



Listen to **Why I Love My Job**



**Featured Career**  
Elementary school and kindergarten teachers



See Profile

Hear why these Yukon workers love their jobs.



Police officers (except commissioned)

**Yukon WorkFutures** is an in-depth guide to career opportunities in the Yukon. The 100 career profiles help you understand what the jobs are like, whether there are opportunities in rural Yukon, and other considerations that will help you decide the right path for you.



**Find your Future in the Yukon**

# Yukon WorkFutures

## Methodology



# Contents

1	ECONOMIC REGION BASED MODEL FRAMEWORK .....	1
<b>1.1</b>	<b>METRO ECONOMICS REGIONAL MODELLING SYSTEM</b>	<b>1</b>
1.1.1	ECONOMIC ACTIVITIES AT THE ECONOMIC REGION LEVEL	1
1.1.2	METRO ECONOMICS PROJECTION FRAMEWORK	2
2	TOP 100 OCCUPATIONS.....	3
3	KEY INDICATORS .....	4
<b>3.1</b>	<b>METHODOLOGY</b>	<b>4</b>
3.1.1	DEMAND PROSPECTS	4
3.1.2	DEMAND DUE TO ECONOMIC GROWTH	4
3.1.3	DEMAND DUE TO RETIREMENTS	4
3.1.4	LOW, MEDIAN, AND HIGH HOURLY WAGE RATE	4
3.1.5	MINIMUM EDUCATION	5
3.1.6	SEASONALITY	5
4	LIMITATIONS.....	6



# 1 Economic Region Based Model Framework

## 1.1 metro economics Regional Modelling System

Expected occupation demand for Yukon Workfutures was prepared using an age cohort model that ages people in place by one year each year, projects births by applying assumed rates of fertility by age of mother, projects deaths by applying assumed mortality rates by age and gender, and assumes an annual profile for net migration by age and gender that reflects past trends. In this framework the key driver of the economic region's population growth is net migration.

In addition to this straight forward and time tested framework, is a link between net migration and the economic growth potential of the economic region. Projecting net migration into the future at a rate that reflects the past is unrealistic given the major changes in industrial production and consumer spending trends underway across the country and around the world.

*The metro economics population projection framework amends the above framework by turning net migration from an assumed variable into one that is determined by the economic region's economic prospects and its availability of workers.*

### 1.1.1 Economic Activities at the Economic Region Level

Economic activities occurring in an economic region can be divided into export and community-based.

- Export-based industries produce goods that are shipped to markets outside the economic region (agriculture, forestry, fishing and manufacturing), or they provide services to visitors and seasonal residents of the economic region (hotels, restaurants, recreation attractors, specialized hospitals, colleges and universities) or to businesses outside the economic region (specialized financial, professional, scientific and technical services).
- Community-based industries produce services that meet the needs primarily of the local residents in the economic region (retail, medical, education, personal services, etc.).

Growth in an economic region will typically occur only if its export base is expanding. Expansion of the export-based industries drives the growth of the economic region at large. Without growth in an economic region's export-based industries growth in its economic community-based activities is unlikely to occur.

The export-based industries in an area as a group are often referred to as the economic base of the area. The terms export-based industries and economic-base industries can be used interchangeably as they refer to the same concept.



### 1.1.2 metro economics Projection Framework

The metro economics projection framework explicitly recognizes the distinction between these two types of economic activities and establishes a link between total employment – the sum of both economic-based and community-based employment – and the number of people available for work in an economic region.

If total employment growth exceeds the number of workers available (as determined by the demographic model) net migration increases to clear the labour market. In sharp contrast, if employment growth falls short of the number of workers available net migration turns negative in the metro economics framework and workers leave to find jobs where they are more plentiful, thus again clearing the local labour market.

Projections for an individual economic region's prospects are prepared using this detailed economic and demographic framework following on a detailed evaluation of the economic region's economic base and on an assessment of the prospects for growth of the region's economic drivers.

Metro economics prepares and routinely updates detailed economic projections at the national, provincial and metropolitan area level that can be readily used to assess the prospects for growth in individual communities throughout the country.

Demographic projections of an economic region draws on information regarding the population by age and gender in a base year and altering it in the future using assumed fertility and mortality rates (see right side of Figure 1 below).

The metro economics framework then drives net migration by linking it to the economic region's labour market requirements. This need is driven by the potential for the economic region to grow its economic base which, in turn, is determined by the potential for growth in its exportable goods and services (the left side of Figure 1 below).

