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**WASHINGTON STATE
WORKFORCE TRAINING AND EDUCATION COORDINATING BOARD
MEETING NO. 111
JUNE 29, 2006**

WORKFORCE TRAINING RESULTS 2006

This tab contains additional information regarding Workforce Training Results Part I (covered at May 11, 2006, meeting) and a draft of Part II of *Workforce Training Results 2006*.

Workforce Training Results is a biennial study of the training and employment outcomes of major workforce development programs in Washington. Part 1 of this report includes information on training and employment outcomes, including participant and employer satisfaction information. The draft of Part I was presented to the Board at the May 11 meeting. This tab contains information in response to Board questions raised at the May 11 meeting and results for an additional program—WorkFirst. This is the first time that WorkFirst has been included in *Workforce Training Results*. In addition to a section describing the findings for WorkFirst, the tab contains part of the *Executive Summary* for *Workforce Training Results* to show how the tables appear with WorkFirst added.

Part II includes the net impacts and cost-benefit analyses of the programs. The net impacts and cost-benefit analyses focus on those individuals who left their programs during the 2003-2004 and 2001-2002 program years. All but one of the programs appear to have positive net impacts on participant employment and earnings. In most cases, the resulting tax revenues exceed the taxpayer costs of the program.

Board Action Required: None. For discussion purposes only.

**Workforce Training Results 2006
Responses to Board Questions Regarding Part I**

Q: How was the survey question worded about a participant's job and training being related?

A: There are slightly different wordings for this question. The question is asked of respondents who indicated they were either employed or self-employed during the third quarter after exit.

- i. For DSB & DVR: How related was your job training to your job? Was the program...
 1. Very related to that job
 2. Somewhat related to that job
 3. Not related to that job

- ii. For ABE: How related was your education program to your job? Was the program...
 1. Very related to that job
 2. Somewhat related to that job
 3. Not related to that job

- iii. For all others: How related was your job training program to your job? Was the program...
 1. Very related to that job
 2. Somewhat related to that job
 3. Not related to that job

Q: Was the above question asked of all participants or just those who received training?

A: The question was asked of all participants who indicated they were employed during the third quarter after exit.

Q: Did the survey sample include individuals who were on the waiting lists for DVR and DSB and not served?

A: No. The survey was sent only to individuals who started an employment plan.

Q: What was the wording of the survey question about employer satisfaction with the specific job skills of apprentices?

A: The survey was a telephone survey. The surveyor said: "I am going to read you a list of skills that new employees who had recently completed an apprenticeship program may have learned. For each one, please tell me how satisfied was your firm/organization with each of the skills. The first one is reading skill. Very satisfied, somewhat satisfied, somewhat dissatisfied, very dissatisfied, or not able to evaluate?"

(How satisfied was your organization with the new employees' ...)

1. Reading skills
2. Writing skills
3. Math skills
4. Occupation-specific skills needed to do the job
5. Computer skills
6. Team work skills
7. Problem-solving skills
8. Communication skills
9. Positive work habits and attitudes
10. Ability to accept supervision
11. Ability to adapt to changes in duties and responsibilities

For "Occupation-specific skills needed to do the job," 35 percent of employers indicated they were very satisfied, and 50 percent indicated they were somewhat satisfied.

Q: In what fields of study were participants trained?

A: Please see the below table showing the fields for participants in Community and Technical College Job Preparatory Training (JP), the Worker Retraining Program (WR), Apprenticeship (APP), and Private Career Schools (PCS).

Field of Training	Fields of Training							
	JP		WR		APP		PCS	
	#	%	#	%	#	%	#	%
Associate Degree Nurse	1,269	4.2%	267	2.9%				0.0%
Dental Hygienist	136	0.4%	9	0.1%				0.0%
Practical Nurse	677	2.2%	176	1.9%				0.0%
Med Lab Tech/Histologic	38	0.1%	27	0.3%			2	0.0%
Paramedic EMT, Operating Tech	582	1.9%	63	0.7%			9	0.1%
Medical X-ray	167	0.6%	70	0.8%			29	0.2%
Transportation Operators	534	1.8%	133	1.4%	80	2.9%	2,172	12.7%
Industrial Technology	561	1.8%	155	1.7%	43	1.6%	74	0.4%
Engineering Technology	227	0.7%	98	1.1%				0.0%
Information Technology	3,472	11.4%	1,532	16.5%			758	4.4%
Other Health Tech	447	1.5%	157	1.7%	2	0.1%	44	0.3%
Welding	733	2.4%	147	1.6%				0.0%
Physical Therapy	50	0.2%	13	0.1%				0.0%
Electronics Technology	312	1.0%	179	1.9%				0.0%
Machinist	173	0.6%	79	0.8%	162	6.0%	6	0.0%
Computer Maintenance Tech	343	1.1%	138	1.5%			87	0.5%
Electrical Equipment Repair	133	0.4%	88	0.9%	35	1.3%		0.0%
Airframe/Power Plant	93	0.3%	33	0.4%			20	0.1%
Drafting	365	1.2%	166	1.8%				0.0%
Legal/Real Estate Services	753	2.5%	187	2.0%	9	0.3%	36	0.2%
Protective Services	2,435	8.0%	301	3.2%	28	1.0%		0.0%
Cosmetology	526	1.7%	60	0.6%	7	0.3%		0.0%
Culinary Arts	592	2.0%	126	1.4%	33	1.2%	239	1.4%
Early Childhood Ed	1,098	3.6%	149	1.6%	39	1.4%		0.0%

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Field of Training	JP		WR		APP		PCS	
	#	%	#	%	#	%	#	%
Other Services	294	1.0%	42	0.5%	15	0.6%	370	2.2%
Marketing and Sales	818	2.7%	223	2.4%			674	3.9%
Administrative Support	3,117	10.3%	1013	10.9%	6	0.2%	3,009	17.6%
Agriculture, Forestry and Fisheries	586	1.9%	125	1.3%	21	0.8%	75	0.4%
Social Services	648	2.1%	112	1.2%				0.0%
Teaching/Library Assistant	351	1.2%	64	0.7%	169	6.2%	16	0.1%
Veterinarian Assistant	78	0.3%	6	0.1%			74	0.4%
Nursing Assistant	879	2.9%	110	1.2%			1,833	10.7%
Construction Trades	420	1.4%	203	2.2%	1837	67.7%	191	1.1%
Dental Assisting	325	1.1%	44	0.5%			561	3.3%
Pharmacy Assisting	270	0.9%	90	1.0%			282	1.6%
Dental Lab Tech	18	0.1%	3	0.0%				0.0%
Precision, Production, Crafts	486	1.6%	226	2.4%	205	7.6%	362	2.1%
Accounting	1,100	3.6%	338	3.6%	1	0.0%	49	0.3%
Auto Diesel	1,075	3.5%	378	4.1%	7	0.3%	198	1.2%
Medical Assisting	1,052	3.5%	238	2.6%			1,398	8.2%
Other Technical	455	1.5%	104	1.1%	12	0.4%	504	2.9%
Managerial & Managerial Support	1,317	4.3%	389	4.2%	2	0.1%	37	0.2%
Other Health Services	687	2.3%	144	1.5%			1,925	11.3%
Commercial & Graphics Art	263	0.9%	44	0.5%			335	2.0%
Not Applicable	4	0.0%	22	0.2%			123	0.7%
Unknown	1	0.0%	420	4.5%				0.0%
Support Courses, Parent Ed	375	1.2%	428	4.6%				0.0%
ABE/ESL/GED/HSC			177	1.9%				0.0%
Missing - CIP or CIP_GRP_Wage			15	0.2%			1,607	9.4%
TOTAL	30,335	100%	9311	100%	2713		17,099	100%

WORKFORCE TRAINING RESULTS 2006

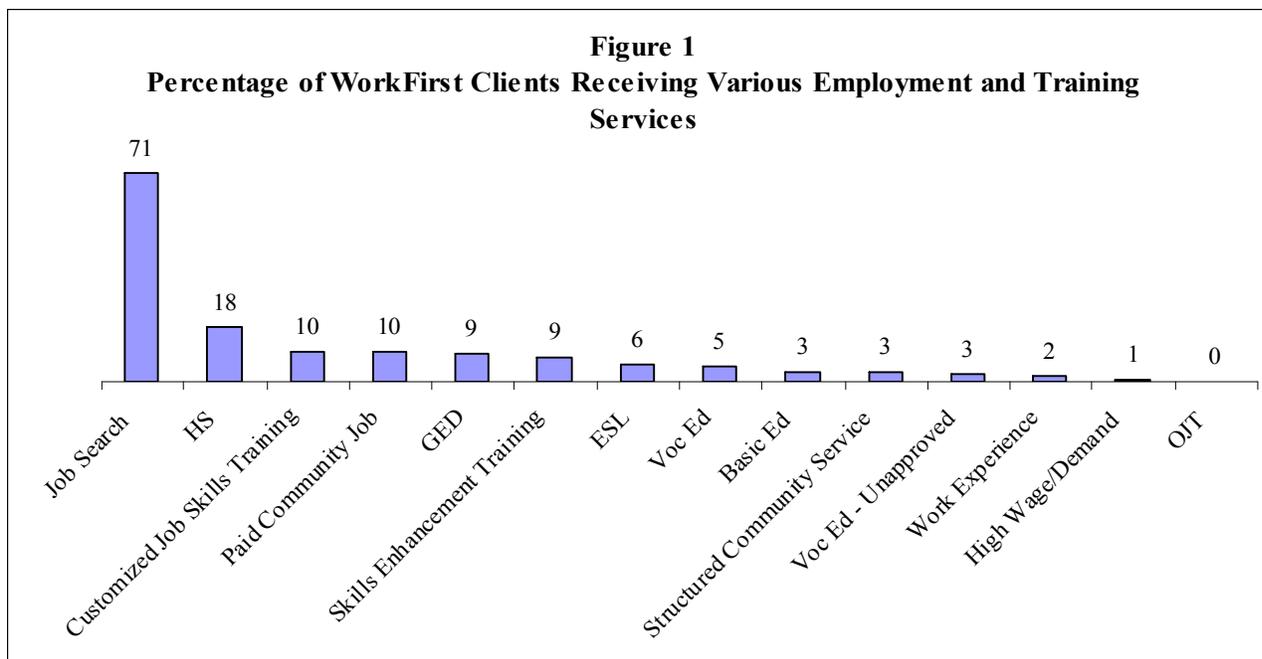
WorkFirst

Washington's WorkFirst program began in 1997 to assist low-income families become self-sufficient by providing basic skills training, support services, and job search assistance to help parents get a job, keep a job, and move up a career ladder. WorkFirst is unique among workforce development programs in its sole focus on the state's welfare assistance program. It is an important population in terms of state workforce development and overlaps partially with the population served by several of the other workforce development programs in this study.

