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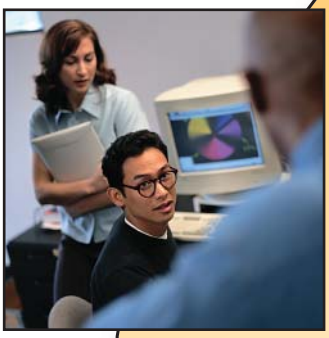

CareerCenter Customer Outcomes

Washington County

July 2002-June 2005

A Publication Series on the Maine Workforce

JOHN ELIAS BALDACCI
GOVERNOR

STATE OF MAINE
DEPARTMENT OF LABOR
DIVISION OF LABOR MARKET INFORMATION SERVICES
19 UNION STREET
AUGUSTA, MAINE
04330-6826

LAURA A. FORTMAN
COMMISSIONER

JOHN DORRER
DIVISION DIRECTOR

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Prepared by

Maine Department of Labor
Labor Market Information Services

Betty Dawson
Workforce Performance and Evaluation Manager

Amanda Rector
Economic Research Analyst

Issued November 2006 Augusta, Maine

PHONE: (207) 287-2271 TTY 1-800-794-1110 FAX: (207) 287-2947

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Telephone (207) 287-2271, FAX (207) 287-2947, TTY 1-800-794-1110

Preface

The Maine economy continues to transform as many long-standing, traditional industries are disappearing or radically altering their production processes while new firms and entire industries are emerging. The knowledge, skills, and experience gained by workers in the old economy often do not readily transfer to new job opportunities. At the same time, workers who lose jobs are frequently forced to move significant distances to find new ones. Workers residing in rural regions are often most severely impacted by these structural changes and must make the most dramatic transitions.

In rural regions, a single plant or industry sector historically provided most of the employment. Generations of the same family would frequently work at one firm and in similar jobs. This kind of economic stability contributed towards building stable communities with strong family ties. Globalization, technological change, and business restructuring are powerful forces that have swept through Maine's economy and dislocated the lives of thousands of Maine workers over the last 30 years.

With the closing of plants and deep erosion of employment opportunities in traditional industries, rural workers and the communities they reside in face extraordinary challenges in gaining new livelihoods and sustaining economic well-being. The impacts of job loss are highly concentrated and alternatives for employment severely limited. Plant closings and mass layoffs place deep strains on individuals, families, and communities. Along with the loss of identity derived from the work, workers and their families encounter numerous challenges including the erosion of financial and real assets built up over many years as they seek to reposition their economic lives. At the same time, there is also evidence that workers, families, and regions are resilient as they acquire new skills, assemble incomes, and generate alternative economic opportunities. No doubt, this transformation is difficult and success is not guaranteed.

This is one of a series of reports resulting from a research program established by the Maine Department of Labor (MDOL) to examine people, institutions, and communities impacted by profound economic change such as job loss, plant closings, or industry transformation. MDOL has an abiding interest in developing a deeper understanding of how Maine people and communities transition through these challenges by conducting longitudinal studies of their employment and earnings experiences. Such a sustained research focus will support the decision needs of not only policymakers and other key economic actors but also the Maine workers who confront these challenges first hand.

Questions and comments regarding this report should be directed to Betty Dawson, Workforce Performance and Evaluation Manager, or Amanda Rector, Economic Research Analyst, Maine Department of Labor, P.O. Box 259, Augusta, Maine 04332-0259, Telephone (207) 287-2271, TTY 1-800-794-1110.

John Dorrer, Director
Labor Market Information Services
Maine Department of Labor

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Introduction

This study was commissioned by the Maine Department of Labor, Bureau of Employment Services, and David Flanagan, Governor Baldacci's Special Representative to Washington County, who was charged by the Governor to examine strategies and prospects for improving the economic well-being of Washington County residents. The CareerCenters, operated by the Maine Department of Labor in cooperation with local Workforce Investment Boards, have been established to assist Maine workers with career change and job search activities. Thus, data from Maine workers using CareerCenters offer an important source for gauging career and job mobility to help better understand economic restructuring and transitions. The overarching goal of this study was to examine how workers in Washington County have adapted to the changing economy of that region. There is particular interest in occupational, industry, and geographic mobility as workers respond to job loss and desires to improve their earnings.

A group of customers who received and exited from Workforce Investment Act services provided by the Washington County CareerCenters between July 1, 2002, and June 30, 2005, had their experiences examined. The two CareerCenters in Washington County are located in Machias and Calais.

Two primary data sources were used for this study:

- Administrative data from the Bureau of Unemployment Compensation provided information on wages and employers. These data included quarterly wage records of individual workers submitted by employers to the Department of Labor under Maine's Employment Security Law.

- CareerCenter One-Stop Operating System (OSOS) data from the Bureau of Employment Services (BES) provided demographic information, along with data on services, training, and employment. There are some limitations to this data that are common to all distributed data entry systems. Any ambiguity in the definitions of the data entry fields can lead to differences in how the data are entered. The analysts have done their best to collaborate with BES to minimize these differences.

These two data sources provided considerable detail about the customers' demographic characteristics, work experiences, services received, and employment outcomes.

Several basic questions helped to frame the analysis.

- What were the characteristics of the people who used the Washington County CareerCenters during this time period?
- What services did the customers receive?
- In what industries were the customers working before services and in what industries do they work now?
- Did the customers leave Washington County to find work?
- What were the customers' wages and did training affect their earnings?

The report is organized in five sections. The first section reviews the developments in the Washington County economy over time and compares Washington County on several key measures to the State of Maine overall. The second section examines the characteristics of customers served by the two Washington County CareerCenters between 1996 and 2005. The third section reports on the labor market outcomes for those customers while section four analyzes employment and earnings prior to enrollment in the CareerCenter with those reported after exiting from CareerCenter services. The final section summarizes the report and details recommendations designed to improve future services.

The Washington County Economy: A Descriptive Analysis

Summary

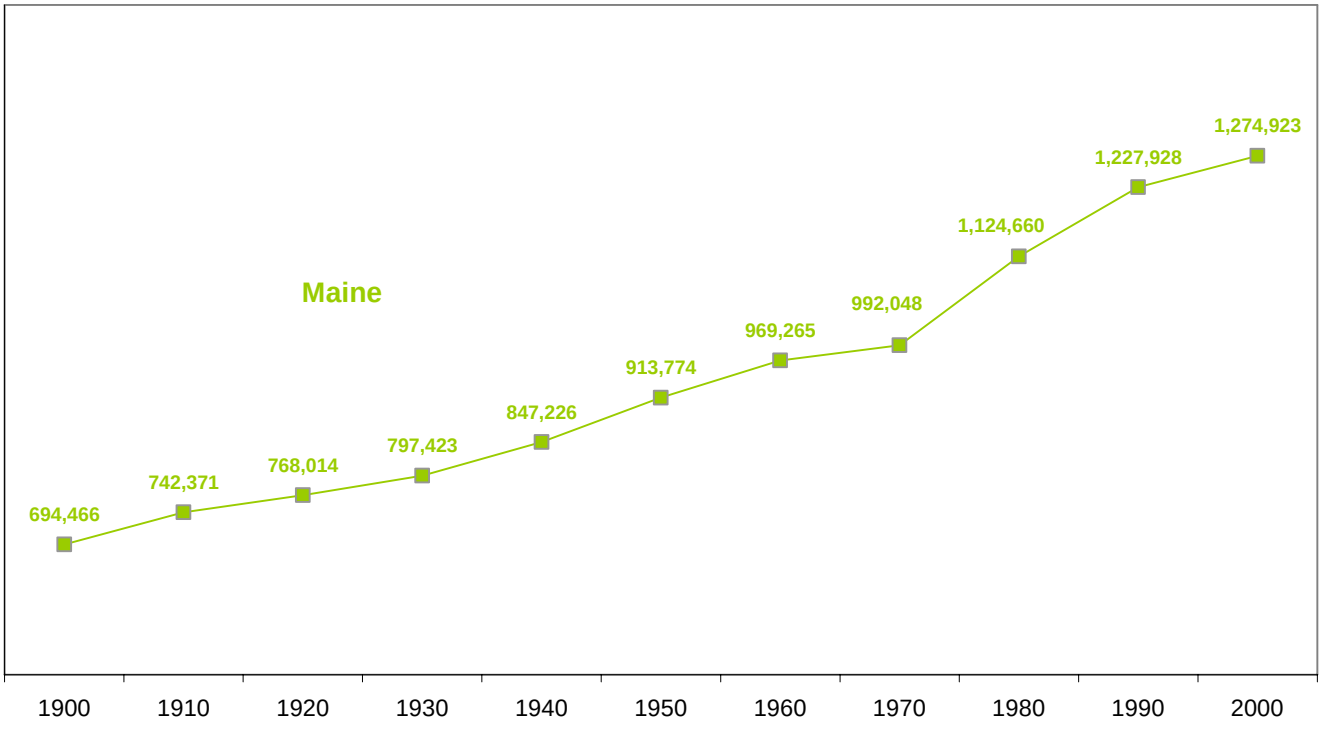
Washington County is the easternmost county in Maine with a diverse geography comprising both heavily wooded inland and coastal areas. Historically, the economy of Washington County was centered on industries utilizing the area's natural resources. Coastal villages supported small scale fishing, clamming, and related activities. This County is also responsible for over 90 percent of the nation's blueberry crop and is the world's largest producer of blueberries. Much of the work has been seasonal providing limited incomes. Washington County remains among the most economically-challenged regions of the state characterized by declining industries, job losses, and out-migration of the population. Over the long term, there have been major declines and job losses in key industries such as paper making; textile, apparel, lumber, and wood products manufacturing; as well as aquaculture and fish processing. These trends have contributed to lower incomes and more limited economic prospects in comparison to statewide developments.

Demographics

Washington County's population has been declining over the past century while Maine's population has been increasing. (See Figures A and B.) Between 1980 and 2000 the population of Washington County was reduced by 2.9 percent. From 1900 to 2000 the population of Washington County decreased by approximately 25 percent. Much of this decrease was due to the out-migration of the younger population seeking new opportunities.

