

ANNUAL WORKFORCE INFORMATION GRANT PERFORMANCE REPORT PY 2013
September 18, 2014

Washington state is submitting its Workforce Information Grant performance report for Program Year (PY) 2013, as required of grantees under Training and Employment Guidance Letter No. 29-12. 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 2013: 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, Washington state's Labor Market and Performance Analysis (LMPA) branch continued to populate and maintain the database tables designated as core tables in accordance with guidelines issued by the Analyst Resource Center (ARC).

Washington has struggled with internal IT support to upgrade from version 2.2 to version 2.5 of the Workforce Information Database. At the end of PY 2013, we had a full version of the database structure in development, test and production, with full data population in development and test. As we complete the upgrade in early PY 2014, our agency's IT staff are improving documentation for, and making process improvements to, both the regular uploading of data to the WIDb and future upgrades to the application beyond version 2.5. These steps will be critical for preventing delays in the future.

As noted in our PY 2012 report, it came to our attention that we needed to conduct a complete update of our state licensing information. We completed a comprehensive update 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, policy makers 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 2014. 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.

LMPA used a North American Industry Classification System (NAICS)-based historical industry employment time series from January 1990 through September 2013 for this project. NAICS-based staffing patterns were constructed using the newest information from the Occupational Employment Statistics (OES) survey, through 2013.

The Projections Managing Partnership (PMP) methodologies advise forecasters to combine alternative economic forecasting methods and to choose the best fit model. The “fit” of a model is based on performance measures over the observed time periods. Washington state used this PMP methodological approach. To implement the methodology, we used the SAS (statistical software) forecasting system and used leading economic indicators from IHS Global Insights.

Similar to last year, in this round of projections, we paid significant attention to the ability of the models to predict recovery of state and local-area employment trends. LMPA also partially incorporated change factors in occupational forecasts, which were based on detailed analyses of the consistency of national change factors with local trends. Only a very limited number of factors were finally selected.

LMPA started with aggregated levels of projections, and then used the IHS Global Insight model and inputs from forecasting staff from the Washington State Economic and Revenue Forecast Council and the Washington State Office of Financial Management. The SAS advanced forecasting system was used to select the best model or combination of models. The system includes 42 default auto regression models, supplemented with a few customized models with independent variables. LMPA's two main independent variables (regressors) were:

1. Industry employment forecasts for the industries in the Global Insight Model; and
2. The forecast of total nonfarm employment for the state, using the SAS forecasting system and the Global Insight forecast of national total nonfarm employment.

The selection of the regression model(s), to add to the forecasting system for each industry, was based on standard regression statistics for the parameters. The custom-built models were added to the default models in the system.

The goal of “fitting” in a forecasting system is to build a model which better predicts the future. The main criteria used to select such models are based on different types of prediction errors (the SAS Time Series Forecasting System includes 13 criteria from which to choose) in and out of the sample.¹ LMPA mainly used the Mean Absolute Percent Error (MAPE) as its criterion. The final forecast often can be improved by combining a few forecasting models. The SAS forecasting system includes a sophisticated tool for combining such forecasts, which is based on optimization of weights of the selection. The selected models (or combination of the models) are used to produce initial forecasts.

¹The technique, called ex-post projections or hold-out-sample (in SAS), is used to estimate out-of-sample errors. The idea of this approach is to estimate a model on a sample shorter than the available observations, and then make forecasts and calculate errors for observations that are available, but are not included in the sample.

The aggregated projections were separated into industry and sub-state component parts. In this step, LMPA first used EViews software, which significantly increased the speed of the separation process. To smooth the results, LMPA used basic stability controls for dynamic systems. Using flexible software and models permitted the estimation of the employment impacts of major labor market disruptions, such as plant closings or new plant openings.