The analyses of WorkFirst clients are based on the experiences and outcomes of 35,941 individuals who had Temporary Assistance to Needy Families (TANF) spells ending between July 1, 2003, and June 30, 2004. WorkFirst clients received a wide variety of employment and training related services. The analyses are limited to clients who participated in one or more of the following employment and training components¹: The service used by the highest percentage of clients is job search assistance (Figure 1).

- CJ – Paid Community Job
- JS – Job Search
- PE – Customized Job Skills Training
- BE – Basic Education
- ES – English as a Second Language
- GE – General Education Diploma
- HS – High School
- HW - High Wage or High Demand
- JT – Skills Enhancement Training
- OT – On the Job Training
- VE – Vocational Education
- VU – Vocational Education - Unapproved
- WE – Work Experience
- XS – Structured Community Service

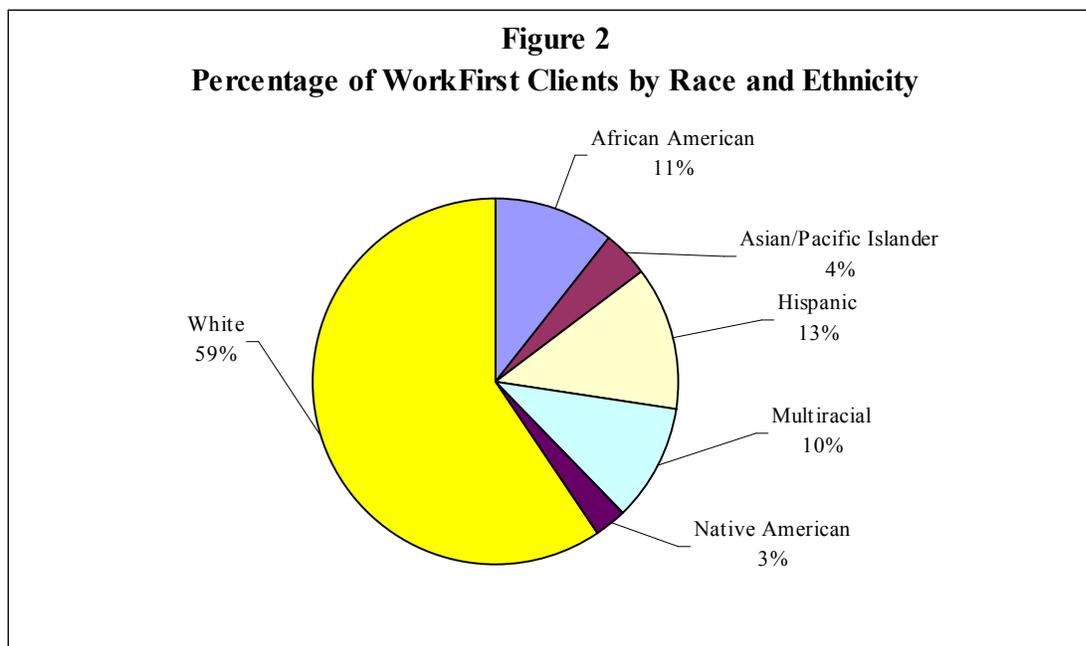
¹ The component codes are E-JAS component codes.



Participant Characteristics

WorkFirst clients who exited in 2003-2004 were much more racially and ethnically diverse than the state’s general population (Figure 1).² Seventy-one percent of the WorkFirst clients are women compare to about 50 percent of the state’s general population.

² In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians and Pacific Islanders (also referred to as Asians and Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 *Washington State Population Survey*, of those ages 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians and Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.



When they participated in WorkFirst, 45 percent had not completed high school (about 18 percent were enrolled in high school at the time), 42 percent had a high school diploma or GED but had not previously attended post-secondary education, 11 percent had attended one to three years of post-secondary education, and 2 percent had completed four or more years of post-secondary education. The median age upon leaving the program was 26 years; one quarter was over age 35.

Employment and Earnings

To find out about clients' postprogram employment and earnings, we matched client records with Employment Security Department (ESD) wage files from Washington and neighboring states. These files contain quarterly earnings and hours-worked information on those individuals with employment reported for unemployment insurance purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employment not included).

Record matches found that just under 50 percent of the 2003-2004 students had reported employment during the third quarter after the end of their TANF spell (Figure 3). Their median hourly wage³ was \$9.07, and they had median annualized earnings of \$10,930. The majority of clients were employed in services industries, such as the administrative and support and waste management industry, health care, and accommodation and food services industries (Figure 4).

³ All wages and earnings are stated in first quarter 2005 dollars.

Figure 3 Employment and Earnings of WorkFirst Clients in the Third Quarter After The End of TANF Spell: 2003-2004		
	All	Not In Higher Ed in 3 rd Qtr
Percentage with employment reported by employers to ESD during the third quarter after leaving program	48.5	48.4
Median quarterly hours worked of those working	307	319
Percentage employed full-time (averaging 30 or more hours/week) of those working	37	39
Median annualized earnings of those working	\$10,930	\$11,379
Size of household in which median earnings would support at poverty level	1.4	1.6
Size of household in which median earnings would support at twice poverty level	0.6	0.6
Median hourly wage of those working	\$9.07	\$9.10
Notes: Earnings and wages are expressed in first quarter 2005 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.		

Figure 4 Industry of Employment of WorkFirst Clients in the Third Quarter After Leaving Program: 2003-2004	
Industry Group	Employment
Natural Resources and Mining	2.6%
Construction	4.4%
Manufacturing	6.3%
Wholesale Trade	2.3%
Retail Trade	15.3%
Transportation and Warehousing and Utilities	2.7%
Information	1.1%
Financial Activities	3.7%
Services	59.8%
Professional, Scientific, and Technical Services	2.0%
Administrative and Support and Waste Management and Remediation Services	14.3%
Education Services	2.2%
Health Care	11.0%
Social Assistance	5.1%
Arts, Entertainment, and Recreation	3.0%
Accommodation and Food Services	16.3%
All Other Services	5.9%
Public Administration	1.9%
TOTAL	100%

Employment and earnings varied by gender, race and ethnicity, and disability status. Females were as likely as men to be employed in the third quarter after exit. They were, however, less likely to be working full-time (36 percent versus 42 percent) and had an hourly wage that was 91 percent of males (\$8.86 versus \$9.69).

African Americans, Hispanics, and Native Americans were more likely to be employed than whites during the third quarter after exit. While Asians and Pacific Islanders were more likely to be working full-time than whites (43 percent versus 37 percent), African Americans were less likely (34 percent). The median hourly wage for Hispanics was 97 percent of whites; African

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Americans, Native Americans, and Asians and Pacific Islanders had median hourly wages that were equivalent to those of whites.

Earnings and employment outcomes also varied by disability status. Client records suggest 13 percent of the WorkFirst clients included in this study had a disability. Clients with disabilities were less likely than those without disabilities to have employment reported to ESD during the third quarter after exit (31 percent versus 51 percent) and were less likely to be employed full-time (28 percent versus 38 percent). Among those working, the median hourly wage rate of those with a disability was 97 percent of those without a disability.

Areas for Improvement

To be completed

WORKFORCE TRAINING RESULTS 2006

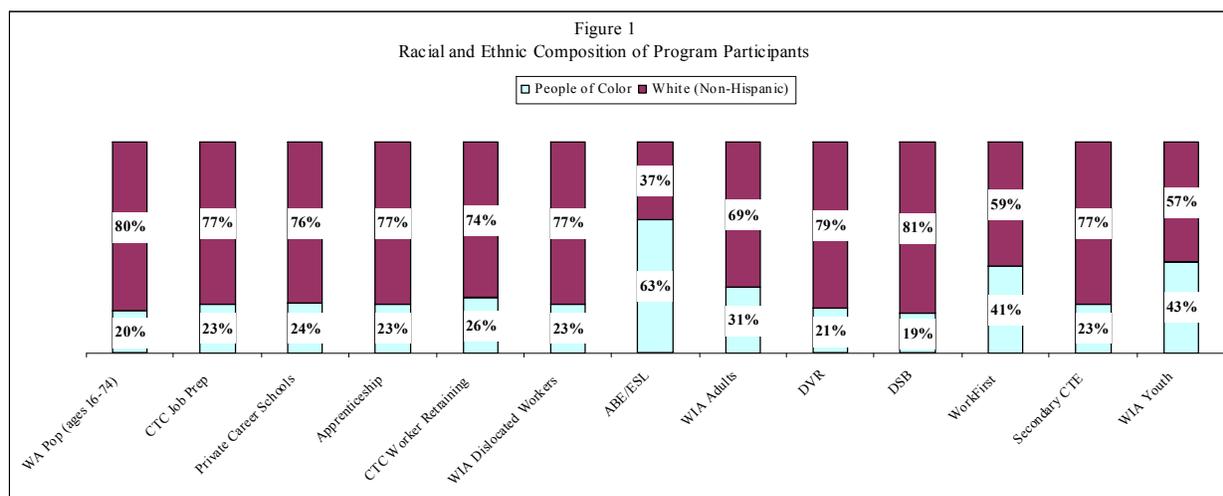
EXECUTIVE SUMMARY

Summary of Findings

Participant Characteristics

The demographic characteristics of program participants are important factors in determining program results. Programs serving participants who have significant work experience and basic skills can be expected to have higher labor market outcomes than those serving participants with little work experience, low levels of literacy, and other barriers to employment.

