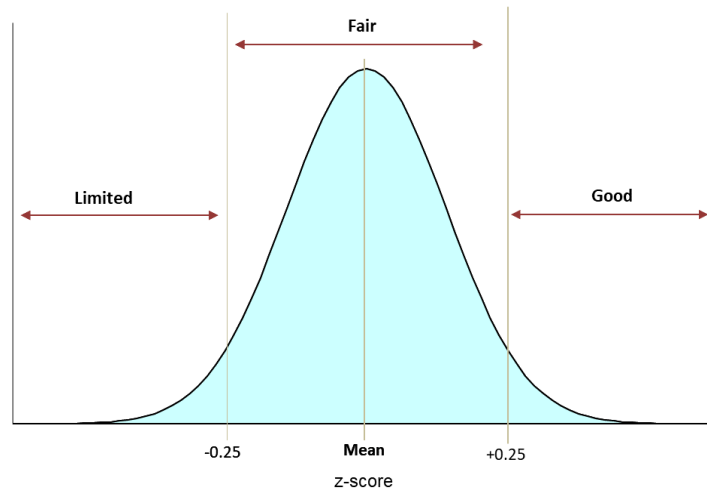# 2022 Saskatchewan Detailed Occupational Outlook (2022 to 2026): Methodology

The *2022 Saskatchewan Detailed Occupational Outlook* provides a five-year outlook (2022 to 2026) for 430 occupations. The outlook is based on the Saskatchewan Ministry of Finance's 2022-23 Budget assumptions, and output from the Saskatchewan Labour Market Model developed by Quantitative Economic Decisions Inc (QED). The Budget 2022-23 reflects expected economic conditions at the time of its development (January - February 2022) which pre-dates the Russian invasion of Ukraine and the resulting supply chain disruptions and price shocks for oil and other globally traded commodities.

A labour market assessment is undertaken to assign job outlooks to occupations. Recent labour market trends are factored into the assessment on the assumption that recent growth is a predictor of future job prospects. Future trends are also considered in the assessment. The following table shows the labour market indicators that are used in the assessment process, based on a weighted average.

Indicators		Data Sources
Recent growth:		
1	Employment growth from 2011 to 2016	Census
2	Share of employment growth from 2011 to 2016	Census
3	Employment growth from 2016 to 2021	Labour Force Survey
4	Growth in share of employment in 2016 to 2021	Labour Force Survey
5	Growth in hourly wage rates from 2016 to 2021	Labour Force Survey
6	Growth in average hours worked from 2016 to 2021	Labour Force Survey
7	Average unemployment rate 2016 to 2021	Labour Force Survey
8	Change in regular EI beneficiaries 2016 to 2021	Employment Insurance
9	Average job vacancy rate 2017 to 2021	SaskJobs and Job Bank
Future growth:		
10	Expected growth in employment 2021 to 2026	QED
11	Change in share of employment, 2021 to 2026	QED
12	Average attrition rate, 2021 to 2026	QED

A statistical measure (z-score) is applied to obtain standardized values of various labour market indicators to comparatively assess a total of 500 occupations. A job outlook is assigned to 430 occupations as an indicator of future employment opportunities. Occupations with a **limited** outlook have a z-score value of less than -0.25; occupations with a **fair** outlook have a z-score value equal to/greater than -0.25 and equal to/less than +0.25; and occupations with a **good** outlook have a z-score value greater than +0.25. The following graph illustrates the normal standard distribution of values relative to the mean or average.

Job outlooks were adjusted based on other sources of labour market intelligence including sector studies, surveys, administrative data, and consultations with sector specialists. Seventy occupations that are estimated to have fewer than 60 employed in the province in 2022 are not assigned an outlook, as data is suppressed or not available for most of the indicators (these occupations are viewed as 'uncommon').

Occupations that have a 'good' outlook have more favourable job prospects. They generally have better labour market conditions, such as higher employment and wage growth and more expected job openings, than occupations with a 'fair' or 'limited' outlook. Occupations with a 'fair' outlook have balanced job prospects, whereas, 'limited' suggests less favourable job prospects for the jobseeker. A limited outlook is not meant to discourage job seekers from pursuing an occupation. While these occupations have a below-average outlook relative to other occupations over the forecast period, they all have a positive number of job openings.

