Labor Market Information Resource Guide
“NOVA Workforce’s mission is to optimize our regional job market by making job market signals clear for all residents looking to move into higher demand job sectors.”

Steven B. Partridge
Vice President, Workforce and Economic Development
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents/Overview</td>
<td>2</td>
</tr>
<tr>
<td>What is Labor Market Information?</td>
<td>2</td>
</tr>
<tr>
<td>Popular Uses of Labor Market Information</td>
<td>2</td>
</tr>
<tr>
<td>Mechanics of the Labor Market Information System in the United States</td>
<td>4</td>
</tr>
<tr>
<td>Examining the Basic Components of Labor Market Information</td>
<td>5</td>
</tr>
<tr>
<td>Resources</td>
<td>9</td>
</tr>
<tr>
<td>About NOVA Workforce</td>
<td>12</td>
</tr>
</tbody>
</table>
What is Labor Market Information?

Labor market information (LMI), sometimes referred to as labor market intelligence, is a collection of economic and demographic data used to describe local, regional, state, or national economies relative to the workforce. Labor market researchers are data analysts and economists who study the job market to inform decisions for a variety of organizational purposes. Labor market information is used in both the public and private sectors including, but not limited to, government organizations, companies, real estate firms, nonprofit organizations, K-12 and higher education institutions, economic and workforce development agencies, and policy research centers or think-tanks to study the workforce and population. Organizations then take this information and use it for a variety of decision-making purposes.

Labor market information is disseminated to users in a variety of ways. Popular methods of producing LMI are reports, brochures, websites, presentations, and trainings. LMI data is often communicated to users through charts, infographics, and other data visualization methods to present data in a useful, informative, and easy to understand way. Some popular examples of data visualization tools used by LMI researchers include Microsoft Office, Tableau, and Google Charts.

For more information, check out the great resources available through the Labor Market Institute, including their publication on defining labor market information and its customers: http://www.lmiontheweb.org/WhatWeDo/Publications/downloads/2014-06-27_-_Defining_Labor_Market_Information.pdf.

Popular Uses of Labor Market Information

Labor market information can be used for a variety of purposes, including:

- Career exploration and discovery
- Workforce planning
- Program and curriculum development
- Policy planning and implementation
- Economic development activities
While there are many other uses for LMI, these five encompass a large portion of LMI research.

**Career Exploration and Discovery**

Perhaps the most common use of labor market information is career exploration and discovery. Anyone in the labor force considering a career change, or individuals such as students or transitioning military personnel, can benefit from researching occupations and industries to find a career that meets their personal and/or financial goals. Job-seekers can discover demand for a particular skill set or occupation, market salaries for their industry or expertise, and projected trends on how relevant their skills will be to employers in the future. Additionally, school and career counselors can use LMI to assist their clients with finding the occupation that is the best fit for them.

To learn more about how to use LMI to explore career opportunities, click here: [http://www.lmiontheweb.org](http://www.lmiontheweb.org).

For example, NOVA Workforce has created career ladders as career exploration tools for jobseekers interested in these industries, which can be found on our website.

**Workforce Planning**

Employers in both the private and public sector use labor market information to plan for organizational staffing needs. Human resources departments use labor market information to determine market salaries for various positions within their organizations. Employers also use LMI to determine the supply of employees in the workforce. A business needing to hire several software developers can access LMI to determine how many people reside and work in their region. Additionally, employers can use LMI to estimate the future supply of workers for a given occupation; for example, the number of workers that can be expected to retire over the next several years, and the number of new graduates entering the workforce in the employer’s region.

**Program and Curriculum Development**

Colleges, universities, K-12 school systems, and various workforce training providers can use labor market information to develop or modify curriculum and programs at their respective institutions. One predominant goal of higher education is to prepare students for careers. When higher education institutions are able to identify trends in the labor force and develop curriculum and training programs that meet the needs of local or regional employers, they are better able to position their students for employment upon graduation. Activities related to program and curriculum development may include creating new programs for a particular certification or industry credential, modifying existing curriculum to meet changing employer demands, or removing curriculum and programs that are no longer needed in the workforce.
Policy Planning and Implementation

Labor market information can be integral for policy and decision making in various organizations, from local governments and workforce development boards, to higher education institutions and state or federal governments. Labor market information helps organizations understand the population and local economy in which people live, allowing for data-driven policies and procedures that address the most pressing issues for that particular region or agency.