*In other words the demand side and supply side of a region's growth are determined simultaneously in the metro economics system with net in-migration serving as the variable ensuring the labour market remains in equilibrium in all future years.*

The above framework underpins the Canada-wide base case projections metro economics updates on a regular basis and is used when required to develop customized projections based on alternative assumptions (as it was here with respect to Yukon).

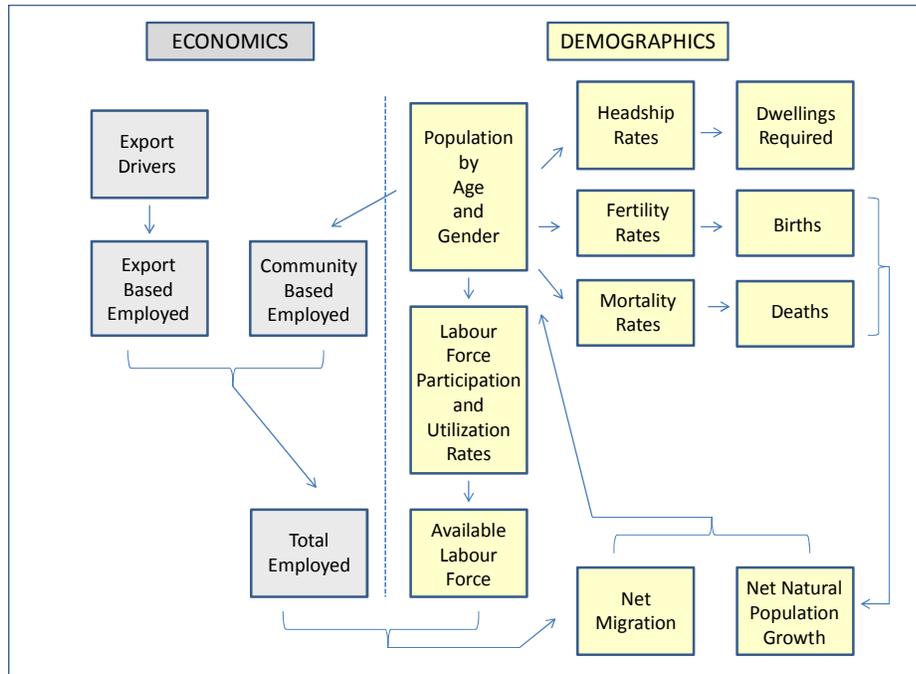
In the Yukon projection we assumed mining production would double over the next several years and we measured the labour market and population implications of that assumption. Other assumptions about Yukon's future mining production could have been made and tested. The employment by industry projections for Yukon were translated into real GDP or real output projections by industry by:

1. Calculating the latest known output per worker by industry levels for Yukon (2014)
2. Projecting them forward based on our national projections of productivity growth by industry,



3. Multiplying the projected output per worker by industry by the projected number employed by industry to get output by industry.

FIGURE 1: SCHEMATIC DIAGRAM OF THE METRO ECONOMICS PROJECTION FRAMEWORK



Source: metro economics, 2016

## 2 Top 100 Occupations

Data from the National Household Survey (NHS) for 2011 regarding employment by industry by detailed occupation, the projections for employment by industry can be translated into projections for employment by detailed occupation. The measures of employment by occupation indicate the extent to which recruitment may be necessary due to growth in the economy.

The occupation shares by industry in 2011 are held constant to 2021. While the shares are likely to change somewhat due to technological, managerial and educational factors, a constant relationship nevertheless provides a reasonable assessment of individual occupations likely to be in greatest demand throughout the projected period.

The projections indicate the extent to which the number of people required for each occupation will increase or decrease between 2016 and 2021 due to economic growth and changes in the workforce. Based on data from the National Household Survey (job holders by occupation by age) estimates of the number of likely retirees between 2016 and 2021 for each occupation are derived. Anyone aged 60 or over in 2016 working in a given occupation that year represents a likely retiree by 2021 as each would be 65 years of age or older by 2021.



## 3 Key Indicators

The Yukon WorkFutures website displays key labour market indicators to assist users with a better understanding of the types of occupations available and in-demand in Yukon. These indicators allow the user to identify the current and projected demand, as well as the future prospects for specific occupations in Yukon.

For 2016 the indicators are:

- Minimum Education Required
- Demand Prospects (Growth + Retirements)
- Seasonality
- Low Hourly Wage Rate
- Median Hourly Wage Rate
- High Hourly Wage Rate

### 3.1 Methodology

#### 3.1.1 Demand Prospects

In order to populate this indicator, the metro economics Projection Framework as described in this document was employed. The Expected Demand indicator represents economic and retirement demand combined. In order to populate these indicators, the metro economics Projection Framework as described in this document was employed. For all of the Top 100 Occupations the following depicts the assigned label:

- VERY HIGH - 50 or higher;
- HIGH - 20 to 49; and
- ELEVATED - 19 or below.

