REGIONAL SNAPSHOT

Northern Shenandoah Valley Regional Partnership (NSVRP), Virginia

PURDUE UNIVERSITY

Center for Regional Development
Advancing Collaboration : Energizing Regions

Table of contents
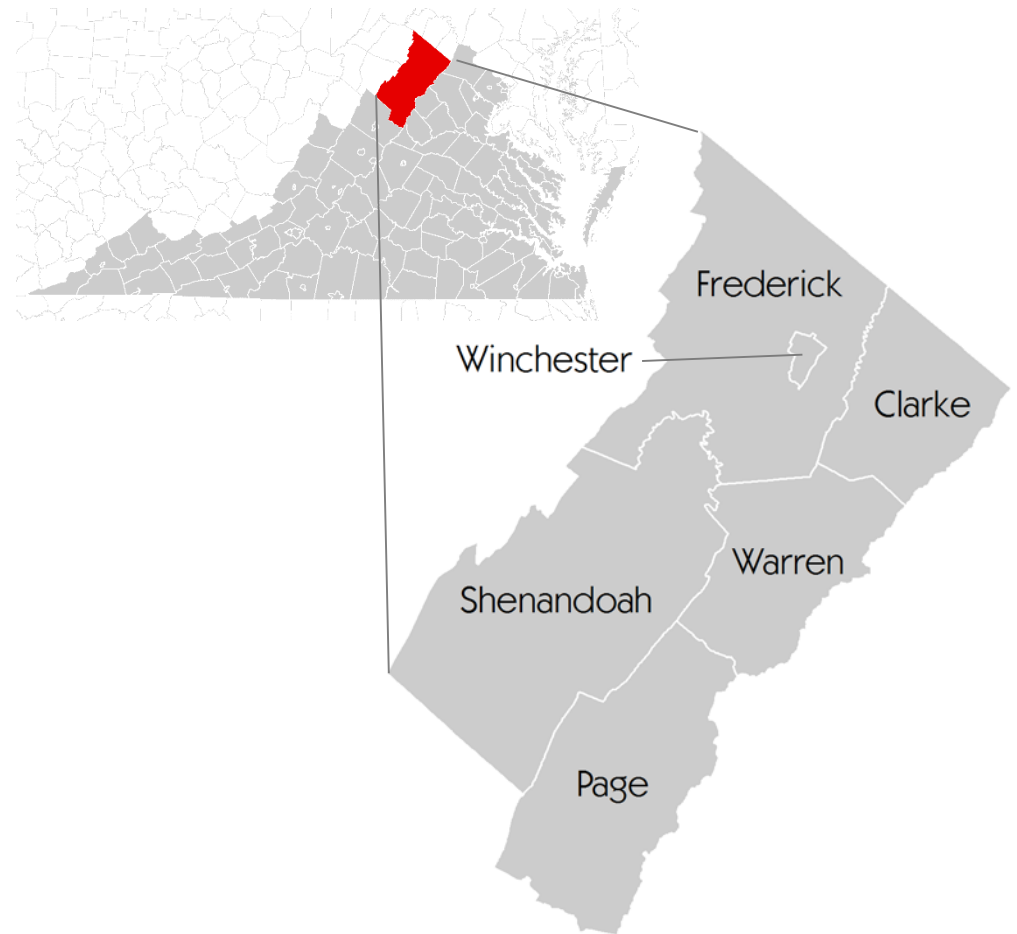
01
overview

Northern Shenandoah Valley Regional Partnership, VA

Northern Shenandoah Valley Regional Partnership (NSVRP) Region is comprised of six Virginia counties. I-81 crosses the region from south to north and connects to I-70 to the north. I-66 connects the region to Washington, DC.

- Clarke
- Frederick
- Page
- Shenandoah
- Warren
- Winchester

What is a regional snapshot?

What is the snapshot?

This snapshot is a demographic and economic assessment of the Northern Shenandoah Valley Regional Partnership (NSVRP) Region in Virginia. Using county-level data, PCRD analyzed a number of indicators to gauge the overall economic performance of the NSVRP Region in comparison to the rest of the state.

What is its purpose?

The snapshot is intended to inform the region's leaders, organizations and residents of the key attributes of the region's population and economy. In particular, it takes stock of the region's important assets and challenges. With such data in hand, regional leaders and organizations are in a better position to invest in the mix of strategies that will spur the growth of the economy and provide a higher quality of life for residents of the region.

What are its focus areas?

PCRD secured and analyzed recent data from both public and private sources to generate the snapshot. In order to build a more comprehensive picture of the region, the report presents information under four key categories.