All deliverables were completed as required. Both the short-term and long-term projections were completed in the fourth quarter of PY 2013, and the results became available to the public in electronic form in May 2014. The specific milestones were as follows:

- Refined NAICS-based historical industry employment database – December 2013
- Prepared NAICS-based short-term and long-term industry projections – March 2014
- Prepared screened NAICS-based staffing pattern from OES survey data – April 2014
- Prepared short-, medium- and long-term occupational projections – May 2014
- Populated the Workforce Information (formerly ALMIS) Database and the Employment and Economic Information web site with state and WDA projections – June 2014
- LMPA posted short- and long-term projections to the national Projections Central web site, according to PMP requirements – June 2014.

Washington state law ([RCW 50.38.050](#)) requires five-year employment projections by industry and occupation in addition to the two- and 10-year projections required by this grant. LMPA receives state funding in order to produce the five-year projections and other specified labor market information. The grant money is used to produce the two- and 10-year projections. The funding from this grant, along with the five-year projections funding, enabled LMPA to provide Washington's labor market information customers with a more detailed and comprehensive view of Washington's economy. This detailed and comprehensive view would not have been possible without the funds from this grant.

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 [*2013 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 in addition to extensive surveys of job vacancies, employee benefits and seasonal agricultural employment; annual occupational employment and wage report; and other local and statewide studies. These reports 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 U.S. Bureau of Labor Statistics' monthly release of local labor market statistics.

- [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.
- [Agricultural Employment and Wage Report](#): Through April 2014, LMPA conducted monthly surveys of agricultural producers to gather information about the number of seasonal workers employed, types of crops, work activities and wages. Based on these data, ESD estimated the size of the agricultural workforce and average wages, both statewide and for each of six agricultural reporting areas in the state. The timeliness and level of detail this report provided on the agricultural industry, which is critical to Washington state's economy, made this an important product for our customers. *Unfortunately, due to limitations in non-WIG funding sources, LMPA discontinued this monthly survey following the April survey and report.*
- [Industry trends](#): Graphs and tables of economic indicators that provide a snapshot of the workforce in Washington state industries. Data include employment trends, unemployment claims, number of firms, wages and occupations. Users can customize data and graphics by local area and/or by industry.
- [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.

Biannual

- [Job Vacancy and Hiring Report](#): Twice yearly, LMPA conducted a survey of employers to learn about job vacancies and hires by industry, occupation and geographical area. These reports consisted of estimations and analysis based on the results of these surveys. This information was particularly important since the U.S. Bureau of Labor Statistics' Job Openings and Labor Turnover Survey

only provides national-level information. *Unfortunately, due to limitations in non-WIG funding sources, LMPA discontinued this bi-annual work following the spring 2014 survey.*

Annual

- [Learn about an occupation](#): This tool distinguishes among occupations as "in demand," "balanced" and "not in demand" across the state and within individual workforce development areas. 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 2013, we made improvements to the information available for each specific occupation by area, making it easier for jobseekers 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.
- [*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.
- [*Employee Benefits Report*](#): LMPA has annually conducted a survey of employers to learn about health insurance, retirement and paid-leave benefits offered to employees in Washington state. This report consists of estimations and analysis based on the results of this survey. This information is used by both policymakers and businesses to gauge the type and level of benefits typically offered in the state. *Unfortunately, due to limitations in non-WIG*

funding sources, LMPA has discontinued this work, with the 2013 survey (published in March 2014) being our last.

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.

Periodic

- [*WorkSource Net-Impact Report*](#): This study examined the effectiveness of WorkSource (Washington's One-Stop system) job-search services on unemployment insurance claimants during the Great Recession. It found that unemployed workers who used WorkSource services tended to find work faster and earned more money than those who didn't. The study also investigated whether federal funding spent on the WorkSource system produced benefits to society as a whole. Assuming costs ranged from \$100 to \$500 per customer, the study calculated an average "social return on investment" (ROI) of 14 to 23 percent.

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 branch 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.

V. Activities undertaken to meet customer needs

Based on specific requests from customers, including the Governor and the State Board for Community and Technical Colleges, LMPA has restarted a subscription to The Conference Board's Help Wanted OnLine® data. Based on that data source, we have developed monthly [Employer Demand 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 provide a measure of real-time labor demand gathered from online job ads.

