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An Analysis of the Economic Impact & Return on Investment of the Northern Virginia Workforce System-FY2017

Prepared for The SkillSource Group, Inc.

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1. Executive Summary

This report assesses the economic impact and return on investment (ROI) attributable to the workforce programs and services provided by the Northern Virginia Workforce System (NVWS) for Fiscal Year (FY) 2017 in Northern Virginia.¹ The main findings of the report are summarized below.

The economy of Northern Virginia continued to expand in FY2017.

- As of the second quarter of 2017, wage and salaried employment in Northern Virginia reached 1.22 million. Regional employment expanded 1.1% in FY2017 from FY2016.
- Since 2010, Northern Virginia's employment expanded at an average rate of 1.1% per year, faster than the state average of 0.9%, but slower than 1.3% for the nation. Employment growth was uneven. Regional employment growth slowed in 2013 and 2014 due to federal budget reductions, but rebounded in 2015 and 2016.
- As of the second quarter of 2017, the average annual wage per worker in Northern Virginia was \$72,950. This was significantly higher than the state average of \$54,276 and the national average of \$53,284.
- In FY2017, the Northern Virginia region added 12,915 total jobs. More than three-quarters (78.5%) of new jobs were in the private sector. Local governments in the region added 3,465 jobs while employment contracted at both the federal and state government levels.
- In FY2017, the largest industry by employment in Northern Virginia was professional, scientific, and technical services, followed by retail trade, and health care and social assistance.
- At the end of FY2017 (June 2017), the unemployment rate stood at 3.1% in Northern Virginia, lower than 3.9% statewide and 4.5% nationally. The unemployment rate further declined to 3.0% in September 2017.

The various workforce programs and services provided by the Northern Virginia Workforce System have a large economic impact in Northern Virginia.

- In FY2017, the Northern Virginia Workforce System provided the following workforce programs and services:
 - Workforce Innovation and Opportunity Act (WIOA) Adult Program
 - WIOA Dislocated Workers Program
 - WIOA Youth Program

¹ Fiscal Year 2017 starts on July 1, 2016 and ends June 30, 2017. Northern Virginia Workforce System serves the counties of Fairfax, Loudoun, and Prince William, and the cities of Fairfax, Falls Church, Manassas, and Manassas Park. This region is referred to as the NVWS service area. However, in this report, the study region is defined as Northern Virginia, which also includes Arlington County and the City of Alexandria, in addition to seven localities served by NVWS.

- Employing Northern Virginia through Entrepreneurship (ENOVATE)
 - Virginia Financial Services Network (VFSN)
 - Virginia Serious and Violent Offender Reentry Initiative (VASAVOR)
 - Fairfax Pre-Release Employment Center (PRC)
 - Success through Education, Employment, and Reintegration (STEER)
 - Ticket to Work
 - Temporary Assistance for Needy Families (TANF)
 - One-Stop services,² providing self-service resources for jobseekers³
- In FY2017, the Northern Virginia Workforce System successfully transitioned 925 previously unemployed individuals into employment through its non-self-service programs. The increased annual household income associated with those job placements is estimated to have been \$33.3 million.
 - The increased income resulting from the above job placements is estimated to have supported 1,131 total jobs in Northern Virginia in FY2017, associated with \$44.5 million in total regional labor income. In addition, the increased income is estimated to have generated \$32.0 million in additional regional economic output, and \$4.5 million in state, local, and federal tax revenue.
 - If job placements through One-Stop services were included, NVWS was instrumental in placing 1,504 previously unemployed individuals into employment in FY2017. The increased annual household income associated with those job placements is estimated to have been \$52.2 million.
 - Increased income resulting from the above job placements is estimated to have supported 1,826 total jobs in Northern Virginia in FY2017, associated with \$69.6 million in total regional labor income. In addition, the increased income was also responsible for \$50.0 million in additional regional economic output, and \$7.0 million in state, local, and federal tax revenue.

The return on investment analysis shows that the benefits of NVWS programs and services exceed their cost.

- In FY2017, the cost associated with all NVWS programs and services was \$6.7 million.
- The benefit is defined as the total labor income attributable to persons served through NVWS programs and services.

² Please note that in the FY2016 report, One-Stop services are referred to as basic career services.

³ In this report, all workforce programs and services excluding One-Stop services are collectively termed NVWS non-self-service programs. Economic impact and ROI are evaluated for all non-self-service NVWS programs and all NVWS programs and services.

- Excluding One-Stop services, the benefit to cost ratio of NVWS non-self-service programs was 6.6 in FY2017, indicating that the benefits of NVWS programs were 6.6 times the public costs needed to generate them.
- If the ROI analysis is expanded to encompass One-Stop services, the benefit-to-cost ratio of all NVWS programs and services in FY2017 would rise to 10.3. This indicates that the benefits are 10.3 times the public costs needed to generate them.

2. Background

The Northern Virginia Workforce System (NVWS) serves the counties of Fairfax, Loudoun, and Prince William, and the cities of Fairfax, Falls Church, Manassas, and Manassas Park (service area).⁴ Through the SkillSource Group, Inc., (SkillSource), the Northern Virginia Workforce System provides a comprehensive list of workforce development programs, such as the Workforce Innovation and Opportunity Act (WIOA) Adult, Youth, and Dislocated Worker programs; and other career services. In addition, there are six SkillSource-managed centers (One-Stop Employment Centers) in the region.

Figure 2.1: Northern Virginia Workforce Area #11



Source: SkillSource Group. The numbers on the map represent SkillSource Center locations.

Each year, the SkillSource Group commissions a study of the economic and fiscal impacts of the Northern Virginia Workforce System, focusing on the varied workforce training and career services programs it provides. In addition, SkillSource seeks to understand the return on investment (ROI) of NVWS programs

⁴ Source: SkillSource website, <http://www.myskillsource.org/page/id/13/locations>. Please note that the economic impact and economic profile are analyzed for the broader Northern Virginia region, which also includes Arlington County and the City of Alexandria.

and services. Chmura Economics & Analytics (Chmura) was contracted to perform such an analysis for Fiscal Year 2017.

The remainder of this report is organized as follows:

- Section 3 explains the methodology in conducting economic impact and return on investment analysis for workforce programs and services.
- Section 4 provides a profile of the Northern Virginia Workforce System and an economic profile of Northern Virginia.
- Section 5 analyzes the economic impact of NVWS programs and services in Northern Virginia.
- Section 6 performs the ROI analysis for NVWS programs and services.
- Section 7 provides a summary and conclusion.

3. Methodology

To maintain consistency with prior studies published by SkillSource on the economic impact and ROI of NVWS programs and services, this study utilizes the same methodology as previous studies.⁵ Based on the needs of SkillSource and a review of prior studies, this report includes three major components:

1. A profile of Northern Virginia Workforce System programs and services, and an economic profile of Northern Virginia for FY2017
2. The economic impact of NVWS programs and services in Northern Virginia for FY2017
3. Return on investment analysis of NVWS programs and services for FY2017

3.1. Profile of NVWS and Economic Profile of Northern Virginia

The profile is a summary of the NVWS programs and services and demonstrated roles they play in helping regional workers achieve career success. This profile presents information such as a list of NVWS programs and services, participants and job placements by program, and post-training wages for program participants. The main data sources for this analysis are SkillSource program reports, audited SkillSource financial records, and administrative data.

An economic profile of Northern Virginia is also included, providing a broad context to evaluate the economic impact and ROI of NVWS programs and services. Chmura analyzed data on total employment and employment growth, employment by major industry sector, employment by ownership category, average wages, and unemployment rate for the region. Data from Chmura's proprietary JobsEQ® platform were utilized to complete this analysis.

3.2. Economic Impact Analysis

In this analysis, Chmura examined the economic impact of NVWS programs and services in Northern Virginia. The main source of economic impact is the incremental income gained by individuals who successfully transitioned into employment with the help of NVWS programs and services.⁶ More specifically, since those individuals were unemployed prior to utilizing NVWS programs and services, the incremental wage is equivalent to wages and salaries they would receive in their new jobs.

When those individuals spend their newly earned income in Northern Virginia, the spending generates additional economic impact in the region. While incremental spending constitutes the direct economic impact of NVWS programs and services in Northern Virginia, the total economic impact also includes economic ripple effects from the direct impact. Ripple effects, categorized as indirect and induced impacts (see Appendix 1 for definitions), measure the secondary benefits of increased household spending at regional businesses. For example, when newly employed individuals spend their wages on housing, groceries, and transportation, they help other businesses and support additional jobs. The

⁵ For examples of previous studies, please see <http://www.myskillsource.org/page/id/82/>.

