

**WASHINGTON STATE
WORKFORCE TRAINING AND EDUCATION COORDINATING BOARD
MEETING NO. 154
May 5, 2011**

**HIGH DEMAND MID LEVEL OCCUPATIONS
WIA PERFORMANCE TARGET REVISIONS
NET IMPACT EVALUATION UPDATE**

Background:

This tab covers three separate Research and Evaluation activities.

The final stage of the annual **Gap Analysis** consists of identifying occupational areas of possible skilled labor shortage in the future. The analysis focuses on mid-level jobs typically requiring at least one year of postsecondary education or training, but less than a bachelor's degree. Forecasted demand six years in the future is compared with supply at the current level to identify occupational groups with likely shortages. Occupations with high demand are also identified. The fields with forecasted skill gaps are defined as the high employer demand programs of study at the mid-level

The results of the ongoing **Net Impact Study** are updated. This study estimates the impact of participating in different programs within the workforce training system by statistically controlled comparisons of participating individuals with similar individuals in the same labor markets who did not receive training. In this installment:

- Results presented at January meeting are updated to correct for an error in data matching discovered by the primary contractor, Upjohn Institute.
- Results for WIA participants are presented separately for those who received training services.

Revisions to the federal performance targets for WIA programs. Every March, the Department of Labor allows states to propose changes to their targets, based on developments in the economy and the populations served. Washington is one of the very few states that maintain statistical regression models to calculate the appropriate changes. The changes proposed this year lowered seven of the nine targets, and raised two.

Board Action Requested: None. For informational purposes only.

RESEARCH AND EVALUATION

High Demand Occupations Net Impact Update WIA Performance Targets

Washington Workforce Training and
Education Coordinating Board

May 5, 2011



Workforce Training
And Education
Coordinating Board

Dave Pavelchek
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April 28, 2011

I - Identifying High-Demand Occupations Gap Analysis by Occupational Groups

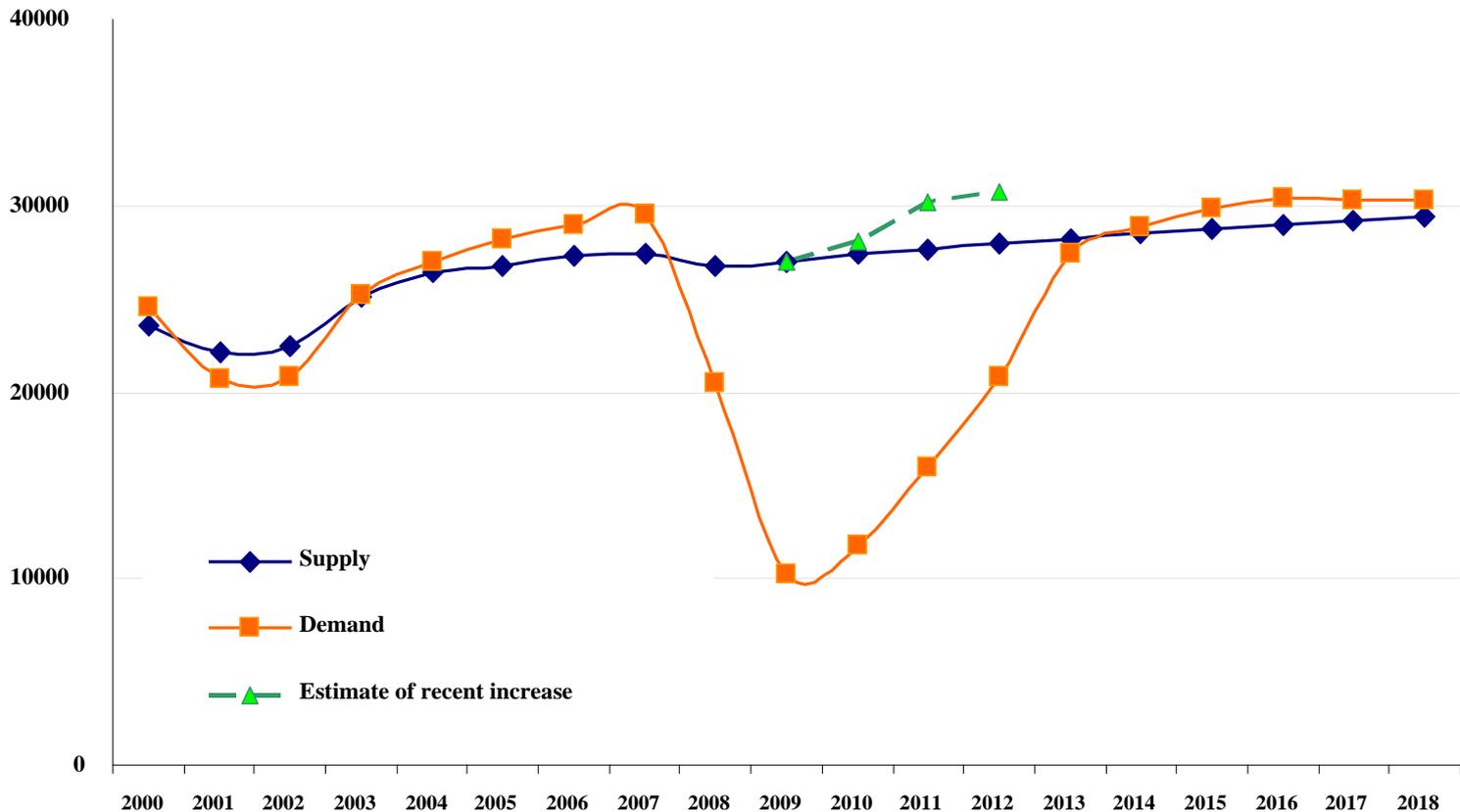
This annual analysis focuses on “mid-level” jobs—those typically requiring a year or more of postsecondary education and training, but not a bachelor’s degree.

