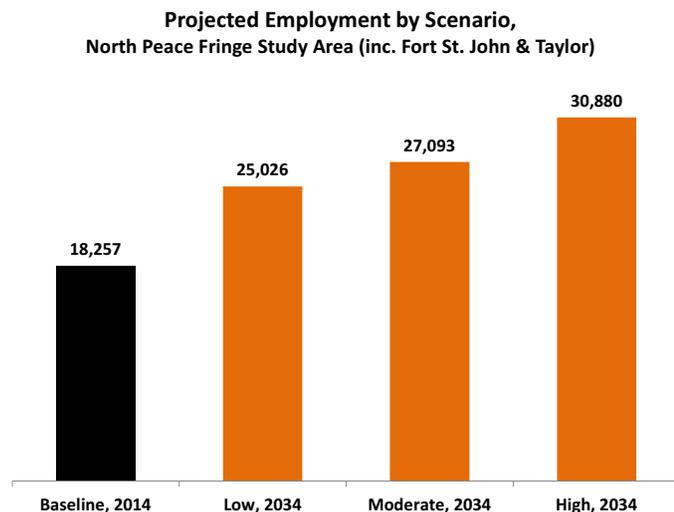
All projections are initially prepared for the Fringe Area plus Fort St. John and Taylor due to the extensive personal and economic linkages between these areas. Projections are also shown for the Fringe Area on its own whenever possible with the available information.

EMPLOYMENT PROJECTIONS

Projected employment in the study area in 2034 is expected to range from 25,000 jobs under the Low scenario to 30,900 jobs under the High scenario.

Nearly all major industrial employment will continue to be concentrated either within Fort St. John’s municipal boundaries or in the immediately surrounding rural area (which may eventually become part of the city through a boundary extension) due primarily to rail and highway access.

Most region-serving office and retail activity will be based in Fort St. John, although there is potential for smaller-scale retail and service employment at a neighbourhood level in the rural areas, particularly in population clusters like Charlie Lake. Agricultural employment will remain spread across rural farming areas and there is some potential



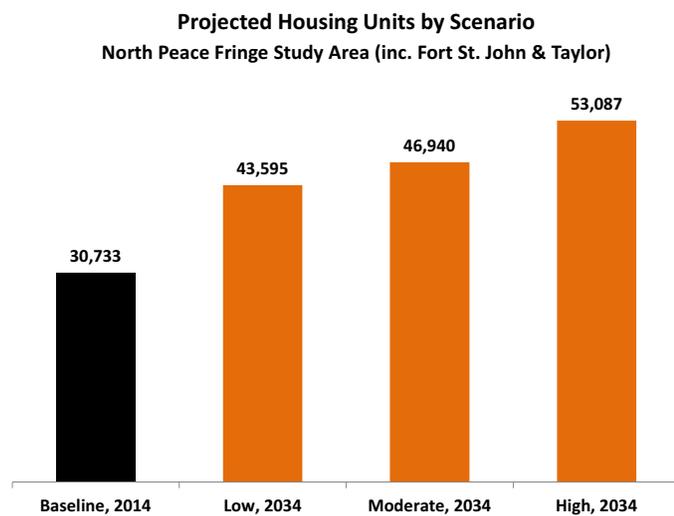
for additional food-related processing and other activities that are consistent with Agricultural Land Reserve (ALR) restrictions.

POPULATION PROJECTIONS

Population projections are based on (1) a cohort-survival model, which predicts the number of births and deaths each year based on the age and sex composition of the population, and (2) assumptions about net migration, meaning the number of people of each age and sex moving into and out of the area. Net migration is the main driver of population change and is based initially on past migration trends, but changes under each growth scenario based on the demand for workers.

Total population in the study area is projected to increase from the 2014 estimate of 30,700 to 43,600 under the Low scenario and 53,100 under the High scenario. Each scenario represents strong population growth, ranging from 1.8% per year under the Low scenario to 2.8% per year under the High scenario.

Population in the Fringe Area, which is estimated at 7,700 in 2014, is projected to be in the range of 11,000 to 14,300 by 2034.



HOUSING PROJECTIONS

Housing demand is influenced by population growth as well as demographic changes. In the Fort St. John area, single-family homes are the dominant housing type occupied by household maintainers (the primary breadwinners for a household) in the 35 to 74 age range. Relatively few young adults under age 25 maintain their own household, but those that do are more likely to live in apartments and other multi-family units. Demand for multi-family units falls in middle age range but rises again for those age 75+.

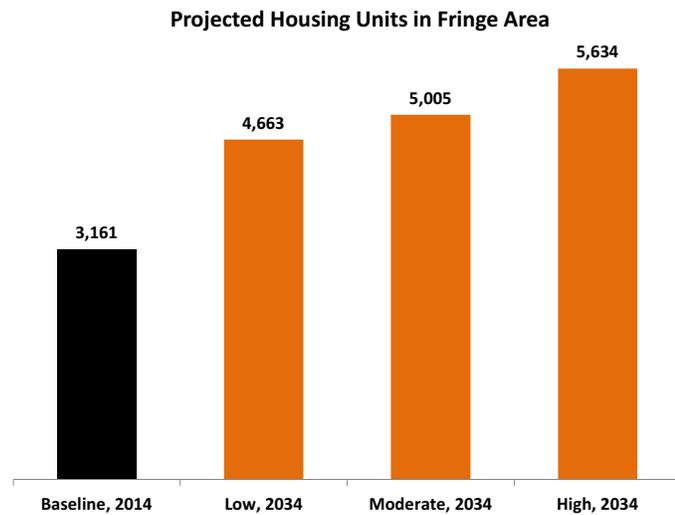
Projections for this study suggest that single-family homes will become slightly more common and multi-family homes less common. This is due to changing population demographics as a larger share of the population ages into the 35+ age range when single-family homes are by far the preferred option, while the age 75+ population is not large enough to create demand for significantly more multi-family units.

It is possible that the observed mix of units does not accurately reflect market demand and would be different if land use regulations were more permissive, particularly with respect to the development of

multi-family housing. For example, the Municipality of Wood Buffalo in northern Alberta, which includes the community of Fort McMurray, has a much higher percentage of multi-family units and a smaller percentage of single-family homes. Fort St. John already has a housing mix very similar to Wood Buffalo, but the Fringe Area is dominated by single-family homes.

The total number of housing units in the Fringe Area is projected to be in the range of 4,700 units to 5,600 units, which is a significant increase from the baseline estimate of 3,200 units.

Nearly all of these units are expected to remain as single-family homes or other ground-oriented units (including mobile homes).



NON-RESIDENTIAL LAND DEMAND PROJECTIONS

Projections of non-residential land demand are calculated based on the employment projections and an assessment of the type of land used by each of more than 300 industries in the area. Increased demand for industrial and commercial land is projected to range from 900 acres under the Low scenario to nearly 3,000 acres under the High scenario. The most significant difference between the scenarios is the size of the provincial liquefied natural gas (LNG) industry – the Low scenario assumes no LNG plants and the High scenario assumes three LNG plants. The difference between these scenarios is more than 1,600 acres of industrial land.

According to BC Assessment, the combined total of industrial and commercial vacant land is about 1,750 acres in the study area (including the municipalities). This suggests that in the aggregate, there is sufficient industrial and commercial land to meet future demand under the Low scenario, and possibly under the Moderate scenario.

However, there are several reasons to expect more severe land shortages than suggested by the aggregate figures. First, many industrial users have strict locational criteria, such as access to rail, that can only be satisfied by a limited number of parcels. Second, informal discussion with local planners in both Fort St. John and Taylor suggests that the supply of vacant land designated for industrial and commercial use is considerably less than suggested by BC Assessment.

According to current Fringe Area OCP designations, there are about 560 acres of vacant employment-supporting land. A further 235 acres are designated Agriculture (Res-LSI) and are also intended for future industrial use.

Current Fringe Area OCP Designations (employment-related only)	Vacant Land, 2014 (acres)
CIVIC - Civic, Assembly, Institution	8
HC - Highway Commercial	5
HI - Heavy Industrial	0
LSI - Light / Service Industrial	148
LSI (Serviced)	398
Total for Primarily Employment-Related Uses	559

Most regional-scale activities will continue to cluster in Fort St. John or the immediately surrounding rural area, attracting by highway and rail access and proximity to city services and amenities. There will be some smaller-scale industrial activity on agricultural land, and some service commercial-type activity such as workshops and truck storage scattered through residential and agricultural areas. Smaller-scale retail, office and service commercial development will occur in Fringe Area population clusters such as Charlie Lake.