The racial and ethnic composition of participants in our workforce development programs were as, or more diverse, than similarly-aged populations in our state (Figure 1).⁴



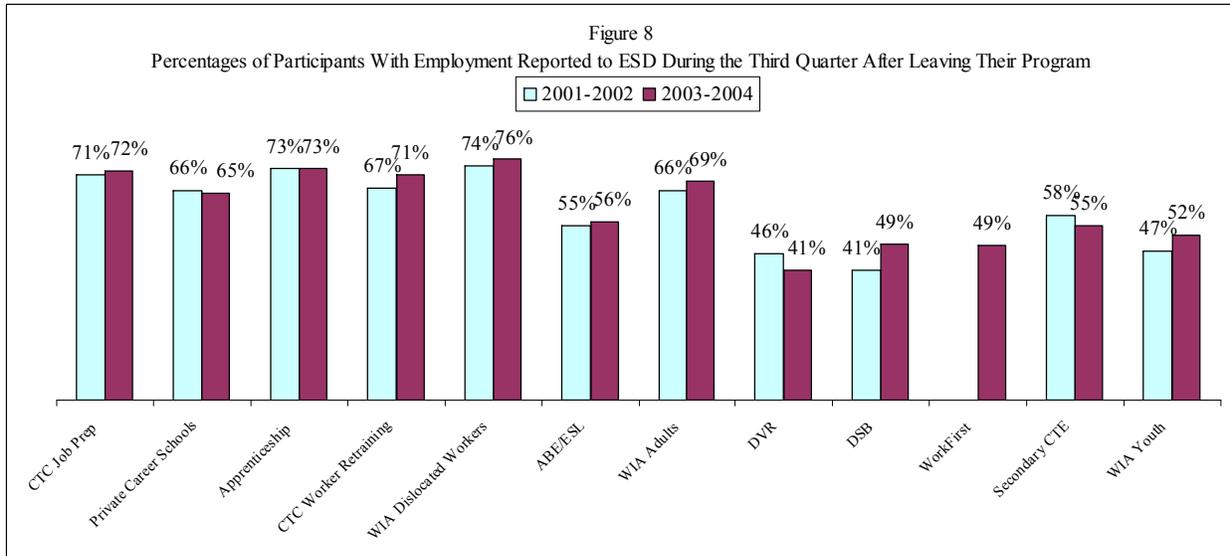
Employment

Desired Outcome: *Washington's workforce finds employment opportunities.*

We used ESD records to examine changes in employment rates between participants who left programs during the 2001-2002 and 2003-2004 program years (Figure 8).⁵ Employment rates in most programs remained about the same or increased. Part of this increase may be due to the improving economy.

⁴ The 2004 *Washington State Population Survey* was the source of data for the racial and ethnic background of the state's population.

⁵ Employment rates based on matches are lower than those based on survey results. ESD records do not contain information on self-employment. The estimates also exclude employment in states that are not included in our matching process.



Earnings

Desired Outcome: *Washington’s workforce achieves a family-wage standard of living from earned income.*

Research has shown that postprogram earnings are very much affected by the characteristics of the participants who entered the program. Youth had the lowest postprogram hourly wages and quarterly earnings, and adults had the highest (Figure 9). Earnings and hourly wages were particularly high for individuals who participated in apprenticeship. In addition to the quality of the program, this finding reflects the length of the training and the labor market in their occupations and industries. Despite a stronger labor market compared to two years ago, earnings and wage changes were not always positive across programs.

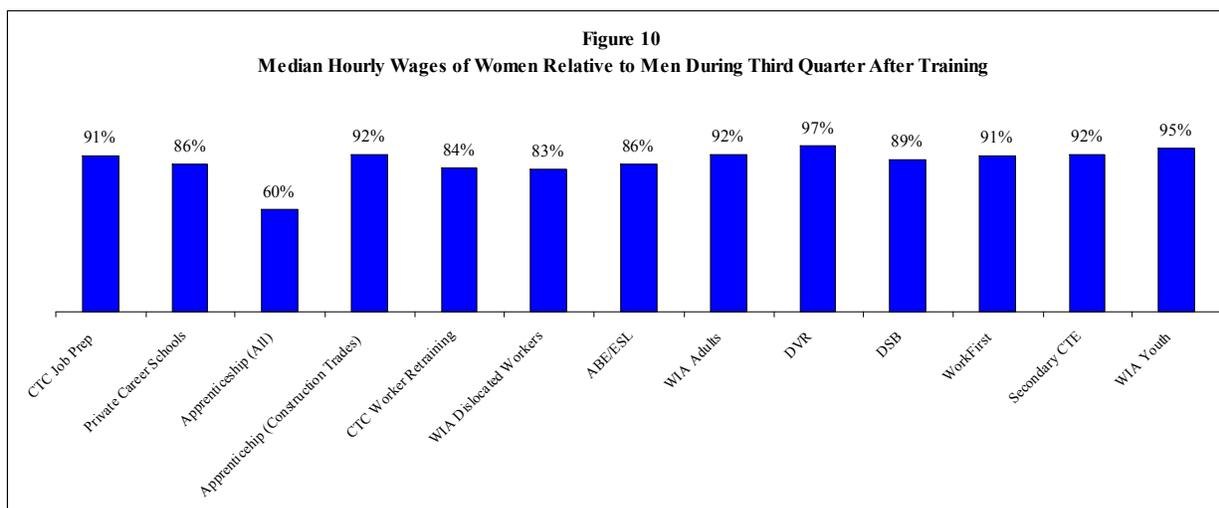
Figure 9
Median Hourly Wages and Annualized Earnings During the Third Quarter After Leaving Their Program*

		Hourly Wages of 2003-2004 Participants	Annualized Earnings of 2003-2004 Participants	Percentage Change from 2001-2002	
				Hourly Wages	Earnings
Programs for Adults	CTC Job Preparatory	\$13.06	\$22,603	0%	1%
	Private Career Schools	\$11.64	\$18,849	-5%	-7%
	Apprenticeship	\$21.96	\$33,229	1%	2%
	CTC Worker Retraining	\$13.62	\$23,450	3%	4%
	WIA Dislocated Workers	\$14.82	\$27,929	3%	2%
Programs for Adults With Barriers	Adult Basic Skills	\$9.66	\$15,215	1%	-3%
	WIA Adults	\$10.93	\$18,352	1%	4%
	DVR	\$9.43	\$11,090	-9%	-14%
	DSB	\$12.68	\$21,762	-10%	5%
	WorkFirst	\$9.07	\$10,930	na	na
Programs for Youth	Secondary CTE	\$8.60	\$10,035	-3%	-2%
	WIA Youth**	\$8.41	\$9,775	-3%	-2%

*All wages and earnings are reported in 2005 quarter one dollars.

**Wages and earnings for WIA Youth are for those not enrolled in high school and for secondary CTE are for those not enrolled in higher education.

For most programs, postprogram earnings and hourly wages were lower for women than for men who participated in the same program (Figure 10). The especially large wage gap in apprenticeship is due to the concentration of women in relatively new apprenticeship programs that provide training outside the construction, precision, production, craft, and machinist trades. Among those leaving apprenticeships during 2003-2004, 49 percent of women (and virtually no men) left programs in early childhood education and teaching/library assistantship. Of those employed in the construction industries in the third quarter after leaving their apprenticeship program, males and females earned relatively the same wages.



WORKFORCE TRAINING RESULTS 2006 Part II: Net Impact and Cost-Benefit Evaluation

EXECUTIVE SUMMARY

Return on Investment

Desired Outcome: *Workforce development programs provide returns that exceed program costs.*

Every four years the Workforce Training and Education Coordinating Board (Workforce Board) conducts net impact and cost-benefit analyses of workforce development programs. This report presents the findings of the most current net impact study conducted in 2006 which examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

These evaluations attempt to estimate what happens to program participants as compared to what would have happened if they had not participated in a workforce development program. The objective is to determine the difference that the program made for the participant. The Workforce Board contracted with the W.E. Upjohn Institute for Employment Research⁶ to conduct the net impact and cost-benefit evaluations.