- Demography
- Human Capital
- Labor Force
- Industry & Occupation

When appropriate or relevant, the report compares information on the region with data on the remainder of the state. By so doing, the region is better able to determine how well it is performing relative to the state on a variety of important metrics.
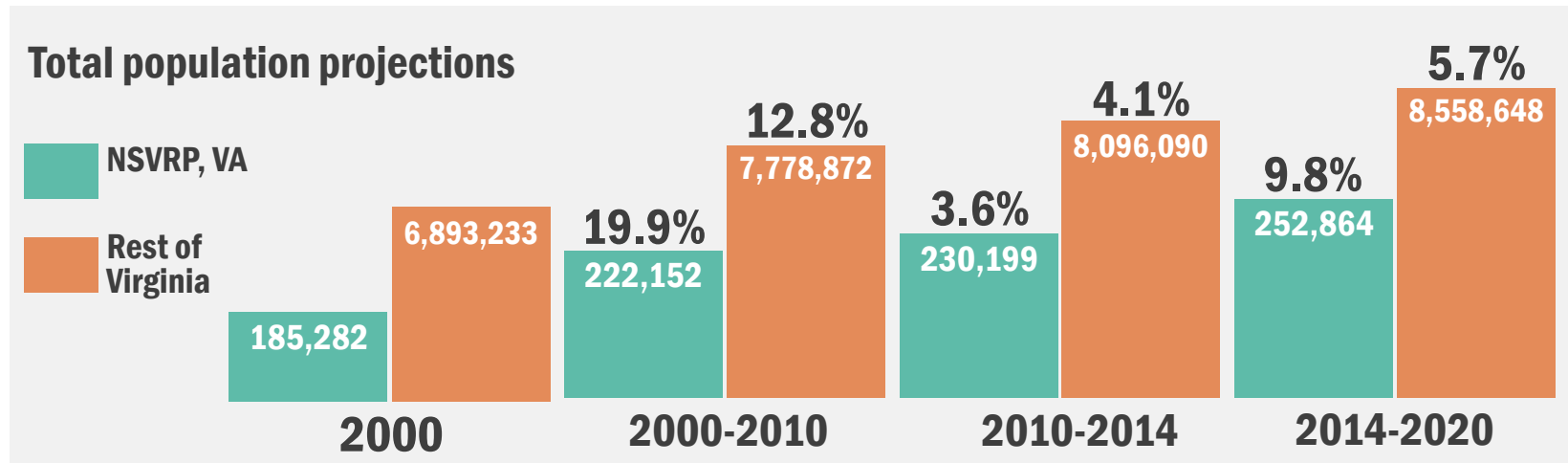
02
demography

Population change

Age structure

Income and poverty

Demography

Population change

Total population projections

- NSVRP, VA
- Rest of Virginia

	2000	2000-2010	2010-2014	2014-2020
NSVRP, VA	185,282	19.9% / 222,152	3.6% / 230,199	9.8% / 252,864
Rest of Virginia	6,893,233	12.8% / 7,778,872	4.1% / 8,096,090	5.7% / 8,558,648

Questions:

- How does the region's population trend compare to that of the state?

- What may be some of the elements driving the trends in the region? In the state?

- What strengths or challenges might these trends present?

Source: 2000 & 2010 Census, 2014 Population Estimates, and 2020 Population Projection by Demographics Research Group, Weldon Cooper Center for Public Service, University of Virginia, http://www.coopercenter.org/demographics/virginia-population-projections

Demography

Race

Ethnicity

2000

- Black 3.9%
- Asian 0.6%
- American Indian & Alaska Native 0.2%
- Native Hawaiian & Other Pacific islander 0.02%
- Two or More Races 2.3%

White 93.0%

Other 7.0%

Hispanics - 2000

2.5%

2014

- Black 4.9%
- Asian 1.3%
- American Indian & Alaska Native 0.5%
- Native Hawaiian & Other Pacific islander 0.05%
- Two or More Races 2.0%

White 91.3%

Other 8.7%

Hispanics - 2014

7.1%

section 02
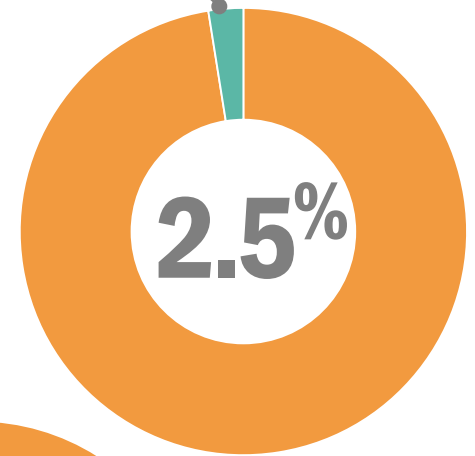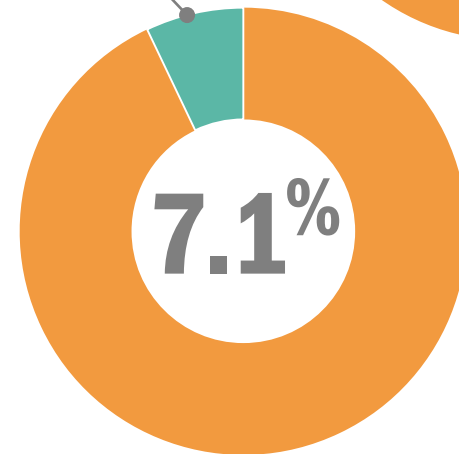
Population Age Structure, 2000