The current Fringe Area supply of 560 acres, or 800+ acres if the Agriculture (Res-LSI) lands are included, is unlikely to be sufficient for either the Moderate or High scenarios. With limited supply in Fort St. John, the Fringe Area is likely to absorb the majority of future industrial land demand in the region.

RESIDENTIAL LAND DEMAND PROJECTIONS

Initial residential land demand projections are based on current development densities, which average 3.2 acres per unit across the study area (including Fort St. John and Taylor). At this density, demand will be created for an additional 19,400 to 31,900 acres, depending on the scenario.

Looking at residential land supply, BC Assessment data shows the amount of vacant residential land in Fort St. John and Taylor is about 1,300 acres (not all of which is designated residential by the municipalities). There is a further 27,600 acres in the Fringe Area. This far exceeds the amount of land designated for residential use, which is about 2,900 acres. The discrepancy occurs because BC Assessment is including significant volumes of agricultural land that may not be actively farmed at the present time.

Projected demand for residential land, if it were to continue at current densities, would far exceed the amount of designated residential land in the study area and would absorb most or all of the land identified by BC Assessment as residential. The vacant residential land according to BC Assessment is scattered throughout the study area, including throughout the ALR, and development in such a pattern would not be at all consistent with either the current or envisioned Fringe Area OCP.

Even if such a development pattern were allowed, it is unrealistic as it suggests that the majority of future residential growth would occur in the rural fringe. This is not consistent with past development trends nor likely future demand since many homeowners prefer to be in or very near Fort St. John.

Looking only at the Fringe Area, the median lot size is just over 4 acres, which is the minimum size under the current Medium Density Rural Residential (MDR) zone in the Fringe Area OCP. The average lot size is more than 15 acres, but that is skewed by several very large parcels. Public feedback through the initial round of community consultation for the updated OCP suggests there continues to be strong demand for residential lots in the MDR range (4-10 acres), as well as Low Density Rural (LDR), which has a minimum size of 10 acres.

Residential absorption trends in the Fringe Area from 2011 to 2014 suggest that the greatest increase in residential occupancy has occurred among lots in the 4-5 acre range.

Assuming an average lot size of 4 acres going forward, the available land would be absorbed in less than 10 years under the Low scenario, and even faster under the Moderate and High scenarios.

Projected Housing Growth in Fringe Area, 2014-2034	
Low (Status Quo) Growth	1,500 units
Moderate Growth	1,850 units
High Growth	2,475 units

CONCLUSION

While the North Peace Fringe Area is unlikely to become a major location for commercial or industrial activity, except in the area immediately surrounding Fort St. John that may ultimately be absorbed by a municipal boundary extension, the Fringe Area is expected to have continued strong demand for residential development.

Past residential growth has occurred at low densities. Without a move toward smaller average lot sizes, residential encroachment into agricultural areas will accelerate beyond what has already been occurring in the region.

Future demand for industrial land will be significantly higher for each additional LNG plant that is constructed on the West Coast, likely requiring the designation of new industrial lands in the Fringe Area near Fort St. John. Vacant land that is current designated for industrial or commercial purposes is unlikely to meet demand over the next 20 years even without LNG development, and assuming at least one significant LNG plant proceeds, it may be significantly less than required.

In summary, the updated North Peace Fringe Area OCP needs to strongly encourage more efficient use of the region's limited land supply for residential, commercial and industrial purposes.

1. INTRODUCTION

The North Peace Fringe Area surrounding the City of Fort St. John is facing significant growth pressure as a result of a number of major projects that are either underway or proposed. Examples are BC Hydro's recently approved Site C project, the possibility of several liquefied natural gas (LNG) projects on the BC coast that will increase natural gas exploration and production in the North Peace region and the likelihood of increased coal production to the southwest in the Chetwynd - Tumbler Ridge area that will have ripple effects in Fort St. John and the surrounding area. Projects such as these will create many economic benefits for the region, including employment and business opportunities, but they will also directly and indirectly create significant demand for residential, commercial and industrial land.

The majority of the demand for land in the region is being met within the incorporated communities of Fort St. John and Taylor, but the unincorporated Fringe Area is also experiencing rapid consumption of available supply. This has resulted in the removal of land from the Agricultural Land Reserve (ALR) to meet demand and is also driving up land values as the supply of land that can be readily developed becomes scarcer. This fringe area growth also has significant infrastructure and financial implications for the Peace River Regional District (PRRD).

Within this context, CitySpaces Consulting Inc. was retained by the Regional District to lead a team of consultants in preparing an updated North Peace Fringe Area Official Community Plan (OCP) to guide future growth and development. A key piece of the background analysis is this Economic Growth Impact Study, which has been jointly prepared by Vann Struth Consulting Group and Eric Vance & Associates.

1.1. PURPOSE OF STUDY

This study examines all sectors of the regional economy to determine which ones are most likely to drive growth over the next two decades (2015 - 2034). Based on this information, a comprehensive model of the regional economy has been developed with the following elements:

- Historical and projected direct employment in each major sector of the economy.
- Projected indirect and induced employment resulting from both direct employment in the region and also economic activity outside of the region that has ripple effects (e.g., LNG plants and coal mining).
- Projected population growth in response to the projected increase in direct, indirect and induced employment in the region.
- Projected demographics of the region's population as it grows and changes.

- Projected housing demand to accommodate a growing and changing population.
- Projected demand for residential, commercial and industrial land to accommodate growth.

1.2. THREE GROWTH SCENARIOS

There is no certainty as to exactly how the region's economy will change in the next two decades, especially given that nearly all the factors that will influence change are external to the region and beyond local control to influence, such as commodity prices, competition for investment, and provincial and federal economic policies. As of the time that this study was undertaken, the only major "given" that can be reasonably assumed with respect to the future economy of the region is that the Site C project is proceeding. While there is much anticipation by the provincial government that a number of LNG projects will proceed, even the positive investment decision by Pacific Northwest LNG announced late in this study's timeframe must satisfy several outstanding conditions before construction might begin. There is greater uncertainty about which other LNG projects, if any, might proceed and when.

Given this uncertainty, three growth scenarios have been developed, each of which impacts employment and population growth in the region in different ways and, in turn, the demand for land. All three scenarios are projecting a positive rate of growth. The "low growth" scenario does not represent a "worst case" scenario for the regional economy. In the event that global economic conditions or some other factor(s) cause future growth to be lower than even the "low growth" scenario, the planning challenge of accommodating rapid growth and land demand will cease to exist.

Scenario 1: Low (Status Quo) Growth

This scenario assumes the following:

- Site C, with a starting point of construction in 2015 and completion in 2022.
- No LNG development (although continuing growth in the natural gas sector)
- Slight growth in other sectors based on recent growth trends or existing sector-specific projections

Scenario 2: Moderate Growth

This scenario assumes the following:

- Site C as described above.
- One LNG plant constructed and operating in BC by 2034.
- Moderate growth in other sectors based on recent growth trends or existing sector-specific projections

Scenario 3: High Growth

This scenario assumes the following:

- Site C as described above.
- Three LNG plants constructed and operating in BC by 2034.
- Strong growth in other sectors based on recent growth trends or existing sector-specific projections

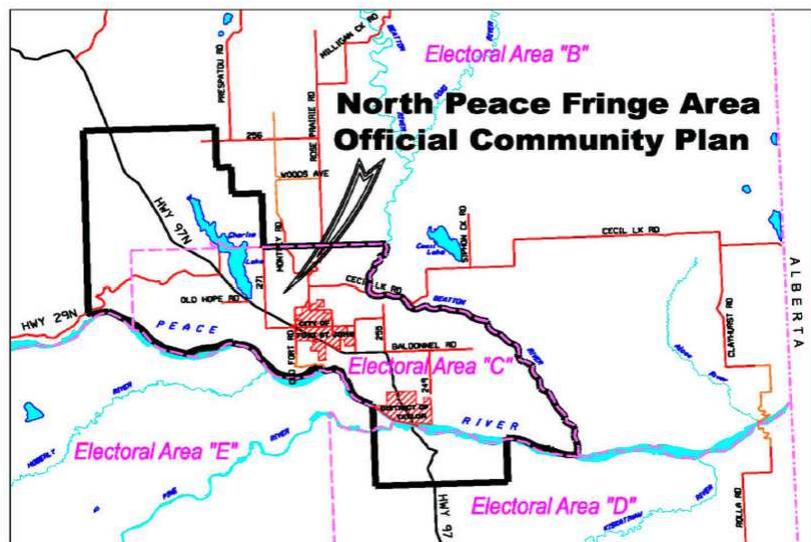
1.3. STUDY GEOGRAPHY

The North Peace Fringe Area is the unincorporated rural area immediately surrounding the City of Fort St. John and the District of Taylor within the PRRD. Fort St. John is the largest community and primary service centre for the regional population and for resource industries, particularly oil and gas, in the vast North Peace sub-area, which is generally defined as the PRRD areas north of the Peace River (most of which is in Electoral Area B).