Individuals who participated in these workforce development programs were compared to similar individuals who did not. For most of the programs, the comparison group was selected from registrants with the state's Employment Service. A different source of data was used for the comparison group for secondary career and technical education, and for clients of Division of Vocational Rehabilitation (DVR) and the Department of Services for the Blind (DSB). The Office of Superintendent of Public Instruction collects data on high school seniors. This Graduate Follow-Up Study was used to identify both students completing a career and technical education sequence, as well as comparable students who had not. For both DVR and DSB the comparison group was selected from eligible applicants who left the program before starting a service plan. An empirical approach, called statistical matching, was used to find the Employment Service registrant, secondary student, DVR client, or DSB client who most closely matched each program participant in terms of a long list of characteristics.⁷

For the cost-benefit analyses, Upjohn calculated the value of the net impacts on participant earnings, employee benefits, social welfare benefits, unemployment insurance benefits, and taxes.⁸ Benefits and costs were estimated for both the observed postprogram period and out to the age of 65.⁹

⁶ Dr. Kevin Hollenbeck headed the study team.

⁷ These include demographics (e.g., race, ethnicity, gender, disability status, prior education, age, region or the state), preprogram earnings and employment history, UI benefit receipt history, and preprogram receipt of public assistance.

⁸ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

⁹ In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars.

Upjohn found that during the third year after program participation, the payoffs to education and training are strong and pervasive (Figure 13). The employment impacts for all programs are positive. All programs, with the exception of Adult Basic Education, increased the average lifetime earnings of participants. The combined effects on average earnings and employment rates result in sizable impacts on total lifetime earnings.

Figure 13 Longer-Term Participant Benefits			
	Employment	Quarterly Earnings	Lifetime Earnings**
Community & Technical College (CTC) Job Preparatory Training	6.7%	\$1,008	\$90,455
Private Career School	4.3%	\$343	\$29,719
Apprenticeship	6.8%	\$2,281	\$205,825
CTC Worker Retraining	4.6%	298	\$21,128
WIA Title I-B Dislocated Workers	6.4%	\$752	\$45,544
Adult Basic Skill Education	5.9%	*	\$0
WIA Title I-B Adults	6.6%	\$443	\$29,945
Division of Vocational Rehabilitation	11.0%	\$688	\$45,850
Department of Services for the Blind	20.3%	\$1,492	\$78,429
Secondary Career and Technical Education	5.4%	\$416	\$38,041
WIA Title I-B Youth	10.3%	\$317	\$27,780
Note: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings are expressed in 2005 Q1 dollars.			
* Not statistically significant at the 0.05 level.			
**This is the increase in earnings (above that of the comparison group) projected to age 65 and discounted at 3 percent. Includes effects from increased employment and increased earnings among those employed.			

Figure 14 compares lifetime participant benefits to public costs. For example, during the course of working life to age 65, the average community and technical college job preparatory student will gain about \$106,000 in net earnings (earnings minus foregone earnings while in training) and employee benefits. These are net gains compared to the earnings of similar individuals who did not receive training (discounted at 3 percent and expressed in 2005 Q1 dollars). For CTC job preparatory participants, the ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is \$106,237 to \$7,560, or about 14 to 1. Lifetime participant benefits far exceed public costs for each of the programs, with the exception of Adult Basic Skills Education.

Tax revenues are affected by the change in participant earnings (Figure 14). For example, during the entire post-training period to age 65, the public gains an estimated \$15,603 in tax revenues for each CTC job preparatory participant. Estimated increases in tax receipts alone outweigh public costs for 6 of the 11 programs in the study. Moreover, many of the programs were found to reduce reliance on social welfare (specifically TANF, food stamps, and medical benefits).

Figure 14			
Participant Benefits, Increases in Tax Receipts, and Public Costs to Age 65			
	Participant Benefits*	Increased Tax Receipts**	Public Costs***
Community & Technical College (CTC) Job Preparatory Training	\$106,237	\$15,603	\$7,560
Apprenticeship	\$270,988	\$53,515	\$2,546
Private Career School	\$35,369	\$5,126	\$0
CTC Worker Retraining	\$19,459	\$5,494	\$5,172
WIA Title I-B Dislocated Workers	\$44,399	\$11,841	\$6,757
Adult Basic Skills Education	\$0	\$0	\$2,453
WIA Title I-B Adults	\$34,874	\$5,166	\$5,481
Division of Vocational Rehabilitation	\$55,633	\$7,909	\$8,114
Department of Services for the Blind	\$83,472	\$13,529	\$23,243
Secondary Career and Technical Education	\$45,680	\$6,562	\$926
WIA Title I-B Youth	\$33,336	\$4,792	\$6,314
Notes: Benefits, receipts, costs are expressed in 2005 Q1 dollars.			
*Present value of the additional lifetime earnings and employee benefits less foregone earnings during program participation.			
**Present value of additional social security, Medicare, federal income, and state sales taxes generated by increased participant earnings to age 65.			
***Includes state and federal program costs per participant, with the exception of student financial aid programs.			

Community and Technical Colleges Job Preparatory Training

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left workforce development programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a community and technical college job preparatory program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the program (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

Job preparatory training has strong positive net impacts on employment, wages, hours worked, and earnings. Training substantially increases the lifetime earnings of participants.

Figure 10 shows the short-term net impacts of job preparatory training at community and technical colleges. During the third quarter after the 2003-2004 participants left their programs, training is associated with an increase of 9.2 percentage points in employment as reported to the Employment Security Department (ESD). The impact on wage rates is \$3.24¹⁰ per hour, and the impact on hours worked per quarter is 71.3 hours. There is a large impact on mean quarterly earnings—\$1,564. Training is associated with decreases in the percentage receiving UI benefits and public assistance.

¹⁰ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars.

Figure 10		
Short-Term Net Impact Results for Community & Technical College Job Preparatory Students Who Left the Program During PY 2003-2004		
	All Participants	Program Completers
Employment: percentage in reported employment	9.2	12.9
Mean Hourly Wage	\$3.24	\$4.07
Mean Hours Worked Per Quarter	71.3	89.2
Mean Quarterly Earnings	\$1,564	\$1,924
TANF: percentage receiving	-0.5	-0.3
Food Stamps: percentage receiving	-4.1	-4.4
Medical Benefits: percentage receiving	-3.0	-3.1
UI: percentage receiving	-1.2	-1.4
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

The longer-term net impacts of training are observed nine to twelve quarters after participants left the colleges during the 2001-2002 school year (Figure 11). There are strong, positive net impacts of training on employment, hourly wage, hours worked, and earnings, and reduction in the percentage receiving UI benefits in the longer-term. However, despite training, there is a slightly higher percentage receiving TANF benefits.

Figure 11		
Longer-Term Net Impact Results for Community & Technical College Job Preparatory Students Who Left the Program During PY 2001-2002		
	All Participants	Program Completers
Employment: percentage in reported employment	6.7	9.5
Mean Hourly Wage	\$2.06	\$3.18
Mean Hours Worked Per Quarter	39.7	56.6
Mean Quarterly Earnings	\$1,008	\$1,529
TANF: percentage receiving	0.6	0.8
Food Stamps: percentage receiving	-0.4*	-0.1
Medical Benefits: percentage receiving	-0.2*	-1.3
UI: percentage receiving	-2.7	-2.3
Notes: Long-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

The data allowed for separate analysis of both students who completed their training and those who left before completing. Both short-term and longer-term net impacts of training are greater for completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.¹¹ Program costs include both direct program costs and support payments borne by the state and the

¹¹ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in CTC job preparatory training, the public (taxpayer) cost is \$7,560 over the length of their enrollment, and the participant cost is \$3,869 in tuition and \$2,309 in foregone earnings while training (Figure 12). During the first two and one-half years after leaving college, the average trainee will gain \$13,644 in earnings. During the course of working life to age 65, the average trainee will gain about \$88,100 in net earnings (earnings minus foregone earnings) and about \$18,100 in employee benefits.¹² These are net gains compared to the earnings of similar individuals who did not receive the training.

Projected participant benefits to age 65 outweigh public costs invested in college training by a ratio of about 14 to 1, or \$102,368 to \$7,560.¹³

Over the lifetime of the participant, the total public (taxpayer) costs is less than the program costs because the training is associated with increased tax revenues and decreased state social welfare expenditures. From the time of leaving training to age 65, the public is forecasted to gain over \$15,600 per participant in additional social security, Medicare, federal income, and state sales taxes and to save over \$1,300 per participant in total unemployment insurance and other social welfare costs—far greater than the direct cost of college training.

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$13,644		\$90,455	
Employee Benefits	\$2,729		\$18,091	
Taxes	-\$2,354	\$2,354	-\$15,603	\$15,603
Transfers*	-\$1,796	\$1,796	-\$1,324	\$1,324
Costs				
Foregone Earnings	-\$2,309		-\$2,309	
Program Costs**	-\$3,869	-\$7,560	-\$3,869	-\$7,560
TOTAL	\$6,045	-\$3,410	\$85,442	\$9,367
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services. **Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.				

¹² This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$17,600.

¹³ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Private Career Schools

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who attended a private career school were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

Private career school programs have positive net impacts on employment, wages, hours worked, and earnings. Training increases the lifetime earnings of participants.

Figure 9 shows the short-term net impacts of private career school training. During the third quarter after the 2003-2004 students left their programs, training is associated with an increase of 4.8 percentage points in employment as reported to ESD. The impact on hourly wage is \$1.86¹⁴ per hour and the impact on hours worked per quarter is 40.7 hours. There is a positive net impact on mean quarterly earnings—\$686. Training is associated with decreases in the percentages receiving UI benefits and public assistance.

Figure 9		
Short-Term Net Impact Results for Private Career School Students Who Left the School During 2003-2004		
	All Participants	Program Completers
Employment: percentage in reported employment	4.8	7.3
Mean Hourly Wage	\$1.86	\$2.26
Mean Hours Worked Per Quarter	40.7	52.5
Mean Quarterly Earnings	\$686	\$875
TANF: percentage receiving	-0.9	-1.4
Food Stamps: percentage receiving	-4.8	-6.7
Medical Benefits: percentage receiving	-3.3	-4.3
UI Benefits: percentage receiving	-0.9	-1.1
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and Wages are in 2005 Q1 dollars. * Not statistically significant at the 0.05 level.		