As covered in the March Board meeting on overall results, towards the end of the recovery, more normal labor market conditions are expected to return, bringing with them the likelihood of gaps between the supply and demand for some kinds of skilled workers.



The Aggregate Projections for Mid-Level Supply and Demand

Supply and Demand - Mid-level Workers



Identifying Occupational Groups with Supply/Demand Gaps

Comparison of the current annual supply of newly trained workers with the Bureau of Labor Statistics (BLS) forecasts of net job openings indicates the following occupational groups as most likely to develop shortages at the mid-level. These are the high employer demand programs of study at the mid-level, and the fields in which supply should be increased to meet future demand.



Identifying High-Demand Occupations

Gap Analysis by Occupational Groups

Major Occupational Analysis Group	Annual Openings 2013-2018	Total 2009 Supply	Annual Gap 2013-2018 at 2009 Supply
Accounting & Bookkeeping	1234	668	-566
Aircraft Mechanics & Technicians	185	121	-64
Installation, Maintenance, Repair	2235	1467	-768
Manufacturing, Production	1243	784	-459
Protective Services	809	660	-149
Science Technology	309	64	-245

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High-Demand Occupations Without Considering Supply

There will be substantial numbers of job openings in many occupations, not just the occupations with a gap between annual supply and demand.

Supply data from education and training programs are much harder to match to specific occupations, but looking at size of projected demand alone, the following mid-level occupations have the highest forecasts.



Mid-Level Jobs with Many Openings

Top Mid-level Jobs - Level 2	Average Annual Net Openings 2013-18
Registered Nurses	2847
Carpenters	1385
Teacher Assistants	1174
First-Line Supervisors/Managers of Office and Administrative Support Workers	989
First-Line Supervisors/Managers of Retail Sales Workers	951
Cooks, Restaurant	852
Managers, All Other	763
Teachers and Instructors, All Other	748
Medical Secretaries	672
Electricians	669
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	653
Maintenance and Repair Workers, General	648
Computer Support Specialists	573
First-Line Supervisors/Managers of Non-Retail Sales Workers	541
Licensed Practical and Licensed Vocational Nurses	533
Plumbers, Pipefitters, and Steamfitters	451
Fire Fighters	404
First-Line Supervisors/Managers of Food Preparation and Serving Workers	358
Cooks, Institution and Cafeteria	329
Hairdressers, Hairstylists, and Cosmetologists	328
Fitness Trainers and Aerobics Instructors	328
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	316
Police and Sheriff's Patrol Officers	312
Automotive Service Technicians and Mechanics	308
Preschool Teachers, Except Special Education	297