Economic Development Activities

Economic developers frequently use labor market information to assist companies with relocation or expansion activities in order to grow the economy. Economic developers may provide companies with data on available labor talent, available real estate sites for a company’s relocation or expansion, or average wages for particular occupations so that companies understand what the competitive salaries are for the region. Economic developers also use LMI to provide demographic and quality of life data to prospective companies, such as housing costs and availability of community resources like public education and health care.

Mechanics of the Labor Market Information System in the United States

Now that we have provided a basic overview of what labor market information is and identified some of the primary purposes for using labor market data, how is this information produced? The basic tasks that go into developing labor market information in the United States can be grouped into four high-level processes:

1. Data collection
   Various government agencies collect labor market data at the local, state, and federal levels, and from educational institutions. The federal government collects its own labor market data, primarily through surveys; examples include the American Community Survey, the Quarterly Census of Employment and Wages, and the Decennial Census. Third-party vendors also collect, analyze, and produce data for customers, either available online at no cost or for a fee.

2. Data analysis
   The federal government employs many economists, data analysts, and researchers who analyze labor market information and report their findings to the public. Each state is responsible for analyzing and reporting economic data, such as wages and number of businesses operating in their state, to the federal government. Similarly, educational institutions analyze student data and report their findings to the federal government. The federal government also analyzes the data it collects, releasing reports quarterly, monthly, and annually.

3. Reporting data
   Once government agencies have collected and analyzed data, they publish their findings on publicly accessible platforms and web-based databases. The frequency at which data is reported depends on the agency and timeliness of data collection. The Bureau of Labor Statistics releases reports monthly and quarterly on the state of the economy, providing data on the unemployment rate, size of the labor force, and number of new jobs created. The American Community Survey uses an online, interactive tool to deliver its data to consumers and is updated annually. Some LMI researchers use software that aggregates government data, displaying information through tables and charts.

4. Data Consumers
   Finally, the public uses the data collected, analyzed, and reported by various agencies and organizations. Many organizations employ labor market researchers to further analyze the data and communicate it with the public and decision makers in their respective organization. However, anyone can access public labor market information for their own career or general information purposes.
For an overview of the various actors and relationships that make up the U.S. LMI system, see: http://www.lmiontheweb.org/About/LMISystem/. Additional information on the various federal agencies that produce labor market data can be found in the Resources section of this document.

Examining the Basic Components of Labor Market Information

Labor market information is composed of three primary types of data: economic, demographic, and education. Combined together, these pieces of data can be used to tell a story about a particular economy, predict future workforce supply and demand, or be used to answer a variety of specific labor market questions. A few examples of questions that labor market information may be able to help answer include:

- What is the market salary for a particular occupation?
- Which industries are growing?
- What is the typical education level of workers in a particular occupation?
- What is the unemployment rate trend?
- What is the projected growth of a particular occupation over the next 10 years?

These are just a few examples of the many research questions that can be answered through analyzing labor market information. The section below further identifies and describes common types of data points you may encounter when conducting LMI research. Economic data is the primary source for labor market information, while demographic and education data are often used to put these economic data into context.

Economic Data

- Unemployment rate: The unemployment rate describes both the number and percent of persons actively looking for work who are not currently employed. The unemployment rate is one of the most common measures of labor market data and is often referenced in media and economic reports to describe the strength of an economy.

It is important to note that persons who are underemployed (persons working in jobs that do not fully utilize their skills or abilities) and persons that have left the job market (for example, someone who decided to retire early due to an unexpected layoff) are not included in the unemployment rate. The unemployment rate for particular counties, regions, states, and the national level are released on a monthly basis through the Bureau of Labor Statistics.

- Employment data: Employment data is collected either by industry, occupation, or both. For example, you are able to see how many people work in the health care industry, how many people are employed as doctors as a whole, and how many doctors are employed specifically in the health care industry. It is important to understand the differences in these classifications and how they interact with each other, as they do not always overlap or align.