¹⁴ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars.

The longer-term net impacts of training are observed nine to twelve quarters after participants left the schools during the 2001-2002 school year (Figure 10). There are also positive impacts of training on employment, hourly wage, hours worked, and earnings and reduction in the percentage receiving UI benefits in the longer-term. However, there is a slightly higher percentage of participants receiving TANF.

Figure 10		
Longer-Term Net Impact Results for Private Career School Students Who Left the School During PY 2001-2002		
	All Participants	Program Completers
Employment: percentage in reported employment	4.3	6.4
Mean Hourly Wage	\$1.03	\$1.61
Mean Hours Worked Per Quarter	21.0	34.9
Mean Quarterly Earnings	\$343	\$613
TANF: percentage receiving	0.7	0.1*
Food Stamps: percentage receiving	0.6*	-1.8
Medical Benefits: percentage receiving	0.4*	-1.2
UI Benefits: percentage receiving	-2.1	-2.0
Notes: Long-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

The data allowed for separate analysis of both students who completed their training and those who left before completing. The short-term and longer-term net impacts of training are better for completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.¹⁵ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in private career school programs, the public (taxpayer) program cost is assumed to be \$0, and the participant cost is \$294 in foregone earnings while training (Figure 11). There is also a participant cost for tuition, which can be substantial. An average tuition cost per participants was not determined because of the extremely wide variability among schools and training programs. During the first two and one-half years after leaving college, the average trainee will gain about \$4,700 in earnings. During the course of working life to age 65, the average trainee will gain about \$29,400 in net earnings (earnings minus foregone earnings) and

¹⁵ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

over \$5,900 in employee benefits¹⁶. These are net gains compared to the earnings of similar individuals who did not receive the training.

From the time of leaving training to age 65, the public is expected to gain over \$5,126 per participant in additional social security, Medicare, federal income, and state sales taxes and to save about \$940 in total unemployment insurance and social welfare costs.

Figure 11				
Benefits and Costs of Private Career School Training				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$4,701		\$29,719	
Employee Benefits	\$940		\$5,944	
Taxes	-\$811	\$811	-\$5,126	\$5,126
Transfers*	-\$1,559	\$1,559	-\$941	\$941
Costs				
Foregone Earnings	-\$294		-\$294	
Program Costs**	**	\$0	**	\$0
TOTAL	**	2,370	**	\$6,067

Notes: Benefits and costs are expressed in 2005 Q1 dollars.
 *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.
 **Participant program cost, i.e., tuition, is not included in this table because of the substantial variability across private career schools and training programs. Therefore, Participant TOTAL could not be calculated. Program costs do not include student financial aid programs.

¹⁶ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. The foregone earnings for Private Career school students is relatively small, therefore, if the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about the same \$5,900.

Apprenticeship

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left workforce development programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in an apprenticeship program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

Apprenticeship programs have very large, positive impacts on employment, wages, hours worked, and earning. Training substantially increases the lifetime earnings of apprentices.

Figure 13 shows the short-term net impacts of apprenticeship training. During the third quarter after the 2003-2004 apprentices left their apprenticeships, training is associated with an increase of 7.4 percentage points in employment as reported to ESD. The impact on wage rates is \$7.26¹⁷ per hour, and the impact on hours worked per quarter is 33.5 hours. There is a very large impact on mean quarterly earnings—\$3,007. Training is associated with modest declines in the percentages receiving Food Stamps and medical benefits. There is a higher percentage receiving UI benefits. To a large extent, this impact on receipt of UI benefits is a function of the seasonality of the construction industry, in which many of the apprentices are employed.

¹⁷ All dollar amounts in this report are in 2005 quarter 1 (Q1) dollars.

	All Apprentices	Apprenticeship Completers
Employment: percentage in reported employment	7.4	18.8
Mean Hourly Wage	\$7.26	\$14.29
Mean Hours Worked Per Quarter	33.5	61.8
Mean Quarterly Earnings	\$3,001	\$5,990
TANF: percentage receiving aid	-0.4*	-0.8
Food Stamps: percentage receiving	-3.5	-6.5
Medical Benefits: percentage receiving	-3.8	-5.3
UI Benefits: percentage receiving	11.3	25.5

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.
* Not statistically significant at the 0.05 level.

The longer-term net impacts of training are observed nine to twelve quarters after apprentices left training the 2001-2002 program year (Figure 14). In the longer-term, there also are positive impacts of training on employment, hourly wage, hours worked, and earnings. Training is associated with declines in the percentages receiving TANF, Food Stamps, and medical benefits and an increase in the percentage receiving unemployment insurance benefits.

	All Apprentices	Apprenticeship Completers
Employment: percentage in reported employment	6.8	16.1
Mean Hourly Wage	\$5.58	\$11.64
Mean Hours Worked Per Quarter	20.3	59.5
Mean Quarterly Earnings	\$2,281	\$4,965
TANF: percentage receiving aid	-0.5	-1.3
Food Stamps: percentage receiving	-2.2	-5.3
Medical Benefits: percentage receiving	-1.4	-3.7
UI: percentage receiving	14.1	28.6

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.
* Not statistically significant at the 0.05 level.

The data allowed for separate analysis of both individuals who completed their apprenticeships and those who left before completing. The short-term and longer-term net impacts are substantially greater for completers, indicating the value of completing an apprenticeship.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.¹⁸ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that

¹⁸ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each apprentice in training, the public (taxpayer) program cost is \$2,546 over the length of their enrollment, and the participant cost is \$652 in tuition (Figure 12). By definition, apprentices work during their program participation and their net earnings during training was about \$24,000 higher than those who were not in training. During the course of working life to age 65, the average apprentice will gain about \$229,800 in net earnings (net impact earnings plus earnings while in apprenticeship training) and \$41,200 in employee benefits.¹⁹ These are net gains compared to the earnings of similar individuals who did not participate in a program included in this study.

Projected participant benefits to age 65 far outweigh public investment in apprenticeship training by a ratio of 106 to 1, or \$270,336 to \$2,546.²⁰

From the time of leaving training to age 65, the public is expected to gain over \$53,500 per participant in additional social security, Medicare, federal income, and state sales taxes, far greater than the total forecasted increase in social welfare costs (due to increased receipt of unemployment insurance benefits) and the direct cost of apprenticeship training per apprentice, about \$6,600.

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$27,883		\$205,825	
Employee Benefits	\$5,577		\$41,166	
Taxes	-\$7,249	\$7,249	-\$53,515	\$53,515
Transfers*	\$984	-\$984	\$4,052	-\$4,052
Costs				
Foregone Earnings**	\$23,997		\$23,997	
Program Costs***	-\$652	-\$2546	-\$652	-\$2546
TOTAL	\$50,540	\$3,719	\$220,874	\$46,916
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services. **Instead of foregone earnings, apprentices had positive net earnings while participating. ***Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.				

¹⁹ This employee benefits amount does not account for the employee benefits associated with the earnings during participation. If the same benefit percentage (20 percent) were applied to such earnings, the gain in employee benefits in the longer term would be about \$46,000.

²⁰ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and public (taxpayers).

Worker Retraining at Community and Technical Colleges

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a community and technical college worker retraining program were compared to individuals who had similar characteristics, but who did not participate in one of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

Worker Retraining has positive net impacts on employment, hourly wage, hours worked, and earnings. Retraining increases lifetime earnings of participants.

Figure 8 shows the program's short-term net impacts. During the third quarter after 2003-2004 participants left the program, training is associated with an increase of 7.8 percentage points in employment as reported to ESD. The impact on hourly wage is \$0.77²¹ per hour, on hours worked per quarter is 39.5 hours, and on mean quarterly earnings is \$376. Training is associated with slight decreases in the percentages receiving Food Stamps and UI benefits.

	All Participants	Program Completers
Employment: percentage in reported employment	7.8	10.8
Mean Hourly Wage	\$0.77	\$0.91
Mean Hours Worked Per Quarter	39.5	57.8
Mean Quarterly Earnings	\$376	\$572
TANF: percentage receiving	-0.2*	-0.5
Food Stamps: percentage receiving	-0.8	-1.7
Medical Benefits: percentage receiving	0.0*	-0.9*
UI Benefits: percentage receiving	-1.0	-1.7
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

²¹ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars

The longer-term net impacts of training are observed nine to twelve quarters after participants left the program during the 2001-2002 program year (Figure 9). In the longer-term, there are positive net impacts of training on employment, hours worked, and earnings. Additionally, there are minor, but significant, increases in the percentages receiving social welfare benefits.

	All Participants	Program Completers
Employment: percentage in reported employment	4.6	8.2
Mean Hourly Wage	\$0.18*	\$1.09
Mean Hours Worked Per Quarter	29.8	53.7
Mean Quarterly Earnings	\$298	\$783
TANF: percentage receiving	0.4	0.0*
Food Stamps: percentage receiving	1.7	-0.6*
Medical Benefits: percentage receiving	1.2	-1.3
UI: percentage receiving	1.5	2.3
Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and hourly wage are in 2005 Q1 dollars. * Not statistically significant at the 0.05 level.		

