



# Skills-Based Labor Market Analysis Process Guide

# An introduction to the process.

The following guidelines provide a descriptive overview of the research, analysis, and content creation process involved in the development of a Labor Market Analysis.

This type of analysis can provide a comprehensive overview of a given labor market's skilled-worker population, major skilled-worker industries and occupations, and other key items that combine to paint a compelling picture of the need for skills-based hiring and training practices in the market.

## A Labor Market Analysis will provide you with answers to a number of critical questions, including:

- How large is my state's skilled-worker population? (How many workers have at least a High School Diploma, but less than a Bachelor's Degree)
- What are my state's key industries and occupations for skilled workers? Also, what are the growth prospects and average wages of those occupations?
- Does my state have a significant credential gap or difficulty in filling open jobs?  
Credential gap is the difference between the share of job postings for an occupation that calls for a Bachelor's Degree and the share of those currently employed in that occupation who have a BA.

The Labor Market Analysis materials included here provide relevant and actionable information, as well as key insights for a broad range of audiences. This includes the Governor's office, state government agencies, local government officials and leaders (e.g., legislators, office, and agency directors), workforce board members, industry associations, and major employers—in short, anyone who might want to better understand their state's skilled workforce and explore skills-based labor practices.

The information and insights you gain from the Analysis have a broad range of use cases and can inform a wide variety of decisions. They offer concrete, quantitative data that can direct priorities and choices—at both the public and private level—in regards to a state's skilled-worker population, workforce development, economic development, and training and education infrastructure.

This guide will walk you through the process, and there are accompanying Microsoft Excel and PowerPoint templates to help you conduct the analysis and visualize your data.

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## Process overview.

In order to gain insights into your state's labor market, you will need to collect and analyze demographic, occupation, and industry data. The accompanying Excel template will help you perform the necessary analyses. Below are the data sources you will need to collect from:

### Bureau of Labor Statistics (BLS) and State Labor Market Information (LMI) systems

The BLS and State LMI systems regularly publish data on labor markets, including data on state employment, wages, and labor force participation.

**Examples:** Labor Force Participation, Unemployment Rate, Total Employment by Occupation

### Census Bureau

The Census Bureau data paints a picture of the population of a state or any other geographical area—although the US Census itself is conducted only once every ten years, data is still collected and published as a byproduct of several other annual studies that is key to understanding the population and key demographics of a state or other geography.

**Examples:** Population by Educational Attainment, MSA Population Estimates

### Third-Party Labor Market Information

Third party labor market information providers—such as Burning Glass and Geographic Solutions—offer sophisticated data analytics capabilities for real-time labor market insights, such as job postings and educational requirements.

**Examples:** Annual Job Postings, % of postings requiring a Bachelor's Degree

## Overview of key considerations.

This section provides an overview of the key considerations that provide insight into the potential impact of skills-based practices in your state. The three key considerations are: Demographic Overview, Occupation Prioritization, and Industry Prioritization.

This key criteria can be divided into three sections, which provide insight into the potential impact of skills-based hiring practices: Demographic Overview, Occupation Prioritization, and Industry Prioritization.



### Demographic Overview

Build a profile of your residents and labor force to understand the need and opportunity.



### Occupation Prioritization

Identify the Hot Jobs that offer opportunity and advancement for skilled job seekers.



### Industry Prioritization

Find the growing industries that will be engines of your state's economy in the future.



## Demographic Overview

A state's underlying demographic profile (e.g., number of skilled-workers) can strongly influence the scale of impact. Data on population, employment, educational attainment, and diversity can be obtained largely from government sources (e.g., BLS, Census Bureau) that will provide granularity and help paint a picture of the state.

### Key illustrative questions:

- What % of the state's population are skilled workers?
- How diverse is the state?
- What is the state's current employment rate overall and by educational attainment?

### Understand Your State Demographics

Consider demographic factors that shape the potential opportunity for impact, including population by age, gender, race, and region.

### Build A Profile of your Workforce

Break down the educational attainment of your working age population to identify the size of your skilled-worker population.

### Get Your Labor Market Indicators

Find out how your labor force is doing. Key metrics like the unemployment rate and the labor force participation rate are helpful gauges for labor market health.