Figure A

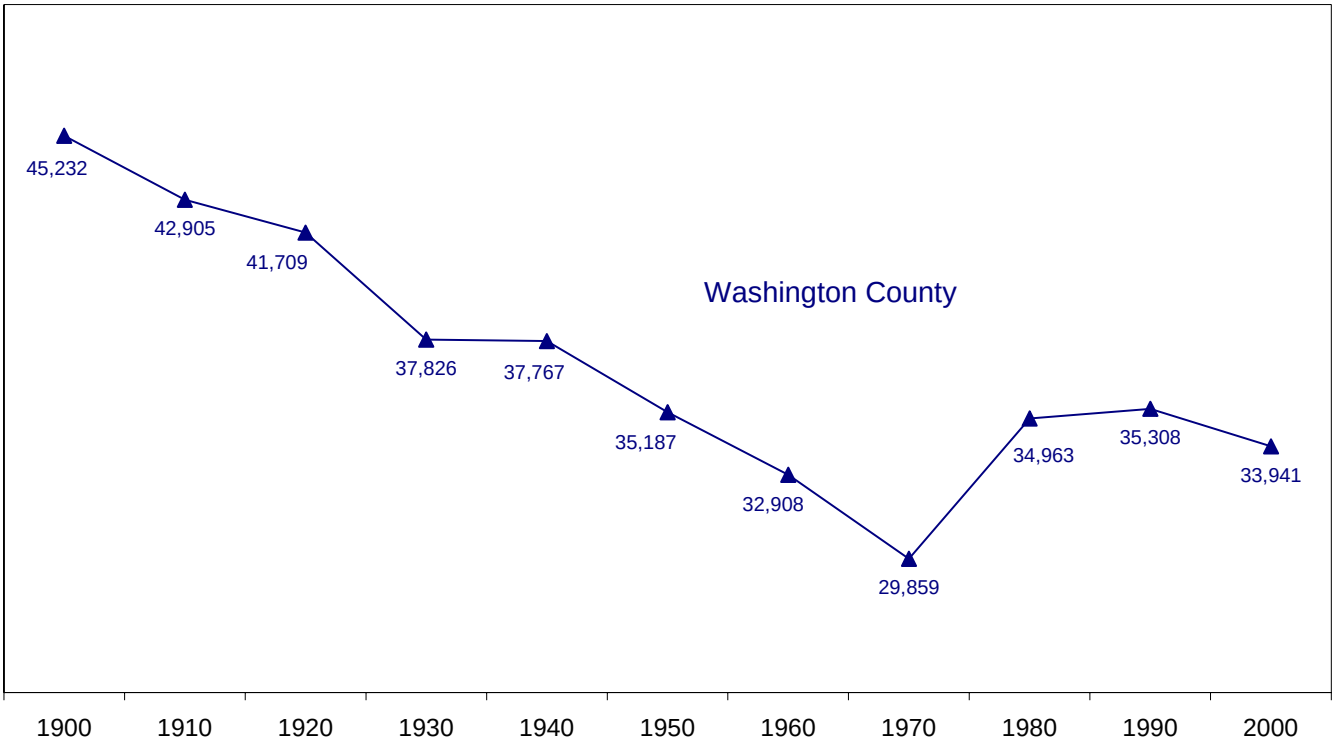
Total Population, Maine, 1900 through 2000



Source: U.S. Census Bureau

Figure B

Total Population, Washington County, 1900 through 2000



Source: U.S. Census Bureau

As the younger population leaves the area, the number of births decline leaving a population with fewer young children. (See Table 1.) Since 1970 there has been a 26.7 percent decrease in the Washington County population under five years of age compared to a 16.4 percent decrease for Maine.

Table 1

Characteristics of the Population, Maine and Washington County, 1970 through 2000

	Maine					Washington County				
	Total Population	Males	Females	Under 5 Years	65 Years or Older	Total Population	Males	Females	Under 5 Years	65 Years or Older
1970	992,048	482,865	509,183	84,622	114,592	29,859	14,565	15,294	2,357	4,435
1980	1,124,660	546,235	578,425	78,514	140,918	34,963	17,157	17,806	2,709	5,076
1990	1,227,928	597,850	630,078	85,722	163,373	35,308	17,285	18,023	2,250	5,707
2000	1,274,923	620,309	654,614	70,726	183,402	33,941	16,576	17,365	1,727	5,856

Source: U.S. Census Bureau

Labor Force, Employment, and Unemployment: 1990 through 2004

Labor force participation is a good indicator of the economic health of a region. Overall, the civilian labor force in Maine has grown since 1990 except for declines occurring at times of economic downturn. For Washington County, labor force participation has been fluctuating with a more pronounced decline in recent years. (See Table 2.)

Table 2

Civilian Labor Force Estimates, Maine and Washington County, 1990 through 2004

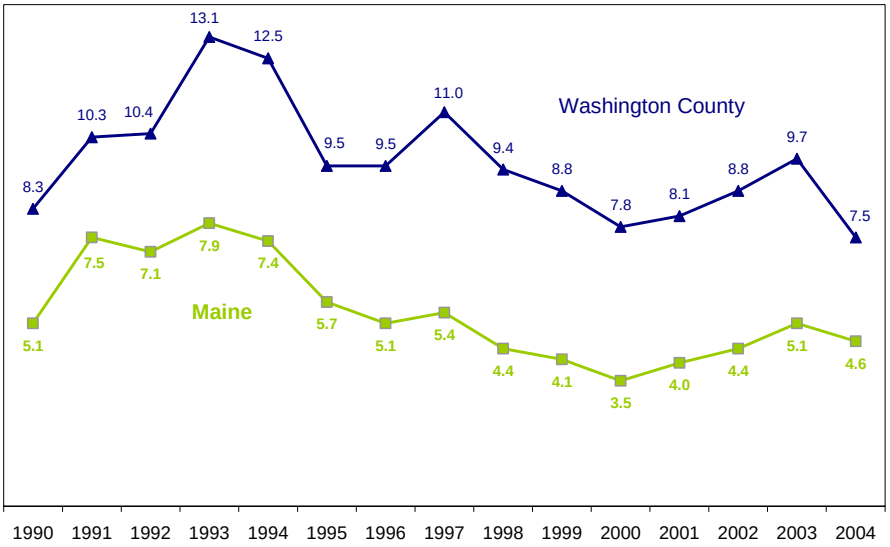
	Maine				Washington County			
	Civilian Labor Force	Employed	Unemployed	Unemployment Rate	Civilian Labor Force	Employed	Unemployed	Unemployment Rate
1990	635,000	603,000	33,000	5.1	15,100	13,860	1,250	8.3
1991	647,000	598,000	49,000	7.5	16,360	14,670	1,680	10.3
1992	662,000	615,000	47,000	7.1	16,410	14,710	1,700	10.4
1993	631,000	581,000	50,000	7.9	16,400	14,250	2,150	13.1
1994	612,000	567,000	45,000	7.4	15,500	13,560	1,940	12.5
1995	641,900	605,100	36,800	5.7	16,540	14,960	1,570	9.5
1996	668,700	634,600	34,100	5.1	16,740	15,150	1,590	9.5
1997	658,700	623,200	35,500	5.4	16,760	14,910	1,850	11.0
1998	651,000	622,300	28,700	4.4	16,260	14,720	1,530	9.4
1999	672,000	644,400	27,500	4.1	16,770	15,290	1,470	8.8
2000	688,800	664,600	24,200	3.5	16,630	15,340	1,290	7.8
2001	683,900	656,800	27,100	4.0	16,220	14,910	1,320	8.1
2002	686,200	656,100	30,100	4.4	16,040	14,640	1,410	8.8
2003	693,100	658,100	35,000	5.1	16,200	14,620	1,570	9.7
2004	699,300	667,200	32,100	4.6	15,460	14,300	1,160	7.5

Source: Maine Employment Statistical Handbook

While both Maine and Washington County followed a similar pattern of unemployment rates, Washington County had a much higher rate over the time period than Maine. Additionally, Washington County experienced more dramatic increases and decreases in its unemployment rate than Maine did. (See Figure C.) However, the most recent decline in the Washington County unemployment rate was likely due to decreases in the population and labor force.

Figure C

Average Annual Unemployment Rate, Washington County and Maine, 1990 through 2004

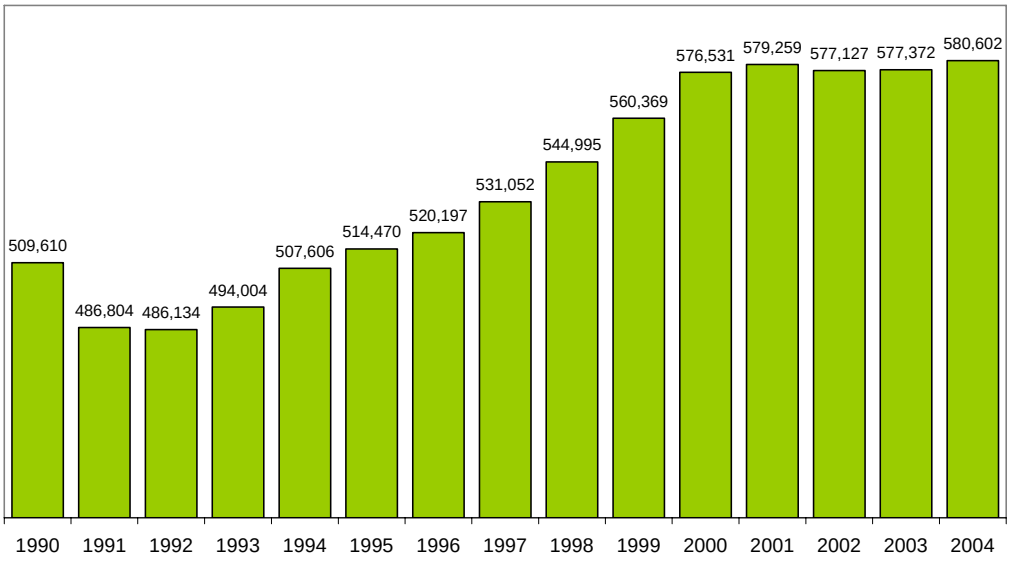


Source: Maine Employment Statistical Handbook

Maine covered employment (definition in Appendix) increased during this time period except for decreases during the periods of economic decline. Washington County experienced a slightly different trend over that time. Covered employment did generally increase through 2000 except for a drop during the economic downturn in 1991, however, it experienced a sharp drop between 2000 and 2002 and has been stagnant since. (See Figures D and E.)