The data allowed for separate analysis of both participants who completed their training and those who left before completing. The short-term and longer-term net impacts are better for program completers than non-completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.²² Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in CTC worker retraining, the public (taxpayer) program cost is about \$5,200 over the length of their enrollment, and the participant costs are about \$2,600 in tuition and \$5,900 in foregone earnings while training (Figure 10). During the course of working life to age 65, the average trainee will gain about \$15,200 in net earnings (earnings minus foregone earnings) and over \$4,200 in employee benefits.²³ These are net gains compared to the earnings of similar individuals who did not receive training.

²² Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

²³ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$3,000.

Projected participant benefits to age 65 outweigh public costs invested in college training by a ratio of 3.3 to 1, or \$16,812 to \$5,172.²⁴

From the time of leaving training to age 65, the public is forecasted to gain about \$5,500 in additional social security, Medicare, federal income, and state sales taxes and to save about \$320 in total unemployment insurance and other social welfare costs per participant—resulting in a gain over the direct cost of college training.

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$3,389		\$21,128	
Employee Benefits	\$678		\$4,226	
Taxes	-\$882	\$882	-\$5,494	\$5,494
Transfers*	-\$810	\$810	-\$319	\$319
Costs				
Foregone Earnings	-\$5,985		-\$5,895	
Program Costs**	-\$2,647	-\$5,172	-\$2,647	-\$5,172
TOTAL	-\$6,166	-\$3,481	\$10,999	\$640
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services. **Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.				

²⁴ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Workforce Investment Act Title I-B Program for Dislocated Workers

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a WIA Title I-B Dislocated Worker program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

The WIA Title I-B Dislocated Worker program has strong, positive net impacts on employment, hourly wage, hours worked, and earnings. Participation increases lifetime earnings of dislocated workers.

Figure 9 shows the short-term net impacts of the WIA Title I-B Dislocated Worker program. During the third quarter after the 2003-2004 participants left their programs, training is associated with an increase of 11.3 percentage points in employment as reported to ESD. The impact on wage rates is \$1.92²⁵ per hour, and the impact on hours worked per quarter is 70.1 hours. There is a large impact on mean quarter earnings—\$1,088. Training is associated with minor declines in the percentages receiving TANF and Food Stamps, but an increase in the percentage receiving UI benefits.

²⁵ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars

	All Participants	Participants Who Received Training
Employment: percentage in reported employment	11.6	11.6
Mean Hourly Wage	\$1.92	\$1.89
Mean Hours Worked Per Quarter	70.1	69.3
Mean Quarterly Earnings	\$1,088	\$1,053
TANF: percentage receiving aid	-0.2	-0.1*
Food Stamps: percentage receiving	-1.2	-1.4
Medical Benefits: percentage receiving	-0.3*	-0.6*
UI: percentage receiving	2.1	1.0*
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars. * Not statistically significant at the 0.05 level.		

The WIA Title I-B Dislocated Worker program offered participants a variety of services, and not all participants received training.²⁶ In the short-term, the net impacts of training are similar to that of all services. In the longer-term, the net impacts of training are smaller than for all services; this seems counter-intuitive. For dislocated workers, however, the need for training may be an indicator that the skills and knowledge they have are not as transferable as the skills and knowledge of those who did not receive training.

	All Participants	Participants Who Received Training
Employment: percentage in reported employment	6.4	4.2
Mean Hourly Wage	\$0.95	\$0.40*
Mean Hours Worked Per Quarter	48.8	33.2
Mean Quarterly Earnings	\$752	\$344
TANF: percentage receiving aid	-0.1*	-0.0*
Food Stamps: percentage receiving	-0.6*	-0.2*
Medical Benefits: percentage receiving	-0.8*	-0.2*
UI: percentage receiving	1.3*	0.8*
Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars. * Not statistically significant at the 0.05 level.		

The longer-term net impacts of participation are observed nine to twelve quarters after participants left the program during 2001-2002 (Figure 10). There are positive net impacts on employment, hourly wage, hours worked, and earnings.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits,

²⁶ Training includes job preparatory training, worker retraining, and work-related basic skills training.

and certain taxes.²⁷ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in the program, the public (taxpayer) program cost is almost \$6,800 over the length of their enrollment, and the participant cost is about \$10,300 in foregone earnings (Figure 11). During the course of working life to age 65, the average participant will gain about \$35,300 in net earnings (earnings minus foregone earnings) and over \$9,100 in employee benefits.²⁸ These are net gains compared to the earnings of similar individuals who did not receive services or training.

Projected participant benefits to age 65 outweigh public costs invested in WIA Title I-B Dislocated Worker program by a ratio of about 6.6 to 1, or \$44,399 to \$6,757.²⁹

The total public (taxpayer) costs is less than the program costs because participation is associated with increased tax revenues and decreased state welfare expenditures. From the time of leaving the program to age 65, the public is forecasted to gain almost \$12,000 per participant in additional social security, Medicare, federal income, and state sales taxes and to save about \$3,600 in total unemployment insurance and other social welfare costs—greater than the direct cost of program services.

²⁷ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

²⁸ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$7,100.

²⁹ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Figure 11				
Benefits and Costs of WIA Title I-B Dislocated Worker Program				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$7,974		\$45,544	
Employee Benefits	\$1,595		\$9,109	
Taxes	-\$2,073	\$2,073	-\$11,841	\$11,841
Transfers*	-\$3,432	\$3,432	-\$3,593	\$3,593
Costs				
Foregone Earnings	-\$10,254		-\$10,254	
Program Costs	\$0	-\$6,757	\$0	-\$6,757
TOTAL	-\$6,190	-\$1,251	\$28,966	\$8,677
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.				

Adult Basic Skills Education

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who received employment-related ABE/ESL education were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study.³⁰ Additional estimates were made for a cohort of ABE/ESL participants who also participated in community and technical college job preparatory training. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

ABE/ESL instruction is associated with minimal positive short-term net impacts on hourly wage, hours worked, and quarterly earnings. While ABE/ESL education is associated with positive longer-term net impacts on employment and hours worked, net impacts on hourly wage and quarterly earnings are insignificant. ABE/ESL students who also participated in job preparatory training have better short-term and longer-term net impacts on employment, hourly wage, hours worked, and earnings.

Figure 10 shows the short-term impacts of the program. During the third quarter after the 2003-2004 participants left their program, ABE/ESL instruction is associated with small, but positive, net impacts on hourly wage, \$0.62³¹ per hour; hours worked per quarter, 11.8 hours; and quarterly earnings, \$200. ABE/ESL instruction is associated with increases in the percentages receiving public assistance, but a minor decrease in the percentage receiving UI benefits.³²

The longer-term impacts on employment, and hours worked are positive; however, the net impacts on hourly wage and earnings are insignificant (also in Figure 10). As in the short-term, in the longer-term, ABE/ESL instruction was associated with increases in the percentages receiving public benefits and a decline in the percentage receiving unemployment insurance benefits.

³⁰ That is, individuals who enrolled in ABE/ESL programs for personal enhancement or non-employment-related purposes are not included in the ABE/ESL cohort.

³¹ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars.

³² Given the increases in public assistance, the decrease in the percentage receiving UI benefits may be the result of not qualifying for such benefits rather than not being unemployed.

Figure 10		
Short-Term and Longer-Term Net Impact Results for ABE/ESL Students Who Left The Program During PY 2003-2004 and 2001-2002		
	Short-Term Impacts Exiters 2003-2004	Longer-Term Impacts Exiters 2001-2002
Employment: percentage in reported employment	-1.3*	5.9
Mean Hourly Wage	\$0.62	-\$0.02*
Mean Hours Worked Per Quarter	11.8	18.5
Mean Quarterly Earnings	\$200	-\$26*
TANF: percentage receiving aid	2.6	2.5
Food Stamps: percentage receiving	4.3	6.4
Medical Benefits: percentage receiving	5.3	6.0
UI: percentage receiving	-0.8	-1.3
Notes: Short-term refers to impacts observed in the third quarter after leaving the program during the 2003-2004 school year. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program during the 2001-02 school year. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

The results discussed above are for ABE/ESL students who did not receive any other type of job-related training. The data, however, permitted an examination of the outcomes for basic skills students who also received job preparatory training at a community or technical college.³³

Pursuing job preparatory training, for those who had ABE/ESL education, results in much stronger labor market outcomes (Figure 11). ABE/ESL with job preparatory training was associated with a short-term increase of 6.6 percentage points in employment as reported to the ESD, and a longer-term increase of 12.0 percentage points. There were substantial positive impacts on hourly wage hours worked, and quarterly earnings.

Figure 11		
Short- and Longer-Term Net Impact Results for ABE/ESL Students Who Also Participated in and Left CTC Job Preparatory Training During PY 2003-2004 and 2001-2002		
	Short-Term Impacts Exiters 2003-04	Longer-Term Impacts Exiters 2001-02
Employment: percentage in reported employment	6.6	12
Mean Hourly Wage	\$1.74	\$1.87
Mean Hours Worked Per Quarter	55.2	60
Mean Quarterly Earnings	\$727	\$890
TANF: percentage receiving aid	4.0	2.4
Food Stamps: percentage receiving	8.4	7.4
Medical Benefits: percentage receiving	14.0	9.6
UI: percentage receiving	-0.5	-1.5*
Notes: Short-term refers to impacts observed in the third quarter after leaving the program during the 2003-2004 school year. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program during the 2001-02 school year. Earnings and wages are in 2005 Q1 dollars		
* Not statistically significant at the 0.05 level.		

³³ The study examined short-term outcomes of CTC job preparatory participants who exited in 2003-2004 and who had participated in ABE/ESL at a community and technical college sometime during 2000-2001 through 2003-2004 and longer-term outcomes of CTC job preparatory participants who exited in 2001-2002 and who had participated in ABE/ESL at a community and technical college sometime during 1998-99 through 2001-2002.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.³⁴ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-02, because a longer-term follow-up is required for this analysis. The results are for those students who took only basic skills courses in the colleges.