⁶ The operation of NVWS will also generate positive economic impact in the area. In addition, NVWS also manages other programs such as the Center for Business Planning and Development. Those impacts are not included in this study as the focus is the success of participants of NVWS programs.

cumulative result of these secondary effects is called indirect impact when it represents business-to-business transactions, and induced impact when it represents household- (employee) to-business transactions.

Direct impact, measured as household spending from incremental income, was estimated based on data from SkillsSource. Chmura estimated the indirect and induced economic impacts with the IMPLAN Pro® Model after the direct impacts were estimated.

In the analysis, Chmura examined economic impacts of NVWS programs and services in four dimensions:

1. Employment, or the total number of jobs that are supported in the regional economy through incremental household income
2. Labor income, or the salaries and wages that are associated with total employment
3. Economic output, or the total amount of regional economic activity that is generated through secondary indirect and induced transactions
4. Fiscal impact, or the federal, state, and local tax revenue as a result of the increased economic activity

3.3. Return on Investment Analysis

In addition to the economic impact analysis, Chmura also assessed the return on investment of NVWS programs and services. ROI is expressed as a benefit-to-cost ratio. In this study, the cost is represented by all expenses associated with workforce programs and services provided by Northern Virginia Workforce System in FY2017. The benefit is represented by the total annual labor income attributable to NVWS programs and services, resulting from new job placements.⁷

To conclude the ROI analysis, a benefit-to-cost ratio was computed for two broad programs. These included all non-self-service NVWS programs, and all NVWS programs and services, including One-Stop services.

⁷ This definition is consistent with prior studies.

4. Profile of NVWS and the Regional Economy

4.1. Profile of NVWS Programs and Services

The Northern Virginia Workforce System, through the Northern Virginia Workforce Development Board, provides a wide range of workforce training programs and services to regional jobseekers to help them locate employment in the area. In particular, NVWS offers several structured workforce programs where individuals are enrolled and work with case managers (non-self-service programs). In addition, NVWS also maintains six One-Stop Employment Centers (SkillSource centers) where individuals can utilize facilities and resources in search of employment.

4.1.1. NVWS Programs & Services

In FY2017, the Northern Virginia Workforce System provided career training and job placement services through the following programs:

- Workforce Innovation and Opportunity Act (WIOA) Programs
 - WIOA Adult Program – provides employment and training services to assist eligible adults (individuals 18 years and older) in finding meaningful employment.
 - WIOA Dislocated Worker Program – provides employment and training services to dislocated workers (an individual who has been terminated or laid off, or has received notice that they will be terminated or laid off) in finding meaningful employment.
 - WIOA Youth Program – provides summer and year-round development programs to at-risk youth ages 16 – 24 years (e.g., dropouts, foster children, juvenile offenders, children of incarcerated parents, and migrant children).
- Other WIOA Grant Programs
 - Employing Northern Virginia through Entrepreneurship (ENOVATE) – provides entrepreneurship training and technical assistance to aid individuals in starting their own businesses.
 - Virginia Financial Success Network (VFSN) – enhances long-term financial stability of individuals by employing an integrated approach where jobseekers are connected to workforce, education, income support, and financial services.
 - Additional WIOA programs – includes some programs carried over from prior years.
- Non - WIOA Grants Programs
 - Virginia Serious and Violent Offender Re-entry Initiative (VASAVOR) – supports the transition of long-term incarcerated adults into the workforce and community.

- Fairfax Pre-Release Employment Center (PRC) – is an employment center that provides pre-release employment and training services to selected Fairfax County jail inmates.
 - Success through Education, Employment, and Reintegration (STEER) – provides inmates opportunities for training (GED and occupational skills training), as well as dual enrollment into WIOA programs while they are still incarcerated, with a transition strategy for continued service from One-Stop Employment Centers after they are released.
 - Ticket to Work – provides workforce and employment services for adults receiving Social Security disability benefits who want to return to employment.
 - Temporary Assistance for Needy Families (TANF) Employment Advancement (EA) Program – provides subsidized and unsubsidized employment opportunities for Prince William TANF participants and increases self-sufficiency through employment.
- One-Stop services – provide self-service tools and resources that assist a jobseeker with an effective job search. Jobseekers use the physical resources at One-Stop Employment Centers to find employment opportunities.

In the analysis that follows, Chmura refers to all programs and services, other than One-Stop services, as NVWS non-self-service programs. Economic impact and ROI evaluations are conducted for all NVWS programs and services, as well as for non-self-service programs.

4.1.2. Participants and Job Placements of NVWS Programs

Table 4.1 summarizes participants and job placements for different NVWS programs and services in FY2017. In FY2017, a total of 1,774 individuals were enrolled in various non-self-service programs. Over half of them (1,186) were enrolled in WIOA Adult, WIOA Dislocated Worker, and WIOA Youth programs. In addition, 163 were enrolled in other WIOA grant programs, such as ENOVATE and VFSN. An additional 425 jobseekers were enrolled in non-WIOA funded programs, such as VASAVOR, Fairfax PRC, STEER, Ticket to Work, and TANF. Finally, 22,899 unique individuals utilized the Northern Virginia Workforce System's One-Stop Employment Centers to conduct job searches. They registered 55,156 total visits in FY2017.

In total, these programs and services were instrumental in transitioning 1,504 previously unemployed individuals into meaningful jobs, with an average annual wage of \$34,702. Out of this number, 546 were placed into employment through the WIOA Adult, Dislocated worker, and Youth programs; 109 were placed into employment through the system's other WIOA programs, such as ENOVATE and VFSN. An additional 270 jobseekers found jobs through non-WIOA funded programs, such as VASAVOR, Fairfax PRC, STEER, Ticket to Work, and TANF. Finally, 579 jobseekers found employment as a result of utilizing NVWS One-Stop services.

Table 4.1: Northern Virginia Workforce System Participants and Job Placements in FY2017

NVWS Programs & Services	Enrollment	Job Placements	Average Annual Wage
WIOA Enhanced Career Services	1,186	546	\$41,297
WIOA – Adult	540	247	\$29,589
WIOA – Dislocated Worker	364	211	\$63,283
WIOA – Youth	282	88	\$21,445
Other WIOA Grant Programs	163	109	\$38,410
ENOVATE	77	65	\$32,509
VFSN	66	31	\$51,633
Additional WIOA Programs	20	13	\$36,381
Other Programs	425	270	\$24,477
VASAVOR	83	22	\$20,238
Fairfax PRC	81	74	\$24,211
STEER	159	102	\$22,173
Ticket to Work	26	19	\$29,370
TANF	76	53	\$29,286
Total Non-Self-Service Programs	1,774	925	\$36,047
One-Stop Services	22,899	579	\$32,552
Total NVWS Programs & Services		1,504	\$34,702

Source: SkillSource

4.2. Regional Economic Profile

4.2.1. Trend in Employment and Wages

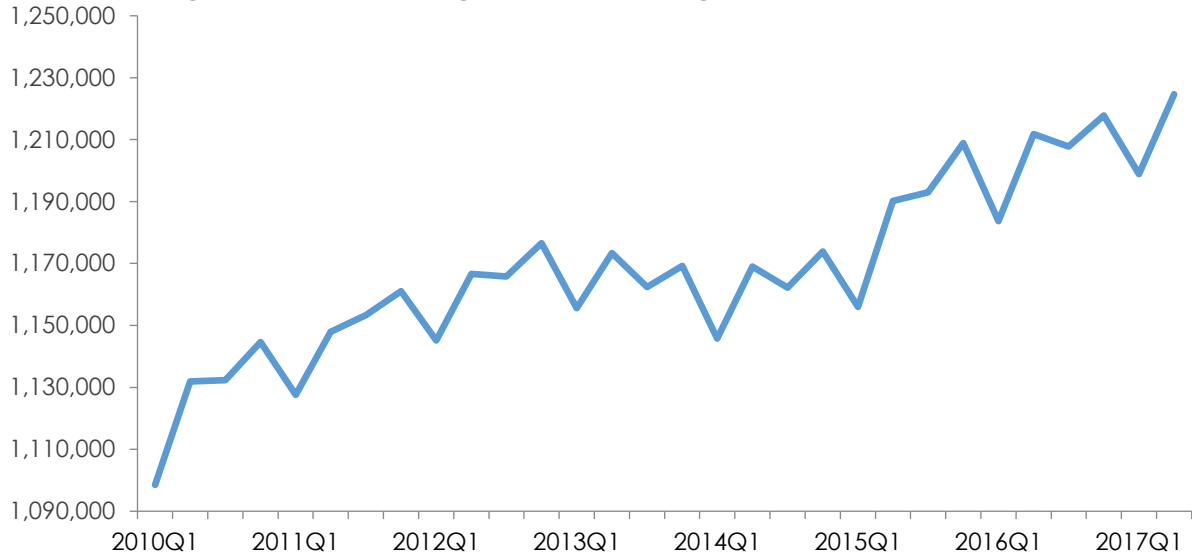
Employment size and growth is the broadest and timeliest indicator of a region's overall economic health. A growing labor market also increases the chances that participants of NVWS programs and services can find meaningful employment in the region.