A visual presentation of the age distribution of the population (in percent)

Legend: Rest of Virginia, NSVRP

Age	Rest of Virginia	NSVRP
80+	2.7	3.2
70-79	5.2	6.3
60-69	7.1	8.6
50-59	11.7	12.4
40-49	15.8	15.7
30-39	16.3	15.7
20-29	13.9	11.3
10-19	13.9	13.6
00-09	13.5	13.1

Percent of Population

Source: 2000 Decennial Census, U.S. Census Bureau
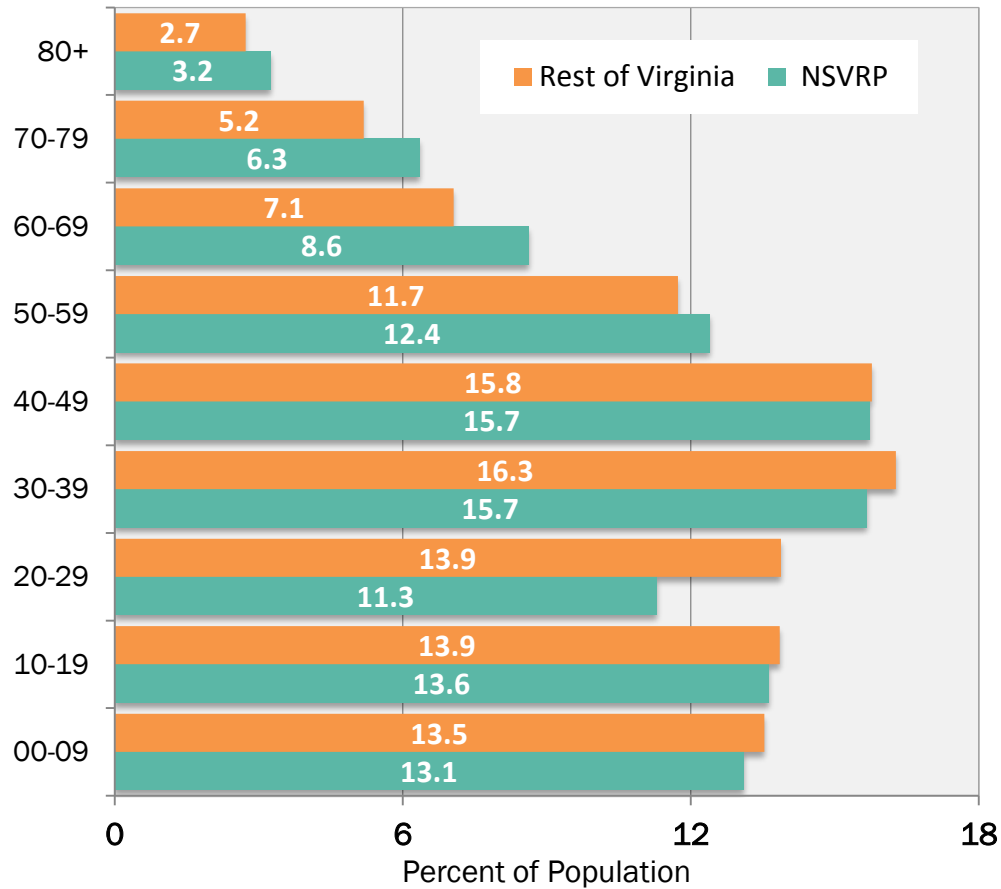
Population Age Structure, 2014

A visual presentation of the age distribution of the population (in percent)

Age	Rest of Virginia	NSVRP
80+	3.3	3.9
70-79	5.7	7.2
60-69	10.4	11.7
50-59	14.1	15.1
40-49	13.5	13.6
30-39	13.5	11.6
20-29	14.4	12.1
10-19	12.7	12.8
00-09	12.4	12.0