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 jobseekers to directly connect to job postings, further details on the occupation and training options. As in years past, the Occupations in Demand tool is the most frequently visited portion of LMPA's website, with 1,164,977 page views in PY 2013.

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 2013, we were still faced with limited resources so held a scaled-back symposium. In previous years, we held a nearly all-day event requiring a registration fee to cover a catered lunch. In fall 2013, we limited the event to a half-day, with no food provided. In partnership with the state Economic and Revenue Forecast Council and Office of

Financial Management, we developed an agenda that would update our customers on the key components of the state's economy and labor market.

VI. New tools and resources

We have developed monthly [Employer Demand 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 provide a measure of real-time labor demand gathered from online job ads, based on The Conference Board's Help Wanted OnLine® (HWOL) data. This new product is particularly important given the budgetary realities that led us to discontinue our twice-yearly job vacancy and hiring survey. We continue to develop additional products and tools using HWOL data.

This addition was a welcome contrast to a year in which we made the difficult decision to discontinue three survey-based reports: biannual job vacancy and hiring, monthly agricultural and annual employee benefits reports. Our branch has long relied on flexible state dollars to supplement WIG funds to provide a robust set of labor market research and services. As the budget tightened for the Employment Security Department as a whole, we had to lessen our reliance on flexible state dollars. We took a careful look at all of our survey-based reports, given the resource-intensive nature of that type of work, eliminating those that were not specifically required by federal or state law or regulation.

An additional new product was the [WorkSource Net-Impact Report](#), which examined the effectiveness of WorkSource (Washington's One-Stop system) job-search services on unemployment insurance claimants during the Great Recession. Using state-of-the-art statistical techniques, the study found that unemployed workers who used WorkSource services tended to find work faster and earned more money than those who didn't. The

study also investigated whether federal funding spent on the WorkSource system produced benefits to society as a whole. Assuming costs ranged from \$100 to \$500 per customer, the study calculated an average “social return on investment” (ROI) of 14 to 23 percent.

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 investment boards (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 (WDC) 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.

Performance

Mid-way through PY 2013, our branch changed our name from the long-held “Labor Market and Economic Analysis” to “Labor Market and Performance Analysis.” This was not simply a matter of semantics, but rather a matter of our name needing to catch up with how the branch had changed and grown over the preceding year. Our branch’s scope, roles and responsibilities had changed substantially, including incorporating WorkSource (Washington’s One-Stop system) performance. This has been a truly exciting development that has bolstered our value for and engagement with partners, employers, jobseekers, stakeholders and policymakers throughout the state.

With a new Governor and a new Commissioner, our state and agency have undertaken major strategic planning initiatives. A critical part of these efforts is measuring performance—first, what should we measure? And second, how should we measure it?

- In partnership with research staff from the state departments of Revenue, Labor and Industries, and Commerce, our branch leadership has worked to develop the outcomes and leading indicators that make up our state’s goal for a [prosperous economy](#).
- On the agency level, our branch leadership has taken on responsibility for developing the 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.

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.

IX. Recommendations to ETA for changes and improvements to WIG requirements

We greatly appreciate the local flexibility that WIG requirements allow, and would hope to see that continue. One point of ongoing concern is that state labor market information reports and services are supported by a diverse set of tools that lack consistent, stable funding and technical support. A prime example is the Estimates Delivery System (EDS), which is critically important to Washington state's ability to develop: the industry and occupational projections required under this grant; supplemental occupational information for areas that border other states; and customized occupational information requested by our customers. Particularly with internal staff transitions, we found technical support and training on EDS to be lacking. Another critical support is the Analyst Resource Center (ARC). The ARC is responsible for the ongoing design, development and maintenance of the Workforce Information Database that states must regularly update as required by this grant. Connected with that work, the ARC provides training for state database administrators, operates the ARC website and National Crosswalk Service Center, and implements the Employer Database Master Agreement. These are critical supports essential to the work of this grant that must be sustainably funded.