Occupations Requiring Postsecondary Preparation less than One Year

Workforce training programs also include programs shorter than one year in length. Specific occupations at this level (BLS Level 3) that have high forecasts include the following:



Occupations Requiring Postsecondary Preparation less than One Year

Top Level 3 Jobs (1-12 months training)	Average Annual Net Openings 2013-18
Customer Service Representatives	1522
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	1265
Bookkeeping, Accounting, and Auditing Clerks	1234
Truck Drivers, Heavy and Tractor-Trailer	1028
Secretaries, Except Legal, Medical, and Executive	828
Construction Laborers	648
Painters, Construction and Maintenance	533
Sales Representatives, Services, All Other	491
Executive Secretaries and Administrative Assistants	487
Dental Assistants	485
Team Assemblers	457
Billing and Posting Clerks and Machine Operators	440
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	436
Medical Assistants	425
Social and Human Service Assistants	386
Operating Engineers and Other Construction Equipment Operators	329
Pharmacy Technicians	298
Correctional Officers and Jailers	244
Sales and Related Workers, All Other	239
Bus Drivers, Transit and Intercity	205
Assemblers and Fabricators, All Other	200
Roofers	184
Production Workers, All Other	176
Payroll and Timekeeping Clerks	165
Hazardous Materials Removal Workers	156



II - Net Impact Study Update

Analyses Conducted by
Kevin Hollenbeck, Senior Economist
W.E. Upjohn Institute for Employment Research

- Revision of earlier results to correct matching errors.
- New results on WIA participants who received occupational training.



Study Design

Definition of Net Impact

Estimated effect of a program measured through comparison with individuals who did not participate in the specified workforce programs, and:

- Had similar characteristics
- Faced the same regional labor market at the same time

For most programs, matched individuals were selected from Labor Exchange registrants

Time periods:

Short Term = 3 quarters after exit

Long Term = 3rd year after exit

Outcomes: Employment, earnings, hours, wage rates

(welfare, Unemployment Insurance Benefits and tax revenue to be included later)



Revising Results Reported at January Meeting

After the January meeting, the Upjohn researchers discovered that incorrect dates had been used in calculating the prior earnings for matching program participants with comparison individuals.

The analysis did not affect the overall positive character of the results for most workforce programs. But there were differences. For example, after correction, the Apprenticeship results are more positive, but the positive results for Dislocated Workers are smaller than shown in January.

Also, as a result of this re-calculation and verification of results, problems were identified with the comparison group approach applied to Services for the Blind. So far, these problems are unresolved.



Revised - Net Impact of Workforce Development Programs on Employment (in percentage points)

	Short-Term	Long-Term
WIA		
Adults	12.8%	10.8%
Dislocated Workers	10.1%	4.7%
Youth	8.0%	4.3%
Community & Technical Colleges		
Job prep	6.6%	10.1%
Worker Retraining	8.8%	7.5%
ABE	--a	--a
IBEST	3.9%	NA
Private Career Schools	--a	3.4%
Apprenticeship	7.8%	9.8%
Secondary CTE	6.0%	NA
Vocational Rehabilitation	12.8%	12.4%

NA - IBEST did not yet have enough participants with long term follow up: Data matching problems with Secondary CTE long term cohort.

—a No statistically significant positive impact



Revised - Net Impact of Workforce Development Programs on Quarterly Earnings (In 2005 \$)

		Short-Term	Long-Term
WIA	Adults	\$1,559	\$952
	Dislocated Workers	--a	\$756
	Youth	\$359	\$429
Community & Technical Colleges	Job prep	\$1,856	\$1,976
	Worker Retraining	\$367	\$627
	ABE	\$210	\$189
	IBEST	\$526	NA
Private Career Schools		\$559	\$470
Apprenticeship		\$4,216	\$4,019
Secondary CTE		\$173	NA
Vocational Rehabilitation		\$286	\$305

NA - IBEST did not yet have enough participants with long term follow up: Data matching problems with Secondary CTE long term cohort.