Percent of Population
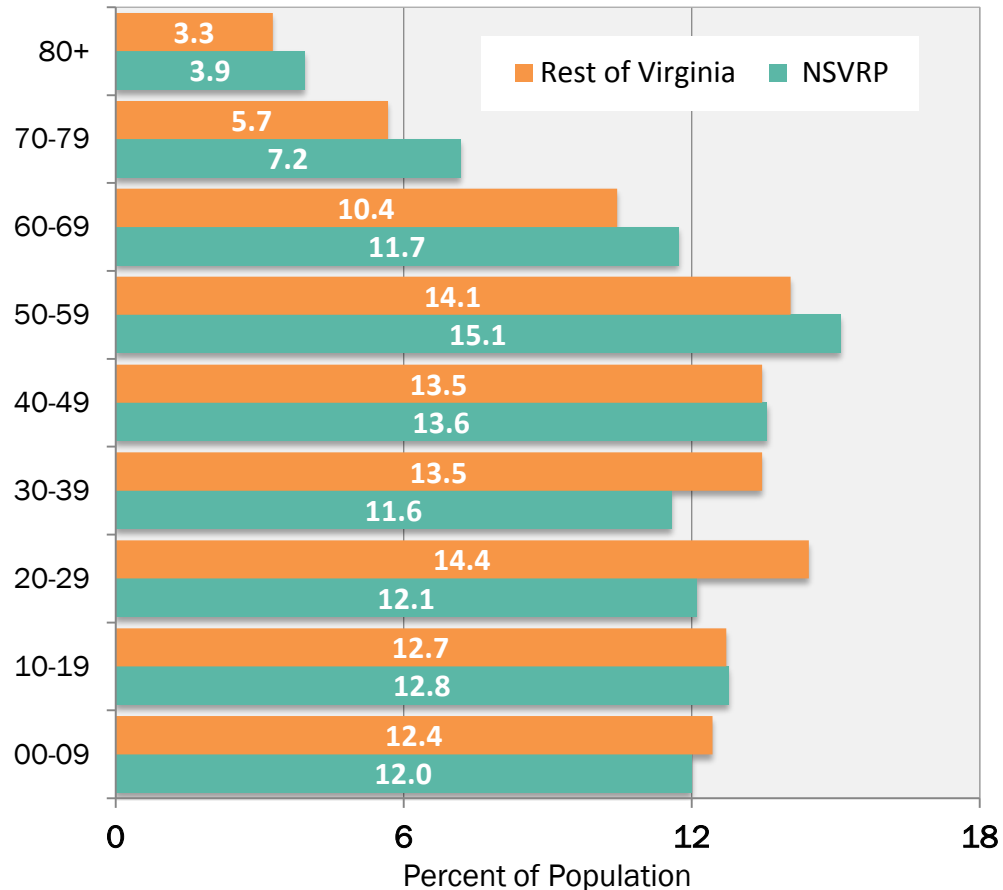
Questions:

- Is the region experiencing an aging of its population? How does this compare to the rest of the state?

- Is there a sizable number of people of prime working age (20-49 years of age) in the region?

- Is the youth population (under 20 years old) growing or declining?

- What are the implications of the region's age structure for the economic development efforts of the region?

section 02

Source: 2014 Population Estimates, U.S. Census Bureau

Income and poverty

	2003	2008	2013
Total Population in Poverty	8.9%	9.7%	10.8%
Minors (Age 0-17) in Poverty	12.4%	13.3%	16.1%
Real Median Household Income* ($ 2013)	$57,849	$58,329	$57,042

Questions:

- Is the poverty rate for individuals in the county getting better or worse?

- Is poverty for minors in the county lower or higher than the overall poverty rate for all individuals? Why?

- Has real median income (adjusted for inflation) improved or worsened over the 2003 to 2013 time period? What may be reasons for these changes?

section 02

* Note: Regional Median Household income is the population-weighted average of median household income values across the NSVRP Region counties.
Source: U.S. Census Bureau – Small Area Income and Poverty Estimates (SAIPE)
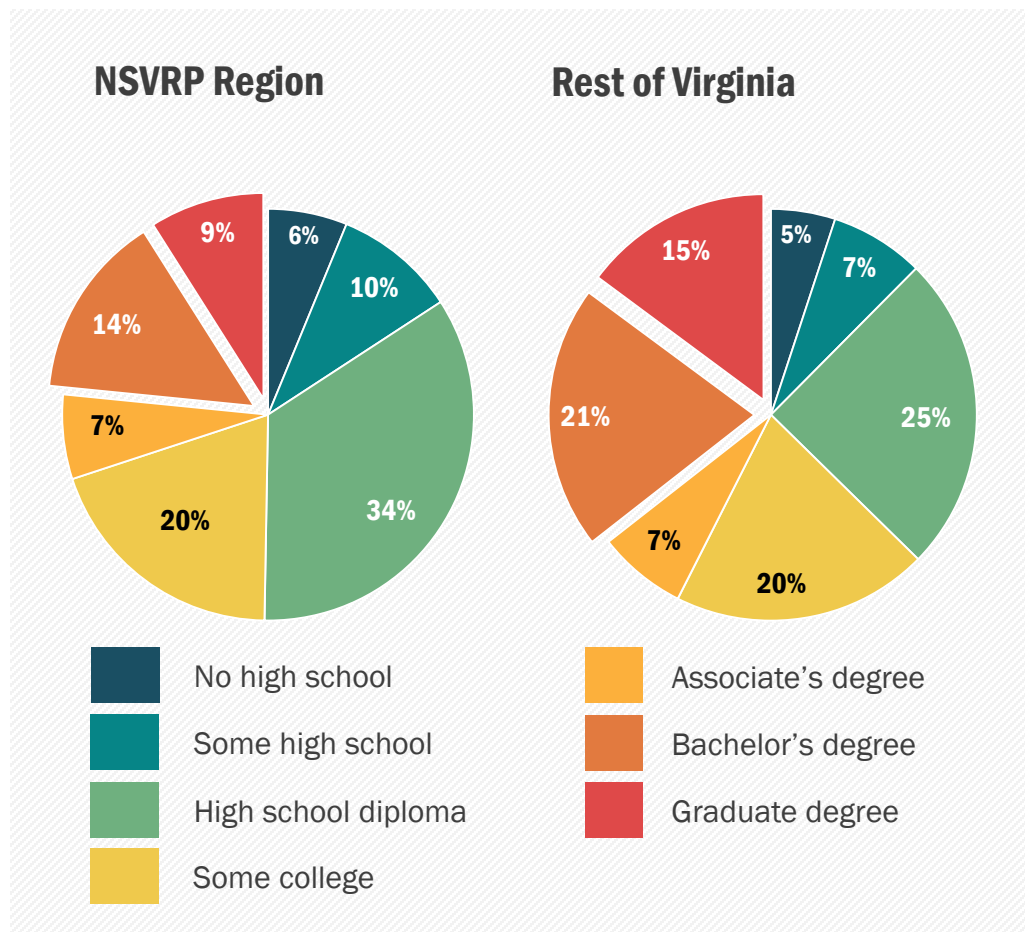
03
human
capital

