

Labor Market and Performance Analysis, PO Box 9046, Olympia, WA 98507-9046

## **ANNUAL WORKFORCE INFORMATION GRANT PERFORMANCE REPORT PY 2014**

September 21, 2015

Washington state is submitting its Workforce Information Grant performance report for Program Year (PY) 2014, as required of grantees under Training and Employment Guidance Letter No. 23-13. This report summarizes accomplishments and challenges and provides recommendations for improvement to workforce information and services.

Washington state has completed the three deliverables required in PY 2014: populating and maintaining the Workforce Information Database (WIDb) with state and local data; producing state and local industry and occupational employment projections; and a statewide annual economic analysis report.

### **I. Populating the Workforce Information Database (WIDb) with state and local data**

Throughout the year, the Washington State Employment Security Department's Labor Market and Performance Analysis (LMPA) division continued to populate and maintain the database tables designated as core tables in accordance with guidelines issued by the Analyst Resource Center (ARC).

LMPA has secured agency IT support to upgrade to version 2.6 of the Workforce Information Database. At the end of PY 2014, we had a full version of the database structure in development, test and production, with full data population in development and test. We will complete the upgrade and data production in early PY 2015. Our agency's IT staff are improving documentation for upgrading and uploading data into the new WIDb, which will help prevent delays in the future.

We completed a comprehensive update of our state licensing information in October 2013, making substantial additions which will provide much richer information for policymakers, stakeholders and the public.

### **II. Producing and disseminating industry and occupational employment projections**

Employment projections provide a general outlook for industries and occupations in Washington state. They provide job seekers, policymakers and training providers an idea of how much an industry or occupation is projected to change over time and show the future demand for workers.

On an annual basis, LMPA produces employment projections for two, five and 10 years from a base period. LMPA produced and distributed the industry and occupational [Employment Projections](#) for Washington state and its 12 local workforce development areas (WDAs) in May 2015. We continued our practice of annually updating these three sets of projections—two of which are required under this grant (two- and 10-year) and one of which is required by state law (five-year)—for the state as a whole and the 12 WDAs.

Staffing patterns for each industry are used to convert industry projections into occupational projections.

Industry classifications are based on the North American Industry Classification System (NAICS). However, they have been modified to match the industry definitions used by the U.S. Bureau of Labor Statistics' (BLS) Occupational Employment Statistics (OES) program. These modified industry definitions are called Industry Control Totals (ICTs). The Standard Occupational Classification (SOC) system is used to group occupations.

The Projections Managing Partnership (PMP) methodologies advise forecasters to combine alternative economic forecasting methods and to choose the best fitted model. The "fit" of a model is based on performance measures over the observed time periods. PMP's advice was followed for the production of state and regional (workforce development area (WDA) forecasts.

### **Industry projections**

The principal source for industry employment projections is a detailed, covered employment time series of four-digit NAICS data for all Washington counties. These data are aggregated to WDA levels.

The first step was to develop aggregated statewide industry projections. Initial covered employment at the county level was aggregated into 34 industry groups (cells) for nonfarm employment. These groups were used in the Global Insight model and then rolled up to the statewide series.

To meet state employment projections requirements and OES definitional requirements, we transformed codes from the Global Insight model in order to match them with codes used in state projections. For example, we disaggregated transportation equipment to aerospace and other transportation equipment. State and local government were disaggregated to government education, hospitals and other government. Two industries related to the information sector were disaggregated. Forecasts for these industries were produced mainly by the same means, excluding Global Insight forecasts as regressors.

This year, we transitioned from using SAS to using R software in developing our projections. R software is an open-source, object-oriented language (software) with advanced statistical and optimization procedures. It also allows direct operations with matrices and vectors. This ability provides significant advantages, when used for occupational projections, over sequel-based statistical software like SAS.

Aggregated statewide employment projections from Washington's Economic and Revenue Forecast Council (ERFC) and Office of Financial Management (OFM) were used as important guides in the projection process.