The latest data show that in the second quarter of 2017 (the last quarter of FY2017), Northern Virginia had a total wage and salaried employment of 1.22 million, 1.1% more than FY2016. The region accounted for more than 30% of total state employment, and serves as one of the major economic centers in Virginia.⁸

Figure 4.1 depicts quarterly trends in total employment in Northern Virginia since 2010. As these data show, despite the seasonal regional employment decline in the first quarter of each year, the overall employment trend shows a steady expansion since 2010. However, regional employment growth stalled during 2013 and 2014, largely due to federal spending cuts as a result of federal budget sequestration. But growth resumed after 2014, with rapid employment expansion occurring in 2016. In total, Northern Virginia has gained 126,147 jobs since the first quarter of 2010.

⁸ The wage and salaried employment does not include proprietors or self-employed individuals. Chmura excluded these groups to be consistent with prior studies.

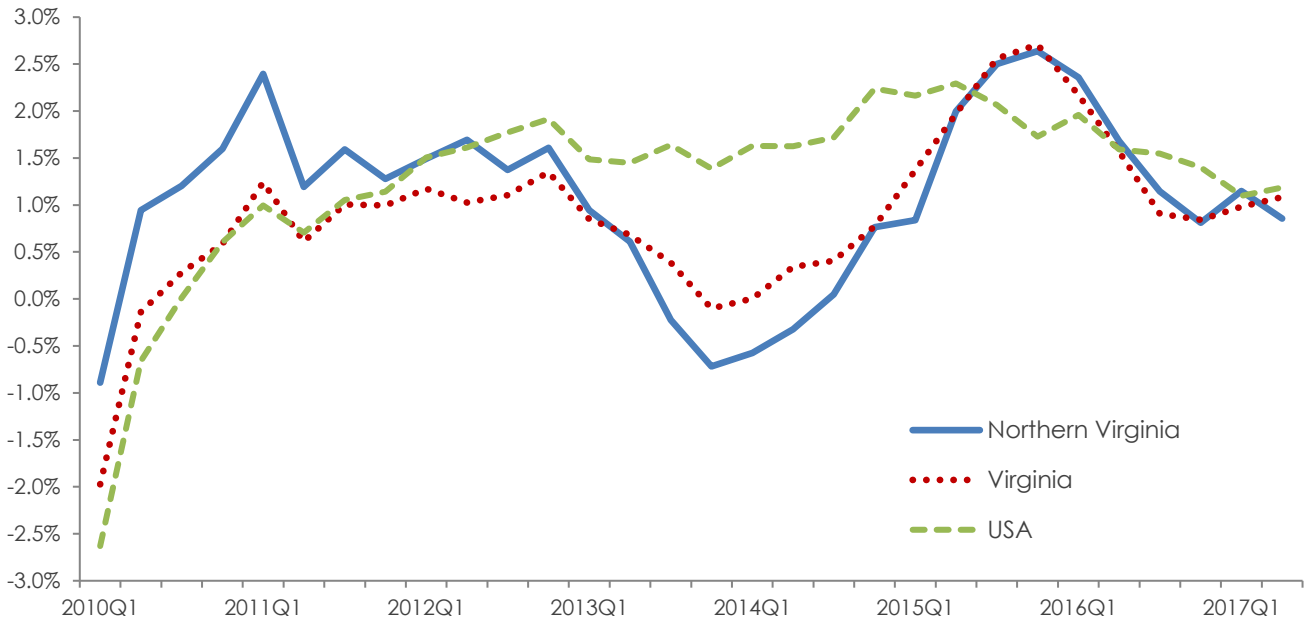
Figure 4.1: Northern Virginia Quarterly Wage and Salaried Employment



Source: JobsEQ

In terms of employment growth, since 2010, Northern Virginia's employment expanded at an average rate of 1.1% per year; this is compared with 0.9% for Virginia and 1.3% for the nation. As Figure 4.2 shows, Northern Virginia rebounded from the 2007-09 recession better than both the state and nation, as job growth from 2010 to 2012 outpaced those two regions. However, regional job growth lagged state and national averages from 2013 to 2015. This is largely due to federal budget cuts resulting from budget sequestration, which affected Northern Virginia disproportionately as the region has a high concentration of federal employees and federal contractors. The negative effect of federal budget cuts has since worn off. Employment growth in the region accelerated in the second half of 2015, but moderated toward the end of 2016.

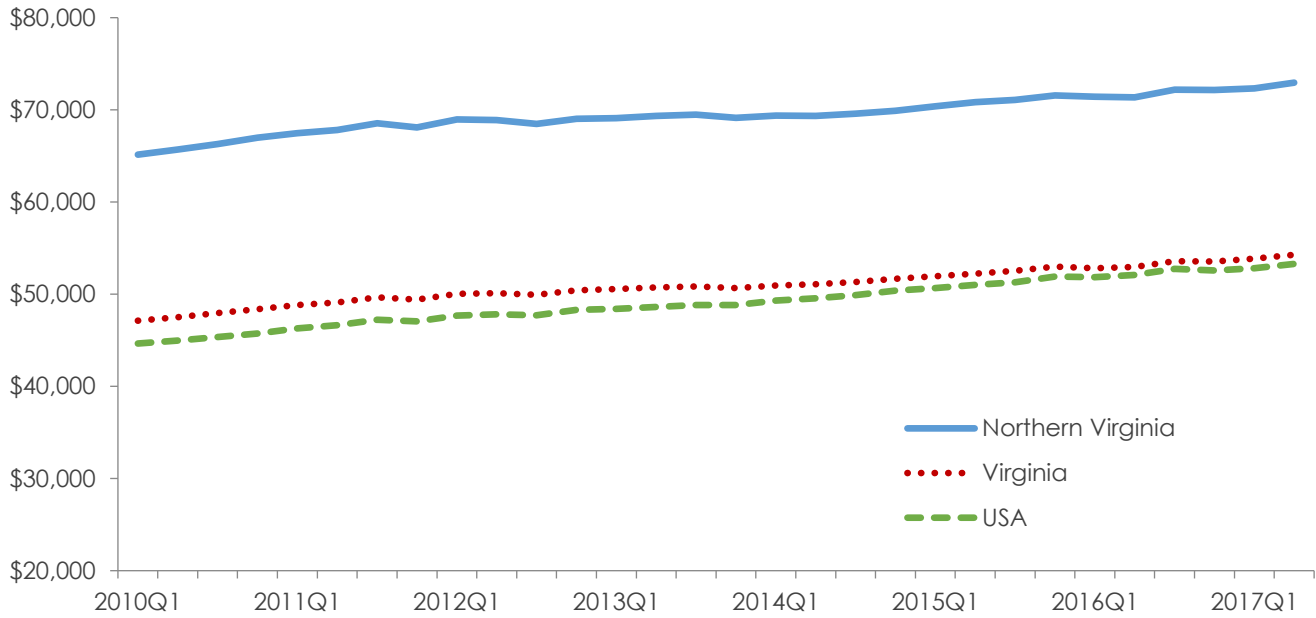
Figure 4.2: Employment Growth, Percent Change, Year-over-Year



Source: JobsEQ

As of the second quarter of 2017, the average annual wage per worker in Northern Virginia was \$72,950, significantly higher than the state average of \$54,276 and the national average of \$53,284. As will be analyzed later, the higher average wage can be primarily attributed to the industry mix of the region. Northern Virginia has a high concentration of professional services and high-tech jobs, as well as federal government employees, which tend to pay high salaries. But wage growth in Northern Virginia trailed both state and national averages. Since 2010, the average annual wage per worker in Northern Virginia grew at 1.4% per year, compared with state and national averages of 1.9% and 2.5%, respectively.