The Fringe Area includes the entirety of Electoral Area C of the PRRD, a small segment of Area B around the north end of Charlie Lake, a small segment of Area D immediately south of Taylor on the south side of the Peace River and a small uninhabited segment of Area E, also south of the Peace River to the southwest of Taylor.

All of the detailed employment, population and land demand projections in this report are initially prepared for the Fringe Area plus Fort St. John and Taylor due to the extensive personal and economic linkages between these areas. The Fringe Area plus the two municipalities is collectively referred to as the “Study Area.”

Projections are also shown for the Fringe Area on its own whenever possible with the available information. There are also employment projections for key sectors in the rest of the North Peace (including the rest of Area B and Hudson’s Hope) and in the South Peace due to the supporting role of the Fort St. John area for those activities.



Map Source: Peace River Regional District

1.4. INFORMATION SOURCES

A variety of information sources were used in collecting data for this study and developing assumptions about future growth. While there is general consistency in the historical and current data, there are differences of opinion amongst analysts about the future of the region as a whole and some of its sub-areas. Hence, professional judgment has been required in selecting which set of assumptions are most reasonable in analyzing the region's future. The sources of all information used in the study are cited throughout this report and also presented in the appendix.

While the data sources used adhere as closely as possible to the study boundaries, some of the background data used for trend analysis is only available for slightly different geographic boundaries. The most common alternative is the Fort St. John Census Agglomeration (CA), which includes Fort St. John, Taylor and Area C (but not the small segments of Areas B, D and E that are also in the Fringe Area). These small differences have no material impact on the analysis, unless otherwise noted.

2. OVERVIEW OF THE REGIONAL ECONOMY

This section of the report provides a brief overview of the regional economy to set the context of the analysis. Much greater detail on topics such as employment and population is presented in subsequent sections of the report.

2.1. ECONOMIC BASE

The economic base of the Peace River region is dominated by energy, fuels and mining. An exports analysis recently undertaken by Urban Futures estimated that the Peace River region generated \$6.8 billion in exports in 2013.¹ Of this total, it was estimated that 81% (\$5.5 billion) came from energy, fuels and mining. This was followed by services at 9% (\$642 million), forestry at 6% (\$415 million) and agriculture at 3% (\$204 million). The analysis noted that the Peace River generated an annual average of \$182,878 in export value per labour force participant, which was 5.5 times the average for the rest of BC.

Given the heavy reliance on commodity based industry sectors, the region's rate of growth is strongly influenced by commodity prices. The Urban Futures report observed that over the period of 2011 - 2013, the value of exports originating in the region grew by just under 1%. This is largely a reflection of declining natural gas and coal prices, although increasing forest product and agricultural prices over the same period helped dampen some of the impact.

Looking forward, it can be expected that the value of exports will continue to fluctuate in the region, creating cycles in employment and population growth. Regardless of these cycles, it is reasonable to expect that by the endpoint of this 20-year analysis that the number of jobs and the size of the population in the region will be significantly more than at present.

2.2. EMPLOYMENT

The dominance of the resource based industries is reflected in the region's employment profile. As the following table shows, a substantial share of the North Peace region's employment is in goods producing and handling sectors. On the service side, many of the jobs are directly tied to activity in the goods producing and handling sectors (e.g., professional, scientific & technical services).

¹ Urban Futures (September 2014), *Exports Analysis - Northeast & Peace River Regions*, prepared for the North Peace Economic Development Commission.

The size of the region's labour force grew by 18% over the 10-year period of 2001 to 2011, from 13,580 workers to 16,010 workers. The average annual growth rate of 1.7% (244 workers) compares favourably to the provincial labour force, which grew by an average annual rate of 1.3%

Table 1. Experienced Labour Force, Fort St. John Census Agglomeration (Fort St. John, Taylor, Area C), 2011

Industry Sector	Number of Workers	Share
Goods Producing and Handling		
Agriculture, forestry, fishing & hunting	430	2.7%
Mining, quarrying and oil & gas extraction	2,200	13.7%
Utilities	170	1.1%
Construction	1,800	11.2%
Manufacturing	645	4.0%
Wholesale trade	585	3.7%
Transportation & warehousing	935	5.8%
Subtotal	6,765	42.3%
Services		
Retail trade	1,835	11.5%
Finance, insurance & real estate	760	4.7%
Professional, scientific & technical	1,155	7.2%
Educational	915	5.7%
Health care & social services	880	5.5%
Public administration	770	4.8%
Accommodation & food services	1,110	6.9%
All other	1,740	10.9%
Subtotal	9,165	57.2%
Inexperienced labour*	80	0.5%
Total	16,010	100.0%

*Inexperienced labour is people in the labour force who had not worked in the 17 months prior to Census day.

Source: Statistics Canada, National Household Survey

2.3. POPULATION

The following table shows the distribution and change in the region's population over the 10-year period of 2001 to 2011, again using the Census Agglomeration as a proxy due to data limitations.² In the case of

² The estimated population of the excluded Areas B and D is about 3% of the Census Agglomeration total.

Fort St. John, some of the growth occurred as a result of expansion of the municipal boundaries to incorporate Fringe Area properties.

The area’s population grew by an annual average of 1.4% over the 10-year period, compared to the provincial average of 1.2%. The majority of this growth occurred in Fort St. John, but there was also growth in the Fringe Area.

Table 2. Population Growth and Distribution, Fort St. John Census Agglomeration (Fort St. John, Taylor, Area C), 2001 - 2011

	2001	2011	Change, 2001-2011	Percentage Growth, 2001-2011
Fort St. John	16,034	18,609	2,575	16.1%
Taylor	1,143	1,373	230	20.1%
Area C	5,830	6,398	568	9.7%
Total	23,007	26,380	3,373	14.7%

Source: Statistics Canada, Census

Scenario 1: Low (Status Quo) Growth

This scenario assumes the following:

- Site C, with a starting point of construction in 2015 and completion in 2022.
- No LNG development (although continuing growth in the natural gas sector)
- Slight growth in other sectors based on recent growth trends or existing sector-specific projections

Scenario 2: Moderate Growth

This scenario assumes the following:

- Site C as described above.
- One LNG plant constructed and operating in BC by 2034.
- Moderate growth in other sectors based on recent growth trends or existing sector-specific projections

Scenario 3: High Growth

This scenario assumes the following:

- Site C as described above.
- Three LNG plants constructed and operating in BC by 2034.
- Strong growth in other sectors based on recent growth trends or existing sector-specific projections

3. EMPLOYMENT PROJECTIONS

3.1. MODELING APPROACH

As outlined in section 1.1, this Economic Growth Impact Study is a key piece of analysis supporting the updated OCP for the North Peace Fringe Area because it provides a range of reasonable outcomes in population, housing and land demand.

Each of these key outcomes is generated through a comprehensive model of regional growth that takes account of the linkages between jobs, the workers who will fill those jobs (both residents and commuters), the different types of land required for different industries and the housing to accommodate workers and their families. New residents create demand for additional goods and services, creating a new cycle of employment creation and land demand, all of which is incorporated into the model.

The first step in the modeling process is the projection of employment change in the key traded sectors in the regional economy. These sectors, which form the “economic base,” are primarily traded outside the region (to other regions of BC, other parts of Canada, or internationally) and are consequently not limited by the size of the local market. As they expand and contract over time, various other suppliers and service providers who sell to the traded sectors will expand and contract as well. The workforce for both the traded and support sectors will also fluctuate, causing a ripple effect on all of the local population-serving businesses.