Selected projections results were rolled up to create multi-level tables that are somewhat comparable to Current Employment Statistics (CES) tables.

### **Industry inputs for occupational employment projections (ICTs)**

The industry inputs for occupational projections are called industry control totals (ICTs). ICTs act as a bridge between industry and occupational projections. To create such inputs, the following steps were followed:

- Forecasts for employment other than nonfarm (e.g., private households, agriculture, forestry and fishing) were developed at the WDA level.
- Industry projections for nonfarm employment were disaggregated according to OES definitions (mainly to the four-digit NAICS level).

Forecasts for private households, agricultural, forestry and fishing employment were based on the covered employment time series and on the same techniques used for aggregated industry projections with the exclusion of regressors from the models.

For private employment, ICTs were mainly at the four-digit NAICS level. Both agriculture and educational employment were aggregated separately. Federal government employment, excluding post offices, was a separately aggregated cell.

Employment for educational sectors and hospitals were separated from state and local government employment and then combined with private employment for these industries. After education and hospital employment were removed, the remaining employment was dispersed between state and local government.

### **Occupational projections**

Occupational employment projections result from the conversion of industry employment to occupations. These conversions are based on occupation/industry ratios (i.e., staffing patterns) from the OES survey. This survey is conducted by LMPA in cooperation with the BLS. Occupational estimations and projections are subject to the limitations of the OES survey, which include nonfarm employment and agriculture services, but exclude non-covered employment, self-employment and unpaid family members, major agriculture employment, except services, and private households.

Once staffing patterns are developed, the national methodology advises the application of change factors. Change factors are developed nationally. Change factors predict the expected changes in the occupational shares for each industry over time. Some testing in Washington and Oregon demonstrated that the quality of projections was better without using the full file of change factors. We created change factors for a very limited number of cells. This was done where the national historical series and the state historical series were available and consistent with the suggested change factors in the national file. For such cases, we used the most conservative estimation as a change factor.

Introducing change factors in occupational estimations created a difference between staffing patterns for base and projected periods. After applying change factors to each projected staffing pattern, the shares of occupational employment for each industry were readjusted (normalized). The total of occupational shares for all industries in the projected

and base staffing pattern should be equal to one. Multiplying occupational/industry matrices for each time period of industry control totals produced initial occupational employment estimations.

We used national self-employment ratios to produce unadjusted estimations of self-employment. Self-employment estimations for the base periods were adjusted to totals from the American Community Survey (ACS) and then projected based on growth rates from unadjusted self-employment estimations. Finally, the adjusted and projected estimations of the self-employed were added to initial employment estimations. The results represented the total estimations and projections of occupational employment.

To calculate openings due to replacement for detailed occupations, we applied national net replacement rates to annual employment on a compound basis. Then, average annual openings due to replacement were calculated.

Total openings for each detailed occupation are equal to the openings due to replacement and growth, but they cannot be negative. So if the numbers are negative, they are replaced with zero. If a projected decline in occupational employment is greater than the projected replacement, the negative totals are replaced with zeroes. This creates non additive results for total openings. In other words, if we apply the same calculations of total openings for aggregated occupations as for detailed occupations, total openings for aggregated levels would be less than total openings for detailed levels.

There is no perfect solution for this problem. Our solution was to aggregate the total openings from the detailed levels. In this way, the aggregated numbers of total openings are equal to the totals for detailed occupations. However, on the aggregate level, the total openings might not be equal to the total of growth plus replacement. The differences were not significant for this round of projections, especially at the state level.

For additional details, see *Appendix 2* of the [2015 Employment Projections](#) report.

### **III. Annual economic analysis and other reports**

Consistent with this grant and required by state law, LMPA published a detailed annual economic analysis report to provide statewide information for economic-policy development, training-program planning and resource allocation by the governor, the state Workforce Investment Board (WIB, known as the Workforce Training and Education Coordinating Board), local WIBs (known as Workforce Development Councils), state legislators, as well as other partners including community and technical colleges, economic development organizations and other talent-development stakeholders.