Figure 4.3: Average Annual Wage Growth

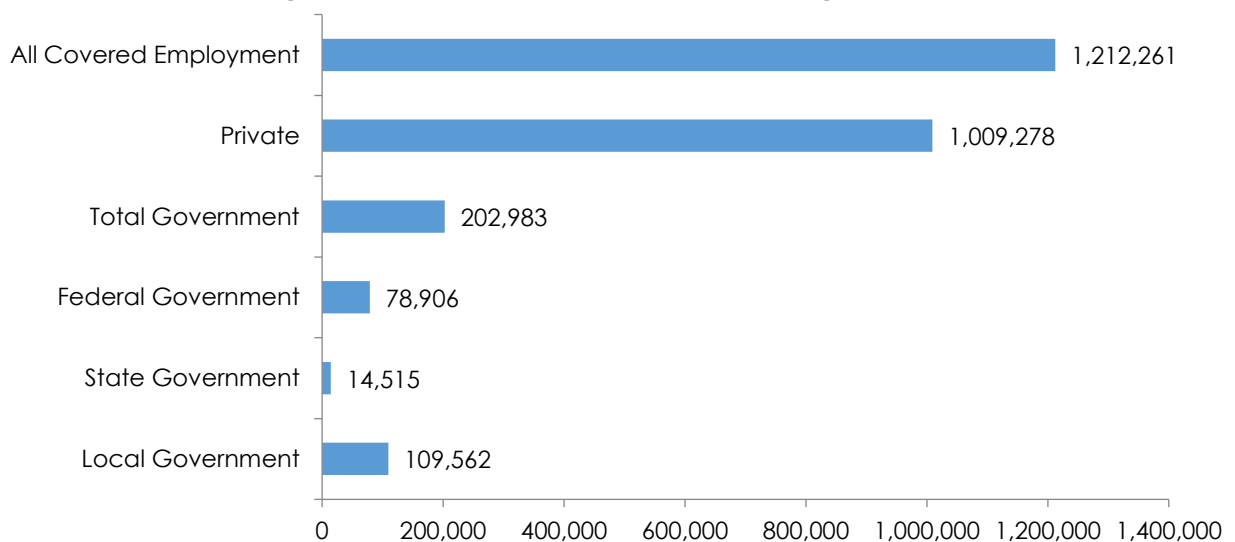


Source: JobsEQ

4.2.2. Employment and Wage by Ownership

Figure 4.4 provides a breakdown of total wage and salaried employment in Northern Virginia in FY2017 by ownership category. The data show that in FY2017, 1.00 million jobs (or 83.3%) of the region's total employment of 1.21 million were in the private sector, while 202,983 (or 16.7%) were in the government sector. Compared with the state average of 18.3%, the percentage of overall government employment in Northern Virginia is smaller, at 16.7%. However, there is a higher percentage (6.5%) of federal government employment in the region than in Virginia (4.7%).

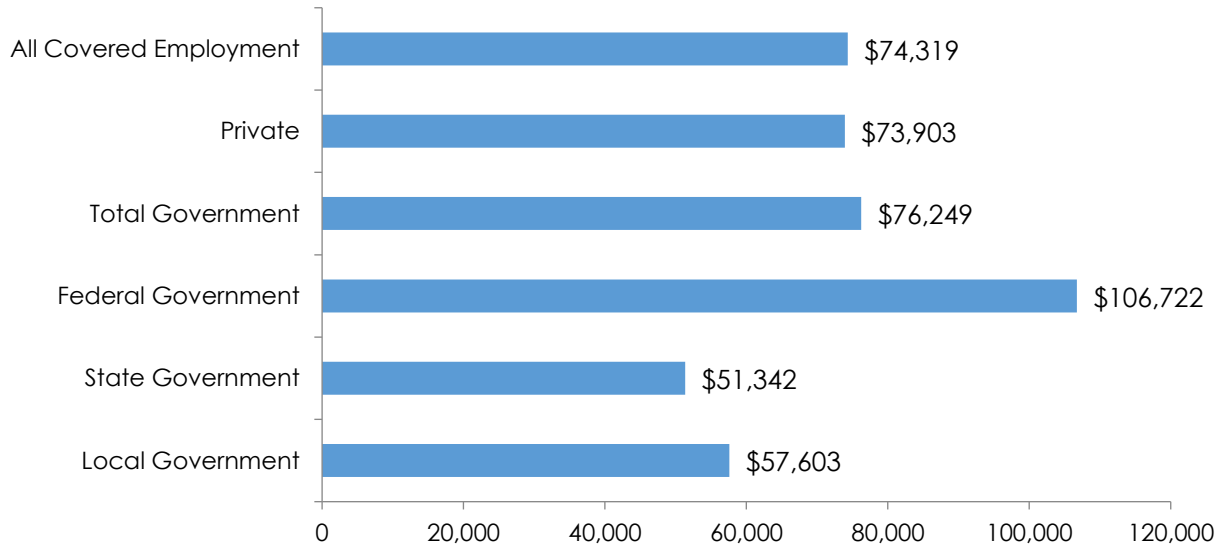
Figure 4.4: Employment by Ownership Category, FY2017



Source: JobsEQ

Among different ownership categories, average wage was the highest for workers in the federal government, averaging \$106,722 in FY2017. This is significantly higher than the average of \$74,319 for all wage and salaried workers in Northern Virginia (Figure 4.5). In contrast, workers employed in state and local governments had average wages of \$51,342 and \$57,603, respectively—much lower than wages in the federal government and private sector.

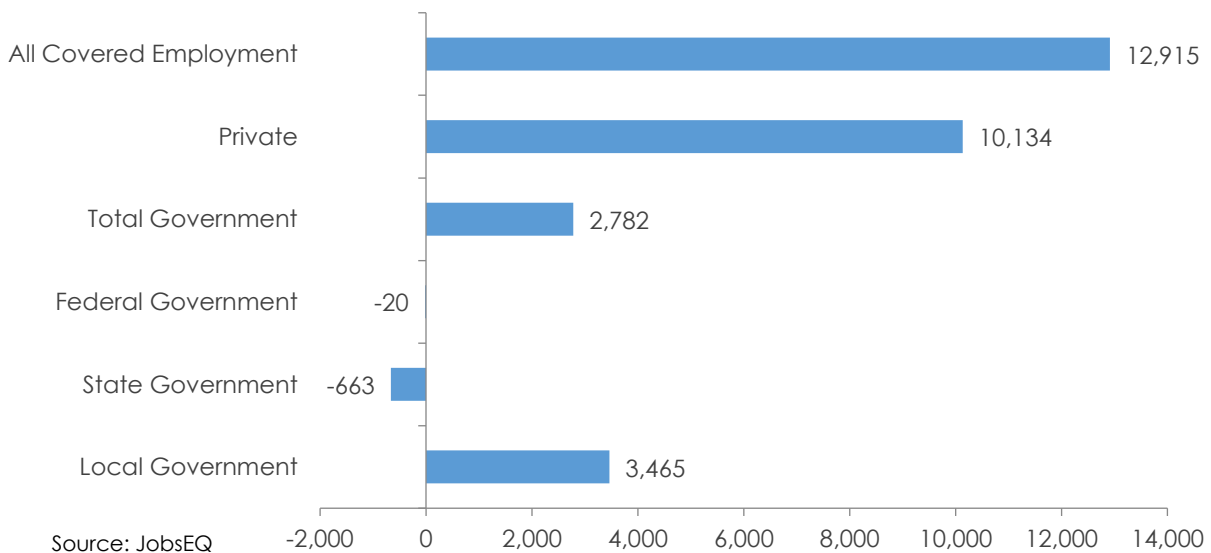
Figure 4.5: Average Annual Wage by Ownership Category, FY2017



Source: JobsEQ

Figure 4.6 depicts the changes in employment by ownership category from FY2016 to FY2017 in Northern Virginia. The largest contributor for job growth in the region was the private sector. Of the total 12,915 new jobs added in Northern Virginia in FY2017, 10,134 (78.5%) were in the private sector. Local government added 3,465 jobs while employment at both the federal and state government levels contracted.

Figure 4.6: Annual Change in Employment by Ownership Category, FY2016 to FY2017



Source: JobsEQ

4.2.3. Employment and Wage by Industry Sector

Northern Virginia is home to many different industries. In FY2017, the largest industry by employment was professional, scientific, and technical services (250,465 jobs), followed by retail trade (120,677 jobs), and health care and social assistance (112,747 jobs). Other large industry sectors included accommodation and food services (105,286 jobs), education services (104,404 jobs), and public administration (90,815 jobs).⁹ The professional, scientific, and technical services industry plays an important role in the regional economy as more than one in five (21%) regional workers were employed in this industry, compared with 11% for the state average.