Educational attainment

Patents

Educational attainment, 2013

NSVRP Region

Rest of Virginia

Legend:
- No high school
- Some high school
- High school diploma
- Some college
- Associate's degree
- Bachelor's degree
- Graduate degree

NSVRP Region values: 6%, 10%, 34%, 20%, 7%, 14%, 9%

Rest of Virginia values: 5%, 7%, 25%, 20%, 7%, 21%, 15%

Questions:

- What proportion of the adult population in the region has only a high school education?

- How many are college graduates (bachelors degree or higher)?

- How does the educational profile of the region compare to that of the rest of the state?

- What are the implications of the educational profile of the region in terms of the region's economic opportunities or workforce challenges?

Source: 2009-2013 American Community Survey 5-Year Estimates

Patents

Patents per 10,000 Jobs
2001-2013

From 2001 to 2013, NSVRP Region counties were issued patents at a rate of 1.40 per 10,000 jobs, while the remaining Virginia counties garnered 2.71 patents per 10,000 jobs.

NSVRP 1.40

Rest of Virginia 2.71

Patents per 10,000 residents
2001-2013

From 2001 to 2013, 0.86 patents per 10,000 residents were issued in NSVRP Region counties. The rest of Virginia amassed 1.65 patents per 10,000 residents.
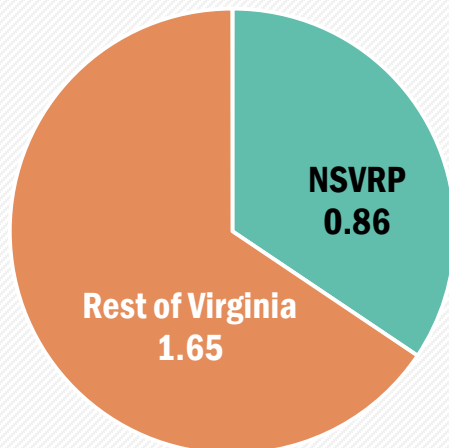
NSVRP 0.86

Rest of Virginia 1.65
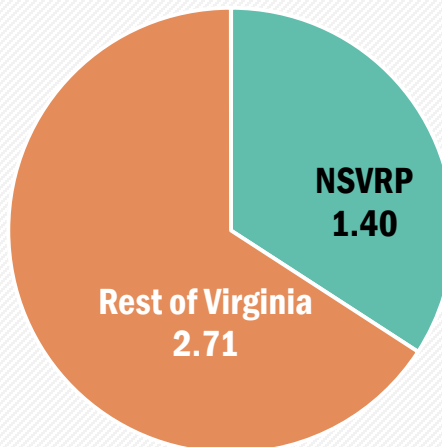
Patenting trends are an important indicator of the level of innovation in a region.

Commercializing this innovation can lead to long-term growth for regional economies.

Questions:

- How does the region's patent rate compare to that of the rest of the state?

- How have rates changed over time?

- What might this data suggest for the future of the region?

section 03

Source: U.S. Patent and Trademark Office, Census, BEA

*Note: Patent origin is determined by the residence of the first-named inventor. Since a number of workers commute into the region, the number of patents produced in the NSVRP Region could be high. However, among residents of the region, patent production is relatively low.