—a No statistically significant positive impact



Revised – Net Impact Results for Program Completers

		All		Completers	
		Short-term	Long-term	Short-term	Long-term
Community & Technical Colleges					
Job prep	Employment	6.6%	10.1%	10.5%	13.0%
	Earnings	\$1,856	\$1,976	\$2,346	\$2,452
Worker Retraining	Employment	8.8%	7.5%	12.3%	10.9%
	Earnings	\$367	\$627	\$621	\$893
Private Career Schools	Employment	--a	3.4%	--a	4.7%
	Earnings	\$558	\$470	\$678	\$602
Apprenticeship	Employment	7.8%	9.8%	24.7%	24.0%
	Earnings	\$4,216	\$4,019	\$7,362	\$6,858

—a No statistically significant positive impact



Additional Subgroup Analyses

WIA Title I Participants Who Received Training

Unlike apprenticeships, private career schools and community and technical college workforce programs, WIA Title I programs do not provide occupation skills training to all participants. For WIA programs, we separately analyze the outcomes for participants who received occupation-related training services. For this purpose, we include occupational training and OJT, but not pre-employment training, basic skills or non-training services. The participants who participated in occupational training services had higher average outcomes than the averages for all WIA participants.



Net Impacts for WIA Training Recipients New Results

		All		Training Recipients	
		Short-term	Long-term	Short-term	Long-term
Adult	Employment	12.8%	10.8%	15.4%	13.2%
	Earnings	\$1,559	\$952	\$2,263	\$1,589
Dislocated Worker	Employment	10.1%	4.7%	10.2%	5.0%
	Earnings	--a	\$756	--a	\$1,017
Youth	Employment	8.0%	4.3%	13.1%	4.5%
	Earnings	\$359	\$700	\$700	\$977

—a No statistically significant positive impact



III - Workforce Investment Act Performance Target Revisions Requested by Washington State for PY10

In revising Washington's negotiated performance targets for WIA I-B programs, we propose targets based on recent changes in program participants and our local economies. Instead of guessing these effects on performance, we develop statistical estimates based on regression models. These models calculate the likely impact of actual changes in the characteristics of participants or health of the economy.

The adjustments that we propose may be upwards or downwards, depending on conditions. We propose those changes in the spring of each program year, before we know the final results for that year's performance.

We limit our request to the WIA I-B measures evaluated by the Department of Labor (DOL) for incentives and sanctions.



This Year, Most Targets are Revised Downward, Due to the Recession

As a consequence of the contraction of labor markets during the recession, we request reductions for all Adult and Dislocated Worker PY10 targets and one of the Youth targets. The analysis that follows compares economic and demographic conditions in PY10 with earlier years when baseline targets were established.



Proposal for PY10 Performance Target Revisions

We propose to:

- Decrease all three Adult targets: Entered Employment (-3.5 percent), Employment Retention (-2.6 percent), and Earnings (-\$2,481). These reductions are primarily due to the worsening of Washington's economy during the current program year.
- Decrease all three Dislocated Worker targets: Entered Employment (-6.6 percent), Employment Retention (-3.6 percent), and Earnings (-\$2,721). These reductions are also primarily due to the worsening of Washington's economy.
- Decrease the Youth Placement target (-6.1 percent). Increase the Youth Credential target (+4.8 percent) and the Youth Literacy/Numeracy target (+9.0 percent).



Analysis

Washington's economic conditions precipitated into a severe recession along with the rest of the county during the period covered in the PY10 performance report.