Figure 4.7: Employment by Major Industry, FY2017

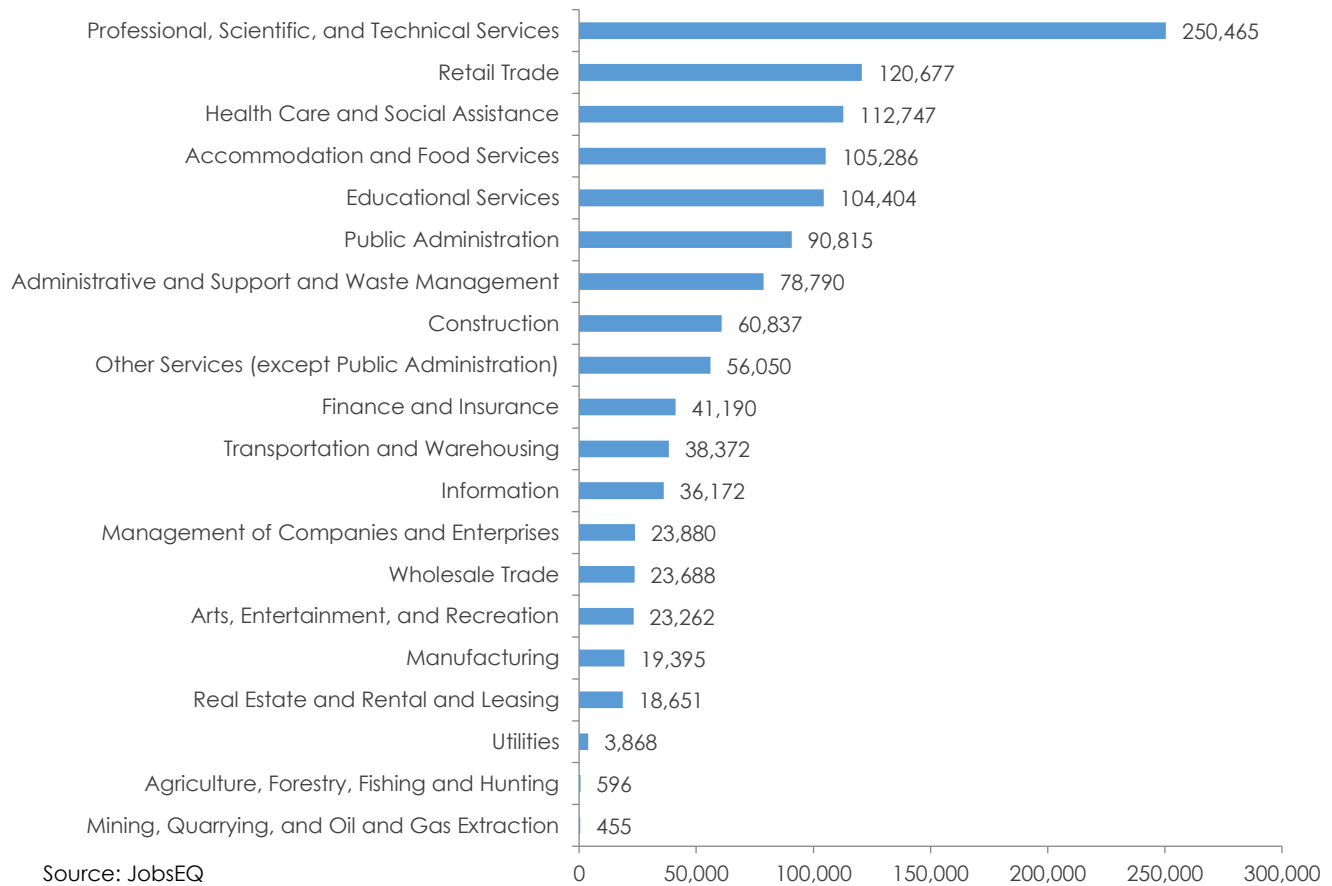


Figure 4.8 presents the average annual wages by major industry in Northern Virginia for FY2017. The management of companies and enterprises was the highest-paying industry, with an average annual wage of \$150,644. This industry represents many corporate headquarters in Northern Virginia, employing a large number of corporate executives and highly-skilled professionals. Information was ranked second with an average annual wage of \$126,458. However, this industry lost jobs in FY2017. Other high-paying

⁹ Please note that employees of public schools are classified as government employees by ownership category, but by industry, they are classified as education services. For this reason, employment in public administration was smaller than total government jobs.

industries were finance and insurance (\$120,129 annual wage), professional, scientific, and technical services (\$116,129 annual wage), and wholesale trade (\$106,705 annual wage).

On the other end of the spectrum, accommodation and food services, and retail trade paid the lowest annual wages, averaging \$23,242 and \$33,836, respectively, in FY2017. Workers in those industries may face challenges to maintain a certain standard of living as costs for housing and transportation in Northern Virginia are higher than in other areas of Virginia.¹⁰