The [2014 Annual Labor Market and Economic Report](#) is an overview of Washington state's economy. It includes analyses of employment conditions and trends, unemployment, wages, income and employment projections. The report also devotes greater detail on the seasonal, structural and cyclical aspects of employment, and economic comparisons with other states.

Throughout the year, LMPA staff conducted special studies and economic analyses on the statewide and local levels. These reports, including publication dates, are available on [Washington state's labor market information website](#), and further detail on specific reports is provided below.

### Monthly

- [Monthly Employment Report](#): Comprehensive, monthly reports on Washington state's job market. We report the unemployment rate statewide and by county, the number of people in Washington's workforce and the number of people employed by industry and county. This report relies on current labor force statistics developed in partnership with the U.S. Bureau of Labor Statistics and is the basis of a major monthly press release on the state's economy.
- [Labor area summaries](#): Monthly labor area summaries provide labor market information for each of the metropolitan areas and counties in Washington state. This information is updated by LMPA's six regional labor economists who are located around the state and are the primary points of contact for regional labor market information. The labor area summaries provide vital information to decision-makers and media, timed according to the monthly release of local labor market statistics by BLS.
- [Employer Demand Reports](#): Monthly reports reflecting the top 25 skill sets and certifications that employers are looking for in workers, as well as the top 25 occupations and employers. These reports are based on Help Wanted OnLine® data from the Conference Board, which provide a measure of real-time labor demand gathered from online job ads.
- [Labor Market Supply/Demand Reports](#): The labor market supply/demand reports provide a comparison of online job postings and the Employment Security Department's data on unemployment insurance claimants and WorkSource job seekers. The data is organized by WDA and occupation category.
- [Numbers and trends](#): Graphs and tables of economic data about Washington state's workforce. Data include statewide and county-level employment by industry and occupation, unemployment claims, industry and occupational employment projections, and wage information. Gives users single-point access for the top economic indicators for each county in the state.
- [Unemployment Benefits Report](#): Monthly unemployment benefits reports by legislative district, congressional district and county, as well as monthly reports on federally funded extended benefits and outstanding loan balances from the federal unemployment insurance trust fund.

### Quarterly

- [Business Employment Dynamics](#): A national and state view of changes to businesses and the job market.
- [Unemployment Insurance Trust Fund Forecast](#): This report provides the status and updated projections of the state's unemployment insurance trust fund.
- [Quarterly Census of Employment and Wages](#): Industry employment and wage data from employer tax records.
- [WorkSource Performance Dashboard Reports](#): The quarterly performance dashboards provide meaningful data and analysis to WorkSource system leaders to develop better customer service strategies. We envision every customer using this information speaking the same performance language, from the U.S. Department of Labor (DOL) and our Governor to the Workforce Development Council (WDC) board members and contractors. Together, these common conversations will lead to improved service delivery for all WorkSource customers in our state.