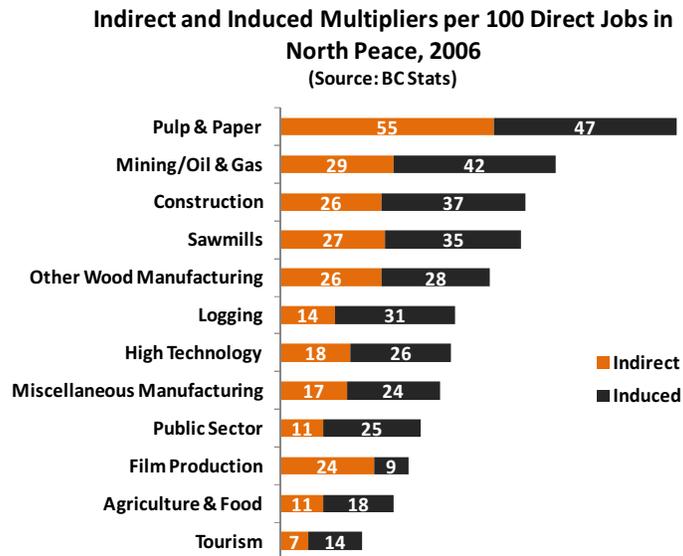
Traded sectors include the major resource-based industries of mining and oil & gas, forestry and agriculture, all processing and manufacturing related to these resource industries, construction, film production, tourism (because it is also selling to non-locals) and the public sector, which is included because it is funded in large part by federal and provincial tax revenue that is transferred from outside the local area (even though much of it originates in the local area).

This approach is consistent with the analysis of local economies undertaken by BC Stats³ that has produced local area employment multipliers for each of the main traded sectors. These multipliers provide an estimate, based on the number of traded sector jobs, of how many additional jobs in the local area are supported through the indirect effect (covering all the local suppliers and service providers to the traded sectors) and the induced effect (covering all of the local population-serving industries that are affected by changes in the size and income level of the workforce).

³ BC Stats (March 2009), *British Columbia Local Area Economic Dependencies: 2006*.

The local area multipliers for the Fort St. John area are for the entire North Peace, including Hudson’s Hope and all of Area B. Even though the latest multipliers are based on 2006 Census data, an analysis of multipliers over the 1991 to 2006 period shows they change relatively slowly over time.

On a per-job basis, pulp and paper has the greatest spinoff employment for the North Peace, with just over 100 additional jobs (indirect and induced) supported per 100 direct jobs. Sectors with a high indirect multiplier (the orange bars) typically have high local expenditures on supplies and services. Sectors with a high induced multiplier (the grey bars) typically pay higher wages and are more labour-intensive.



3.2. ESTABLISHING EMPLOYMENT BASELINE

Prior to developing employment projections for the next 20 years, the most recent detailed employment data from the 2011 National Household Survey were updated to the base year of 2014. This is based on a combination of factors, including provincial or regional estimates of industrial growth that are adapted for the study area, other indicators such as land consumption, employment growth trends in the years leading up to 2011, and other factors (each of which is explained in Table 3 below).

It is also necessary to understand what exactly is meant by the term “jobs.” Employment can be measured in a variety of ways, but for the purposes of this study the employment figures include:

1. Jobs with a fixed place of work in the study area. These are jobs where someone goes to work in the same place every day, even if they live outside the study area. It includes people who work at home.
2. Residents of the study area with no fixed place of work. These are local residents who work at a location that is regularly changing, such as construction workers, loggers and other forestry professionals, service providers for gas wells, truck drivers, etc.

There is no guarantee that these people are working primarily in the local area, but for expediency it is assumed that all employment of this type is related to local economic activity and is included in the analysis. The assumption is that even if the work site is constantly

changing, these jobs are associated with a workshop or truck garage or office that consumes local employment land.

Employment estimates for both 2011 (the last year with available Statistics Canada data) and for 2014 (base year for the study) are shown in Table 3. Data is shown for individual traded sectors as they are the drivers of the regional economy. In addition to Statistics Canada data for the Fort St. John Census Agglomeration (Fort St. John, Taylor and Area C), additional employment was estimated for the Fringe Area segments in Area B and Area D based on the number of housing units, industrial and commercial properties, and agricultural land area within the Fringe Area as a share of the total in those areas.

Table 3. 2011 Employment and 2014 Employment Estimates by Traded Sector for North Peace Fringe Study Area (Fringe Area plus Fort St. John and Taylor)

Traded Sector	2011 Jobs ⁴ (NHS)	2014 Jobs (estimate)	2011-2014 Growth	2011-2014 Growth Assumption
Logging	230	230	0%	Updated employment figures for 2014 for all forestry-related sectors are based on recent media and company reports.
Sawmills	120	145	21%	
Pulp & Paper	105	105	0%	
Other Wood Manufacturing	70	120	71%	
Mining/Oil & Gas	2,586	2,950	14%	Rapid increase in BC oil & gas employment from 2011 to 2014 (77% in total), but based on other indicators including absorption of industrial land and population growth, only 10% of BC growth assumed to be permanent new jobs in North Peace (the remainder are temporary satellite workers or head office jobs elsewhere).
Agriculture & Food	329	329	0%	No job growth from 2001 to 2011, assumed to continue.
Construction	1,898	2,095	10%	Calculated in proportion to total job growth across all traded sectors.
Miscellaneous Manufacturing	235	269	14%	Calculated in proportion to job growth in mining and oil & gas sector.
Film Production	30	39	30%	Continuation of growth from 2001 to 2011 (average 3 new jobs per year).

⁴ Jobs count has two components: (1) jobs with a fixed place of work in the study area (regardless of where the worker lives), and (2) residents of the study area with no fixed place of work. The second category is common in industries like construction, forestry, and many industrial service professions where the work site is continually changing.

Traded Sector	2011 Jobs ⁴ (NHS)	2014 Jobs (estimate)	2011-2014 Growth	2011-2014 Growth Assumption
Public Sector	2,699	2,925	8%	Same growth rate as total population.
Accommodations	210	222	6%	50% based on population growth, 50% based on traded sector growth.
"Other Tourism"	655	691	6%	Calculated in direct relation to the number of accommodations jobs, as per BC Stats formula. ⁵
Total Traded Sector Jobs	9,167	10,119	10%	
Indirect (business suppliers) and Induced (population-serving) Jobs	7,172	8,139	13%	
Total Employment in North Peace Fringe Area	16,340	18,258	12%	

Projections also prepared for these sectors, due to the Fringe Area role as a regional service centre:

Oil & Gas in "Rest of North Peace" ⁶	337	385	14%	Same growth assumptions as Fringe Area.
Mining/Oil & Gas in South Peace	1,105	737	-33%	Assume mining has declined by 1/3 with multiple mine closures.

Sources: Statistics Canada, National Household Survey (2011), consultant estimates

Based on a combination of recent evidence and assumptions about local growth, total employment in the study area is estimated to have increased by 12% from 2011 to 2014, adding nearly 2,000 jobs to the regional total. Key sources of growth are oil and gas, which had an estimated increase of more than 350 jobs, as well as the public sector (up more than 200 jobs) and construction (up nearly 200 jobs).

These estimates are consistent with the perception of rapid growth in the region in recent years.

3.3. EMPLOYMENT GROWTH SCENARIOS

As noted in the report introduction, three scenarios have been developed to show how future growth and change might occur in the Fort St. John area. While the construction of Site C is part of each scenario, the dam will be complete well before the 20-year time horizon of this study is reached and by that time its short-term impacts on construction and related employment, as well as population and housing, will have been absorbed into the impacts of other sectors that continue to grow throughout the 20-year period.

⁵ BC Stats suggests that the Fort St. John area has 3.12 additional tourism jobs for each job in accommodation services. These additional jobs are spread across food services, transportation, retail and other industries that rely on tourist spending for some portion of revenue.

⁶ "Rest of North Peace" refers to the portions of Area B outside the Fringe Area as well as Hudson's Hope.

The specific growth assumptions for each scenario are outlined in Table 4. Note that growth projections under each scenario assume a linear increase in the number of jobs per year. In reality, future growth will be faster and slower in some years, depending on economic conditions and many other factors.