Figure D

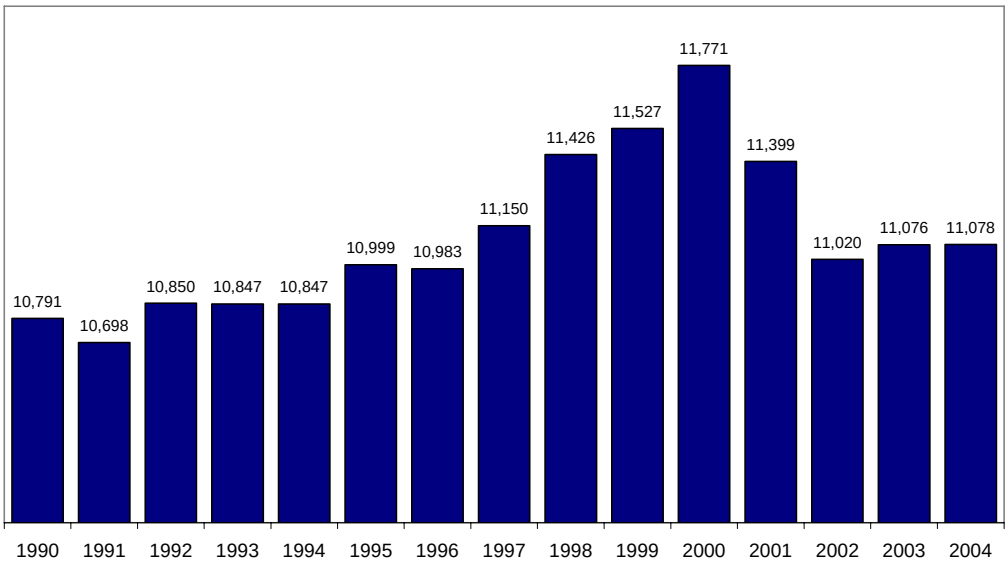
Average Annual Covered Employment, Maine, 1990 through 2004



Source: Maine Employment Statistical Handbook

Figure E

Average Annual Covered Employment, Washington County, 1990 through 2004



Source: Maine Employment Statistical Handbook

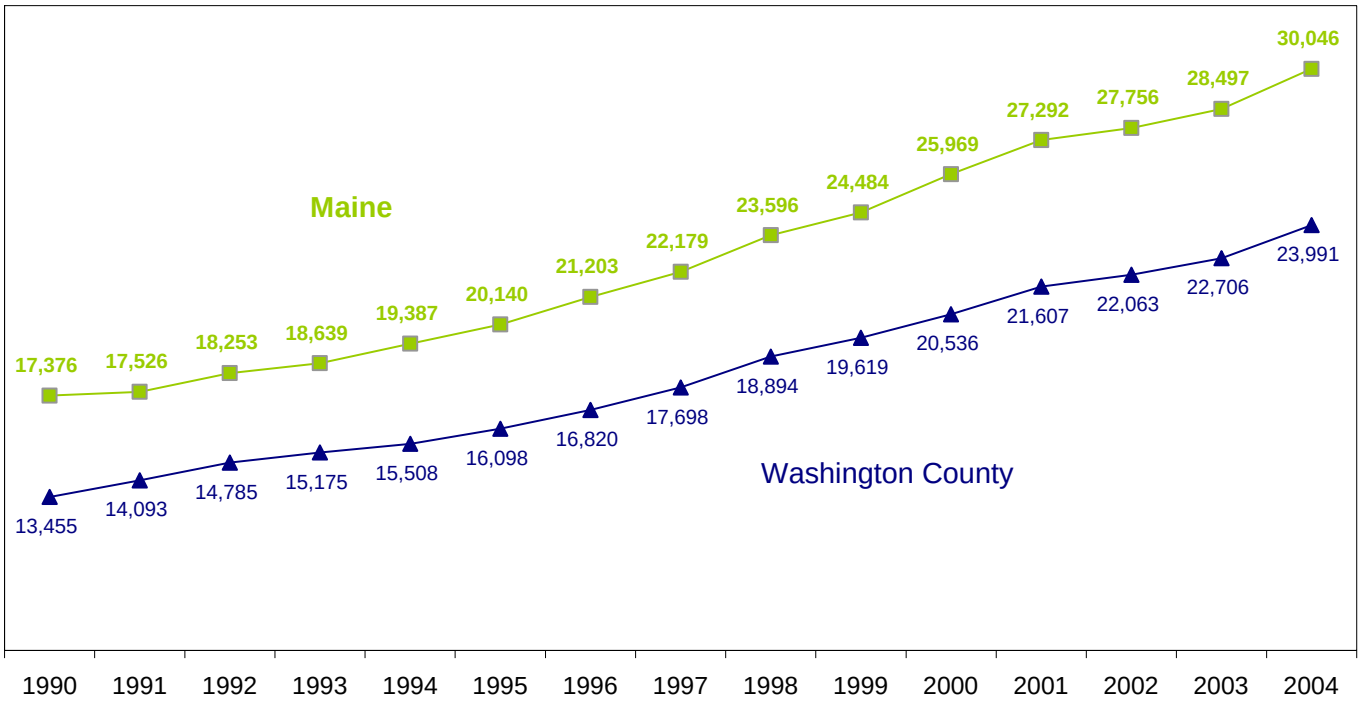
The increase in Maine covered employment was around 14 percent from 1990 to 2004, while the increase in Washington County over the same time period was around three percent. From the 2000 peak through 2004 Washington County covered employment dropped almost six percent. In Maine during the same years covered employment increased slightly less than one percent. Due in part to the lack of employment opportunities, there has been little change in recent years in Washington County's population. Without an expanding labor pool to draw from, the opportunity for businesses to create and fill new jobs, whether through new ventures or expansion of current establishments, has in turn been restricted.

Incomes and Wages

The per capita personal income for Washington County was lower than for Maine. (See Figure F.) However, from 1990 to 2004 the increase in Washington County was 52.6 percent while in Maine the increase was 49.5 percent. One would expect to see the statewide per capita personal income increase more than the Washington County per capita income. It is possible that the low wage workers may be moving out of Washington County to seek better economic opportunities. At the same time individuals with higher incomes may be purchasing oceanfront properties or retiring to the area.

Figure F

Per Capita Personal Income,
Maine and Washington County, 1990 through 2004

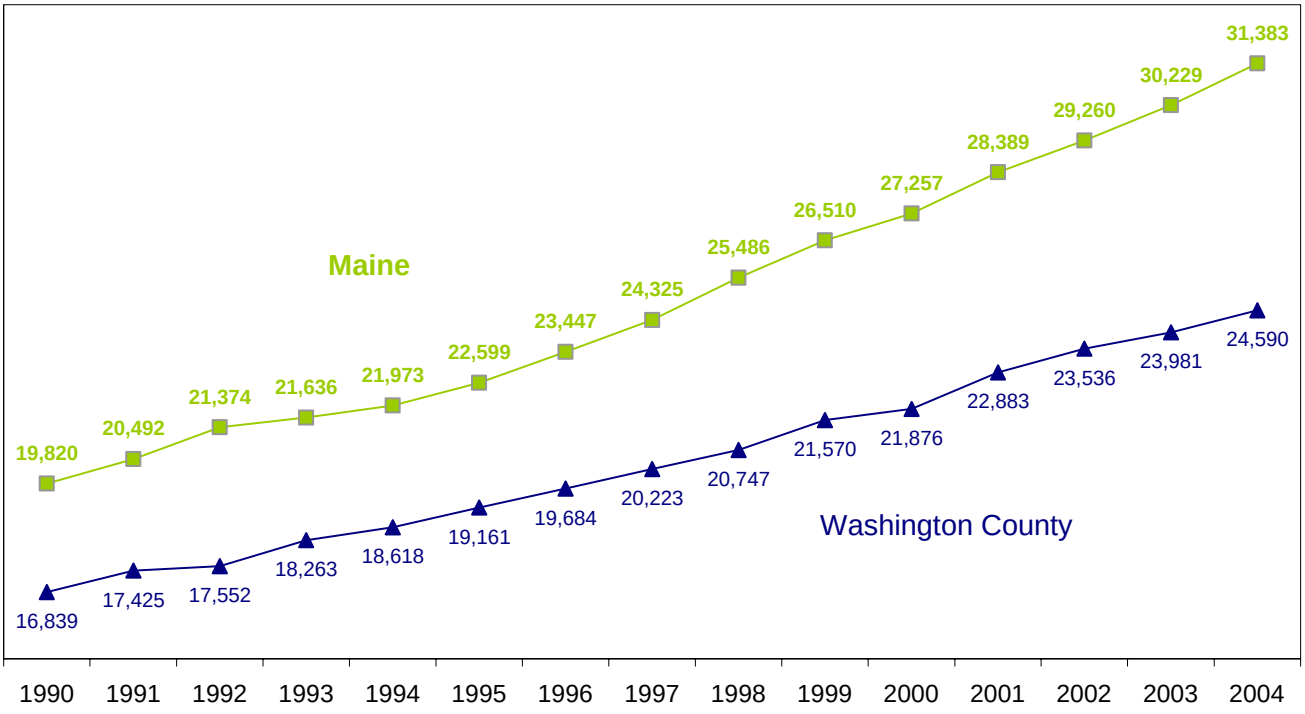


Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

From 1990 through 2004, average annual wages paid in covered employment increased for both Maine and Washington County. However, not only were average annual wages for Washington County lower than for Maine throughout this time period, the rate at which average annual wages increased was slower than for Maine. (See Figure G.) These figures have not been adjusted for inflation.

Figure G

Average Annual Wages Paid in Covered Employment, Maine and Washington County, 1990 through 2004



Source: Maine Employment Statistical Handbook

The average annual wage in Maine increased by around 58 percent from 1990 to 2004, while for Washington County, the increase was only 46 percent. From 1990 to 1991, the increase in Maine was 3.4 percent, and from 2003 to 2004 the increase was 3.8 percent. For Washington County, the increase from 1990 to 1991 was 3.5 percent, but for 2003 to 2004 was only 2.5 percent. If this trend continues, the gap between Maine and Washington County average annual wages will increase further.