Job openings are forecasted for the five-year period, 2022 to 2026. Job openings are the sum of expansion demand (new jobs generated through economic activity) and replacement demand (existing jobs that need to be replaced, mostly due to retirement). Job openings do not distinguish between full-time and part-time jobs.

2022 estimated employment is based on historical data and is produced as part of the output from QED's Saskatchewan Labour Market Model.

Wages

The 2022 wages in the report are publicly available on the Job Bank website at the regional level, and are determined using a joint Employment and Social Development Canada and Statistics Canada methodology. Wages for 108 of the 430 occupations are national wages due data limitations (e.g., suppression of data for quality and privacy issues), while others show wages in Saskatchewan.

Hourly wage is the most frequent display for occupations. However, **annual wage** is displayed for 11 occupations with a lot of self-employed workers and business owners (e.g., physicians, lawyers).

- The **low wage**, in most cases, corresponds to the 10th percentile.
    - For example, if the low wage is $12.00/hour, this means that 10% of the workers in the occupation earn $12.00/hour or less.

- The **median wage** is the indicator of the prevailing wage for each occupation.
    - The median wage is the middle point of the wage distribution when wages are arranged in numerical order.

- The **high wage**, in most cases, corresponds to the 90th percentile.
    - For example, if the high wage is $40.00/hour, this means that 90% of the workers in the occupation earn $40.00/hour or less.

Data source:
- The primary source is Statistics Canada's Labour Force Survey:
    - This survey is conducted using a sample of respondents and data may be suppressed for reasons of confidentiality or data quality, but it is the most inclusive, timely and unbiased source of wage data by occupational group.
- When the Labour Force Survey data are not available, other sources are considered, including:
    - Employment and Social Development Canada program data such as Employment Insurance program survey data
    - The Census
    - Provincial and territorial surveys and administrative data
    - Other organizations' administrative data such as the Canadian Institute for Health Information and the Canadian Medical Association
    - Other sources when applicable

What is included in the wages?
- Wages **do not** currently include non-wage benefits.
- Wages from the Labour Force Survey include tips and commissions before taxes and other deductions.

- Wages from the 2016 Census include all income received as wages, salaries and commissions from paid employment and net self-employment income from farm or non-farm unincorporated business and/or professional practice during the reference period.
- Wages from Employment Insurance survey data include tips and commissions.

For more detailed wage methodology, see https://www.jobbank.gc.ca/trend-analysis/search-wages/wage-methodology

Educational/Skill Levels

Occupations are categorized according to the National Occupational Classification (NOC) 2016 system, which is a systematic classification structure to identify and categorize the entire range of occupational activity in Canada. Skills are classified into five different levels based on NOC 2016. The classification of the skill level and the level of education or training usually required is described in the table below.

Skill Levels Based on the NOC 2016 System		
	Skill Level	Level of education or training usually required
Mgt	Management	• Management is characterized by high levels of responsibility, accountability and subject matter expertise. Expertise is acquired through either formal education or extensive occupational experience.
Univ	University degree	• University degree (bachelor's, master's, or doctorate)
PS	Post-secondary certificate, diploma or apprenticeship training	• Two to three years of post-secondary education at community college, institute of technology or CÉGEP; or • Two to five years of apprenticeship training; or • Three to four years of secondary school and more than two years of on-the-job training, occupation specific training courses or specific work experience. • Occupations with supervisory responsibilities are also assigned to skill level B. • Occupations with significant health and safety responsibilities are assigned to skill level B.
HS	High school completion or occupation-specific training	• Completion of secondary school and some short-duration courses or training specific to the occupation; or • Some secondary school education, with up to two years of on-the-job training, training courses or specific work experience.
LHS	Less than high school completion or on-the-job training	• Short work demonstration or on-the-job training; or • No formal educational requirements

Source: Employment and Social Development Canada

For more information regarding the classification of occupations by skill level, see
https://noc.esdc.gc.ca/Structure/Matrix

Top three industries

The top three industries are based on estimated 2022 employment with the most workers among the 20 major industries (standard NAICS 2017) for each occupation.

For more information about NAICS 2017, see
https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=1181553