Even though the projections show exact numbers of jobs, this is not meant to suggest that the projections are accurate to the level of a single job. All figures are unrounded only because they are inputs to further stages of the analysis. Only the final summary of results are rounded, thus avoiding any potential distortion in the calculations by repeatedly rounding the inputs.

Table 4. Employment Growth Scenarios

Traded Sector	2014 Jobs (estimate)	Low (Status Quo) Growth, 2014-2034	Moderate Growth, 2014-2034	High Growth, 2014-2034
Logging	230	0	0	0
Sawmills	145	0	0	0
Pulp & Paper	105	0	0	0
Other Wood Manufacturing	120	0	40 new jobs	80 new jobs
Mining/Oil & Gas	2,950	192 new jobs	587 new jobs	1,378 new jobs

Annual average cut for Canfor will be constant for next 20 years. Technological improvements reduce labour requirements over time, but baseline is for no change.

Assumes half the high growth rate for wood manufacturing.

Recent investments by Canfor in capital upgrades at its sawmill, divestment of pulp mill to a subsidiary, and installation of pellet plant suggest longer-term commitment and potential for modest expansion of activity, including by smaller firms. Growth assumed to be concentrated in “other wood manufacturing”, including pelletization.

Three LNG projects, plus assumed growth under low scenario. Based on 60% of Province’s projected job growth for 5 LNG projects. Assumes 15% of midstream (pipeline) jobs and 53% of downstream (production) jobs are in North Peace. Note that currently about 40% of BC oil & gas jobs are in North Peace given administrative and service functions located elsewhere, so this assumes a higher percentage of future job growth is captured by the North Peace. Of total growth in North Peace, 88% assumed to be in Fringe Study Area (12% in other North Peace areas, especially Area B to the north), based on current distribution of jobs.

No LNG. Assume 2014 employment stays constant for 5 years given current low prices and North American supply increases. After 5 years add 13 jobs per year (10% of the average increase from 2001 to 2011). Actual job growth will be more irregular as a significant bump from an additional gas processing plant is expected during this time frame.

One LNG project, plus assumed growth under low scenario. Specific job calculations as described under the high growth scenario, except assuming 20% of Province’s projected job growth for 5 LNG projects.

Traded Sector	2014 Jobs (estimate)	Low (Status Quo) Growth, 2014-2034	Moderate Growth, 2014-2034	High Growth, 2014-2034
Agriculture & Food	329	0 Continued no growth.	23 new jobs	46 new jobs
Construction	2,095	500 new jobs	746 new jobs	1,198 new jobs
Miscellaneous Manufacturing	269	18 new jobs	53 new jobs	125 new jobs
Film Production	39	20 new jobs	40 new jobs	60 new jobs
Public Sector	2,925	1,367 new jobs	1,689 new jobs	2,283 new jobs
Accommodations	222	77 new jobs	103 new jobs	149 new jobs
...“Other Tourism”	691	241 new jobs	320 new jobs	466 new jobs
Total Traded Sector Jobs	10,119	2,416 new jobs	3,602 new jobs	5,785 new jobs
Indirect (business suppliers) and Induced (population-serving) Jobs	8,139	4,354 new jobs	5,234 new jobs	6,838 new jobs
Total Employment in North Peace Fringe Area	18,258	6,801 new jobs	8,836 new jobs	12,625 new jobs
Oil & Gas in “Rest of North Peace”	385	11 new jobs	62 new jobs	165 new jobs

Traded Sector	2014 Jobs (estimate)	Low (Status Quo) Growth, 2014-2034	Moderate Growth, 2014-2034	High Growth, 2014-2034
		Long-term demand for metallurgical coal and other minerals should recover. This projection assumes recent job losses are reversed and total employment is <u>10% higher</u> in 2034 than in 2014.	Assumes current mine closures are reversed and one or more of the many mine and wind power proposals in the region are approved. Total employment is <u>double</u> in 2034 its level in 2014.	Assumes current mine closures are reversed and several of the many mine and wind power proposals in the region are approved. Total employment is <u>three times higher</u> in 2034 than in 2014.
Mining/Oil & Gas in South Peace	737	479 new jobs	1,473 new jobs	2,578 new jobs

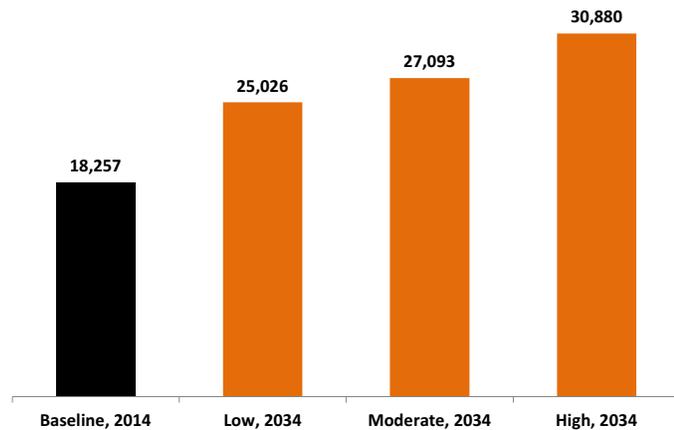
In summary, projected employment in the study area in 2034 is expected to range from 25,000 jobs under the Low scenario to 30,900 jobs under the High scenario. All three scenarios represent strong growth for the region, driven primarily by continued strength in the natural gas sector and related industries.

Regarding the geographic distribution of employment within the study area, an exact calculation is both difficult and not that meaningful. A significant portion of regional jobs have no fixed place of work, meaning they regularly move around to different job sites (including transportation and industrial servicing jobs related to gas wells scattered through the North Peace but outside the study area).

Nearly all major industrial employment will continue to be concentrated either within Fort St. John’s municipal boundaries or in the immediately surrounding rural area (and may eventually become part of the city through a boundary extension). While some major industry will remain in Taylor, there is a concentration in and around Fort St. John due primarily to rail and highway access.

Most region-serving office and retail activity will continue to be based in Fort St. John, although there is potential for smaller-scale retail and service employment at a neighbourhood level in the rural areas, particularly in population clusters like Charlie Lake. Agricultural employment will remain spread across rural farming areas and there is some potential for additional food-related processing and other activities that are consistent with Agricultural Land Reserve restrictions. As discussed later in the report, farming activity is at some risk due to the encroachment of residential development and the seemingly high demand for large-parcel rural residences, as well as the removal of land for industrial use.

**Projected Employment by Scenario,
North Peace Fringe Study Area (inc. Fort St. John & Taylor)**



One result of the employment projections that may appear counter-intuitive is the differing rates of growth of traded sector jobs compared to indirect and induced jobs. As of the baseline year of 2014, there are more traded sector jobs (10,100) than indirect/induced jobs (8,100).

Over the 20-year forecast period, the number of indirect and induced jobs increases even more than the number of traded sector jobs. This is due primarily to the aging of the population and the increase in the number of residents who are not in the labour force. Through their pension and investment income, these residents still support local services and retail shops, creating induced employment without any corresponding change to traded sector employment.

4. POPULATION PROJECTIONS

Population projections are based on (1) a cohort-survival model, which predicts the number of births and deaths each year based on the age and sex composition of the population, and (2) assumptions about net migration, meaning the number of people of each age and sex moving into and out of the area.

Projections of births and deaths are straightforward based on published fertility and mortality tables for BC. As the population is projected to change and age over time under both scenarios, the number of births and deaths is adjusted accordingly.

Net migration is ultimately the main driver of population change. The baseline for projecting future migration is actual migration patterns into and out of the Fort St. John area between 2006 and 2011 (for both age groups and sex). Future migration patterns are adjusted if employment growth outpaces the resident supply of workers. Each year the projected number of jobs is compared to the resident labour supply, as calculated using age-specific labour force participation rates and applying them to the age and sex composition of the population. Age-specific participation rates show, for example, that 95% of men from age 25 to 29 will be in the labour force, but only 21% of women between ages 65 and 74.

Assuming a constant 6% unemployment rate, if the number of available workers is insufficient to fill the projected number of jobs, an increase in net in-migration is triggered (this can be achieved by more people moving to the Fort St. John area, by fewer people moving away, or some combination of the two). Restricting the in-migration to people under the age of 60 (essentially adults in their prime working years along with some children and non-working spouses) shows that each additional worker creates a population increase of about 1.6.