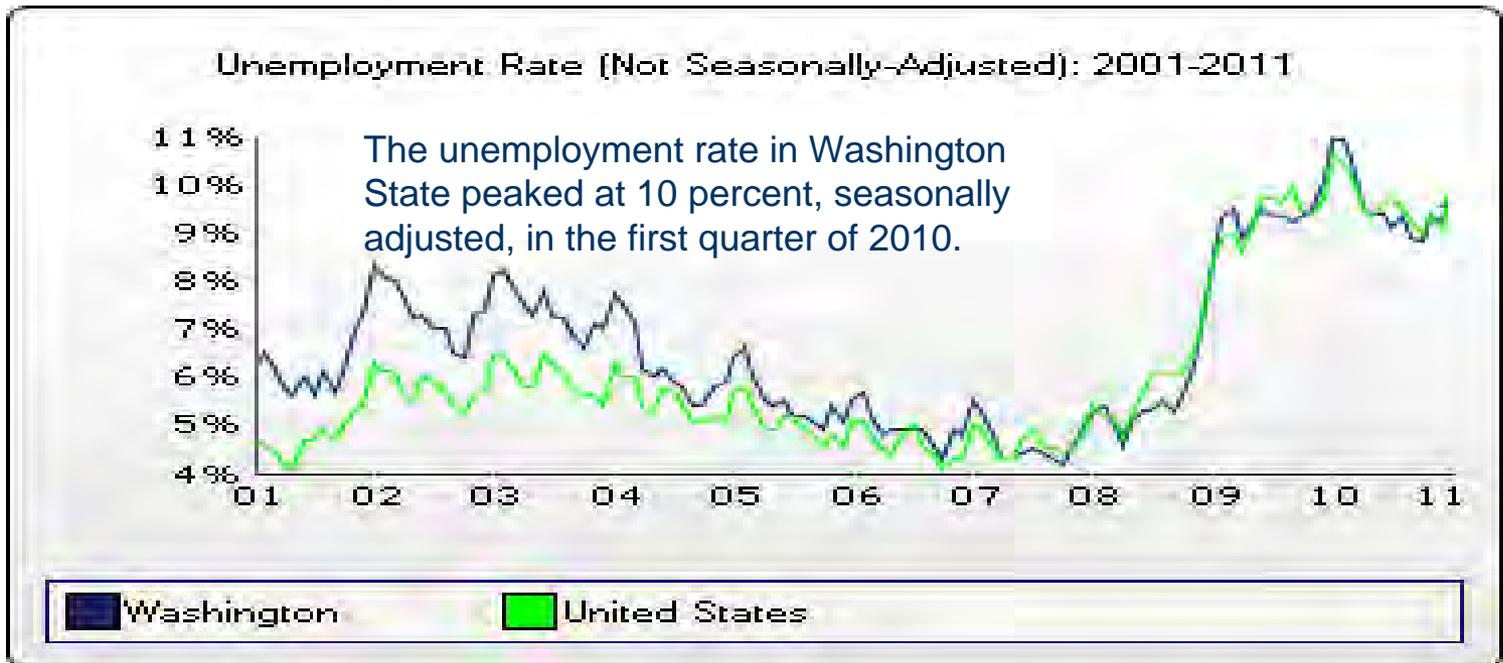


Severe recession during the PY 10 reporting period

Figure 1
Unemployment Rates in Washington State vs. US

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Unemployment Rate in Washington State vs. US