The economic situation for Washington County has worsened in recent years, making it even more critical to properly evaluate the results of the Washington County CareerCenter customers. The remainder of this paper examines the study done to address this issue.

Characteristics of and Services Received by Washington County CareerCenter Customers: 1996 through 2005

This analysis begins by identifying the characteristics of the CareerCenter customers. Next, the types of services and training these customers received are examined, followed by an analysis of the occupational data. Finally, wages, industry, and employer location are examined. All of these employment aspects allow a greater understanding of the impact of CareerCenter services on customers in Washington County.

Overall, 551 individuals were identified as Washington County CareerCenter customers who exited from services between July 1, 2002, and June 30, 2005. These customers entered the CareerCenter system between 1996 and 2005. Slightly more than half of the individuals were female. The age groups were determined according to the customers' ages at the time of entry into the CareerCenter system. No single age group dominated the services being received from the CareerCenters. (See Table 3.)

Table 3

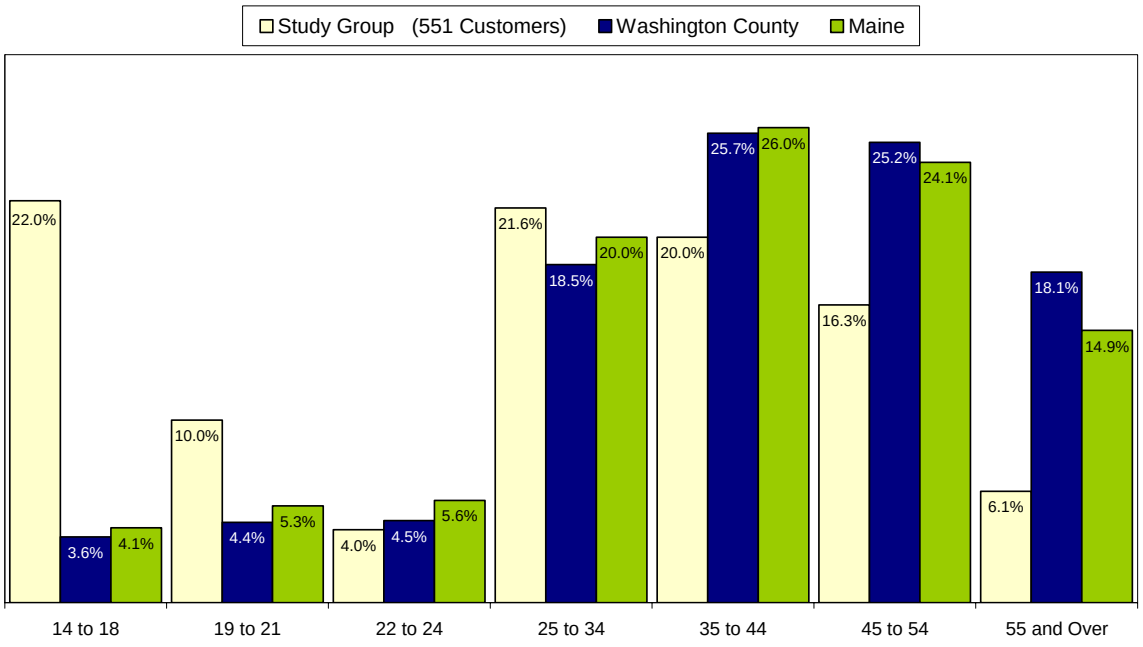
Customers by Gender and Age Group

	Number	Percent
Female	290	52.6
Male	261	47.4
14 to 18	121	22.0
19 to 21	55	10.0
22 to 24	22	4.0
25 to 34	119	21.6
35 to 44	110	20.0
45 to 54	90	16.3
55 and Over	34	6.1
Total	**551**	**100.0**

CareerCenter customers in Washington County tended to be younger than the statewide or county-wide workforce. While around four percent of the workforce both of Washington County and Maine were age 14 to 18, 22 percent of the customers in this study were in that same age group. Conversely, while almost 15 percent of the Maine workforce and 18 percent of the Washington County workforce were age 55 and over, only about six percent of the study group were in this age group. (See Figure H.)

Figure H

Age Distribution of Workforce



Source: Maine and Washington County data from the U.S. Census Bureau, Local Employment Dynamics (LED).

The large number of customers in the younger age groups meant that many of them were students at the time of entry into CareerCenter services. Ninety-seven customers were identified as students according to their education status at the time of entry into services. Those customers with an education status of "Student, H.S. or less" or "Student, attending post-H.S." were identified as students. Only three of the students were identified as "Student, attending post-H.S." The remaining 94 students were identified as "Student, H.S. or less." Nearly all of the student customers were between the ages of 14 and 18 at the time of entry into services. Only around six percent of the nonstudent customers were in this same age range. (See Tables 4 and 5.)

Table 4

Nonstudent Customers by Gender and Age Group

	Number	Percent
Female	238	52.4
Male	216	47.6
14 to 18	28	6.2
19 to 21	52	11.5
22 to 24	22	4.8
25 to 34	118	26.0
35 to 44	110	24.2
45 to 54	90	19.8
55 and Over	34	7.5
Total	**454**	**100.0**

Table 5

Student Customers by Gender and Age Group

	Number	Percent
Female	52	53.6
Male	45	46.4
14 to 18	93	95.9
19 to 34	4	4.1
Total	**97**	**100.0**

Less than five percent of the nonstudent customers had received a four-year college degree or more as their highest level of education at the time of entry into the CareerCenter system, although slightly more than 23 percent did have some college. (See Table 6.)

Table 6

Educational Attainment of Nonstudent Customers

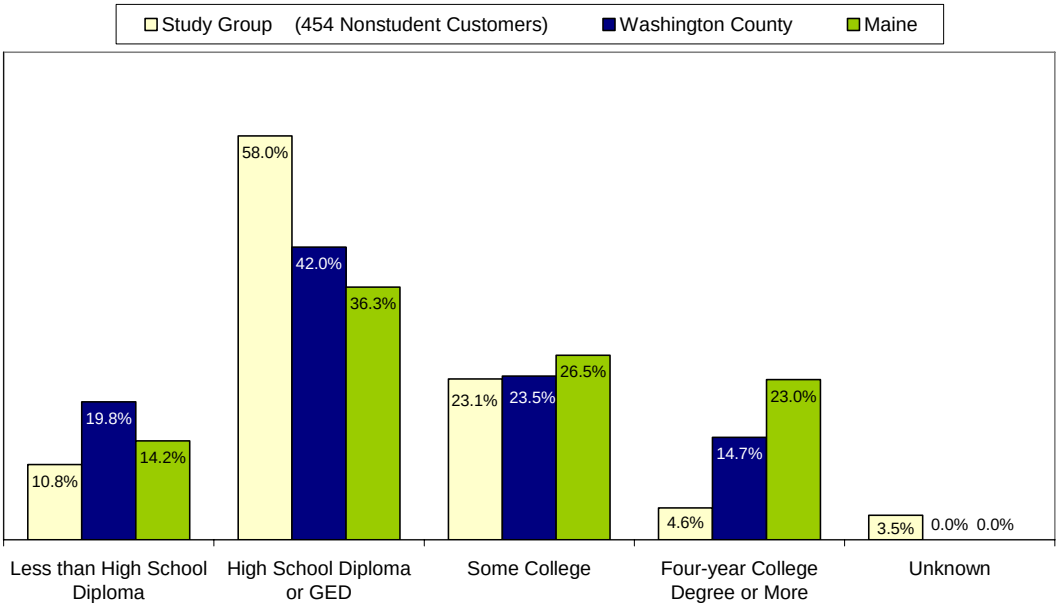
	Number	Percent
Less than High School Diploma	49	10.8
High School Diploma or GED[1]	263	58.0
Some College	105	23.1
Four-year College Degree or More	21	4.6
Unknown	16	3.5
Total	**454**	**100.0**

[1] General Equivalency Diploma

Compared to the 2000 population in Maine or Washington County, the CareerCenter customers were more likely to have a high school diploma or GED and less likely to have a four-year college degree. (See Figure J.)

Figure J

Educational Attainment of Population Age 25 and Over



Source: Maine and Washington County data from the U.S. Census Bureau

After identifying the characteristics of the CareerCenter customers, the next step was to examine the services that were received. First the services for the student customers were considered. The services received cover a broad scope of activities with many students participating in each service. Each student may have received multiple services. (See Table 7.)

Table 7

Types of Services Received by Student Customers

	Number
Additional Support for Youth Services	62
Adult Education, Basic Skills and/or Literacy Activities	57
Educational Achievement Services	70
Leadership Development Opportunities	57
Occupational Skills Training or Skills Upgrading/Retraining, Workplace Training, and/or On-the-Job Training	54
Summer Youth Employment Opportunities	29

Overall, 92 percent of the student customers received at least one type of training service. A detailed definition of each of these services may be found in the Appendix to this report.

Next the services for the nonstudent customers were considered. About 70 percent of these customers received training services. They may have participated in basic skills training, occupational skills training, on-the-job training, or some combination thereof. (See Table 8.)

Table 8

Types of Training in Which Nonstudent Customers Participated

	Number	Percent
Basic Skills Training Only	5	1.1
Occupational Skills Training Only	282	62.1
Basic Skills and Occupational Skills Training	22	4.8
Occupational Skills and On-the-Job Training	8	1.8
Total Nonstudent Customers with Training	**317**	**69.8**
No Training Identified	137	30.2
Total of All Nonstudent Customers	**454**	**100.0**

The nonstudent customers with no training identified received a variety of other services, including case management and "Core B" services such as job services, job development, and job referrals. Case management is a client-centered approach to the delivery of services including comprehensive employment plans and job and career counseling. "Core B" services are staff-assisted Workforce Investment Act (WIA) services such as job search and placement, job referrals, and workshops.