Figure 4.8: Average Annual Wages by Major Industry, FY2017

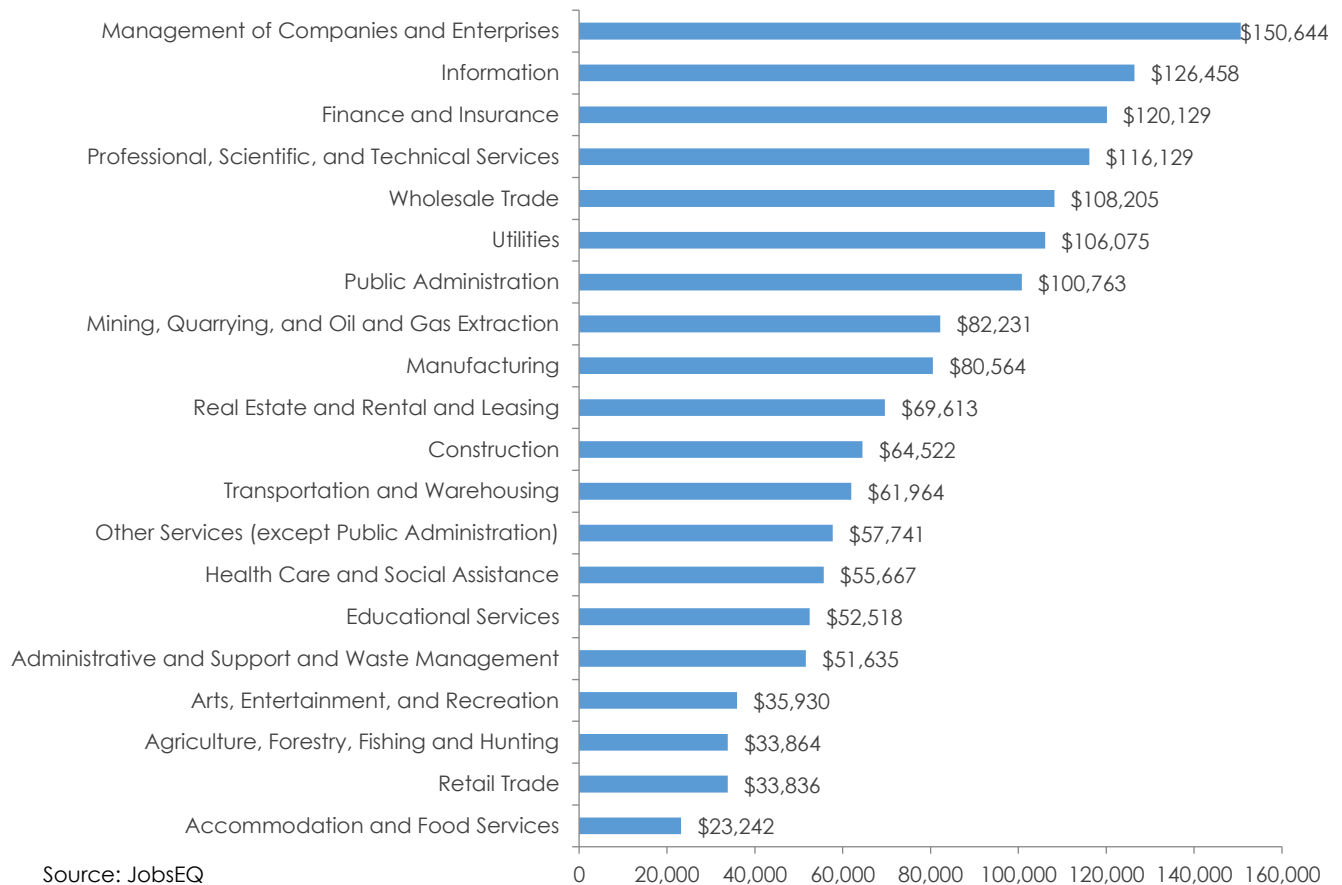
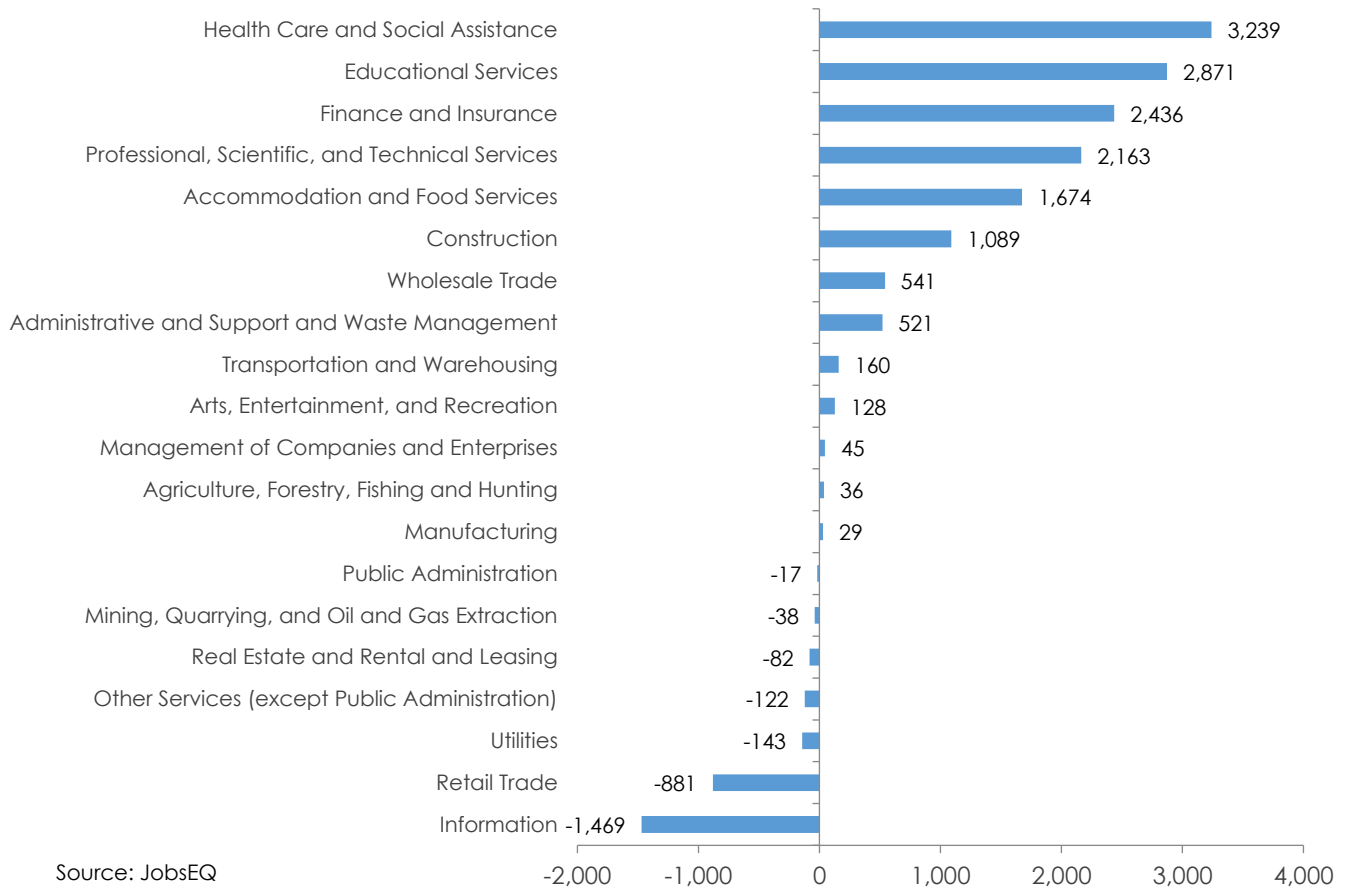


Figure 4.9 summarizes the employment changes by industry in Northern Virginia between FY2016 and FY2017. The largest employment gains over the period occurred in health care and social assistance (up 3,239 jobs), education services (up 2,871 jobs), finance and insurance (up 2,436 jobs), and professional, scientific, and technical services (up 2,163 jobs). On the other hand, the largest employment losses over the period occurred in information (down 1,469 jobs) and retail trade (down 881 jobs). From the perspective of participants of NVWS programs and services, growing opportunities may lie in industries such as health care and social assistance, accommodation and food service, and construction.

¹⁰ Cost of living in the NVWS service area is 54% higher than the national average, and 36% higher than the Virginia average in the first quarter of 2017. Source: JobsEQ.

Figure 4.9: Employment Change by Major Industry, FY2016 to FY2017

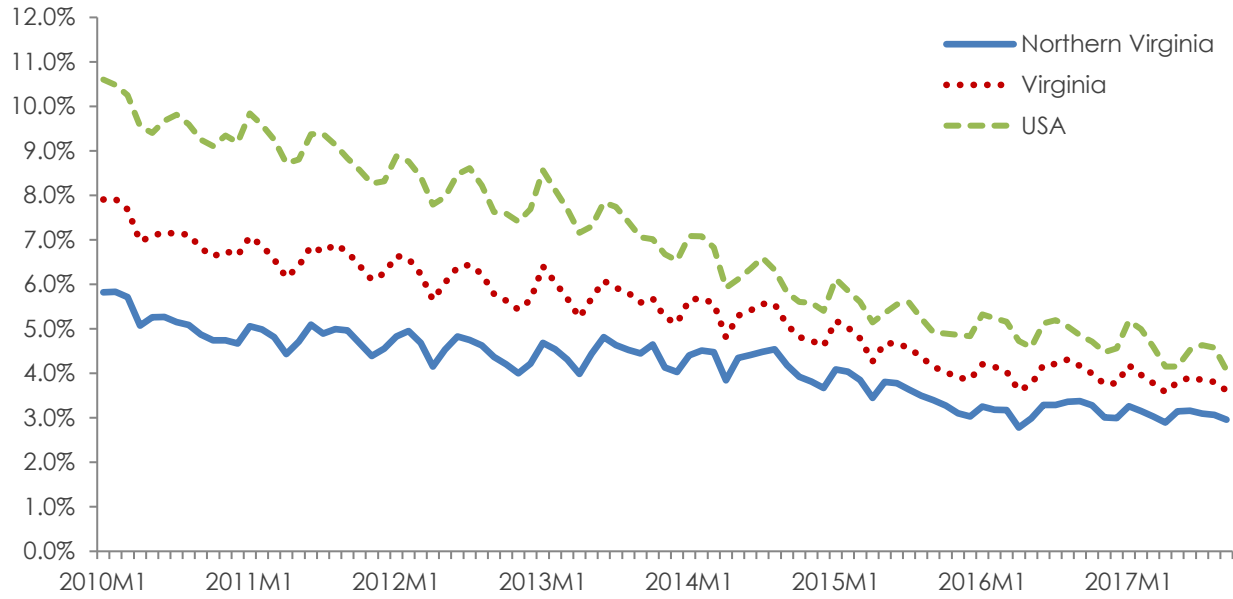


Source: JobsEQ

4.2.4. Unemployment Rate

Another broad indicator of the health of a regional economy is the unemployment rate. Figure 4.10 compares recent unemployment trends in Northern Virginia to those at the state and national levels. The unemployment rate data are monthly from January 2010 through September 2017 (the most recent month for which such data were available). Since 2010, the unemployment rates of the region, state, and nation have steadily declined as the country recovered from the recession of 2007-09. Labor market conditions continue to improve in 2016 and 2017, but the unemployment rate is declining at a slower pace. The data also show that unemployment rates in Northern Virginia were consistently below the Virginia and U.S. levels since 2010. At the end of FY2017 (June 2017), unemployment rates stood at 3.2% in Northern Virginia, 3.9% statewide, and 4.5% nationally. The regional unemployment rate further fell to 3.0% in September 2017, indicating a healthy regional economy and labor market. The expanding economy bodes well for participants of NVWS programs and services as they are more likely to find employment with adequate wages in the region.

Figure 4.10: Monthly Unemployment Rate, January 2010 to September 2017



Source: JobsEQ

5. Economic Impact of NVWS

As noted earlier, the main benefit for a jobseeker to enroll in NVWS workforce training programs and services is the potential for obtaining a job and receiving higher earnings for those formerly unemployed. When this additional income is spent within local communities, it generates additional economic impact in Northern Virginia.