#### 3.1.2 Demand due to Economic Growth

Demand Prospects for each occupation reflect the recruitment pressures faced by Yukon driven by economic growth. Demand due to economic growth is based on the absolute change projected in the number of people required in each occupation between 2016 and 2021 due to growth in the economy. The list of 100 was then sorted from largest to smallest in terms of projected change.

#### 3.1.3 Demand due to Retirements

Retirement Prospects for each occupation reflect the recruitment pressures faced by Yukon driven by potential retirements. Demand due to retirements was based on the projected absolute change the number of people required to fill potential vacancies due to retirements between 2016 and 2021. The list of 100 was then sorted from largest to smallest in terms of projected change.

#### 3.1.4 Low, Median, and High Hourly Wage Rate

Hourly wage figures by occupation were drawn from the Government of Canada Job Bank.



Every effort was made to ensure that the hourly wage reflected hourly wages in Yukon Territory. Failing this, the national value was used. It should be noted that the system only recognizes the city of Whitehorse as an acceptable search parameter for Yukon Territory.

According to the [Wage Methodology](#) provided by the Job Bank, wage data is predominantly sourced from the Labour Force Survey (LFS) by Statistics Canada. Where there are gaps in data availability or issues associated with suppression due to confidentiality or quality, other sources are used. These include provincial wage surveys, the Census, collective agreements, Employment Insurance and other sources.

*The median wage reflects the true middle ground of all wages. Thus it better reflects the true central tendency of wages and is not affected by extreme concentrations of wage values on either end of the scale as is the case with the average wage.*

### 3.1.5 Minimum Education

The Employment and Social Development Canada (ESDC) website, [National Occupational Classification \(NOC\) 2011](#) database was referred to for this indicator. The specific NOC code title and number was referenced under the corresponding [Occupational Descriptions](#) heading and minimum educational requirements identified under the Employment Requirements category.

Specific information on educational requirements beyond the minimum is captured in the “How Do I Get There” component of the specific Career Profile on the website.

### 3.1.6 Seasonality

Every effort has been made to suitably identify the occupations that may be affected by seasonality in the workforce. Information on seasonality by industry is not readily available in a format applied to all 20 sectors, 102 subsectors, and 323 industry groups recognized by the 2012 North American Industry Classification System (NAICS); nor is this information directly or statistically associated with the 500 occupations categorized by the National Occupational Classification System 2011 (NOC).

Most data collected is self-reported through various surveys and Employment Insurance claims, all of which focus on the level of seasonal work through employment period variance and linkages to benefits<sup>1</sup>. No single source of information or survey measuring degrees of seasonality cross referenced by all occupations over time in Canada was identified.

Although sources such as The Labour Force Survey adjust for seasonality the LFS does not provide specific seasonality estimates by detailed occupation. Sectors and industries that are commonly associated with impacts due to seasonality are agriculture, forestry, fishing, hunting, retail, tourism, hospitality, construction etc.

This indicator, was cross referenced by NOC code through various sources, such as [Service Canada](#), to identify the degree of seasonality associated with each.



## 4 Limitations

In an attempt to achieve a higher level of validity, reliability and consistency across data sets, and to avoid methodological errors as much as possible when attempting to incorporate disparate values, Government of Canada statistical sources were chosen as preferable for this project.

### **Geographic Limitations**

Every effort was made to ensure that data was sourced by Yukon Territory. Where data was missing or not available at this level, the national value was used. This applies to all indicators.

### **Cautionary Statement Regarding Data Sources**

It must be understood that this project has drawn from multiple data sources, with levels of compatibility that vary. In some respects, sources may be disparate, and result in observable anomalies when attempting to compare information presented in the different indicators.

### **Contributors**

MDB Insight Inc. in partnership with metro economics was retained by Yukon Department of Education to update key indicators of the Yukon Workfutures website. Key indicators are found in the “Quick Glance” section of every profile. They are: expected demand, education requirements, seasonality, low, median, and high hourly wage.

---

<sup>ii</sup> De Raaf, S., Kapsalis, C., and Vincent, C. 2003 09 24; “Seasonal Work and Employment Insurance Use” in Perspectives on Labour and Income, ([Statistics Canada, catalogue x5-001-XIE](#)) Vol 4, no. 9 (September) 2003 (September) 2003