Table 9

Nonstudent Customers by Training Occupation

Major Occupational Group	Number	Percent
Healthcare Support	46	14.7
Office & Administrative Support	42	13.5
Transportation & Material Moving	33	10.6
Healthcare Practitioner & Technical	25	8.0
Computer & Mathematical Science	24	7.7
Construction & Extraction	24	7.7
Personal Care & Service	21	6.7
Education, Training & Library	14	4.5
Installation, Maintenance & Repair	12	3.8
Production	12	3.8
Community & Social Services	11	3.5
Management	10	3.2
Business & Financial Operations	8	2.6
Food Preparation & Serving Related	8	2.6
Life, Physical & Social Science	6	1.9
Protective Service	5	1.6
Architecture & Engineering	4	1.3
Arts, Design, Entertainment, Sports & Media	*	*
Farming, Fishing & Forestry	*	*
Unknown	4	1.3
Total	**312**	**100.0**

*Data do not meet Federal or State disclosure criteria but are included in the Total row.

Approximately 98 percent of the nonstudent customers receiving training participated in occupational skills training, whether on its own or in combination with other training. Nearly 39 percent of these customers trained in one of three occupational groups: healthcare support, office and administrative support, or transportation and material moving. (See Table 9.)

Washington County CareerCenter Customer Outcomes

According to the *Maine Workforce Investment Act Annual Report*, 87 percent of the adults who exited from services in any of the CareerCenters between July 1, 2002, and June 30, 2003, entered into employment. Wage records show that 91 percent of the nonstudent customers in the study group had Maine covered employment wages after exiting from services. The CareerCenter data show placement occupations for 301 of these 413 customers. (See Table 10.) The remaining 112 customers had wages listed but no placement occupation. These customers may not have notified the CareerCenter of their employment status.

Table 10

Distribution of Nonstudent Customers by Placement Occupation and Washington County Workers by Occupation in 2004

	Study Group		Washington County	
Major Occupational Group	**Number**	**Percent**	**Number**	**Percent**
Production	54	13.1	938	8.4
Office & Administrative Support	36	8.7	1,607	14.5
Healthcare Support	33	7.9	501	4.5
Sales & Related	25	6.1	942	8.5
Transportation & Material Moving	22	5.3	808	7.3
Construction & Extraction	18	4.4	511	4.6
Personal Care & Service	15	3.6	182	1.6
Management	13	3.1	602	5.4
Food Preparation & Serving Related	12	2.9	1,025	9.2
Installation, Maintenance & Repair	12	2.9	488	4.4
Community & Social Services	11	2.7	251	2.3
Healthcare Practitioner & Technical	10	2.4	679	6.1
Education, Training & Library	8	1.9	1,287	11.6
Building & Grounds Cleaning & Maintenance	7	1.7	349	3.1
Farming, Fishing & Forestry	7	1.7	140	1.3
Computer & Mathematical Science	7	1.7	33	0.3
Protective Service	5	1.2	320	2.9
Architecture & Engineering	3	0.7	*	*
Business & Financial Operations	*	*	233	2.1
Life, Physical & Social Science	*	*	51	0.5
Unknown	112	27.1	0	0.0
Total	**413**	**100.0**	**11,115**	**100.0**

*Data do not meet Federal or State disclosure criteria but are included in the Total row.

Source: Washington County Workforce data from the Maine Department of Labor, Occupational Employment Statistics.

The occupations in which the customers worked were widely dispersed across a number of major occupational groups. Slightly less than one-third found employment in healthcare support, office and administrative support, or production occupations.

Compared to the Washington County workforce, the study group was underrepresented in several occupational groups including office and administrative support; food preparation and serving related; and education, training, and library. Some of this disparity might be due to the large number of customers with an unknown occupation.

For most of the occupational groups, the average quarterly wages in Washington County are higher than those for the study group. (See Table 11.) Entry level average quarterly wages for Washington County are given along with the overall average quarterly wages. Entry level wages are included because many of the customers in the study group were likely entering into new occupations. Over time the study group wages would be expected to increase.

Table 11

Average Quarterly Wages for Nonstudent Customers by Placement Occupation and Washington County Workers by Occupation in 2004

	Study Group	Washington County	
Major Occupational Group	**Average Quarterly Wage ($)**	**Entry Level Average Quarterly Wage ($)**	**Overall Average Quarterly Wage ($)**
Architecture & Engineering	6,437.48	*	*
Computer & Mathematical Science	5,857.46	6,271.20	9,656.40
Production	5,683.71	3,660.80	6,292.00
Management	5,656.35	8,361.60	14,034.80
Installation, Maintenance & Repair	5,124.03	5,626.40	7,857.20
Construction & Extraction	4,954.96	5,449.60	7,836.40
Healthcare Practitioner & Technical	4,546.04	5,527.60	10,878.40
Transportation & Material Moving	4,374.39	3,806.40	5,772.00
Farming, Fishing & Forestry	4,198.18	4,544.80	6,385.60
Building & Grounds Cleaning & Maintenance	3,880.06	3,894.80	5,116.80
Office & Administrative Support	3,704.72	4,279.60	5,990.40
Protective Service	3,537.89	5,720.00	9,016.80
Community & Social Services	2,540.75	6,146.40	8,299.20
Sales & Related	2,532.37	3,567.20	4,747.60
Education, Training & Library	2,435.03	5,356.00	9,042.80
Healthcare Support	2,388.83	4,154.80	5,007.60
Personal Care & Service	2,250.44	4,128.80	5,522.40
Food Preparation & Serving Related	1,910.34	3,785.60	4,461.60
Business & Financial Operations	*	5,860.40	9,308.00
Life, Physical & Social Science	*	7,306.00	10,758.80
Unknown	2,062.13	N/A	N/A
Total	**3,574.79**	**4,238.00**	**7,430.80**

*Data do not meet Federal or State disclosure criteria but are included in the Total row.

Source: Washington County Workforce data from the Maine Department of Labor, Occupational Employment Statistics.

Approximately 60 percent of the customers not only received occupation-specific training but also entered employment related to the occupation in which they trained. The three occupational groups with the highest percent of customers who entered employment related to training were life, physical, and social science; healthcare support; and office and administrative support. All three of these occupational groups had over 70 percent of customers entering training-related employment. (See Table 12.)

Table 12

Nonstudent Customers by Training Occupation and Placement Occupation Related to Training

Major Occupational Group	Number in Training	Number Entering Employment Related to Training	Percent Entering Employment Related to Training
Life, Physical & Social Science	6	5	83.3
Healthcare Support	46	35	76.1
Office & Administrative Support	42	30	71.4
Healthcare Practitioner & Technical	25	17	68.0
Production	12	8	66.7
Food Preparation & Serving Related	8	5	62.5
Business & Financial Operations	8	5	62.5
Computer & Mathematical Science	24	15	62.5
Management	10	6	60.0
Protective Service	5	3	60.0
Construction & Extraction	24	14	58.3
Education, Training & Library	14	8	57.1
Community & Social Services	11	6	54.5
Personal Care & Service	21	9	42.9
Transportation & Material Moving	33	14	42.4
Installation, Maintenance & Repair	12	4	33.3
Arts, Design, Entertainment, Sports & Media	*	0	0.0
Architecture & Engineering	4	*	*
Farming, Fishing & Forestry	*	*	*
Unknown	4	N/A	N/A
Total	**312**	**186**	**59.6**

*Data do not meet Federal or State disclosure criteria but are included in the Total row.

Comparative Analysis of Washington County CareerCenter Customers: Before and After Services

The group of customers identified in this study exited from services during a three-year period beginning in July 2002, and ending in June 2005. This made it very difficult to assess the results of receiving services for the group as a whole, particularly because some customers did not exit services until very recently. In order to examine the results of receiving services, it was necessary to select an arbitrary cutoff date to define the "before" and "after" periods. As most of the customers entered services in 2000 or later, the "before" period was defined to be between the beginning of 1995 and the end of 1999. The "after" period was defined to be between the beginning of 2002 and the second quarter of 2005. Those customers who exited services at an earlier date had more years of post-services wage data available. (See Table 13.)

Table 13

Years of Post-services Wage Data Available by Date of Last Exit

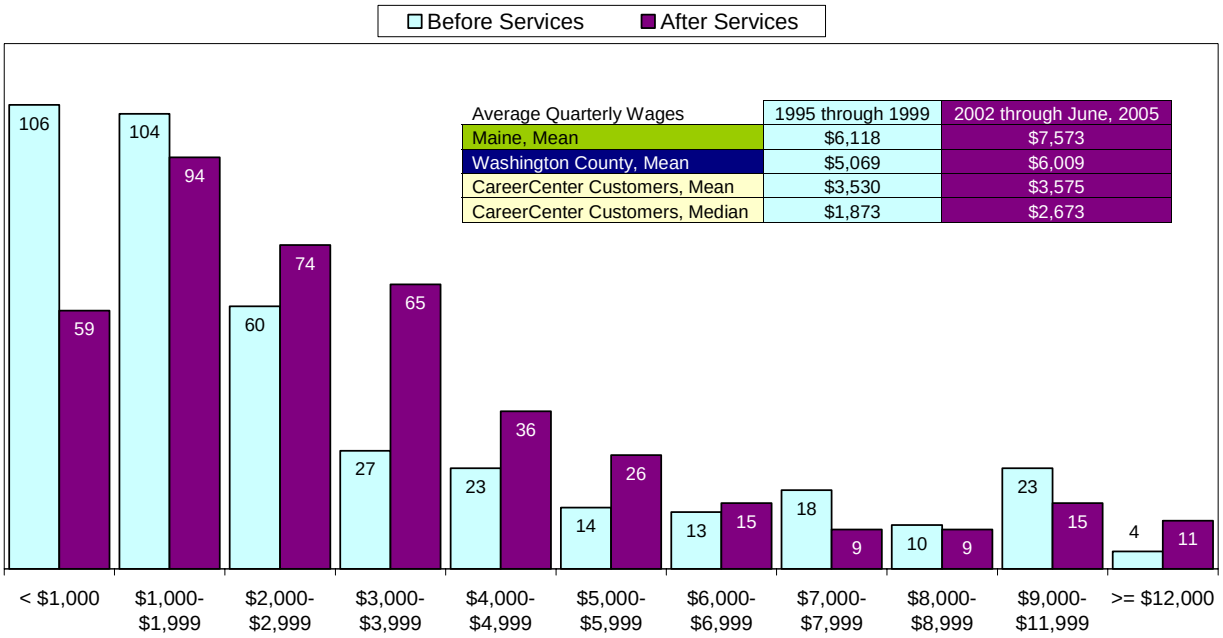
	Years	Number Exiting Services
July 2002 through December 2002	2.5	115
January 2003 through December 2003	1.5	217
January 2004 through December 2004	0.5	161
January 2005 through June 2005	0.0	58

Another possible way of dealing with this issue, and one that may be utilized in future studies, would be to select a subset of the population for further analysis. For example, one might select only those customers who exited from services in 2002, allowing a more specific "before" and "after" period to be determined.