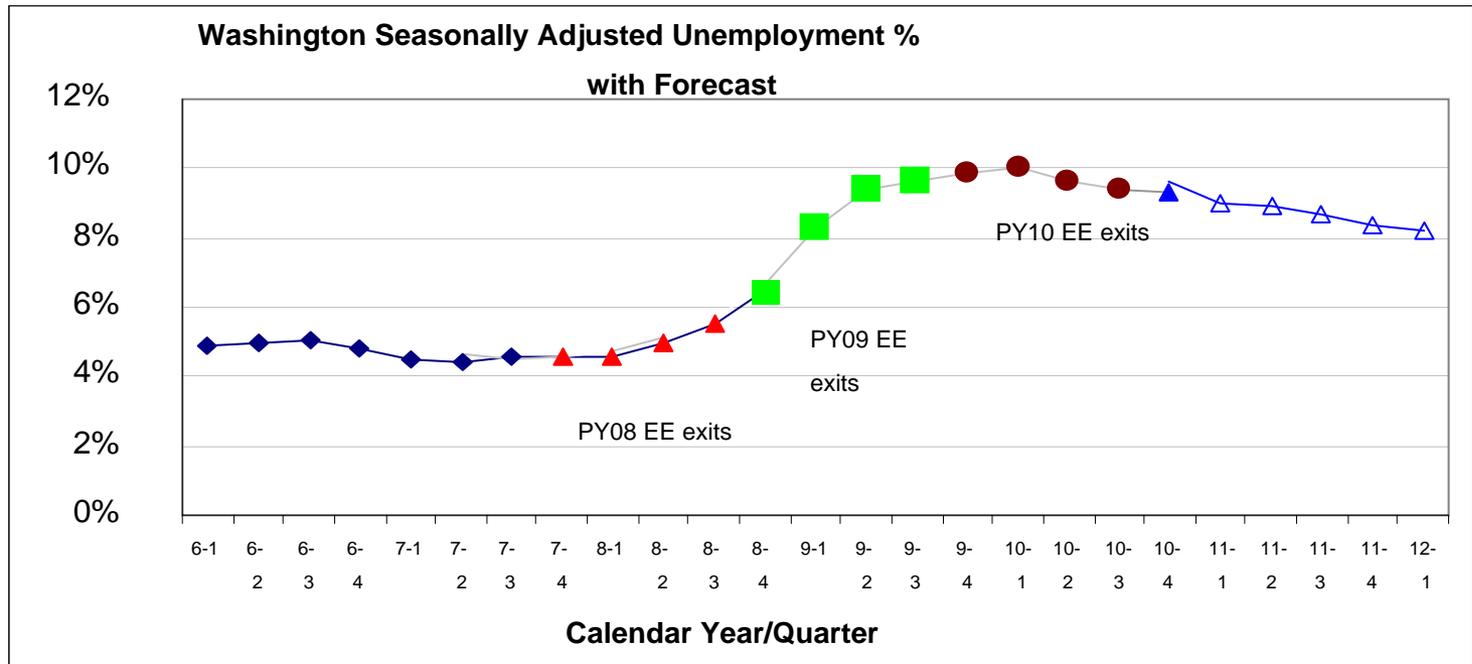
(Source: Washington State Employment Security Department)



Analysis – PY 10 is the Bottom of the Employment Recession

Figure 2

Unemployment Rates for WIA Employment Period



Analysis

Assuming the recession does not enter a second dip, PY 10 will be the program year in which exiting participants faced the weakest labor market in post-war economic history. The annual average unemployment rate facing exiters in this year was 9.7 percent or 9.8 percent, depending on the measure. For the prior year, the rates were 7.5 percent or 8.5 percent. If the current state forecast holds, PY 11 exiters will face average unemployment rates of 9.1 percent or 9.2 percent.



Proposed Revisions of Negotiated Levels of Performance for PY10

For PY10, we request the revisions listed in the following table. The proposed revisions are based on our regression models using changes in demographic characteristics and economic conditions. All of the downward revisions are in outcomes that we would expect to have been depressed by the deepening of the recession. The remaining two Youth measures for which we propose higher targets are not as directly affected by the labor market.



Table 4

Current and Proposed WIA I-B Targets for PY10 in Washington State

<i>Adult Measures</i>		2010 Original Levels	Proposed Revised Levels	Change
Entered Employment		78.70%	75.20%	-3.50%
Retention		83.60%	81.00%	-2.60%
Earnings		\$11,937	\$9,456	-\$2,481
Revised PY10 as Percent of Original				90.60%
<i>Dislocated Worker</i>				
Entered Employment		80.20%	73.60%	-6.60%
Retention		87.50%	83.90%	-3.60%
Earnings		\$16,764	\$14,043	-\$2,721
Revised PY10 as Percent of Original				90.50%
<i>Youth Measures</i>				
Placement		60.00%	53.90%	-6.10%
Credential		70.50%	75.30%	4.80%
Literacy/Numeracy		35.00%	44.00%	9.00%
Revised PY10 as Percent of Original				107.40%

