Employment Security Department
WASHINGTON STATE

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

ANNUAL WORKFORCE INFORMATION GRANT PERFORMANCE REPORT PY 2012

September 30, 2013

Washington state is submitting its summary performance report for Program Year (PY) 2012, as required of Workforce Information grantees by 29 CFR 97.40(b)(1). It summarizes accomplishments and the results of assessments of customer satisfaction with the state's workforce information products and services, and recommendations for improvement to workforce information and services.

As agreed to in the Statement of Work Deliverables, Washington state has produced five deliverables in PY 2012. The deliverables include populating and maintaining the Workforce Information Database (WIDb) with state and local data; producing industry and occupational employment projections; conducting and publishing relevant economic analyses, special workforce information, and/or economic studies determined to be of benefit to the governor and state and local workforce investment boards (WIB); posting products, information and reports on the Internet; and partnering and consulting on a continuing basis with WIBs and other key workforce and economic development partners and stakeholders.

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

Throughout the year, Washington state's Labor Market and Economic Analysis (LMEA) branch continued to populate and maintain the database tables designated as core tables in accordance with guidelines issued by the Analyst Resource Center (ARC). However, it has come to our attention that we need to conduct a complete update of our state licensing information. We are in the process of conducting a comprehensive update now, and will have that completed by the end of the calendar year (mid-way through PY 2013).

Washington state is in the process of upgrading from version 2.2 to version 2.5 of the Workforce Information Database. In October 2013, we will have a dedicated information technology resource committed to the upgrade, and that work will be complete by the end of the calendar year.

II. Producing and disseminating industry and occupational employment projections

LMEA produced and distributed two-, five- and 10-year industry and occupational Employment Projections for Washington state and 12 local workforce development areas (WDAs) in June 2013. We continue to maintain 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 local areas.

LMEA used a North American Industry Classification System (NAICS)-based historical industry employment time series from January 1990 to September 2012 for this project. NAICS-based staffing patterns were constructed using the newest information from the Occupational Employment Statistics (OES) survey (up to 2012). That allowed us to fully move to SOC-2010 codes, which was particularly important for multiple applications of our employment projections products.

Washington state used the same methodology proposed by the Projections Workgroup and Managing Partnership, but implemented the methodology internally using the SAS (statistical software) forecasting system and leading economic indicators from IHS Global Insights, rather than consortium software tools.

As with the preceding 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. LMEA 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.

LMEA started with aggregated levels of projections, and then used the 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. LMEA'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 the model that will help predict 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] LMEA 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.

The aggregated projections were used in a step-down approach for industry and sub-state disaggregation. In this step, LMEA first used Eviews software, which significantly increased the speed of the process. To smooth the results, LMEA used the basic stability controls for dynamic systems. Having flexible software and models permits estimation of the employment impacts of major labor market disruptions, such as plant closings or new plant openings. The state uses the projected outcomes and system impacts for policy decisions, program administration and curriculum development.

[1] The 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.

All deliverables were completed as required. Both the short-term and long-term projections were completed in the fourth quarter of PY 2012, and the results became available to the public in electronic form, in June 2013. The specific milestones were as follows:

- Refined NAICS-based historical industry employment database - December 2012
- Prepared NAICS-based short-term and long-term industry projections - March 2013
- Prepared screened NAICS-based staffing pattern from OES survey data - April 2013
- Prepared short-, medium- and long-term occupational projections - May 2013
- Populated the Workforce Information (formerly ALMIS) Database and the Employment and Economic Information website with state and WDA projections – June 2013
- LMEA transmitted files as required as soon as directions from the Projections Workgroup became available – June 2013.

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. For this purpose, LMEA received state funding to provide this and other specified labor market information. By leveraging these resources with funding under this grant, LMEA was able to provide Washington's labor market information customers with a higher level of service of enhanced quality than it could have without using these funds in an integrated manner.

III. Conducting and publishing relevant economic analyses, special workforce information, and/or economic studies determined to be of benefit to the governor, or state and local WIBs

Consistent with this grant and required by state law, LMEA 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), Workforce Innovation in Regional Economic Development (WIRED) regions, state legislators, as well as other partners including community and technical colleges, economic development organizations and other talent-development stakeholders.

The *2012 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, occupations after the Great Recession and economic comparisons with other states.

Throughout the year, LMEA staff conducted special studies and economic analyses in addition to the 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 report 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.
- *Agricultural Employment and Wage Report*: Each month, LMEA surveys agricultural producers to gather information about the number of seasonal workers employed, types of crops, work activities and wages. Based on these data, ESD estimates 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 provides on the agricultural industry, which is critical to Washington state's economy, makes this an important product for our customers.
- *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 LMEA'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.
- *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.

Bi-Annual

- *Job Vacancy and Hiring Report* : Twice yearly, LMEA conducts a survey of employers to learn about job vacancies and hires by industry, occupation and geographical area. This report consists of estimations and analysis based on the results of this survey. This information is particularly important since the U.S. Bureau of Labor Statistics' Job Openings and Labor Turnover Survey only provides national-level information.

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. *This tool is the most visited page on LMEA's website.*
- *Find employers*: LMEA'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 LMEA'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*: LMEA 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.
- *Targeted Employment Areas*: LMEA 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.
- *E2SSB 5809 Workforce Training Bill Report*: Third and final special report to the workforce development councils, State Board for Community and Technical Colleges, legislators and other

stakeholders about how 2009 legislation on worker training affected employment and pre- and post-training wages of participants.