### Annual



- [Learn about an occupation](#): This tool distinguishes among occupations as "in demand," "balanced" and "not in demand" across the state and within individual WDAs. We evaluate short- and long-term employment projections to determine whether employment opportunities in more than 800 occupations are expected to increase or decrease. The local workforce development councils then review, adjust and approve that initial list on the basis of their local, on-the-ground experience. The list is used to determine eligibility for a variety of training and support programs. During PY 2014, we continued to make improvements to the information available for each specific occupation by area, making it easier for job seekers to directly connect to job postings, further details on the occupation and training options. *This tool is the most visited page on LMPA's website.*
- [Find employers](#): LMPA's website allows users to find contact information for more than 315,000 employers in Washington state. Users can search by area for an industry or occupation or employer name. Since identifiable information gathered through the U.S. Bureau of Labor Statistics is strictly confidential, this information is provided by Infogroup. *This tool is the second most visited page on LMPA's website.*
- [Annual Labor Market and Economic Report](#): Provides an overview of Washington state's economy (discussed in more detail above).
- [Annual Agricultural Workforce Report](#): Provides an overview of agricultural employment and wages in Washington state. Report topics include agricultural trade, production and the agricultural labor market.
- [Employment Projections](#): Two-, five- and 10-year industry and occupational projections (discussed in more detail above). Users have access to a report based on the projections, detailed methodology information and detailed data tables for the three sets of projections.
- [County Profiles](#): County profiles highlight aspects of the economic health of each of Washington's counties. The facts and figures are useful for grant applications, strategic planning, economic development and other research projects. We compose each county profile using data we collect and data from the U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, U.S. Census Bureau, Washington State Department of Revenue, Washington State Office of Financial Management and other resources.
- [Occupational Employment and Wage Estimates](#): Our Occupational Employment and Wage Estimates are counts of workers and entry-level, average and experienced-worker wage estimates for more than 800 occupations. Data are displayed statewide, by metropolitan statistical area and nonmetropolitan areas.
- [Median and Average Hourly Wage Report](#): The median and average hourly wage report are hourly and annualized wage estimates for the state as a whole and by county. The tables include annual data going back to 1990 for the state and each county. Unadjusted, inflation-adjusted and annualized data are listed, as well as a breakout for the private sector.
- [Distressed areas list](#): LMPA produces the list of distressed areas—counties where the three-year unemployment rate is at least 20 percent higher than the statewide average—to assist users with identifying areas that may qualify for certain publicly funded programs to spur job growth and economic development.
- [EB-5 investor targeted employment areas](#): LMPA identifies the list of counties that qualify as targeted employment areas—where unemployment is at least 50 percent higher than the national rate—to assist users with identifying areas that may qualify for special exceptions under the federal EB-5 foreign investment program. The Employment Security Department

also provides additional technical assistance, if requested, for information on sub-county geographic areas.

- [Training Benefits Report](#): Annual report to the Washington State Legislature providing an update on the unemployment insurance Training Benefits Program. The Training Benefits Program pays extended unemployment benefits to eligible participants while they attend approved training to learn new job skills. The report is based on a survey of Training Benefits participants, unemployment insurance administrative data and community and technical college enrollment data.

#### **Biennial**

- [Fruit growers wage survey](#): The fruit growers wage survey collects wage rates and employment practices for agricultural laborers who work with apples, cherries and pears. The U.S. Department of Labor uses the information we gather to establish the prevailing wage rates and employment practices for foreign guest workers hired under the H-2A program working with these crops.

#### **One-time**

- [Workforce Training and Services: WorkFirst and Workforce Investment Act Title 1-B Report](#): This report describes short- and long-term employment and training-related outcomes and funding of WorkFirst (Washington's Temporary Assistance for Needy Families program) and Workforce Investment Act (WIA) Title 1-B workforce training programs in Washington state. This report also includes a visual representation of Washington's full workforce development system.

#### **IV. Customer consultations**

LMPA has maintained multiple methods of collecting feedback from customers regarding their use of and need for, labor market products and services. Methods for collecting data on customers' use of labor market products and services include web analytics and automated tracking of ad hoc requests.

LMPA uses customer feedback to improve both its deliverables and its delivery system. To assist customers in accessing and understanding labor market information posted on its labor market information website, the LMPA division maintains a Labor Market Information Center with a statewide toll-free number and [online interface](#). Trained individuals staffing that center can take a client through the website to the appropriate information and answer questions about that information. In that process, the staff member also looks for ways to best present the ever-increasing quantity of information on the website.

LMPA provides training to the WorkSource centers in order to facilitate a better understanding of the current tools available and information on new products which are then transmitted to their customers. In effect, this gives LMPA a larger impact by having the WorkSource centers play a key role in making labor market information more accessible around the state.

LMPA solicits input from WorkSource (Washington's One-Stop system) and WDC managers and other customers on the regional labor economists' performance of their responsibilities. That feedback is taken into account in individuals' performance evaluations, as well as broader planning for products and services.