For each participant in ABE/ESL only, the public (taxpayer) program cost is about \$2,500 over the length of their enrollment, and the participant cost is \$140 in foregone earnings while in school (Figure 12). The average ABE/ESL participant makes no net gains in earnings in either the first two and one-half years after leaving college or during the course of working life to age 65 compared to similar individuals who did not participate in any of the workforce development programs.

Figure 12				
Benefits and Costs of ABE/ESL Education				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$0*		\$0*	
Employee Benefits	\$0*		\$0*	
Taxes	\$0*	\$0*	\$0*	\$0*
Transfers**	\$735	-\$735	\$5,303	-\$5,303
Costs				
Foregone Earnings	-\$140		-\$140	
Program Costs***	\$0	-\$2,453	\$0	-\$2453
TOTAL	\$596	-\$3,188	\$5,164	-\$7,756
Notes: Benefits and costs are expressed in 2005 Q1 dollars.				
*Refers to essentially but not exactly \$0.				
**Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.				
***In 2001-02 ABE/ESL students in CTC programs were not required to pay tuition.				

³⁴ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

Workforce Investment Act, Title I-B Adult Program

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a WIA I-B Adult program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

The WIA Title I-B Adult program has positive net impacts on employment, wages, hours worked, and earnings. Participation increases lifetime earnings.

Figure 9 shows the short-term net impacts of the WIA Title I-B adult program. During the third quarter after the 2003-2004 participants left the program, participation was associated with an increase of 9.1 percentage points in employment as reported to ESD, a net impact on wage rates of \$2.00,³⁵ a net impact on hours worked of 59.8 hours, and a net impact on quarterly earnings of \$797. Participation, however, is associated with increases in the percentages receiving UI benefits and public assistance.

Figure 9		
Short-Term Net Impacts Results for WIA Title I-B Adults Who Left the Program During PY 2003-2004		
	All Participants	Participants Who Received Training
Employment: percentage in reported employment	9.1	8.6
Mean Hourly Wage	\$2.09	\$1.92
Mean Hours Worked Per Quarter	59.8	57.2
Mean Quarterly Earnings	\$797	\$871
TANF: percentage receiving aid	0.5	0.0*
Food Stamps: percentage receiving	5.1	4.1
Medical Benefits: percentage receiving	6.2	6.1
UI: percentage receiving	1.7	0.3*
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

³⁵ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars

WIA Title I-B Adult programs offered participants a variety of services, and not all participants received training. The participants who received training³⁶ also experienced positive employment, wage, hours worked, and earnings outcomes. The size of the net impacts for those who received training compared to all participants were similar in the short-term but larger in the longer-term, an indicator of the value of training for those participants.

Figure 10		
Longer-Term Net Impacts Results for WIA Title I-B Adults who Left the Program During PY 2001-2002		
	All Participants	Participants Who Received Training
Employment: percentage in reported employment	6.6	8.1
Mean Hourly Wage	\$0.65	\$1.06
Mean Hours Worked Per Quarter	35.7	46.9
Mean Quarterly Earnings	\$443	\$623
TANF: percentage receiving aid	0.7*	0.5*
Food Stamps: percentage receiving	2.8	2.6*
Medical Benefits: percentage receiving	2.0\$	1.5*
UI: percentage receiving	4.0	5.3
Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

The longer-term net impacts are observed nine to twelve quarters after participants left the program during the 2001-2002 program year (Figure 10). The program also has positive longer-term impacts on employment, hourly wages, hours worked, and earnings; the magnitudes of the net impacts, however, are smaller than in the short-term. In the longer-term, participation was associated with increases in the percentages receiving Food Stamps and UI benefits.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.³⁷ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in WIA Title I-B adult programs, the public (taxpayer) cost is \$5,481 over the length of their enrollment, and the participant cost is \$1,060 in foregone earnings while enrolled (Figure 11). During the first two and one-half years after leaving the program, the average participant will gain \$5,794 in earnings. During the course of working life to age 65, they will gain about \$28,900 in net earnings (earnings minus foregone earnings) and about

³⁶ This includes job preparatory training, worker retraining, and work-related basic skills training.

³⁷ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

\$6,000³⁸ in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training.

*Projected participant benefits to age 65 outweigh public costs for WIA Title I-B services and training by a ratio of 6.4 to 1, or \$34,874 to \$5,481.*³⁹

From the time of leaving the program to age 65, the public is forecast to gain almost \$5,200 per participant in additional social security, Medicare, federal income, and state sales taxes; the public, however, is expected to pay out \$240 per participant in total unemployment insurance and social welfare benefits. Together, the program cost and small increase in transfer payments is about \$555 greater than the increase in tax revenues.

Figure 11 Benefits and Costs of WIA Title I-B Adult Program				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$5,794		\$29,945	
Employee Benefits	\$1,159		\$5,989	
Taxes	-\$999	\$999	-\$5,166	\$5,166
Transfers*	-\$1,971	\$1,971	\$240	-\$240
Costs				
Foregone Earnings	-\$1,060		-\$1,060	
Program Costs	\$0	-\$5,481	\$0	-\$5,481
TOTAL	\$2,922	-\$2,511	\$29,949	-\$555
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.				

³⁸ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$5,800.

³⁹ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Division of Vocational Rehabilitation

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the DVR program were compared to individuals who had similar characteristics, but who did not participate in any of the programs in the study. The comparison group members were selected from DVR-eligible applicants who left the program before the development of an employment plan. *Short-term* net impacts were derived by examining outcomes for individuals who exited the program in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

The DVR program has positive net impacts on employment, hours worked, and earnings in the short-term, and hourly wages in the longer-term. Participation increases lifetime earnings.

Figure 10 shows the short-term and longer-term net impacts of DVR participation. During the third quarter after the 2003-2004 participants left the program, participation is associated with an increase of 6.8 percentage points; a net impact of 16.3 hours worked per quarter; and a net impact on mean quarterly earnings of \$222.⁴⁰ Participation is associated with decreases in the percentages receiving TANF and Food Stamp benefits.

The longer-term net impacts of participation are observed 9 to 12 quarters after participants left DVR during the 2001-2002 program year. In the longer term, participation is associated with increases in employment, hourly wage, hours worked, quarterly earnings, and the percentage receiving UI benefits, and is associated with decreases in the percentages receiving TANF and Food Stamps.

⁴⁰ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars.

Figure 10		
Short-Term and Longer-Term Net Impacts Results for DVR Clients Who Left the Program During PY 2003-2004 and PY 2001-2002		
	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	6.8	11
Mean Hourly Wage	\$0.32*	\$1.34
Mean Hours Worked Per Quarter	16.3	44.8
Mean Quarterly Earnings	\$222	\$688
TANF: percentage receiving aid	-0.6	-0.8
Food Stamps: percentage receiving	-3.7	-3.9
Medical Benefits: percentage receiving	1.0*	-3.0*
UI: percentage receiving	-0.2*	2.6
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.⁴¹ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each client in a DVR program, the public (taxpayer) program cost is \$8,114 over the length of their enrollment (Figure 12). Typically while participating in employment and training programs, individuals forego earnings. DVR participants, however, had net earnings during participation of \$613 over non-participants. During the first two and one-half years after leaving DVR, the average client will gain \$7,843 on earnings. During the course of working life to age 65, the average client will gain about \$45,900 in net earnings (net impact earnings plus earnings during participation) and about \$9,200⁴² in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive DVR services.

*Projected participant benefits to age 65 outweigh public costs for the DVR program by a ratio of 6.9 to 1, or \$55,633 to \$8,114.*⁴³

⁴¹ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

⁴² This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$9,300.

⁴³ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

The total public (taxpayer) costs are less than the program costs because DVR participation is associated with increased tax revenues and decreased state social welfare expenditures. From the time of leaving the DVR program to age 65, the public is forecast to gain over \$7,909 per participant in additional social security, Medicare, federal income, and state sales taxes and to save \$1,470 per participant in total unemployment insurance and social welfare costs—greater than the direct cost of DVR services.

Figure 12				
Benefits and Costs of DVR Programs				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$7,843		\$45,850	
Employee Benefits	\$1,568		\$9,170	
Taxes	-\$1,353	\$1,353	-\$7,909	\$7,909
Transfers*	-\$624	\$624	-\$1,470	\$1,470
Costs				
Foregone Earnings**	\$613		\$613	
Program Costs	\$0	-\$8,114	\$0	-\$8,114
TOTAL	\$8,046	-\$6,137	\$46,254	\$1,264
Notes: Benefits and costs are expressed in 2005 Q1 dollars.				
*Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.				
**Instead of foregone earnings, DVR clients had positive net earnings while participating.				

Department of Services for the Blind

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the DSB program were compared to individuals who had similar characteristics, but who had not participated in any of the programs in the study. The comparison group members were selected from DSB-eligible applicants who left the program before the start of an employment plan. *Short-term* net impacts were derived by examining outcomes for individuals who exited the program in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

The DSB program has positive net impacts on employment and wages in the short term, and, in the longer term, also positively impacts hours worked and earnings. Participation increases lifetime earnings.

Figure 7 shows the short-term and longer-term net impacts of participation in the DSB program. During the third quarter after the 2003-2004 participants left the program, participation is associated with an increase of 23.7 percentage points in employment as reported to ESD, and a net impact on wage rates of \$4.29⁴⁴ per hour.

The longer-term net impacts of participation are observed nine to twelve quarters after participants left the program during the 2001-2002 school year. In the longer term, participation is associated with positive net impacts on employment, hourly wages, hours worked, and quarterly earnings.