*The following two sections require quantitative analysis. The steps will identify what's necessary to complete each section. The Appendix and accompanying Excel template, specifically the tab titled 'Mapping\_to\_Slides', provides further instructions and tools to conduct these analyses.*



## Occupation Prioritization

### Top Occupations by Skilled-Worker Employment

Understand the important skilled-worker occupations in the state by identifying the top occupations with the most skilled workers and their average salary.

See the Appendix for further instructions on how to conduct the analysis.

### Skilled-Worker Employment by Occupation

Examine the projected 10-year growth rate of each of the top occupations by skilled-worker jobs to determine whether major skilled-worker occupations are growing, stagnating or declining.

This is particularly helpful for understanding the future economic climate in the state and which occupations might be worth investing in.



## Occupation Prioritization

*continued*

### Occupational Credential Gap

Identify the top occupations with the largest credential gap. A credential gap is the difference between the share of job postings for an occupation that calls for a Bachelor's Degree and the share of those currently employed in that occupation who have a BA. Determine the size of the credential gap, the number of jobs, and the average salary for each occupation. It may be interesting to examine occupations that have sustainable wages and an abundance of jobs, but a significant credential gap, thus discouraging skilled workers from applying and being selected for these jobs.

See the Appendix for further instructions on how to conduct the analysis.

### Difficulty Finding Skilled Labor versus Credential Gap

Once you have identified the credential gap for an occupation, it may be interesting to find a correlation between its credential gap and the difficulty employers are having filling that job.

See the Appendix for further instructions on how to conduct the analysis.



## Industry Prioritization

### Top Industries by Skilled-Worker Jobs

Understand the important skilled-worker industries in the state by identifying the top industries with the most skilled workers and their average salary. BLS and Census data breaks down the employment by occupation for each industry. A sophisticated tool can calculate the number of skilled workers in each industry given the skilled-worker employment by occupation and the employment by occupation for the industry.

See the Appendix for further instructions on how to conduct the analysis.

### Skilled-Worker Jobs by Industry

Examine the projected 10-year growth of each of the top industries by skilled-worker jobs to determine whether major skilled-worker industries are growing, stagnating or declining. This is particularly helpful for understanding the future economic climate in the state and whether certain industries are worth investing in.

### High-Level Industry Prioritization

Develop an objective method for identifying the top industries for skills-based hiring practices. We suggest three data points for each industry: skilled-worker job growth from 2016 to 2026, average skilled-worker wage, and the natural logarithm of postings per 100 employees (using the natural logarithm here accounts for dramatic differences in scale). Multiplying these three metrics together results in an “industry score”; you can prioritize your industries based on this industry score.

# Appendix

## Top Occupations by Skilled-Worker Employment

There is a government-defined set of occupations that maps to various industries. Census Bureau data from the annual Occupational Employment Statistics survey actually shows a breakdown by educational attainment of workers in each occupation. By calculating the percentage of people in each occupation who are skilled-workers (e.g., have an educational attainment of High School Diploma, Some College, or Associate's Degree), you can reach an approximation of the total skilled-worker employment by occupation.

## Occupational Credential Gap

The credential gap for a given occupation can be easily calculated by subtracting the percentage of workers in an occupation who have a Bachelor's Degree from the percentage of postings for the occupations which require a Bachelor's Degree; this metric helps identify occupations where skills-based hiring practices could prove beneficial.

## Difficulty Finding Skilled Labor versus Credential Gap

A proxy for hiring difficulty, or the level of difficulty finding qualified workers for a given position, takes the number of job postings for the occupation (per Burning Glass data) and divides by the number of workers in the occupation (from the Census Bureau's OES data). Plotting this metric against the credential gap can prove useful for identifying occupations where skills-based hiring potentially makes sense due to the presence of both a substantial credential gap and significant hiring difficulty.

## Top Industries by Skilled-Worker Jobs

While skilled-worker wages data is not available from government reporting, it is possible to approximate skilled-worker wages from skilled-worker employment data and government wage data. However, what you can do is calculate the aggregate skilled-worker income for each occupation in an industry (e.g., skilled-worker employment multiplied by average occupational wage) and then divide by the total number of skilled workers in the industry. This gives an approximation, which is typically lower than the overall average wage for the industry.

The analyses included here will help you see your labor market through the lens of demographics, occupations and industry. [Check out the analysis template to get started.](#)

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