Several aspects of employment were selected for this "before" and "after" comparison. The first aspect was average quarterly wage. To calculate the average quarterly wage before services, wages from 1995 through 1999 were used. Any customers without wages during this time period were excluded from the calculations. A total of 402 nonstudent customers had wages during this time period. There were 413 nonstudent customers with wages after services. (See Figure K.)

Figure K

Number of Nonstudent Customers by Average Quarterly Wage Group, Before and After Services



Source: Maine and Washington County data from the Maine Employment Statistical Handbook.

Around two-thirds of the customers with employment before services had average quarterly wages less than $3,000. Overall, the mean average quarterly wage during the "before" period was $3,530, while the median average quarterly wage was $1,873. Only around 14 percent of these individuals had average quarterly wages of $7,000 or more.

For those customers with employment after services, the mean and median average quarterly wages were higher than for customers with employment before services. The median average quarterly wage after services was $2,673, an increase of $800 from the median average quarterly wage before services. This was primarily a result of having fewer customers after services in the wage groups less than $2,000 and more customers in the wage groups from $2,000 through $6,999.

The next aspect of employment considered was the customers' employment by industry. Prior to services, over 42 percent of the nonstudent customers were employed in the manufacturing industry, while only 21 percent were employed in the manufacturing industry after receiving services. Nearly nine percent were employed in the health care and social assistance industry before services, with over 24 percent in this industry after receiving services. (See Table 14 and Figure L.)

Table 14

Industry Comparison of Nonstudent Customers, Before and After Services

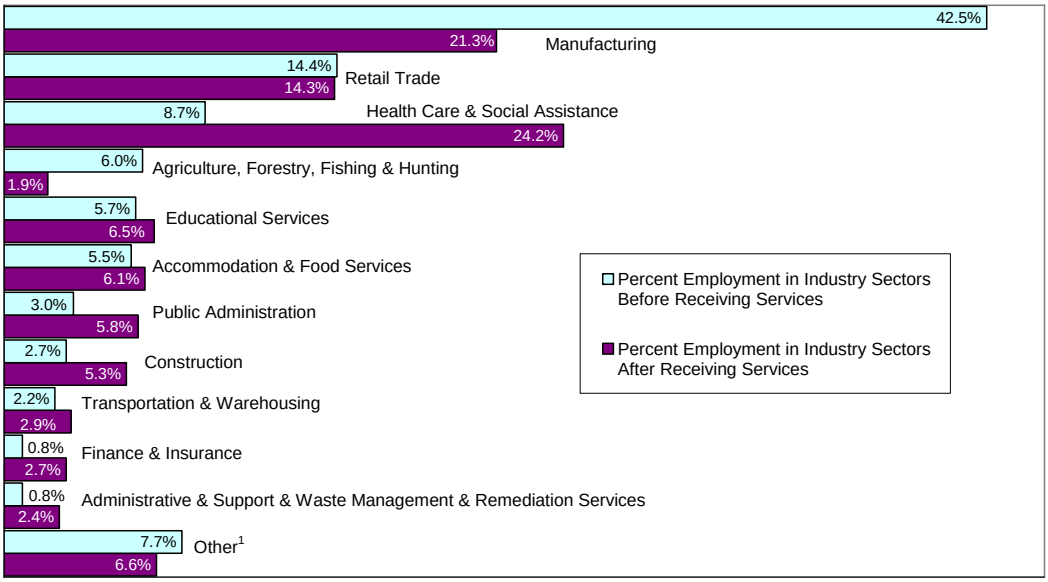
Industry Sector	Employment Before Receiving Services		Employment After Receiving Services		Percent Change
	Number	Percent	Number	Percent	
Manufacturing	171	42.5	88	21.3	-48.5
Retail Trade	58	14.4	59	14.3	1.7
Health Care & Social Assistance	35	8.7	100	24.2	185.7
Agriculture, Forestry, Fishing & Hunting	24	6.0	8	1.9	-66.7
Educational Services	23	5.7	27	6.5	17.4
Accommodation & Food Services	22	5.5	25	6.1	13.6
Public Administration	12	3.0	24	5.8	100.0
Construction	11	2.7	22	5.3	100.0
Transportation & Warehousing	9	2.2	12	2.9	33.3
Finance & Insurance	3	0.8	11	2.7	266.7
Administrative & Support & Waste Management & Remediation Services	3	0.8	10	2.4	233.3
Other[1]	31	7.7	27	6.6	-12.9
Total	**402**	**100.0**	**413**	**100.0**	**2.7**

[1]Other includes: Utilities; Wholesale Trade; Information; Real Estate & Rental & Leasing; Professional, Scientific & Technical Services; Arts, Entertainment & Recreation; Other Services (Except Public Administration); and Unknown.

This illustrates a general shift away from the manufacturing industry towards a wider range of industries, including health care. The results of this research indicate that the CareerCenters have been effective in their role of moving people out of declining industries and into growing industries.

Figure L

Industry Comparison of Nonstudent Customers, Before and After Services

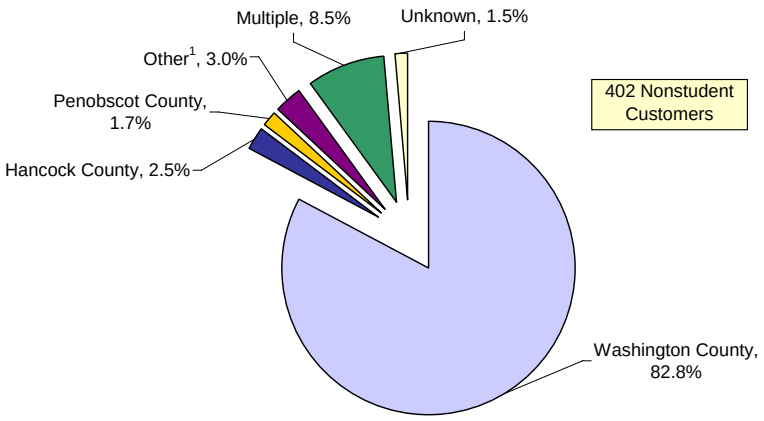


[1]Other includes: Utilities; Wholesale Trade; Information; Real Estate & Rental & Leasing; Professional, Scientific & Technical Services; Arts, Entertainment & Recreation; Other Services (Except Public Administration); and Unknown.

Another aspect of employment considered was employer location. Over eight percent of the nonstudent customers were employed by firms with multiple locations throughout the state, making it impossible to determine at which location the customer was employed. It is likely that many of the customers who worked for an employer with multiple locations were working in Washington County. (See Figure M.)

Figure M

Percent of Nonstudent Customers by Employer Location, Before Services

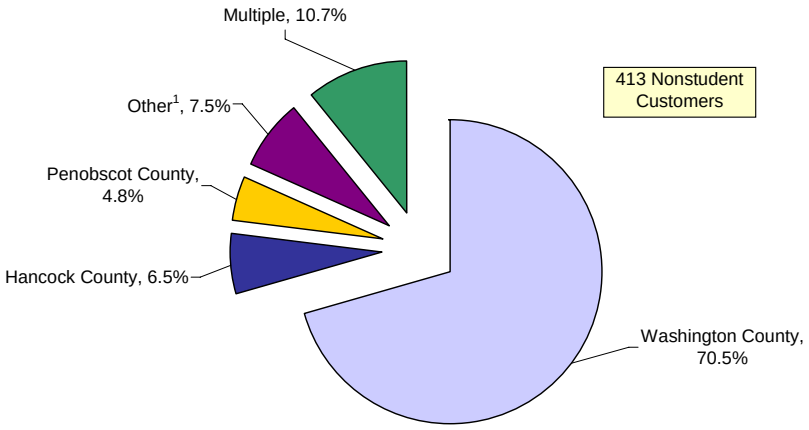


[1]Other includes: Cumberland, Kennebec, Knox, Waldo, and York counties

The customers with employment after receiving services were working for employers more widely dispersed across the state. Nearly 71 percent of the nonstudent customers with employment after services were working for an employer located in Washington County, compared to nearly 83 percent of customers before services. (See Figure N.)

Figure N

Percent of Nonstudent Customers by Most Recent Employer Location, After Services



[1]Other includes: Aroostook, Cumberland, Franklin, Kennebec, Lincoln, Oxford, Piscataquis, Waldo, York, and unknown counties

Around 60 percent of the customers with wages had employment in the same county before and after services. The remaining 40 percent may have had wages in two different counties, wages either only before or only after services, or wages in a specific county at one time and for a statewide employer at another time. (See Table 15.)

Table 15

Average Quarterly Wages by Mobility, Before and After Services

	Before		After		
	Number	Average Quarterly Wage ($)	Number	Average Quarterly Wage ($)	Percent Change in Wages
Had Wages in the Same County	241	3,839.79	241	3,955.75	3.0
Did Not Have Wages in the Same County	161	2,973.67	172	2,963.11	-0.4
Total	**402**	**3,530.10**	**413**	**3,574.67**	**1.3**

Those with wages in the same county before and after services not only made more than those who did not have wages in the same county, but also showed an increase in wages from before services to after services. Those individuals who did not have wages in the same county actually showed a slight decrease in average quarterly wages after services.

Summary and Recommendations

The primary goal of this study was to examine the program and labor market experiences of a group of CareerCenter customers in Washington County. As the data show, Washington County is one of Maine's most rural counties and offers special challenges for those who must earn a living. Many of the traditional industries are declining and new employment growth remains elusive. How workers adapt in this kind of economic environment is of great interest and needs to be better understood by those responsible for planning economic and workforce development strategies. Customers using CareerCenters provide an important opportunity to learn more about how those hit with job loss adapt to economic conditions.

Several significant observations have come from the initial analysis of Washington County CareerCenter customers.

- Thirty-six percent of the customers identified in this study were under the age of 25 at the time of entry into services. This is an unusually high percentage compared to the overall Washington County and Maine workforces. Many of the customers under the age of 25 were also students at the time of entry, providing future opportunities to examine whether individuals who participate in services at a younger age have better labor market outcomes than individuals who only participate at an older age or do not participate at all.