04
labor force

Unemployment rates
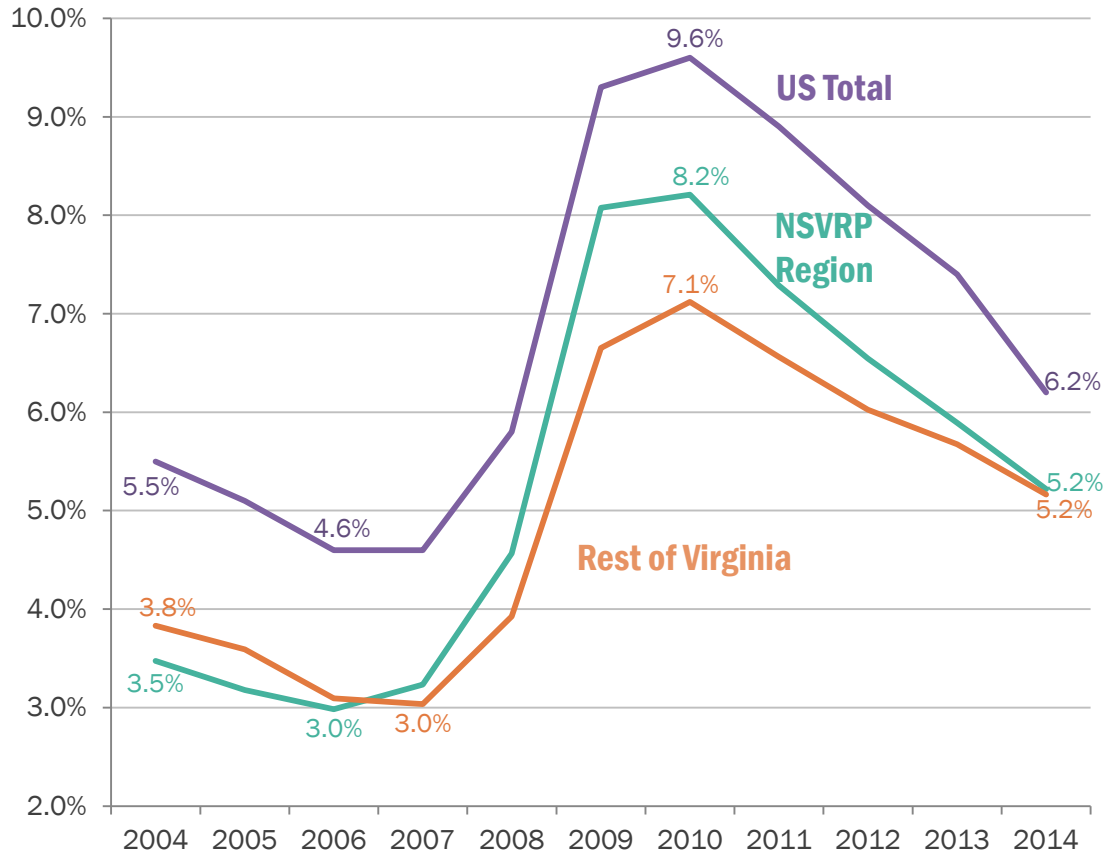
Questions:

- How does the region's unemployment rate compare to the rest of the state and nation?

- How does the region's unemployment peak and post-2009 recovery compare to the state and nation?

- What might this suggest for the region's economic future?

Source: LAUS, BLS

section 04

16

Earnings per worker in 2014

Questions:

- How does the region's average earnings compare to that of the rest of the state?

- What might be some driving factors for the differences?

- Do these represent potential strengths or challenges for the region?

NOTE: Earnings include wages, salaries, supplements and earnings from partnerships and proprietorships