In the fall of 2014, LMPA's director and a management analyst worked with a third-party contractor to conduct focus groups across the state to gather employer feedback on the redesign of the state's online public labor exchange system. Focus group sessions were held in 11 of the state's 12 WDAs. Feedback received was used in determining features to include in the new system.

**V. Activities undertaken to meet customer needs**

LMPA has further developed the use of The Conference Board's Help Wanted OnLine® data to meet our customers' needs. We have developed monthly [Labor Market Supply/Demand Reports](#), which provide a comparison of online job postings and the Employment Security Department's data on unemployment insurance claimants and WorkSource job seekers. The data is organized by WDA and occupation category. These reports provide a measure of real-time labor demand gathered from online job ads, and combine that with what we know about individuals currently looking for work with relevant experience.

Given the importance of the [Learn about an Occupation tool](#) to our customers, we made improvements to the information available for each specific occupation by area, making it easier for job seekers to directly connect to job postings, further details on the occupation and training options. As in years past, the Learn about an Occupation tool is the most frequently visited portion of LMPA's website in PY 2014.

After taking a year off, LMPA restarted our [annual economic symposia](#) in fall 2013. Partners, stakeholders and customers were disappointed when we did not hold a symposium during PY 2012, due to limited resources and staff transitions. In fall 2014, we developed an agenda that would update our customers on the key issues facing the state's economy and labor market, including Seattle's minimum wage increase, regional wage trends, creating open source/open data products and the current state of our labor market.

## VI. New tools and resources

LMPA has further developed the use of The Conference Board's Help Wanted OnLine® data to meet our customers' needs. We have developed monthly Labor Market Supply/Demand Reports, which provide a comparison of online job postings and the Employment Security Department's data on unemployment claimants and WorkSource job seekers. The data is organized by WDA and occupation category. These reports provide a measure of real-time labor demand gathered from online job ads, and combine that with what we know about individuals currently looking for work with relevant experience.

A one-time report published in PY 2014 was the [WorkFirst and Workforce Investment Act Title 1-B Report](#), which described short- and long-term employment and training-related outcomes and funding of WorkFirst (Washington's Temporary Assistance for Needy Families program) and Workforce Investment Act (WIA) Title 1-B workforce training programs. This report also included a visual representation of Washington's full workforce development system. The first section of this report examined training outcomes for WorkFirst-funded education and training programs by activity. Detailed information was provided for education and training enrollment, completions and employment outcomes. The second section of this report examined Workforce Investment Act (WIA) Title I-B program services. This funding stream was mapped from the federal source through the state workforce agency, the Employment Security Department, and on to the local partners. Further detail was provided on WIA Title I-B training and other services, as well as outcomes, focusing on participants who exited the adult, dislocated worker or youth WIA program and postsecondary education and training during the same time period.

## VII. Efforts to create and support partnerships and collaborations

### *Regional labor economists*

LMPA's regional labor economists continued to work with local partners, including workforce development councils, economic development councils, WorkSource Centers and legislative entities, to better understand local labor markets and effectively communicate that information to customers with varying degrees of knowledge and expertise. The regional labor economists worked throughout the year with these local partners to identify their specific needs and tailor information and services to meet those needs. The services included periodic economic briefings on changes in local labor market conditions, training on occupational and career information and tools, and input and technical assistance with local strategic planning.

### *Occupations in Demand*

On an annual basis, LMPA and the local Workforce Development Councils (WDCs) have continued to partner on an Occupations in Demand list, which is used for determining individuals' eligibility for a variety of training and support programs and populates our website's [Learn about an Occupation tool](#). LMPA initiates the annual process by distinguishing among occupations that are "in demand," "balanced" and "not in demand" on the state and WDA level. The WDCs then review, adjust and approve that initial list on the basis of their local, on-the-ground experience. As changes in economic conditions effected occupational demand, the LMPA economists and WDC staff worked together to update the list to reflect current occupational demand and supply conditions. In accordance with state

law, the WDCs are responsible for changes to the list throughout the year, with which LMPA's regional labor economists provide technical assistance as requested. The list is maintained through LMPA's Economic and Employment Information website.