This process of triggering higher net in-migration is how the “high-growth scenario” creates a higher population projection. Note that these higher growth rates are possible only if the region is able to successfully attract the workers that it needs, which will be increasingly challenging in the future as the general population continues to age and demand for skilled labour intensifies in many communities. The components of population growth under each scenario are summarized in Table 5.

Table 5. Components of Population Growth under Alternative Growth Scenarios

Component of Population Change	Low (Status Quo) Growth	Moderate Growth	High Growth
Population Estimate, 2014	30,735	30,735	30,735
+ Total Births, 2015-2034	12,376	12,822	13,644
- Total Deaths, 2015-2034	3,823	3,870	3,956
+ Total Net Migration, 2015-2034	4,309	7,255	12,666
Population Projection, 2034	43,595	46,940	53,087
...Average Growth Rate	1.8%`	2.1%`	2.8%

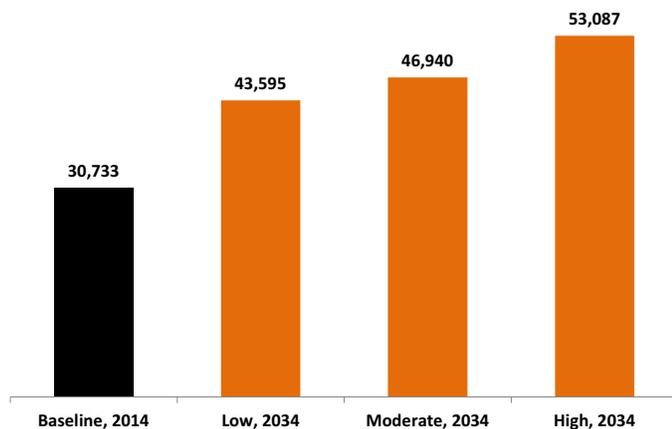
Total population in the study area is projected to increase from the 2014 estimate of 30,700 to 43,600 under the Low scenario and 53,100 under the High scenario. Each scenario represents strong population growth, ranging from 1.8% per year under the Low scenario to 2.8% per year under the High scenario.

As mentioned in the previous section on Employment Projections, the study area is expected to see a significant increase in the number of residents with non-employment income, most of whom are retirees.

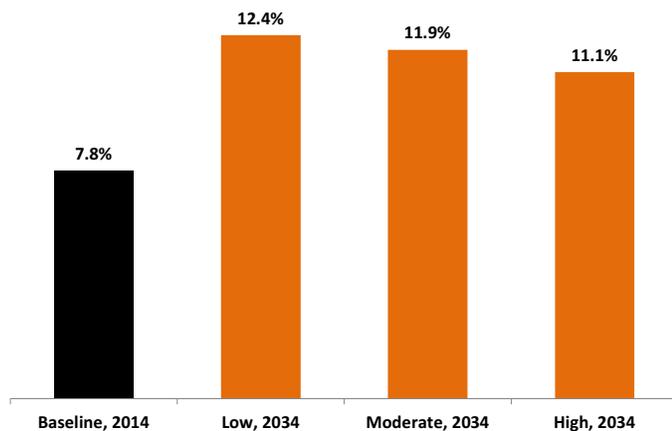
The Fort St. John area currently has the youngest population in British Columbia, with only 8% of residents in the 65+ age range compared to 17% province-wide.⁷ By 2034, the study area is projected to have 11-12% of residents in the 65+ age range, compared to 24% province-wide.

The higher growth scenarios have a smaller proportion of senior citizens because their additional population is driven by younger workers attracted to the area.

Projected Housing Units by Scenario
North Peace Fringe Study Area (inc. Fort St. John & Taylor)



Projected Population Share in 65+ Age Range
North Peace Fringe Study Area (inc. Fort St. John & Taylor)



⁷ BC Stats estimates show the North Peace Local Health Area with a median age of 32 in 2014, easily the lowest of 91 Local Health Areas in BC. The provincial median age is 42.

POPULATION IN THE FRINGE AREA

Assuming a future population split between the rural Fringe Area and the municipalities that matches the current split yields the estimated Fringe Area populations under each scenario shown in Table 6.

The Fringe Area population is projected to increase from the baseline of 7,700 people in 2014 to the range of 11,000 under the Low scenario to 14,300 under the High scenario.

Table 6. North Peace Fringe Area Population Projections under Alternative Growth Scenarios

Component of Population Change	Population Estimate, 2014	Low (Status Quo) Scenario	Moderate Scenario	High Scenario
Total Study Area	30,735	43,595	46,940	53,087
Fringe Area Population Projection, 2034	7,743	10,983	11,825	14,287

5. HOUSING PROJECTIONS

Housing demand is calculated as a function of the age and sex composition of the population. Statistics Canada produces household maintainer rates that show the percentage of people in a given age range and gender that are “household maintainers,” or the primary breadwinners for the household.

The housing projections assume that future demand for different housing types is the same as the current distribution of housing types, adjusted for a larger and somewhat older population.

The household maintainer rates in Table 7 show that 48% of residents over age 15 are a primary household maintainer – 28% are the maintainer for a single-family home, 6% for a mobile dwelling, and 14% for a multi-family unit (apartment, rowhouse, duplex, etc.). Household maintainer rates increase as the population ages and the preferred mix of units evolves. Young adults under age 25 who maintain households are twice as likely to have a multi-family unit compared to a single-family home, but from age 35 to 74 single-family homes are the dominant form. The rate of multi-family residence rises significantly again after age 75.

Table 7. Household Maintainer Rates in Fort St. John Census Agglomeration, 2011 (adjusted for net Census under-count)

Age Range	Total (All Housing Types)	Single-family	Movable Dwelling	Multi-Family
15 to 24 years	19%	6%	1%	12%
25 to 34 years	50%	22%	7%	20%
35 to 44 years	56%	40%	6%	10%
45 to 54 years	53%	37%	6%	9%
55 to 64 years	60%	38%	8%	14%
65 to 74 years	62%	38%	10%	12%
75 years and over	62%	33%	3%	20%
Total Age 15+	48%	28%	6%	14%

Applying these maintainer rates to the population projections yields projected housing demand by type, as shown in Table 8.

Based on 2011 National Household Survey data, an extra 7.5% is added to the number of units to account for homes without “usual residents,” including seasonal homes, student housing and short-term rentals.

Table 8. Projected Demand for Additional Housing Units

Component of Population Change	Estimated Housing Unit Count, 2014	Low (Status Quo) Growth, 2014-2034 (new units)	Moderate Growth, 2014-2034 (new units)	High Growth, 2014-2034 (new units)
Single-detached house	7,541	3,726	4,546	6,053
Movable dwelling	1,445	669	827	1,119
Multi-family	3,573	1,570	1,950	2,648
Total Housing Unit Demand	12,558	5,965	7,323	9,820
...Single-detached share of total	60%	62%	62%	62%

As of the baseline year of 2014, 60% of all dwelling units in the study area were single-family homes, 12% were movable dwellings and 28% were multi-family units. The housing type projections in the above table suggest that single-family homes will become slightly MORE common and multi-family homes LESS common. This is due to changing population demographics as a larger share of the population ages into the 35+ age range when single-family homes are by far the preferred option, while the age 75+ population is not large enough to create demand for significantly more multi-family units.

The current distribution of housing types is based on the interplay between housing demand and housing supply, including land use regulations that affect the type of housing that can be built in certain areas. It is possible that the observed mix of units does not accurately reflect market demand and would be different if land use regulations were more permissive, particularly with respect to the development of multi-family housing. An alternative view of how housing demand might evolve in the future is provided in Table 9, which shows the 2011 distribution of housing types in the Fort St. John CA compared to the housing mix in the Municipality of Wood Buffalo in northern Alberta. Wood Buffalo includes the community of Fort McMurray and is the centre of oil sands activity.

Table 9. Dwelling Units by Structure Type, Fort St. John Census Agglomeration and Special Municipality of Wood Buffalo, 2011

Structure Type	Fort St. John CA	Wood Buffalo	Components of Fort St. John CA		
			Fort St. John	Taylor	Area C
Single-family	59%	48%	55%	32%	78%
Movable Dwelling	12%	12%	6%	57%	21%
Multi-family	29%	39%	39%	11%	2%
Total Age 15+	100%	100%	100%	100%	100%

*Multi-family includes apartments (almost all of which are four storeys or less), townhouses, rowhouses, duplexes, etc.