NSVRP Region

Rest of State

$60,000	
$45,000	
$30,000	
$15,000	
$0	

$41,748 $55,677

Average earnings

section 04
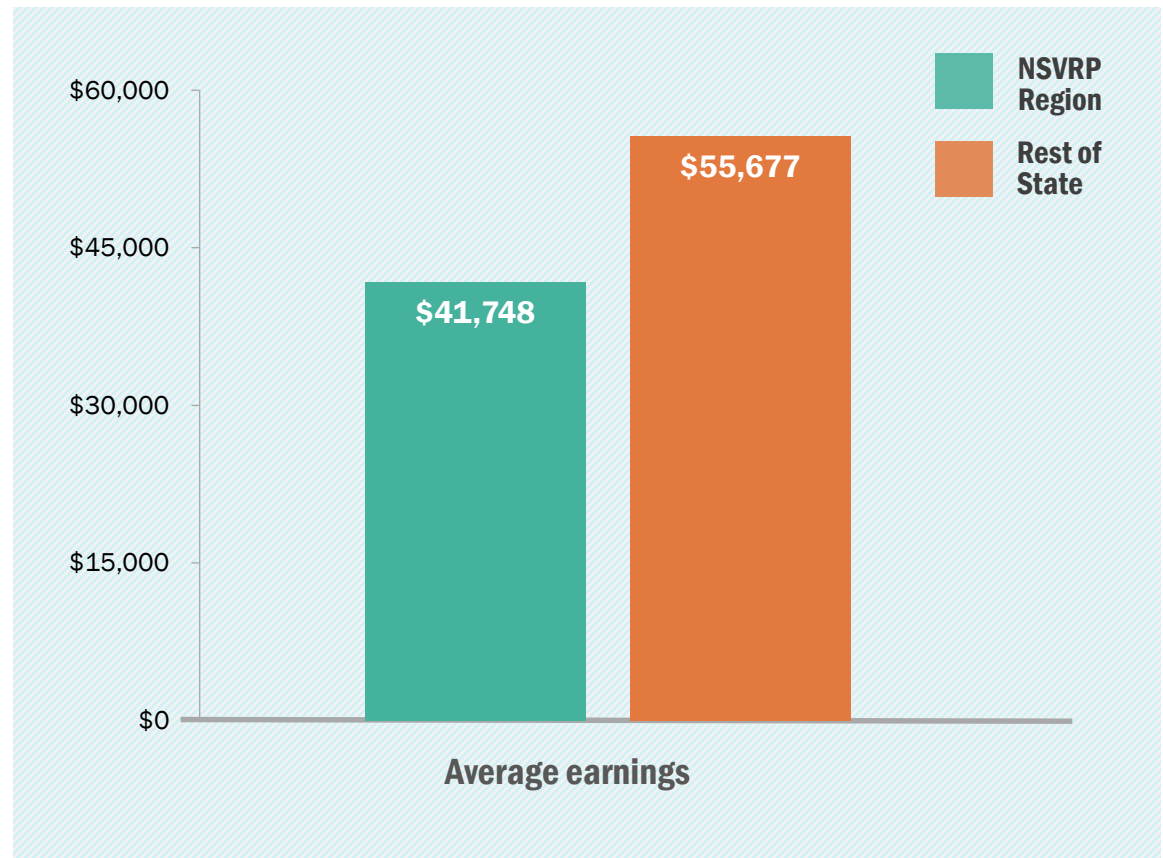
Journey to Work

In-Commuters

28,728

Same Work/ Home

55,300

Out-Commuters

49,569
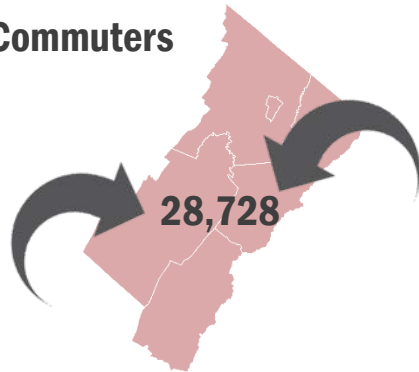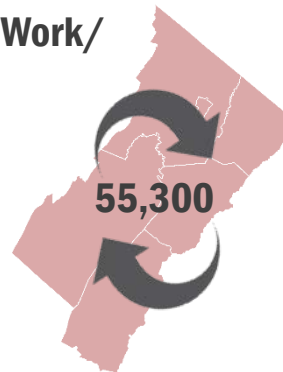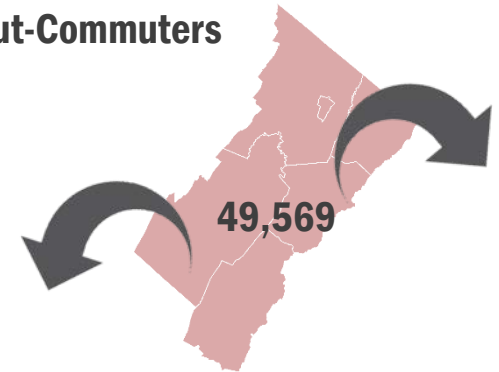
Population	2013 Jobs	Proportion
Employed in Region	84,028	100.0%
Employed in Region but Living Outside	28,728	34.2%
Employed and Living in Region	55,300	65.8%

Population	2013 Jobs	Proportion
Region Residents	104,869	100.0%
Employed Outside Region but Living in Region	49,569	47.3%
Employed and Living in Region	55,300	52.7%

Questions:
- How many people employed in the region actually reside outside the region? How many who live in the region commute to jobs outside the region?
- What are the implications for the region's economic development efforts?

section 04

Source: LEHD, OTM, U.S. Census Bureau

05
industry and occupation

Establishments

Components of Change for Establishments 2000-2011

Establishments Launched	19,583
Establishments Closed	9,562
Net Change	10,021
Net Migration (Establishments moving into minus Establishments moving out of the region)	451
Total Change	10,472
Percent Change	113.4%

An establishment is a physical business location.

Branches, standalones and headquarters are all considered types of establishments.

Definition of Company Stages

0 Self-employed

1 2-9 employees

2 10-99 employees

3 100-499 employees

4 500+ employees

section 05

Establishments

Number of Establishments by Company Stages

Stage	2000		2011	
	Establishments	Proportion	Establishments	Proportion
Stage 0	2,522	27.3%	5,178	26.3%
Stage 1	5,144	55.7%	12,710	64.5%
Stage 2	1,415	15.3%	1,661	8.4%
Stage 3	132	1.4%	144	0.7%
Stage 4	21	0.2%	13	0.1%
Total	**9,234**	**100%**	**19,706**	**100.00%**

Questions:

- What stage businesses have shaped the region's economic growth in the last 10 years?

- Which ones are growing or declining the most?