The health care industry employs more doctors than any other industry, but there are also doctors employed in research, education, and various other sectors. When you hear that an industry or occupation is growing, keep in mind that not all occupations within that industry will have the same growth patterns. For example, the health care industry is growing rapidly in most economies throughout the United States, but demand for some occupations, such as pharmacy aides and medical transcriptionists, is decreasing due to advances in health care technology or health care delivery.

Each occupation and industry is assigned a classification code which are often times referenced in labor market data and economic reports.
The **North American Industry Classification System (NAICS) Code** refers to individual industries (i.e. Health Care and Social Assistance, Manufacturing, Retail Trade, etc.) and classifies businesses in the United States into twenty primary industry codes and one unclassified code. Each of the twenty primary codes are broken down into various levels of specificity using 2 - to 6 - digit-codes. Occasionally, industry names remain the same between the various levels depending on the level of granularity needed to describe that industry. Below is an example of one of the NAICS code breakdowns for the manufacturing industry, showing the various levels of specificity:

- 2-digit (31-0000): Manufacturing
- 3-digit (31-1000): Food Manufacturing
- 4-digit (31-1100): Animal Food Manufacturing
- 5-digit (31-1110): Animal Food Manufacturing
- 6-digit (31-1111): Dog and Cat Food Manufacturing

For more information about the different classification systems, visit [https://www.naics.com](https://www.naics.com) for NAICS codes and [https://www.bls.gov/soc](https://www.bls.gov/soc) for SOC codes.

- **Location Quotient:** The Location Quotient (LQ) is a measure used by economists to describe the concentration of a particular industry or occupation within a given geographic area relative to the national economy. Location quotients are calculated by an occupation or industry’s share of total regional employment divided by that same occupation or industry’s share of national employment. A location quotient of 1.00 means that an occupation or industry makes up a similar share/concentration of the job market regionally as it does nationally; a location quotient less than 1.00 indicates a smaller concentration, and any number larger than 1.00 indicates a lower concentration. Location quotient is based on percentages; for instance, if an industry has a location quotient of 1.25 for a particular region, it means that there are 125% of the number of persons working in that industry in that particular location than there would be for the rest of the country. The location quotient for any measure at the national level will always be 1.00.

In general, any location quotient higher than 1.25 indicates that the particular location has a competitive advantage for the occupation or industry being measured. Economic developers in particular will use the location quotient for industries to determine a *sector or industry cluster strategy*, which allow particular locations to be competitive in attracting and retaining employers in an industry (or supporting industry) with a high location quotient (i.e. where a high concentration of that industry already exists). For example, if a location has an LQ of 1.50 for manufacturing, economic developers would be able to attract other manufacturers, suppliers, and industries that support manufacturing because of the large supply of manufacturing workers and resources already present in that location. Information technology-related industries have a very high location quotient in

There are around 840 unique occupation classifications used to identify various job titles and roles in the United States.

The **Standard Occupational Classification System (SOC) Code** is very similar to the NAICS code, but is used to group occupations of similar characteristics (i.e. Doctors, Accountants, Lawyers, etc.). There are twenty-two primary occupation code groups—and one code specifically designed for military occupations—that are further broken down into four levels of specificity using 2 - to 6 - digit codes. There are around 840 unique occupation classifications used to identify various job titles and roles in the United States.
northern Virginia, thus making the NOVA region economically competitive in attracting new information technology firms or expanding existing firms.

- **Demand Projections:** Demand projections are made by economists at various government agencies to predict what the job market will look like in the future. Typically, economists will look at industry and occupation growth at either 3, 5, or 10 year intervals. The Bureau of Labor Statistics updates their official 10-year projections every other year. Economists will sometimes use their own mathematical models to make predictions based on the quarterly data provided by the Bureau of Labor Statistics. It is important to note that while demand projections can be useful in evaluating future trends for a particular industry or occupation, it is based primarily on statistical modeling using previous trends. Major changes in technology or disruptions in the economy could have serious impact on future workforce demand that statistics may not be able to accurately predict. More information about demand projections provided through the Bureau of Labor Statistics can be found here: [https://www.bls.gov](https://www.bls.gov).