The housing mix in Wood Buffalo features a much higher percentage of multi-family units and smaller percentage of single-family homes. Looking at the individual communities within the study area, Fort St. John already has a very similar mix to Wood Buffalo, but both Taylor and especially the unincorporated

areas have far less multi-family development. It is possible that if the updated Fringe Area OCP is more accommodating to multi-family development that future housing will have a mix closer to the Wood Buffalo example, but the demand for multi-family units is likely to remain concentrated in Fort St. John, closer to health services, transit and other amenities for an older population.

HOUSING IN THE FRINGE AREA

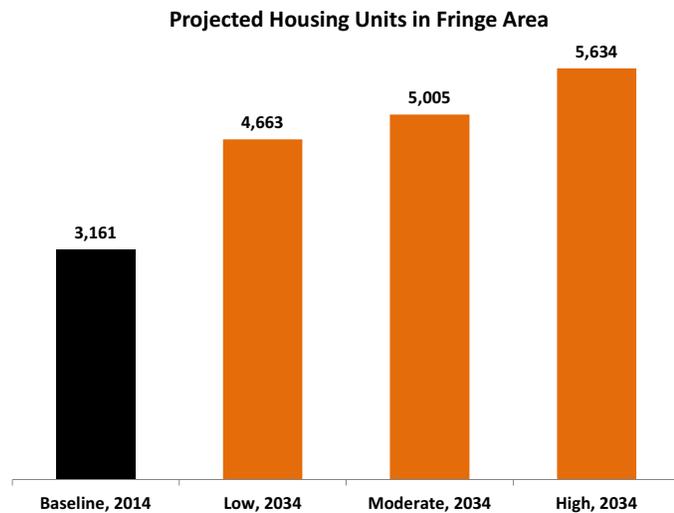
Housing demand in the Fringe Area is expected to remain focused on single-family homes, as shown in Table 10. An estimated 79% of housing units in the Fringe Area are single-family homes and there are only a handful of multi-family units.

Table 10. Projected Demand for Additional Housing Units in North Peace Fringe Area

Component of Population Change	Estimated Housing Unit Count, 2014	Low (Status Quo) Growth, 2014-2034 (new units)	Moderate Growth, 2014-2034 (new units)	High Growth, 2014-2034 (new units)
Single-detached house	2,494	1,185	1,454	1,950
Movable dwelling	660	313	385	516
Multi-family	8	4	5	6
Total Housing Unit Demand	3,161	1,502	1,844	2,472

The total number of housing units in the Fringe Area is projected to be in the range of 4,700 units to 5,600 units, which is a significant increase from the baseline estimate of 3,200 units.

Nearly all of these units are expected to remain as single-family homes or other ground-oriented units (including mobile homes).



6. LAND DEMAND PROJECTIONS

6.1. NON-RESIDENTIAL LAND DEMAND

Land demand for commercial and industrial purposes is calculated based on the employment projections discussed in section 3, combined with a comprehensive analysis of the current relationship between employment and land use in the Fort St. John area.

First, employment for more than 300 industries (i.e., a much greater level of detail than the broad industry sectors shown in section 3) was assigned to one of about 12 possible land uses (including industrial, general retail, office, service commercial, institutional, and various specialized land uses such as farming, transportation infrastructure, mining/oil & gas and recreation). After removing home-based jobs, employment by land use can be estimated, as in the 2nd column of Table 11 below.

Each property in the study area was also allocated to a land use type based on the Actual Use Code assigned by BC Assessment, as shown in the 3rd column below. Note that certain land uses are not shown as they are more fixed in nature (e.g., transportation infrastructure, which is mostly the airport, and recreation & heritage, which includes parks, playing fields, sports facilities and heritage sites such as museums).

Table 11. Estimated Employment and Total Area by Land Use Type, 2014

Land Use	2014 Jobs (estimate)	Total Land in Fringe Study Area (acres)	Estimated Jobs per Acre
Accommodations	222	32	7.0
General retail/service	3,661	433	8.5
Industrial	2,939	4,243	0.7
Institutional	1,773	198	9.0
Office-based services	4,787	133	36.0
Service commercial	4,261	731	5.8

Once the relationship between jobs and land is established, the employment projections from section 3.3 are used to generate land demand projections, as shown in Table 12.

Table 12. Projected Land Demand by Land Use Type

Land Use	Estimated 2014 Land Use (acres)	Low (Status Quo) Growth, 2014-2034 (additional acres of demand)	Moderate Growth, 2014-2034 (additional acres of demand)	High Growth, 2014-2034 (additional acres of demand)
Accommodations	32	11	15	21
General retail/service	433	234	280	365
Industrial	4,243	296	839	1,863
Institutional	198	93	115	155
Office-based services	133	58	73	100
Service commercial	731	240	326	482
Total	5,770	932 acres	1,648 acres	2,986 acres

The land use categories used in this report do not always match the categories used by the Peace River RD or the local municipalities in their OCPs (which also do not generally match the land use categories provided by the BC Assessment Authority). For example, the PRRD’s Light/Service Industrial (LSI) designation is very broad and includes many types of uses (including office and retail) that are often labeled “commercial” in other jurisdictions.

According to BC Assessment, the combined total of industrial and commercial vacant land is about 1,750 acres in the study area (including the municipalities). This suggests that in the aggregate, there is sufficient industrial and commercial land to meet future demand under the Low scenario, and possibly under the Moderate Growth scenario.

However, there are several reasons to expect more severe land shortages than suggested by the aggregate figures. First, many industrial uses have strict locational criteria, such as access to rail, which can only be satisfied by a limited number of parcels. Shifting the demand to any vacant parcel is not a realistic solution in many cases.

Second, informal discussion with local planners in both Fort St. John and Taylor suggests that BC Assessment is overstating the volume of vacant employment-supporting land, at least according to current zoning and OCP designations. Analysis by the District of Taylor suggests there is about 7 acres of vacant industrial and commercial land in the community, while BC Assessment identifies more than 200 acres. Even if BC Assessment has correctly identified the long-term use of these areas, if they are currently designated or zoned for a different use (or are within the Agricultural Land Reserve), the land may not be readily accessible to industrial users when they need it over the next 10-20 years.

NON-RESIDENTIAL LAND IN THE FRINGE AREA

Table 13. Vacant “Employment Lands” in Fringe Area by OCP Designation, 2014

Current Fringe Area OCP Designations (employment-related only)	Vacant Land, 2014 (acres)
CIVIC - Civic, Assembly, Institution	8
HC - Highway Commercial	5
HI – Heavy Industrial	0
LSI – Light / Service Industrial	148
LSI (Serviced)	398
Total for Primarily Employment-Related Uses	559
Others:	
AGRICULTURE (Res-LSI)	235
AGRICULTURE	20,170

Source: BC Assessment, 2015 assessment roll (showing 2014 data)

According to current Fringe Area OCP designations, there was about 550 acres of vacant employment-supporting land in the Fringe Area in 2014. A further 235 acres are designated Agriculture (Res-LSI), meaning they are within the ALR but have been designated for future industrial use and are intended to be removed from the ALR when certain industrial use thresholds have been reached.

The majority of the designated employment lands are located immediately surrounding Fort St. John, primarily to the west and southwest but also to the east around the airport.

This is generally consistent with expected future land demand as most regional-scale activities will continue to cluster in Fort St. John or the immediately surrounding rural area. Major industrial activities will similarly expand near their current concentrations in and around Fort St. John (and to a lesser extent in industrial areas in Taylor).

Any new development occurring just outside Fort St. John, whether attracted by rail or highway access or proximity to city services and amenities, may eventually be absorbed into Fort St. John through a boundary extension.

There will be some smaller-scale industrial activity on agricultural land, and some service commercial-type activity such as workshops and truck storage scattered through residential and agricultural areas. Some smaller-scale retail, office and service commercial development will occur in the Fringe Area population clusters like Charlie Lake.

With employment land demand projected to increase over the next 20 years by 900 acres (under the Low scenario) to nearly 3,000 acres under the High scenario, and limited supply within Fort St. John, the

Fringe Area is likely to absorb the majority of this growth. The current supply of 550 acres, or 800+ acres if the Agriculture (Res-LSI) lands are included, is unlikely to be sufficient for either the Moderate or High scenarios. The Moderate scenario is predicated on the establishment of one LNG plant on the West Coast, which appears reasonably likely given the provisional go-ahead by Pacific Northwest LNG.