As shown in Table 5.1, a total of 1,504 individuals found employment after either enrolling in NVWS programs or utilizing One-Stop services in FY2017. Their average wage was \$34,702 per year. As a result, the total annual household income generated through NVWS job placements is estimated to be \$52.2 million. Of this figure, \$33.3 million is the incremental income for those who found jobs through NVWS non-self-service programs, and \$18.8 million is for those using One-Stop services.

Table 5.1: Jobs Placements and Household Income Attributable NVWS- FY2017

NVWS Programs & Services	Job Placements	Average Annual Wage (\$)	Total Household Income (\$Million)
WIOA – Adult	247	\$29,589	\$7.3
WIOA – Dislocated Worker	211	\$63,283	\$13.4
WIOA – Youth	88	\$21,445	\$1.9
ENOVATE	65	\$32,509	\$2.1
VFSN	31	\$51,633	\$1.6
Additional WIOA Programs	13	\$36,381	\$0.5
VASAVOR	22	\$20,238	\$0.4
Fairfax PRC	74	\$24,211	\$1.8
STEER	102	\$22,173	\$2.3
Ticket to Work	19	\$29,370	\$0.6
TANF	53	\$29,286	\$1.6
Total Non-Self-Service Programs	925	\$36,047	\$33.3
One-Stop Services	579	\$32,552	\$18.8
Total NVWS Programs & Services	1,504	\$34,702	\$52.2

Source: SkillSource

5.1. Economic Impact of NVWS Non-Self-Service Programs

Excluding job placements through One-Stop services, a total of 925 previously unemployed workers found jobs with the help of NVWS non-self-service programs in FY2017. They earned \$33.3 million in annual income from wages and salaries. Since those individuals were previously unemployed, this amount is considered incremental income generated by NVWS programs. It is assumed that all consumption expenditures were made within Northern Virginia. In addition, the economic impact is estimated based on a “representative year” assuming all those individuals work a full year, even though employment start dates were likely spread out over FY2017.¹¹

¹¹ This same assumption has been used in previous studies.

Table 5.2 sums up the economic impact of NVWS non-self-service programs in Northern Virginia in FY2017. In terms of regional employment, direct impact is represented by 925 individuals transitioning into employment through NVWS programs. The household expenditures made by these newly employed individuals also supported an additional 206 jobs in the area through indirect and induced impact, for a total employment impact of 1,131 jobs in Northern Virginia.

Table 5.2: Economic Impact of NVWS Non-Self-Service Programs, FY2017

	Employment	Labor Income (\$Million)	Output (\$Million)
Direct Impact	925	\$33.3	\$0.0
Indirect & Induced Impact	206	\$11.1	\$32.0
Total Impact	1,131	\$44.5	\$32.0
	State & Local	Federal	Total
Fiscal Impact (\$Million)	\$1.6	\$2.8	\$4.5

Note: Numbers may not sum due to rounding

Source: IMPLAN Pro 2015

For regional labor income, the direct impact is represented by \$33.3 million in annual wages and salaries paid to individuals transitioning into employment through NVWS non-self-service programs. The household expenditures made by these individuals also generated \$11.1 million in additional regional labor income through indirect and induced impact, for a total regional labor income of \$44.5 million in FY2017.

Finally, household spending by newly employed individuals also generated \$32.0 million in annual total economic output in the region.¹² In addition, this household spending is estimated to have generated \$1.6 million in state and local tax revenue, and \$2.8 million in federal tax revenue—for a total fiscal impact of \$4.5 million in FY2017.

5.2. Economic Impact of all NVWS Programs and Services

Including job placements from One-Stop services, a total of 1,504 previously unemployed workers found jobs with the help of NVWS programs and services in FY2017. They earned an estimated \$52.2 million in annual income in terms of wages and salaries.

Table 5.3 summarizes the economic impact of all NVWS programs and services in Northern Virginia in FY2017. In terms of regional employment, direct impact is represented by 1,504 individuals transitioning into employment through NVWS programs and services. Household expenditures made by these individuals also supported an additional 322 jobs in the area through indirect and induced impact, for a total regional employment impact of 1,826 jobs.

¹² Economic output is typically represented by total sales (revenue) of all businesses in a region.

Table 5.3: Economic Impact of all NVWS Programs and Services, FY2017

	Employment	Labor Income (\$Million)	Output (\$Million)
Direct Impact	1,504	\$52.2	\$0.0
Indirect & Induced Impact	322	\$17.4	\$50.0
Total Impact	1,826	\$69.6	\$50.0
	State & Local	Federal	Total
Fiscal Impact (\$Million)	\$2.6	\$4.5	\$7.0

Note: Numbers may not sum due to rounding

Source: IMPLAN Pro 2015

For regional labor income, the direct impact is represented by \$52.2 million in annual wage and salaries paid to individuals transitioning into employment through all NVWS programs and services. Household expenditures made by these individuals also generated \$17.4 million in regional labor income through indirect and induced impact, for a total regional labor income of \$69.6 million in FY2017.

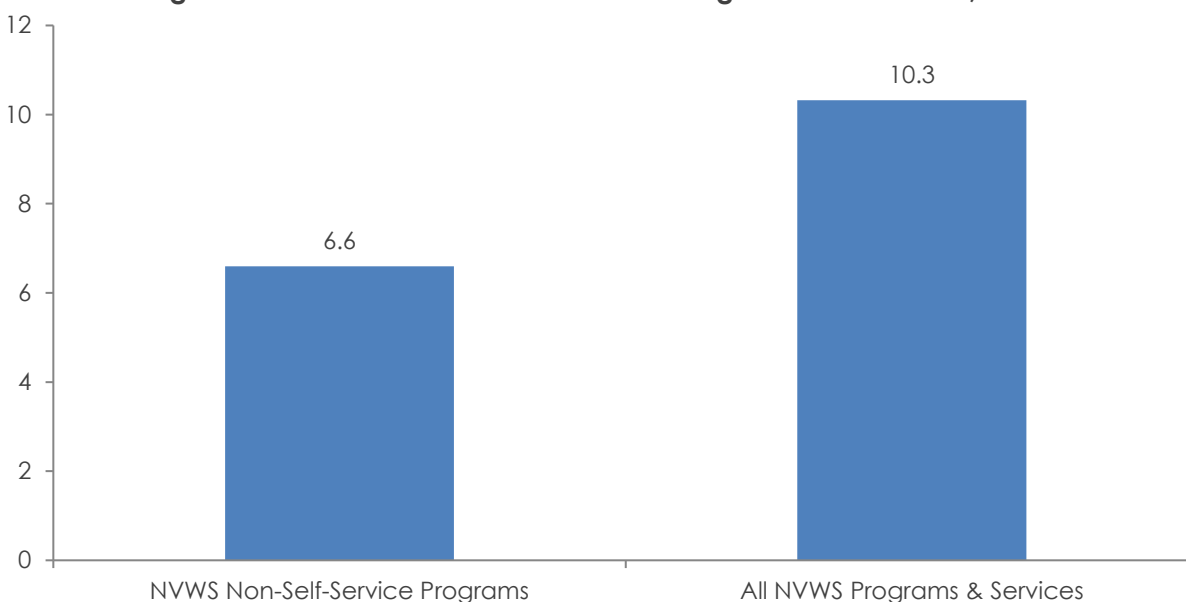
Finally, household spending by newly employed individuals also generated \$50.0 million in total economic output in the region.¹³ Household spending was responsible for generating \$2.6 million in additional state and local tax revenue, and \$4.5 million in additional federal tax revenue. Total fiscal impact was \$7.0 million in FY2017.

¹³ Economic output is typically represented by total sales (revenue) of all businesses in a region.

6. Return on Investment

In FY2017, the public costs associated with delivering NVWS programs and services were \$6.7 million.¹⁴ Comparing this cost to the benefit derived from these programs, measured in total labor income, it is estimated that the benefit-to-cost ratio is 6.6 in FY2017 for NVWS non-self-service programs. This indicates that the benefits derived from the programs are 6.6 times the public costs required to generate them (Figure 6.1).

Figure 6.1: Benefit-to-Cost Ratio of NVWS Programs and Services, FY2017



Source: Chmura

If the analysis is expanded to encompass all programs and services provided by NVWS, including One-Stop services, the benefit-to-cost ratio rose to 10.3 in FY2017, indicating that the benefits were more than ten times the public costs required to generate them.¹⁵

Those ratios estimated above only capture the annual benefits of NVWS programs and services. However, those benefits will recur in Northern Virginia each year as long as those individuals remain employed. As a result, the long-term returns on investment of NVWS programs and services can be significantly higher.