- **Salary/Wages:** Salary and wages for particular occupations are collected through payroll reports and published through the Bureau of Labor Statistics. This data is collected through a variety of surveys, including the National Compensation Survey, Occupational Employment Statistics Survey, and the Current Population Survey. Data on occupation and industry wages can be examined at the national, state, regional, and local levels, and is generally updated on an annual basis. More information about official salary and wage estimates can be found here: [https://www.bls.gov/bls/blswage.htm](https://www.bls.gov/bls/blswage.htm).

- **Establishments:** The number of businesses or employers in a particular region, referred to as establishments in labor market data, is used to determine the size of particular industries or the economy as a whole. The government reports data on establishments by employee size and industry; this allows LMI analysts to determine how many small, medium, and large sized companies there are in a given area and in what areas they operate. Since this data is tracked over time, they can also tell if the number of businesses in a region is increasing or decreasing, and in what industries. Knowing the number of establishments can be useful to economic developers and companies looking to relocate to an area, to get an idea of how many existing competitors and/or suppliers that company may have in a particular location. The Census Bureau is the primary agency responsible for collecting data.
on establishments. More information on the Economic Census can be found at: https://www.census.gov/EconomicCensus.

Demographic Data

The government also collects demographic data, which can provide context in explaining how economies operate. It is important to understand not only the characteristics of the workforce in a particular area, but also the specific characteristics about the population who lives there. Demographic data is most often reported through survey data collected by various federal agencies, the most common being the U.S. Census Bureau.

Generally, the types of demographic data used in labor market research can be broken down into the following broad categories:

- **Population**: Population measures explore characteristics of people in general through a variety of categories, including age, race, and education level.

- **Economic**: Economic measures of demography explore characteristics of people related to the economy, including median household income, poverty level, and labor force participation rate. Economic demographic data relates to the economics of people, while the economic data mentioned in the previous section refers to the economy in general.

- **Housing**: Housing demographic data includes information such as number of households, median home value, and the percent of people who rent versus own their home in a particular area.

- **Social**: Social demographic data includes information on various social factors, such as the number of people who are disabled, the number of people who are foreign born, and the number of people for whom English is not their first language.

Integrated Postsecondary Data Institution System (IPEDS).

This higher education data can be used to see what the talent pipeline looks like, and if colleges and training institutions in a particular region are meeting the needs of employers.
**Education Data**

Most of the education data related to labor market information involves the number of degrees and certificates awarded by training and postsecondary institutions, which is compiled in the Integrated Postsecondary Data Institution System (IPEDS).

This higher education data can be used to see how many people are graduating in certain fields, and if colleges and training institutions in a particular region are meeting the needs of employers. Although this data is useful when used in conjunction with other aspects of labor market data, it should not be relied upon solely in answering questions about the talent pipeline. For instance, cities with major universities may produce graduates in particular fields who then leave the region to find employment upon graduation; similarly, large cities with fewer universities may see an influx of graduates from other parts of the country.

**Resources**

**Government Websites**

The federal government, as well as various state governments, provide a variety of free websites to explore labor market information. These tools provide data on the economy, projections for future growth, as well as tools for career exploration. A few of the government-sponsored websites commonly used by labor market researchers are listed below. A comprehensive list of resources for labor market data can be found on the Department of Labor’s Employment and Training Administration website here: [https://www.doleta.gov/](https://www.doleta.gov/)

**Bureau of Labor Statistics (BLS)** ([https://www.bls.gov/data](https://www.bls.gov/data)) is a division of the United States Department of Labor that provides the most comprehensive LMI data available on the web. Data from this website is the most commonly used source cited by economists when discussing trends in the labor market and economy. Examples of reports, tools, and surveys produced by this agency that are used frequently by labor market researchers include:

- Local Area Unemployment Statistics (LAUS) – unemployment rate
- Current Employment Statistics – salary data
- Quarterly Census of Employment and Wages (QCEW) – occupation employment and wages
- Current Population Survey – various employment and demographic data
- Consumer Price Index – measures the cost of goods over time

**United States Census Bureau** ([https://www.census.gov/data.html](https://www.census.gov/data.html)) is a division of the United States Department of Commerce that provides data on the American people and economy. Although primarily used for demographic data, the Census Bureau conducts economic surveys as well that can be used to supplement data from the Bureau of Labor Statistics, particularly on businesses. Some of the more common surveys conducted by the Census Bureau include:

- Decennial Census (required by the U.S. Constitution)
- American Community Survey
- Current Population Survey
- American Housing Survey

**O*Net Online** ([https://www.onetonline.org/](https://www.onetonline.org/)) is the most popular and comprehensive labor market data website specifically designed for career exploration. Visitors to the website can research various occupations by name, keyword, skills and abilities, and interests. For each occupation identified by the SOC code classification, this website provides detailed information, including: what skills are needed for success, typical education requirements for the profession, and wage data at the state and national levels. The website also includes links to other sources of labor market information and career exploration tools, including the Occupational Outlook Handbook and Career OneStop.
Virginia LMI (https://data.virginialmi.com) is the Commonwealth of Virginia’s labor market research portal and is administered by the Virginia Employment Commission. This website includes numerous sources for labor market data including information on jobs, industries, skills employers are looking for, and job openings in Virginia. Data can be searched for at a local or regional level. The website also includes career resource guides, information on education and training providers, and interactive data and graphs on Virginia’s economy.

Career OneStop (https://www.careeronestop.org) is a website sponsored by the U.S. Department of Labor that provides career exploration and job information. In addition to offering online tools for career exploration like O*Net Online, this website also provides information on where to obtain education and training for particular occupations, as well as job search information and tips for writing resumes, cover letters, and networking.

Free Commercial Labor Market Websites

There are many helpful web-based resources available for free through both private companies and nonprofit organizations. Many of these websites provide user-submitted data and can easily be found through Google searches. Although there are numerous sources available online, three popular websites frequently used for LMI research are listed below.

- **Salary.com** (www.salary.com) provides salary information based on keyword searches for a particular location. Users are also able to input their education and years of experience to find out what people similar to them are earning. The company also conducts research and publishes their findings on their website, and has a variety of additional tools you can access for a fee.

- **Glassdoor** (www.glassdoor.com) provides information on specific organizations; users are able to learn more about a company’s pay scale, interview practices, benefits, and a variety of other opinions from current and former employees. All of the information on this website is self-reported, but can be very useful in determining average salaries for positions within a particular company. The website also contains company reviews and available job postings.

- **Sperling’s Best Places** (www.bestplaces.net) includes information on quality of life data including statistics on crime, schools, climate, and cost of living in various locations for comparison purposes.

Fee-based Commercial Labor Market Vendors

Some of the most powerful labor market tools available are third party vendors that collect vast amounts of labor market data available, both through government sources and public job-board websites, and package that information in easy to understand databases, websites, and software packages. Data provided by these vendors can include information on job postings, mapping or geographic-related data, lists of companies, predictive analytics based on government data, or various other economic and analytic tools.

Often times, if you encounter labor market data that describes job postings, it is data collected by one of these third party websites. Numerous media articles and research papers will often reference data provided by these fee-based vendors to
describe economies and hiring trends.

Examples of companies that provide fee-based labor market subscriptions and/or services include:

- ArcGIS
- Burning Glass
- Career Builder
- CEB
- Chmura Economics
- Database USA
- EMSI
- ESRI
- IMPLAN

**The Labor Market Institute (LMI)/The Council for Community and Economic Research (C2ER)**

The LMI Institute/Council for Community and Economic Research are the trade organizations for labor market information, providing training opportunities, consulting services, networking events, publications, and various other support activities and programs for labor market researchers and organizations that utilize labor market information. Membership benefits are available on both an individual and organizational level, and include discounts to many products and services. Some tools offered to members of these organizations include:

- Cost of Living Index
- State Business Incentives Database
- State Certifications and Licenses Data Tables
- State Economic Expenditures Database
- Tools of the Trade Database
About NOVA Workforce

NOVA Workforce conducts research on economic conditions and the labor market in northern Virginia to develop a robust talent pipeline that meets the needs of regional employers. The research department produces downloadable dashboards, reports, and publications on industry sectors, hiring trends, and other economic indicators. Custom research and labor market presentations are also available for businesses and community partners.

https://www.nvcc.edu/workforce/
https://www.facebook.com/NOVAWorkforce/

Thank you to the Capital One Foundation for making this resource guide possible.
NOVA Workforce conducts research on economic conditions and the labor market in northern Virginia.