- *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.
- *Training Benefits Net-Impact Report*: Net-impact analysis showing how the unemployment-insurance Training Benefits Program affects the employment and earnings of participants. This report uses state-of-the-art techniques to compare the results for program participants to a matched comparison group.
- *Employee Benefits Report*: Annually, LMEA conducts 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.

IV. Posting products, information and reports on the Internet

Washington state's labor market information website, in combination with LMEA's out-stationed regional and central office labor economists, continued to provide local-area support to Washington state's job seekers, employers, One-Stop System (WorkSource Centers), local workforce investment boards (Workforce Development Councils), economic development councils, legislative policymakers and other customers.

As demonstrated by the hyperlinks to the Employment and Economic Information site throughout this report, LMEA fully utilizes the state's labor market information website to disseminate data, analysis, reports and other work products to its full range of customers.

V. Collaborating and consulting on a continuing basis with workforce investment boards and other key workforce and economic development partners and stakeholders

LMEA'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.

Unfortunately, we had to reduce the number of our Regional Labor Economists this past year. Our agency faced reduced levels of flexible funding which resulted in the elimination of over 400 positions. We went from 12 Regional Labor Economist positions to six. This was a difficult decision to make since our regional staff are highly valued by local workforce development, economic development and education leaders. We are actively monitoring the workload of these regional staff to gauge the impact of the reductions, and are providing additional support from headquarters to maximize our regional resources.

Occupations in demand

On an annual basis, LMEA 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. LMEA 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 LMEA 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 LMEA's Regional Labor Economists provide technical assistance as requested. The list is maintained through LMEA's Economic and Employment Information website.

Beginning in the second half of PY 2011, LMEA undertook a comprehensive analysis of the methodology underlying our development of the initial list (which is then adjusted and updated throughout the year by the local WDCs). We had two reasons for doing so. The first was to see

whether there was any room for improvements, to increase the quality of the list. The second was to adapt to the loss of one of our data inputs, due to previous budget reductions. As we conducted our analysis, we investigated the value and relevance of each of the data inputs that we had previously used, especially on the local (WDA) level. And we looked at how we had previously applied those inputs to develop the designations of "in demand," "balanced," and "not in demand" for each occupation on the state and WDA level. This analysis carried over into the beginning of PY 2012.

In October of 2012, LMEA solicited comment from WDC leadership and staff on a new, proposed methodology, which made a change in the inputs—down from five to one (occupational projections)—and the method for designating occupations as "in demand," "balanced," and "not in demand"—going from a static approach to one based on each occupation's specific levels of growth and total openings. In soliciting comment, we laid out the proposed new methodology, and provided detailed information comparing the then-current PY2011 list to what the list would look like under the proposed methodology for PY 2012. Once we had gathered input from the WDCs, we provided a full accounting of each comment we received and our response, consistent with the best practices in any transparent public comment process. From the comments we received, we not only gleaned information on the approach to the list but also our approach to the process of analyzing and updating the underlying methodology. We heard loud and clear that our WDCs' leadership and staff wanted to be a part of the process from the beginning. And we took that lesson to heart, as we developed our options for our initial list for PY 2013.

VI. Consulting customers regarding state workforce information products and services

LMEA has maintained systematic methods of collecting feedback from customers regarding their use of, and satisfaction with, LMEA's labor market products and services. The results of these feedback measures play a critical role in LMEA's performance measurement, which is a reporting system directly linked to its project and operational plans. Methods for collecting data on customers' use of labor market products and services include web analytics and automated tracking of ad hoc requests. In the fall of 2012, LMEA redesigned its internal ad hoc request tracking tool to better facilitate high-quality, consistent responses to customer requests.

LMEA also conducts customer service surveys to collect feedback on satisfaction with responses to ad hoc requests. When customers provide dissatisfied feedback, LMEA staff follow up with the customer to find out how they can better assist them. This follow-up improves customer relations, and allows LMEA to provide improved customer service.

LMEA uses customer feedback, as described above, 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, LMEA branch maintains a Labor Market Information Center with a statewide toll-free number. 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.

LMEA solicits input from WorkSource and WDC managers and other customers on the Regional Labor Economists' performance of their responsibilities. That feedback is taken into account in agency wide performance reporting, as well as individuals' performance evaluations. This sets up the clear expectation that the Regional Labor Economists are responsive to their customer base.

Foresee survey

During PY 2012, Washington state was one of 16 states that took advantage of the opportunity to participate in a comprehensive analysis of state labor market information websites through Foresee, Inc. This survey effort was coordinated and sponsored by the Workforce Information Council's Customer Consultation Study Group, and sought to provide behavioral insights and identify key drivers of customer satisfaction for online LMI consumers as well as identify key tools, technologies and best practices. From February through May 2013, the survey was operational on LMEA's website, and 265 responses were completed by users of the site. Those results have provided valuable basic information on our customers' needs, and are informing our ongoing improvements and developments to our site. Survey respondents identified room for improvement in the site's navigation and overall satisfaction with the content. During PY 2013, we are focusing on improvements to site layout and navigation.

VII. Recommendations for improvement or changes to the deliverables

State labor market information reports and services are supported by a diverse set of tools that lack consistent, stable funding. One of those tools is the Estimates Delivery System (EDS). The EDS 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. 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.