- Customers received many types of services including training. Ninety-two percent of the student customers received services. Nearly 70 percent of the nonstudent customers participated in training.

- After participating in services, the percent of nonstudent customers employed in manufacturing industries decreased significantly, from around 43 percent to around 21 percent. The percent of customers employed in healthcare and social assistance increased from around nine percent to around 24 percent.

- Prior to receiving services, at least 82 percent of the customers were employed by firms located in Washington County, while around 71 percent of the customers were employed by firms located in Washington County after services. More customers were employed in other counties after receiving services than before receiving services.

- Many of the customers received training in healthcare support, office and administrative support, or transportation and material moving occupations. While around one-fourth of the customers did not have a placement occupation listed in the administrative data, the remaining 75 percent were employed in a wide range of occupations.

- A large number of customers were employed in production after receiving services, but there were also substantial numbers employed in office and administrative support and healthcare support occupations. The three occupational groups with the highest percent of customers who entered employment related to training were life, physical, and social sciences; healthcare support; and office and administrative support.

Examining this same group of customers at a future date will allow a better understanding of the long-term effects of CareerCenter services on customers. Overall, it appears that customers making use of CareerCenters in Washington County are being helped with their employment transitions.

Appendix

Definitions

The **civilian labor force** is the supply of workers available to fill job openings. It includes individuals age 16 and over who are working or actively seeking work. Retirees, students, homemakers, and others not working or actively seeking work are not counted as part of the labor force. Many factors affect labor force growth, including total population change and shifts in the age profile of the population.

Maine covered employment refers to those individuals with wages reported by employers under the Maine Employment Security Law. This law excludes a number of different groups of workers, such as the self-employed, federal employees, and individuals working in other states. These individuals are classified as "not employed" within the wage record data, along with any workers who were searching locally for a suitable job or chose to retire or otherwise leave the labor force. Therefore no further employment information is available for these individuals. However, the Wage Record Interchange System (WRIS) has recently become available as a possible resource for research projects. This may allow out-of-state wage records to be examined in the future.

The **workforce** numbers come from the Local Employment Dynamics data and count the total number of workers who were employed by the same employer in both the current and previous quarter. Instead of counting individuals, though, jobs are counted. For example, a single individual could be employed by two employers in a quarter. This would lead to an employment count of two for this one individual.

Definitions from the Bureau of Employment Services OSOS Customer Tracking Manual:

Additional Support for Youth Services include, but are not limited to:

- adult mentoring for a duration of at least twelve months, that may occur both during and after program participation; and
- comprehensive guidance and counseling, including drug and alcohol abuse counseling, as well as referrals to counseling, as appropriate to the needs of the individual.

Adult Education, Basic Skills and/or Literacy Activities include:

- reading comprehension, math computation, writing, speaking, listening, problem solving, reasoning; and
- educational activities, group or individual, designed to enhance an individual's basic literacy skills.

Educational Achievement Services include, but are not limited to:

- tutoring, study skills training, and instruction leading to secondary school completion, including dropout prevention strategies; and
- alternative secondary school offerings.

Leadership Development Opportunities are opportunities that encourage responsibility, employability, and other positive social behaviors such as:

- exposure to postsecondary educational opportunities
- community and service learning projects;
- peer-centered activities, including peer mentoring and tutoring;
- organizational and team work training, including team leadership training;
- training in decision-making, including determining priorities; and
- citizenship training, including life skills training such as parenting, work behavior training, and budgeting of resources.

Occupational Skills Training or Skills Upgrading/Retraining and/or Workplace Training include:

- occupational skills training, including training for nontraditional employment;
- programs that combine workplace training with related instruction, which may include cooperative education programs;
- training programs operated by the private sector;
- skill upgrading and retraining;
- entrepreneurial training;
- job readiness training; and
- customized training conducted with a commitment by an employer or group of employers to employ an individual upon successful completion of training.

On-the-Job Training consists of training by an employer that is provided to a paid participant while engaged in productive work in a job that:

- provides knowledge or skills essential to the full and adequate performance of the job;
- provides reimbursement to the employer of up to 50 percent of the wage rate of the participant, for the extraordinary costs of providing the training and additional supervision related to the training; and
- is limited to the period of time required for a participant to become proficient in the occupation for which the training is being provided.

Summer Youth Employment Opportunities consists of:

- work experience;
- try-out employment; and
- internships or other employment opportunities directly linked to academic and occupational learning.

Core B Services: Staff-Assisted Services (WIA Registration required):

- staff-assisted job search and placement assistance, including career counseling;
- follow-up services, including counseling regarding the workplace;
- staff-assisted job referrals (such as testing and background checks);
- staff-assisted job development (working with employer and jobseeker); and
- staff-assisted workshops and job clubs.

Case Management: A client-centered approach to the delivery of services to:

- prepare and coordinate comprehensive employment plans, such as service strategies, for participants to ensure access to necessary workforce investment activities and supportive services using, when feasible, computer-based technology; and
- provide job and career counseling during program participation and after job placement. WIA Sec. 101(5).

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Maine Department of Labor, Labor Market Information Services, *Maine Employment Statistical Handbook*, 1990 to 2004. (Table 2 and Figures C, D, E, G, and K.)

Regional Economic Information System, Bureau of Economic Analysis, U. S. Department of Commerce, http://www.bea.gov/bea/regional/reis/CA1-3fn.cfm, accessed 6/8/2006. (Figure F.)

U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, Local Employment Dynamics (LED), average of four quarters of 2002. (Figure H.)

U.S. Census Bureau, Census 2000 Summary File 3 (SF3), Sample Data, P37 Sex by Educational Attainment for the Population 25 Years and Over. (Figure J.)

Maine Department of Labor and the Maine Jobs Council, *Maine Workforce Investment Act Annual Report, July 1, 2002, to June 30, 2003*.

Maine Department of Labor, Labor Market Information Services, May 2004 Occupational Employment Statistics (OES) data set, Washington County occupational employment estimates. (Table 10.)

Maine Department of Labor, Labor Market Information Services, *2004 Occupational Wages Estimates for Maine Counties*. Average quarterly wages for Washington County were calculated using OES hourly data multiplied by 2080 then divided by four. (Table 11.)

Project Methodology

The first step, upon receiving the OSOS data file from the Bureau of Employment Services (BES) and the wage record data file from MDOL, was to determine which tables would need to be created and which fields these tables would contain. In addition, many fields with codes needed lookup tables to match the codes to their appropriate text or groups.

The first table created was the Wages table. This table contained all of the wage record data, imported directly from a text file. The fields included were:

- SSN, year, quarter, employer number, wages, seasonal code (indicating whether the wages were seasonal or non-seasonal), SIC, NAICS, industry description, ownership code (indicating whether the employer is private, public, etc.), county code, residence code of employer, MEEI code (indicating whether the employer has a single or multiple locations), size class code (indicating the size of the employer), and employer name.

The next step was to create tables based on the BES data. These data came from an ad hoc database, with specific tables already created, but were received in an Excel file with all tables and fields on the same sheet. This allowed for the creation of tables containing only those fields needed.

Five tables were created from these data: Characteristics, Education, Training, Services, and Placement. Each of these tables is described below:

- Characteristics:
  - SSN, ID number (assigned by BES), gender code, residence code, birth date, age, ethnicity, and full name for 551 customers with one line per customer.
- Education:
  - SSN, education codes 1 and 2, education text 1 and 2, education status, education status text, in-school-youth/out-of-school-youth 1 and 2, in-school-youth/out-of-school-youth text 1 and 2, and educational codes 1 through 3 for 551 customers with one line per customer.
- Training:
  - SSN, additional youth services Boolean, adult education Boolean, educational services Boolean, leadership opportunities Boolean, on-the-job training Boolean, skills training Boolean, summer youth employment Boolean, training provider names 1 and 2, training location cities 1 and 2, training locations 1 and 2, occupational training codes 1 through 3, and occupational training codes text 1 through 3 for 551 customers with one line per customer.
- Services:
  - SSN, program enroll date, separation date, program code, activity start date, activity end date, activity code, completion code, welfare-to-work participant, supplemental services code, and separation code for 551 customers with multiple lines per customer.
- Placement:
  - SSN, employer names 1 through 3, employment dates 1 through 3, employment states 1 through 3, employment status codes 1 through 3, employment status text 1 through 3, placement occupation codes 1 through 3, placement occupation code text 1 through 3, placement hours 1 through 3, placement title 1 through 3, placement wages 1 through 3, training-related employment determination method codes 1 through 3, training-related employment determination method text 1 through 3, training-related employment codes 1 through 3, and training-related employment text 1 through 3 for 551 customers with one line per customer.

In order to create these tables, the desired columns were copied from the master Excel file into separate Excel files for each table. In the cases where only one line per customer was wanted, the files had to be "cleaned up" by consolidating multiple lines of data per customer into a single line. This process had to be done manually, as some of the process was subjective (e.g. determining which placement occupation was first, second, etc.). Once the files were in the desired final format, they could be imported to Access from Excel.

Once completed, these five tables, along with the Wages table, created the basis for all of the further tables, queries, and analysis. Several lookup tables had to be created to go along with the data tables. Creating these lookup tables was the next step in the process. The tables created include:

- Gender Lookup: matches gender codes to text;
- Age Lookup: matches age in years with age groups as determined;
- Education Lookup: matches education codes with text; and
- SOC Lookup: matches 2-digit SOC codes with major occupational group text.
- RES Codes: matches county codes with residence and Workforce Investment Area codes

Once the initial tables were created, work began building queries to address the research questions. The first goal was to determine the characteristics of the group being analyzed. In this case, it was decided to look at the distribution of customers among genders, age groups, and education levels. The queries for gender and age group at time of entry were easily accomplished for the 551 customers for whom data existed.

- Age Group at Entry: Lists SSNs and age groups for 551 customers using the Characteristics and Age Lookup tables.
- Gender: Lists SSNs and gender text for 551 customers using the Characteristics and Gender Lookup tables.

It was then realized that there were really two groups of customers: those who were students at the time of entry into services and those who were not. Before the education level query could be built, it was necessary to separate the students from the nonstudents. In order to identify the students, a separate query was created.