6.2. RESIDENTIAL LAND DEMAND

The initial projection of residential land demand is based on the assumption that current development densities remain unchanged.

Table 14. Projected Demand for Residential Land at Current Densities

	Estimated Housing Unit Count, 2014	Low (Status Quo) Growth, 2014-2034	Moderate Growth, 2014-2034	High Growth, 2014-2034
		5,965	7,323	9,820
Total Housing Unit Demand	12,558	additional units	additional units	additional units
Implied Demand for Residential Land at Current Densities	40,790 acres	19,375 additional acres	23,786 additional acres	31,897 additional acres

Based on the 2nd column of the above table, each housing unit in the study area is currently occupying an average of 3.2 acres. This figure includes a vast range of sizes. Some individual lots are several hundred acres in size while apartment developments might cluster dozens of units into a single acre. But using this average as a starting point, demand will be created for an additional 19,400 to 31,900 acres, depending on the scenario.

Looking at residential land supply, BC Assessment data shows the amount of vacant residential land in Fort St. John and Taylor is about 1,300 acres (not all of which is designated residential by the municipalities). There is a further 27,600 acres in the Fringe Area. This far exceeds the amount of vacant land designated for residential use under the current Fringe Area OCP, which is about 2,900 acres. The discrepancy occurs because BC Assessment is including significant volumes of agricultural land that may not be actively farmed at the present time.

Projected demand for residential land, if it were to continue at current densities, would far exceed the amount of designated residential land in the study area and would absorb most or all of the residential land identified by BC Assessment. The vacant residential land according to BC Assessment is scattered throughout the study area, including throughout the Agricultural Land Reserve, and development in such a pattern would not be at all consistent with either the current or envisioned Fringe Area OCP.

Even if such a development pattern were allowed, it is quite unrealistic as it suggests that the majority of future residential growth would occur in the rural fringe, which is not consistent with past development trends nor likely future demand by many homeowners to be in or very near Fort St. John.

RESIDENTIAL LAND IN THE FRINGE AREA

The current distribution of residential lot sizes in the Fringe Area is shown in Table 15. About 30% of lots are less than one acre in size, but 35% of lots are at least 5 acres. Restrictions on land supply will increasingly limit the number of larger parcels that are developed over the next 20 years and will necessitate a shift toward smaller lot sizes.

Table 15. Occupied Residential Lots⁸ in North Peace Fringe Area, by Lot Size, 2014

Lot Size Range (acres)	Number of Lots	Share of Total
0-1	789	29.7%
1-2	331	12.5%
2-3	116	4.4%
3-4	50	1.9%
4-5	452	17.0%
5-6	221	8.3%
6-7	62	2.3%
7-8	51	1.9%
8-9	40	1.5%
9-10	82	3.1%
10+ acres	460	17.3%
Total	2,654	100.0%

Source: BC Assessment, 2015 assessment roll (showing 2014 data)

Looking only at the Fringe Area, the average lot size is 15.5 acres, although this is skewed by several very large parcels (there are 174 units of 100+ acres). The median lot size is just over 4 acres, which is the minimum size under the current Medium Density Rural Residential (MDR) zone in the Fringe Area OCP.

Public feedback through the initial round of community consultation for the updated OCP suggests there continues to be strong demand for residential lots in the MDR range (4-10 acres), as well as Low Density Rural (LDR), which has a minimum size of 10 acres.

Residential absorption trends in the Fringe Area from 2011 to 2014 suggest that the greatest increase in residential occupancy has occurred among lots in the 4-5 acre range. This is the minimum lot size for

⁸ Table 15 shows residential lots, some of which contain more than one dwelling unit (such as under multi-family developments or units with some type of secondary unit). It does not include dwellings on properties with a primary use other than residential, such as the 250+ housing units located on agricultural land. These factors explain most of the difference between the number of lots and the number of housing units in the Fringe Area shown in Table 10, although there are also slight differences due to the differing information sources (assessment roll versus National Household Survey).

parcels not connected to a community sewage system under the MDR (Medium Density Residential) designation, and also the minimum lot size under the LDR (Low Density Residential) zone.

Table 16. Change in Occupied Residential Lots in North Peace Fringe Area, by Lot Size, 2011-2014

Lot Size Range (acres)*	2011 Lots	2014 Lots	2011-2014 Change
0-1	787	789	2
4-5	421	452	31
6-7	59	62	3
7-8	49	51	2
9-10	71	82	11
11-12	20	23	3
12-13	21	23	2
13-14	17	15	-2
14-15	8	12	4
20-21	8	11	3
29-30	6	4	-2
104-105	3	1	-2
149-150	0	2	2
156-157	5	3	-2
158-159	14	17	3
160-161	37	42	5
161-162	7	11	4
Total	2,580	2,654	74

*Table shows only the size range with a change of at least three lots from 2011 to 2014
 Source: BC Assessment, 2012 and 2015 assessment rolls (showing 2011 and 2014 data)

There has also been strong growth in the number of lots in the 10-acre range, as well as a cluster around 160 acres (equal to one quarter section). The 160-acre increase is likely due to a switch in classification from properties that were previously identified as agricultural but are now taxed as residential due to a decline in farming activity.

Table 17. Projected Demand for Additional Residential Land in North Peace Fringe Area

Component of Population Change	Projected Demand for Additional Residential Land			
	Baseline, 2014	Low (Status Quo) Growth, 2014-2034	Moderate Growth, 2014-2034	High Growth, 2014-2034
Total Housing Unit Demand	3,161	1,502	1,844	2,472
Additional Residential Land Demand:				
....at current average of 12 acres/unit		18,024 acres	22,128 acres	29,664 acres
....at 4 acres/unit		6,008 acres	7,376 acres	9,888 acres

As noted earlier and shown in Table 18 below, the current amount of vacant and designated residential land in the Fringe Area is about 2,900 acres. Assuming an average lot size of 4 acres going forward, the

available land would be absorbed in less than 10 years under the Low scenario, and even faster under the Moderate and High scenarios.

Table 18. Vacant Residential Land in Fringe Area by OCP Designation, 2014

Current Fringe Area OCP Designations (residential only)	Vacant Land, 2014 (acres)
CD – Comprehensive Development	20
HDR – High Density Rural Residential	108
LDR – Low Density Rural Residential	995
MDR – Medium Density Rural Residential	1,741
SC – Settlement Centre	26
Total for Residential Uses	2,890

Source: BC Assessment, 2015 assessment roll (showing 2014 data)

7. CONCLUSION

The detailed calculations in this report have focused on multiple growth scenarios for employment, population, and land demand. While the North Peace Fringe Area is unlikely to become a major location for commercial or industrial activity, except in the area immediately surrounding Fort St. John that may ultimately be absorbed by a municipal boundary extension, the Fringe Area is likely to have continued strong demand for residential development.

Past residential growth has occurred with low densities, the most common of which in recent years is in the 4-5 acre range. This is the minimum size for lots not connected to a community sewage system, so it is possible there is already unrealized demand for smaller lots if servicing was more widely available. There are currently about 300 lots available in the Charlie Lake sewer system area.

In any event, continued growth with an average lot size of 4 acres would exhaust the Fringe Area's 2,900 vacant acres of designated residential land within a decade (under prevailing economic conditions). Without a move toward smaller average lot sizes, residential encroachment into agricultural areas will accelerate beyond what has already been occurring in the region.

Projected Housing Growth in Fringe Area, 2014-2034	
Low (Status Quo) Growth	1,500 units
Moderate Growth	1,850 units
High Growth	2,475 units

Future demand for industrial land will be significantly higher for each additional LNG plant that is constructed on the West Coast, likely requiring the designation of new industrial lands in the Fringe Area near Fort St. John. Vacant land that is currently designated for industrial or commercial purposes is unlikely to meet demand over the next 20 years even without LNG development. Assuming at least one LNG plant proceeds, it may be significantly less than required.

In summary, the updated North Peace Fringe Area OCP needs to help encourage more efficient use of the region's limited land supply for residential, commercial and industrial purposes.

APPENDIX: INFORMATION SOURCES

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