⁴⁴ All dollar amounts in this report are expressed in 2005 quarter 1 (Q1) dollars.

Figure 7		
Short-Term and Longer-Term Net Impact Results for DSB Clients Who Left the Program During PY 2003-2004 and PY 2001-2002		
	Short-Term 2003-2004 Exitors	Longer-Term 2001-2002 Exitors
Employment: percentage in reported employment	23.7	20.3
Mean Hourly Wage	\$4.29	\$5.58
Mean Hours Worked Per Quarter	25.9*	78.4
Mean Quarterly Earnings	\$684*	\$1,492
TANF: percentage receiving aid	0.4*	-4.6*
Food Stamps: percentage receiving	-8.2*	-4.7*
Medical Benefits: percentage receiving	-4.9*	3.0*
UI: percentage receiving	2.7*	-3.8*
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.⁴⁵ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each DSB client in a program, the public (taxpayer) program cost is \$23,243 over the length of enrollment, and the participant cost is \$1,010 in foregone earnings while enrolled (Figure 8). During the first two and one-half years after leaving college, the average client will gain \$17,223 in earnings. During the course of working life to age 65, the average client will gain over \$77,400 in net earnings (earnings minus foregone earnings) and about \$6,100⁴⁶ in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive DSB services.

Projected participant benefits to age 65 outweigh public costs of DSB programs by a ratio of 3.6 to 1, or \$83,472 to \$23,243.

⁴⁵ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

⁴⁶ This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$5,900.

Nevertheless, from the time of leaving the DSB program to age 65, despite projected net savings of \$2,578 in total unemployment insurance and other social welfare costs and gains in tax revenues of \$12,529, there remains a net cost to the public of about \$7,000.

Figure 8				
Benefits and Costs of DSB Programs				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$17,223		\$78,429	
Employee Benefits	\$5,782		\$6,053	
Taxes	-\$2,970	\$2,970	-\$13,529	\$13,529
Transfers*	-\$1,419	\$1,419	-\$2,578	\$2,578
Costs				
Foregone Earnings	-\$1,010		-\$1,010	
Program Costs	\$0	-\$23,243	\$0	-\$23,243
TOTAL	\$17,604	-\$18,853	\$67,365	-\$7,136
Notes: Benefits and costs are expressed in 2005 Q1 dollars.				
*Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.				

Secondary Career and Technical Education

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, students who completed a secondary career and technical education (CTE) program were compared to students who had similar characteristics, but who did not participate in any of the programs in the study. The comparison group members were selected from general-track secondary students. *Short-term* net impacts were derived by examining outcomes for students who exited their senior year in secondary school in fiscal year 2003-2004 and *longer-term* impacts for students who exited in fiscal year 2001-2002.

Career and technical education has positive net impacts on employment, hourly wage, hours worked, and earnings. CTE completion increases lifetime earning.

Figure 9 shows the short-term and longer-term net impacts of completing career and technical education. During the third quarter after the 2003-2004 students left school, CTE completion is associated with an increase of 6.7 percentage points in employment as reported to ESD, a net impact on hourly wage of \$0.52 per hour, a net impact on hours worked per quarter of 21.8 hours, and a net impact of mean quarterly earnings of \$210.

The longer-term impacts, observed nine to twelve quarters after 2001-2002 students left school, are positive for employment rate, hourly wage, hours worked in the quarter, and quarterly earnings. In the longer term, CTE completion is associated with a decline in the percentage receiving Food Stamps and a minimal increase in the percentage receiving unemployment insurance benefits.

Figure 9		
Short-Term Net Impacts Results of Secondary Career and Technical Education Program Completers who Exited Senior Year in High School during PY 2003-2004		
	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	6.7	5.4
Mean Hourly Wage	\$0.52	\$0.65
Mean Hours Worked Per Quarter	21.8	35.5
Mean Quarterly Earnings	\$210	\$416
TANF: percentage receiving aid	0.0*	-0.1*
Food Stamps: percentage receiving	-0.2*	-1.4
Medical Benefits: percentage receiving	0.4*	-0.4*
UI: percentage receiving	0.0*	0.8
Notes: Short-term refers to impacts observed in the third quarter after leaving school. Longer-term refers to impacts observed 9 to 12 quarters after leaving school. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

Benefits and Costs

The cost-benefit analysis examines the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.⁴⁷ Benefits and costs are evaluated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

The program cost is the *difference* in the cost of a student completing career and technical education compared to the cost of a student completing another type of high school program.⁴⁸ (The difference is primarily due to smaller student/teacher ratios in vocational education.) The intent of the cost-benefit evaluation is to analyze the net value of exiting high school having completed a CTE program, rather than exiting high school not having completed a CTE program.

Career and technical education enhances the lifetime earnings of program completers. Gains in earnings and employee benefits outweigh the costs of career and technical education to the public.

For each career and technical education completer, the marginal cost to the public (taxpayer) is roughly \$940 over the length of their enrollment (Figure 10). During the first two and one-half years after leaving school, the average completer will gain \$3,027 in earnings. During the course of their working life to age 65, they will gain about \$38,000 in earnings and \$7,600 in employee benefits. These are net gains compared to the earnings of similar individuals who were not CTE completers.

⁴⁷ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

⁴⁸ The marginal cost to the state is reflected by the vocational funding enhancement that school districts receive for each career and technical student; \$774 per full-time equivalent student. We add to this the Carl Perkins Vocational and Technical Education funds allocated to career and technical education in the Washington State: \$150 per full-time equivalent (FTE) student.

From the time of leaving the senior year in high school to age 65, the public is forecast to gain about \$6,600 in additional social security, Medicare, federal income, and state sales taxes and to save \$905 per participant in total unemployment insurance and other social welfare costs—greater than the cost of CTE completion.

Figure 10				
Benefits and Costs of Secondary Career and Technical Education Program				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$3,027		\$38,041	
Employee Benefits	\$606		\$7,608	
Taxes	-\$522	\$522	-\$6,562	\$6,562
Transfers*	-\$192	\$192	-\$905	\$905
Costs				
Foregone Earnings**	\$31		\$31	
Program Costs	-\$0	-\$924	-\$0	-\$924
TOTAL	\$2,948	-\$210	\$38,213	\$6,543
Notes: Benefits and costs are expressed in 2005 Q1 dollars. *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services. ** Instead of foregone earnings, CTE completers had positive net earnings while enrolled.				

Workforce Investment Act Title I-B Program for Youth

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the WIA Title I-B Youth program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. *Short-term* net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and *longer-term* impacts for individuals who exited in fiscal year 2001-2002.

The WIA Title I-B Youth program has positive longer-term net impacts on employment, wages, hour worked, and earnings. Participation increases lifetime earning.

Figure 10 shows the short-term and longer-term net impacts of the program. During the third quarter after the 2003-2004 participants left the program, participation is associated with negative net impacts on hours worked per quarter, -13.0 hours, and on quarterly earnings, -\$258. Furthermore, participation is associated with increases in the percentages receiving public assistance—TANF, Food Stamps, and medical benefits.

The longer-term net impacts are observed nine to twelve quarters after participants left the program during the 2001-2002 program year. In the longer term, there are positive net impacts on employment, hourly wages, hours worked, and quarterly earnings. Participation, however, is associated with increases in the percentages receiving Food Stamp and medical benefits.

Figure 10		
Short-term and Longer-Term Net Impact Results for WIA Title I-B Youth Who Left the Program During PY 2001-2002 or PY 2003-2004		
	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	-0.4*	10.3
Mean Hourly Wage	-\$0.29*	\$0.75
Mean Hours Worked Per Quarter	-13.0	31.1
Mean Quarterly Earnings	-\$258	\$317
TANF: percentage receiving aid	2.2	-0.1*
Food Stamps: percentage receiving	8.3	9.0
Medical Benefits: percentage receiving	14.0	6.5
UI: percentage receiving	-0.1*	1.0*
Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.		
* Not statistically significant at the 0.05 level.		

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.⁴⁹ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each WIA Title I-B youth, the public (taxpayer) program cost is about \$6,300 over the length of enrollment (Figure 11). During the first two and one-half years after leaving the program, participation increases the average participant's earnings by \$1,719. During the course of working life to age 65, the average participant will gain about \$27,780 in net earnings (earnings minus foregone earnings) and about \$5,600 in employee benefits. These are net gains compared to the earnings of similar individuals who did not participate in a program.

Projected participant benefits to age 65 outweigh public costs for the WIA Title I-B youth by a ratio of 5.3 to 1, or \$33,336 to \$6,314.⁵⁰

From the time of leaving the program to age 65, the public is expected to gain about \$4,800 per participant in additional social security, Medicare, federal income, and state sales taxes and to save about \$2,800 per participant in total social welfare and unemployment insurance costs—greater than the direct cost of the WIA Title I-B youth program.

⁴⁹ Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

⁵⁰ This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Figure 11				
Benefits and Costs of the WIA Title I-B Youth Program				
	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$1,719		\$27,780	
Employee Benefits	\$344		\$5,556	
Taxes	-\$297	\$297	-\$4,792	\$4,792
Transfers*	\$1,395	-\$1,395	-\$2,775	\$2,775
Costs				
Foregone Earnings	\$0		\$0	
Program Costs	\$0	-\$6,314	\$0	-\$6,314
TOTAL	\$3,163	-\$7,412	\$25,769	\$1,253

Notes: Benefits and costs are expressed in 2005 Q1 dollars.
 *Transfers include UI, TANF, Food Stamps, and medical benefits. TANF benefits reflect the value of cash grants, childcare, and other client support services.