- Students: Lists SSNs, education code, education status text, in-school-youth/out-of-school-youth text, and program codes for 97 students using the Education and Services tables.

Criteria were added to the query to show only those customers with "student, h.s. or less" or "student, attending post-h.s." in the education status text field. This identified 97 customers who were students at some level at the time of entry into services. Then a table was created containing only the SSNs of these 97 students to use in future queries (the Students SSNs table).

As these 97 customers were students at the time of entry, it did not make sense to include them in a table showing the education level at time of entry with customers who were no longer students. Including all the customers would have skewed the education levels towards the "less than high school" group. Therefore, it was decided to analyze the education level at time of entry for nonstudents only.

In order to do this, it was decided to first create a query containing all the information needed for the nonstudent customers only:

- Nonstudents: Lists SSNs, educational code, education status text, and in-school-youth/out-of-school-youth text for 454 nonstudents using the Education and Students SSNs tables. The SSNs in the Education table were matched with the Students SSNs table and criteria were added to show only those customers who had a null value in the Students SSNs table. This selected only those customers who did not appear in the Students SSNs table.

Then a query was built to analyze the education level for nonstudents:

- Educ Level: Groups 454 nonstudents by educational level using the Education table and the Nonstudents query.

Once the characteristics were identified, the next step was to look at the types of training and services received. There are three main types of training that individuals receive: adult education or basic skills training, on-the-job training, and skills training. A query was developed to identify how many customers received each of those training types, either on their own or in combination.

- Training Types: Groups 551 customers by adult education, on-the-job training, skills training, and combinations thereof using the Training table.

After identifying the types of training received, a post-services analysis was performed. The first queries created were to identify in which occupations the customers were placed.

- Placement Occs: Lists SSNs and 2-digit NAICS codes for 454 nonstudents using the Nonstudents query and the Placement table.
- Placement Occs Text: Lists SSNs and Major Occupational Groups for 454 nonstudents using the SOC Lookup table and the Placement Occs query.

At this point the queries created were examined and an analysis was begun. It quickly became apparent that additional queries would need to be run to answer further questions.

One item to address was the difference in wages prior to services and after receiving services. Two queries were created to answer this question:

- Average Wage pre-2000 Nonstudents: Lists SSNs, year (between 1995 and 1999), quarter, and wages for nonstudents using the Nonstudents query and the Wages table. There were, by necessity, multiple records per customer. A pivot table was used to calculate the averages for each individual and then assigned the wages to different wage groups of approximately $1,000 each.
- Average Wage 2002 or Later Nonstudents: Lists SSNs, year (between 2002 and 2005), quarter, and wages for nonstudents using the Nonstudents query and the Wages table. The same process was followed as with the pre-2000 query.

Similarly, it was decided to examine the industries in which customers worked before and after receiving services. Again, two queries were created:

- Industry pre-2000 Nonstudents: Lists SSNs, year, quarter, and industry text for nonstudents using the Nonstudents query and the Wages table. There were multiple records for each customer.
- Industry 2002 or Later Nonstudents: Lists SSNs, year, quarter, industry text, and NAICS for nonstudents using the Nonstudents query and the Wages table. There were multiple records for each customer.

A query had already been created to examine the occupations in which the nonstudent customers found employment after services, but a comparison between these occupations and those in which the customers trained was still needed. Two queries were originally created to examine the training occupations, however, upon further analysis it was determined that the numbers were not quite accurate. It was necessary to rewrite the queries in a way that would allow the data to be cleaned up. It was realized that this would change the Training Types query.

The first query that was re-written cleaned up the training occupation data. This cleaned up the training types data as well.

- Training Occ Nonstudent Cleanup: Lists SSNs, adult ed, on-the-job training, skills training, and occupational codes for 454 nonstudents using the Training table and the Nonstudents query.

Once this query was run, the number of individuals with occupational codes was checked against the number of individuals with occupational skills training Booleans. An assumption was made that any individual with an occupational training code would have received occupational skills training. The training types data were then able to be updated using the new skills training numbers.

- Training Types Nonstudents Correct: Groups 454 nonstudent customers by adult ed, on-the-job training, skills training, and combinations thereof using the Training table and the Nonstudents query.

A further comparison wanted between the training occupations and the placement occupations was to identify how many customers found employment in an occupation related to their training occupation.

- Training Related Nonstudents: Lists SSNs, skills training, occupational codes, placement codes, and training related text for 454 nonstudents using the Placement and Training tables and the Nonstudents query.

Once the training related query had been run, some cleanup was necessary in Excel. For most individuals, the training related text was used. However, some modifications were made to indicate that employment was related to training for those customers whose training occupation and placement occupation were the same.

Employer location was another item for which a comparison was wanted. One query was built and then cleaned up in Excel for the “before” and “after” periods.

- Emp Location 454 Nonstudents: Lists SSNs, year, quarter, employer res codes, wages, employer name, and employer number for 454 nonstudents using the Nonstudents query and the Wages table.

In order to clean up this file, Excel was used to create a pivot table and then filter out those years not wanted at the moment for examination. The most recent employer for each of the time periods was then selected. In cases where it was not readily apparent, further research was done using the wage records to identify more specifically the appropriate location.

It was then decided that further characteristics on the two groups, the students and nonstudents, would be useful. Two queries were run to provide data on the gender and age group distributions of each:

- Nonstudents Gender Age: Lists SSNs, age group, and gender for 454 nonstudents using the Nonstudents query and the Characteristics, Age Lookup, and Gender Lookup tables.
- Students Gender Age Group: Lists SSNs, age group, and gender for 97 students using the Students query and the Characteristics, Gender Lookup, and Age Lookup tables.

Finally, a query was run to identify the services received by the students, since they were excluded from most of the analysis. The query was set up in a manner similar to that of the Training Types query, identifying how many students received any combination of additional youth services, adult ed, educational services, leadership opportunities, on-the-job training, skills training, and summer youth employment.

- Students Services: Groups 97 students by additional youth services, adult ed, educational services, leadership opportunities, on-the-job training, skills training, and summer youth employment.

During revisions to the draft report, further questions arose requiring additional tables and queries. It was first determined that it would be useful to compare the age distribution of the study group to those of Washington County and Maine. However, the age groups used in LED are somewhat different, requiring revisions to the age distribution lookup table originally created.

- Age Lookup Revised: matches age in years with age groups according to LED.

The revised lookup table was then used to update some queries that had previously been run.

- Age Group at Entry Revised
- Nonstudents Gender Age Revised
- Students Gender Age Revised

The issue of mobility and workers who had found jobs in different locations after services was one that encouraged further research. The process involved with this issue required many steps, beginning with two tables.

- Mobility Calc Before:
    - SSN and Before Res Code
- Mobility Calc After:
    - SSN and After Res Code

Two queries were run to convert the residence codes for before and after into counties.

- Before Counties: Lists SSNs, before residence codes, and county codes for 402 nonstudents using the Mobility Calc Before and Res Codes tables.
- After Counties: Lists SSNs, after residence codes, and county codes for 413 nonstudents using the Mobility Calc After and Res Codes tables.

Another query was written in order to combine the before and after counties and add an indicator to show whether the customer stayed in the same county after services.

- Mobility Yes No: Lists SSNs, county code before, county code after, and a yes/no indicator for mobility for 534 customers using Wages table and Before Counties and After Counties queries.

This query was exported to Excel for cleanup to remove individuals with blanks both before and after and imported back in Access.

- Mobility Final
    - SSNs, before counties, after counties, and a yes/no mobility indicator.

Four queries were written to calculate average wages for each combination of staying or leaving and before or after.

- Average Wage After/Left: Lists SSNs, left indicator, year, qtr, and wages using Mobility Final table and Avg Wage 2002 or Later Nonstudents query.
- Average Wage After/Stayed: Lists SSNs, stayed indicator, year, qtr, and wages using Mobility Final table and Avg Wage 2002 or Later Nonstudents query.
- Average Wage Before/Left: Lists SSNs, left indicator, year, qtr, and wages using Mobility Final table and Avg Wage Pre 2000 Nonstudents query.
- Average Wage Before/Stayed: Lists SSNs, stayed indicator, year, qtr, and wages using Mobility Final table and Avg Wage Pre 2000 Nonstudents query.

A query was written to calculate the average quarterly wages by placement occupation for the study group.

- Average Wage Placement Occs Text: Lists occupation, SSN, year, quarter, and wages using SOC Lookup, Placement Occs, and Wages tables.

This query was exported to Excel where a pivot table was created and the average quarterly wages for each major occupational group were calculated.

MAINE
DEPARTMENT OF
LABOR
Labor Market Information

19 Union Street
P.O. Box 259
Augusta, Maine 04332-0259
207-287-2271

John Dorrer
Division Director
Phone: 287-2271
E-mail: John.Dorrer@Maine.gov

Dana Evans
State Labor Economist
Phone: 287-2858
E-mail: Dana.A.Evans@Maine.gov

Robert Kelley
Deputy Director
Phone: 287-1254
E-mail: Robert.J.Kelley@Maine.gov

District Managers for Labor Market Information

North/East District: *Craig Holland*
Maine Department of Labor
Labor Market Information Services
45 Oak Street, Suite # 5
Bangor, ME 04401-6672
Phone: 941-3076
FAX: 941-3077
E-mail: Craig.Holland@Maine.gov

Central District: *Merrill Huhtala*
Maine Department of Labor
Labor Market Information Services
19 Union Street
Augusta, ME 04330
Phone: 287-2271
FAX: 287-2947
E-mail: Merrill.Huhtala@Maine.gov

Western District: *Gerard Dennison*
Maine Department of Labor
Labor Market Information Services
5 Mollison Way
Lewiston, ME 04240-5805
Phone: 753-9045
FAX: 753-9047
E-mail: Gerard.Dennison@Maine.gov

Southern District: *Gerard Dennison*
Maine Department of Labor
Labor Market Information Services
5 Mollison Way
Lewiston, ME 04240-5805
Phone: 753-9045
FAX: 753-9047
E-mail: Gerard.Dennison@Maine.gov

FAX (207) 287-2947
TTY 1-800-794-1110
Web site address: www.Maine.gov/labor/lmis
E-mail address: cwri.dol@Maine.gov