¹⁴ Source: Audit Report, Financial and Federal Award Compliance Examination, for Year Ending June 30, 2017, SkillSource Group.

¹⁵ To be consistent with prior studies, this report does not differentiate costs for One-Stop services.

7. Conclusion

In FY2017, the Northern Virginia Workforce System made significant contributions to the economy of Northern Virginia. The system was instrumental in placing 1,504 previously unemployed individuals in jobs in FY2017, and the associated household income for those was approximately \$52.2 million. The total impact of those programs and services is estimated to be 1,826 jobs in Northern Virginia, associated with \$69.6 million in total regional labor income, \$50.0 million in additional regional economic output, and \$7.0 million in state, local, and federal tax revenue.

Excluding job placements through One-Stop services, the Northern Virginia Workforce System transitioned 925 previously unemployed individuals into employment through its non-self-service programs in FY2017. The increased household income for those was approximately \$33.3 million. The total impact of those programs is estimated to be 1,131 jobs in Northern Virginia, associated with \$44.5 million in total regional labor income, \$32.0 million in additional regional economic output, and \$4.5 million in state, local, and federal tax revenue.

In FY2017, the public costs associated with all NVWS programs and services were \$6.7 million. Comparing benefits and cost of NVWS, the benefit-to-cost ratio for NVWS non-self-service programs was 6.6, while the benefit-to-cost ratio rose to 10.3 for all NVWS programs and services.

Appendix 1: Impact Analysis Glossary

IMPLAN Professional—an economic impact assessment modeling system. It allows the user to build economic models to estimate the impacts of economic changes in states, counties, or communities. It was created in the 1970s by the Forestry Service and is widely used by economists to estimate the impact of specific events on the overall economy.

Input-Output Analysis—an examination of business-business and business-consumer economic relationships capturing all monetary transactions in a given period, allowing one to calculate the effects of a change in an economic activity on the entire economy (impact analysis).

Direct Impact—economic activity generated by a project or operation. For construction, this represents activity of the contractor; for operations, this represents activity by tenants of the property.

Overhead—construction inputs not provided by the contractor.

Indirect Impact—secondary economic activity that is generated by a project or operation. An example might be a new office building generating demand for parking garages.

Induced (Household) Impact—economic activity generated by household income resulting from direct and indirect impacts.

Ripple Effect—the sum of induced and indirect impacts. In some projects, it is more appropriate to report ripple effects than indirect and induced impacts separately.

Multiplier—the cumulative impacts of a unit change in economic activity on the entire economy.

Appendix 2: The SkillSource Group, Inc. Board of Directors

(As of June 30, 2017)

Mark R. Birmingham (Finance Chair)

CFO, CIO, & Treasurer
Bainum Family Foundation

Sharon Bulova

Fairfax County Board of Supervisors

Lesley Channell

Reston Hospital/Health Care Corporation
of America

Kim Clark-Pakstys (Vice Chairman)

Strategic Organization Solutions

Debra Eshelman

Management Concepts

Karen Garvin

AHT Insurance

George Harben

Prince William County Department of
Economic Development

Rebecca Hughes

SAP Public Sector Industry Business Solutions

Peter Joyce

RTI International

Scott Price

Office of U.S. Senator Mark Warner
(Virginia)

Todd W. Rowley

Cardinal Bank

Marc Tate

Booz Allen Hamilton

William Trumbull

ICF International

Hector Velez (Chair, Officer)

Vector Talent

Appendix 3: Northern Virginia Workforce Development Board of Directors

(As of June 30, 2017)

Robert J. Bartolotta

Project Manager, New Editions Consulting

Roxana Mejia

Director of Political Affairs, IUPAT District Council 51

Stephanie Berkowitz

President, Supportive Family Service/Northern Virginia Family Service

Catherine Meloy

President/CEO, Goodwill of Greater Washington

Nannette M. Bowler

Director, Fairfax County Department of Family Services

Tara Melvin

President, The Association of Wedding Professionals of Greater Washington, DC

Patrick Brennan

Executive Director, Communities in Schools of NOVA

Donna L. Motsek

Adult Education Coordinator, Prince William Public Schools

Sharon Bulova

Chairman, Fairfax County Board of Supervisors

William Mountjoy

Chief Information Officer, AFL-CIO (Retired)

Anthony Cancelosi

President and CEO, Columbia Lighthouse for the Blind

Steven B. Partridge

Vice President of Workforce Development, Northern Virginia Community College

Joseph Carter

Chief Executive Officer, R&K Cyber Solutions LLC

Bruce Patterson

Executive Vice President/Chief Operating Officer, ServiceSource

Carlos Castro

President, Todos Supermarket

Scott Price

Director of Constituent Services, Office of Senator Mark Warner (Virginia)

Louis J. Cernak, Jr.

Former President, Northern Virginia Central Labor Council

Lesley Channell

Assistant VP, Human Resources, Reston Hospital Center HCA Virginia

Patrick Dean

President, Associated Builders and Contractors, Virginia

Beth Doyle

Supervisor of Content Competencies and Community Connection, Loudoun County Public Schools

Debra Eshelman

Managing Director, Management Concepts

Meti Fekadu

Director, Operations & Marketing
Makonnen Financial Group, LLC

Thomas Fleetwood

Director, Fairfax County Department of Housing and Community Development

Joan Fletcher

President, Winning Ways, Inc.

Mark C. Fletcher

District Manager, Virginia Department for Aging and Rehabilitative Services

Michael Forehand

Vice President, Government Relations and Counsel, Northern Virginia Chamber of Commerce

Charles Ray

Regional Director, Manpower, N.A.

Staci Redmon

President and CEO, Strategy and Management Services, Inc.

Christopher Rieley

Vice President of Commercial Lending, Access National Bank

Todd Rowley

Senior Vice President, Cardinal Bank

Fred Rubin

Chief Credit Officer, Pentagon Federal Credit Union

Gilbert Sanchez

Manager, Virginia Employment Commission

Carl Savino

President, Competitive Edge Services, Inc.

Linda Seyer

Regional Program Manager, Northern Virginia, Fairfax County Public Schools

Mary Ann Shurtz

Executive Vice President, Stratford University

Julie Simmons

Managing Director, Human Capital Strategic Consulting

Robert M. Frew

Vice President, Balfour Beatty Construction

Karen Garvin

Sales Producer, AHT Insurance

Ellen Graham

Founder, Cameron's Coffee & Chocolates

Sheryl Granzow

Adult and Community Education Administrator,
Fairfax County Public Schools

Ted Gregory

Recruiting Manager, Diamond Transportation
Services

George N. Harben

Director, Existing Business Services
Prince William County Department of Economic
Development

Patricia Harrison

Deputy County Executive, Fairfax County
Government

Oanh Henry

President, Allegra Marketing of Fairfax

Larry Hoffman

Executive Director, Marymount University Reston
Center

Luke Howe

Executive Vice President, Government Tactical
Solutions

Karen Smaw

Director, Business Diversity/Fairfax County
Economic Development

Zuzana Steen

University and Academic Relations Manager,
Micron Technology, Inc.

Crystal Thrower

Registered Apprenticeship Consultant, VA
Department of Labor and Industry

Chau Tran

President and CEO, Asian Pest Services

William Trumbull

Principal, ICF International

Hector Velez

Chief Operating Officer, Vector Talent

Michael Waddell

Managing Partner, INTEGRITYOne Partners, Inc.

Michael Wooten

Chief Learning Officer, Office of Contracting and
Procurement, District of Columbia Government

Clifford Yee

Managing Director, Raffa, PC

Christine Kallivokas

Chief Operations Officer, Northern Virginia
Technology Council

About Chmura Economics & Analytics

We have a data-driven culture. We are a group of published scientists contributing to innovations with big data analytics on the forefront of applied economics and technology solutions. We have a very diverse team of people with backgrounds such as PhD economists, statisticians, computer scientists, and transformation strategists. We serve a cross section of decision makers from the defense, government, public, and private sectors.

As data scientists, we help our clients quickly answer big data questions. We provide a reliable picture of economic trends on both a macro and micro level. Our clients rely on the historical, current, and predictive market reports we provide to cut through the confusing information they receive on a daily basis from the media, politicians, and industry resources.

Our clients view us as trusted economic advisors because we help them mitigate risk and prepare for growth by understanding the why, the how, and the what about their local economy. As the nation's preferred provider of labor market data, we help our clients understand both the demand for and the supply of available data. Our clients benefit from our expertise by better understanding their own bottom line costs, sustainability issues, and associated risks.