#### *Open Data*

In May 2013, President Obama issued an executive order "making open and machine-readable the new default for government information." The executive order required the Office of Management and Budget, in consultation with the Chief Information Officer and others, to issue an open data policy to advance the management of government information as an asset.

In January 2014, House Bill 2202 was introduced in the Washington State Legislature relating to the establishment of an open data policy to facilitate sharing and publication of government data. It required the development of an open data portal to facilitate the sharing and publication of government data in an open format. Open means freely available, machine readable and formatted according to uniform technical standards to facilitate visibility and reuse of publishable data.

Government records and information are a vital resource to both government operations and to the public that government serves. Broad public access to state government records and information has potential for expanding citizen access to that information and for improving government services. Electronic methods for locating and transferring information can improve linkages between and among citizens, organizations, businesses and governments.

LMPA has served as a leader amongst Washington's state agencies in supporting and developing an open data portal.

#### *WorkSource Reports*

Our division continues to publish performance measures and has introduced labor market supply/demand reports for our state's WorkSource (One-Stop) system. The labor market supply/demand reports represent comparisons of online job postings and data on unemployment insurance claimants and WorkSource job seekers. The data is organized by WDA and occupation category.

The quarterly performance dashboards provide meaningful data and analysis to WorkSource system leaders in order to develop better customer service strategies. Every customer using this information is speaking the same performance language, from the U.S. Department of Labor (DOL) and our Governor to the Workforce Development Council (WDC) board members and contractors.

#### *Performance*

LMPA has continued to take a leadership role for developing and maintaining outcome measures and leading indicators for each of the agency's four goals. The Executive Leadership Team relies on our knowledge and insights to guide what we measure and why. That is both a great opportunity and responsibility.

#### *WIOA implementation*

LMPA has provided full support of Washington's WIOA implementation efforts. The LMPA director and System Performance manager have both served on subcommittees and task forces convened by the state workforce board. LMPA's director, system performance team, and regional

labor economists participated in a tri-state effort, with Oregon and Idaho, to support regional planning under WIOA.

#### **VIII. Activities to leverage LMI-WI funding**

LMPA has continued to be an active partner in [Washington's Statewide Longitudinal Data System \(SLDS\)](#) grant which is led by the state's Education Research and Data Center (ERDC). In doing so, we are ensuring that the state's P-20W data efforts will provide information critical to evaluating and improving workforce development programs and services. To make those dollars stretch even further, our agency has partnered with the ERDC on a [Workforce Data Quality Initiative \(WDQI\)](#) grant. In doing so, we will ensure that unemployment insurance claimants' and WorkSource customers' data will be included in the state's P-20W data efforts. We are also using WDQI grant funds to support a second net-impact analysis of the state's unemployment insurance Training Benefits Program required by state law.

Just as we have been an active partner in the state's SLDS work, we have played a crucial role in the Western Interstate Commission for Higher Education's (WICHE) project facilitating development of a [Multistate Longitudinal Data Exchange](#). Supported by the Bill and Melinda Gates Foundation, its principal objective is to pilot a data exchange among several states, beginning with Washington, Oregon, Idaho and Hawaii, allowing for more comprehensive analyses of the production, stock and flows of human capital through a regional, multi-state approach. WICHE is coordinating efforts to develop the necessary architecture for the exchange of data, effectively govern the exchange, produce standard reports and ensure the protection of privacy. As the WICHE project looks to expand, LMPA and Washington continue to play active roles.

#### **IX. Recommendations to the Employment and Training Administration for changes and improvements to WIG requirements**

We fully support the Employment and Training Administration (ETA) in their efforts to make the Workforce Information Advisory Council (WIAC), which was established in WIOA, a really valuable and functional entity. We also encourage the ETA to continue their much needed and appreciated support for the infrastructure essential to developing short- and long-term employment projections, which includes everything from the Local Employment and Wage Information System (LEWIS), to the Analyst Resource Center (ARC), to the new replacement methodology.