- Which stage of establishments are likely to shape the region's future economic growth?

section 05

Source: National Establishment Time Series (NETS) – 2011 Database

Establishments

Number of Jobs by Company Stages

Year	2000	2011	% Change
Stage 0	2,522	5,178	105.3%
Stage 1	18,879	36,438	93.0%
Stage 2	34,818	41,970	20.5%
Stage 3	24,060	25,551	6.2%
Stage 4	25,319	12,679	-49.9%
Total	**105,598**	**121,816**	**15.4%**

Sales ($ 2012) by Company Stages

Year	2000	2011	% Change
Stage 0	$302,852,795	$367,072,470	21.2%
Stage 1	$2,372,885,958	$2,817,471,789	18.7%
Stage 2	$4,178,101,148	$3,558,644,578	-14.8%
Stage 3	$2,991,661,550	$3,252,485,564	8.7%
Stage 4	$2,596,003,663	$1,241,081,727	-52.2%
Total	**$12,441,505,114**	**$11,236,756,128**	**-9.7%**

Questions

- What establishments are the most numerous based on company stages?

- What stages have experienced the largest growth? The greatest decline?

- What company stage employs the largest number of people?

- What stage captures the most sales?

- Which ones have experienced the greatest percentage loss over the 2000-11 period?

section 05

Top ten industry sector employment growth

NAICS	Description	2009 Jobs	2014 Jobs	Change	Change (%)	State Change (%)
52	Finance and Insurance	3,689	4,583	894	24%	14%
53	Real Estate and Rental and Leasing	5,052	6,051	999	20%	15%
56	Administrative and Support and Waste Management and Remediation Services	5,075	5,925	850	17%	9%
61	Educational Services	3,038	3,544	506	17%	13%
71	Arts, Entertainment, and Recreation	2,255	2,630	375	17%	13%
22	Utilities	240	278	38	16%	-7%
62	Health Care and Social Assistance	11,980	13,430	1450	12%	11%
55	Management of Companies and Enterprises	912	1,017	105	12%	2%
54	Professional, Scientific, and Technical Services	4,536	5,027	491	11%	2%
48	Transportation and Warehousing	4,108	4,461	353	9%	5%

Questions:
- What regional industry sectors have seen the greatest growth?
- Did they grow at the same rate as the state?
- What factors are causing the growth?

section 05

Source: EMSI Class of Worker 2014.4 (QCEW, non-QCEW, self-employed and extended proprietors)

Top six industry sector employment decline

NAICS	Description	2009 Jobs	2014 Jobs	Change	Change (%)	State Change (%)
31	Manufacturing	13,275	12,438	-837	-6%	-2%
42	Wholesale Trade	2,448	2,349	-99	-4%	-1%
23	Construction	7,894	7,590	-304	-4%	-7%
51	Information	1,233	1,196	-37	-3%	-10%
21	Mining, Quarrying, and Oil and Gas Extraction	238	234	-4	-2%	-4%
11	Crop and Animal Production	3,543	3,497	-46	-1%	-2%

Questions:
- How does the industry sector make-up of the region compare to the rest of the state?
- Which industry sectors are growing and declining the most in employment?

section 05

How to interpret cluster data results

The graph's four quadrants tell a different story for each cluster.

Contains clusters that are more concentrated in the region but are declining (negative growth). These clusters typically fall into the lower quadrant as job losses cause a decline in concentration.

Contains clusters that are more concentrated in the region and are growing. These clusters are strengths that help a region stand out from the competition. Small, high-growth clusters can be expected to become more dominant over time.

Mature
Top left
(strong but declining)

Stars
Top right
(strong and advancing)

Transforming
Bottom left
(weak and declining)

Emerging
Bottom right
(weak but advancing)

Contains clusters that are under-represented in the region (low concentration) and are also losing jobs. Clusters in this region may indicate a gap in the workforce pipeline if local industries anticipate a future need. In general, clusters in this quadrant show a lack of competitiveness.

Contains clusters that are under-represented in the region but are growing, often quickly. If growth trends continue, these clusters will eventually move into the top right quadrant. Clusters in this quadrant are considered emerging strengths for the region.

section 05

Distribution of clusters in the Region by quadrants

Industry cluster analysis

Mature Clusters

Chemicals & Chemical Based Prod (2.96; 4,142)

Forest & Wood Products (1.93; 3,190)

Transportation & Logistics (1.22; 4,438)

Printing & Publishing (1.15; 2,280)

Advanced Materials (1.09; 3,748)

Arts, Ent, Rec. & Visitor Industries (1.00; 4,734)

Primary Metal Manufacturing (1.00; 263)

Star Clusters

Agribusiness, Food Processing & Tech (2.00; 6,836)

Level of Specialization

Percent Growth in Specialization

Transforming Clusters

Mining (0.95; 324)

Biomed/Biotechnical (Life Science) (0.94; 8,468)

Fabricated Metal Product Mfg. (0.92; 867)

Energy(Fossil & Renewable) (0.86; 5,367)

Elec Equip., App & Component Mfg. (0.58; 145)

Manufacturing Supercluster (0.48; 1,891)

Information Technology & Telecom. (0.45; 2,048)

Machinery Manufacturing (0.32; 246)

Transportation Equipment Mfg. (0.20; 206)

Glass & Ceramics (0.18; 36)

Emerging Clusters

Education & Knowledge Creation (0.91; 2,447)

Apparel & Textiles (0.68; 580)

Business & Financial Services (0.67; 10,273)

Defense & Security (0.48; 2,355)

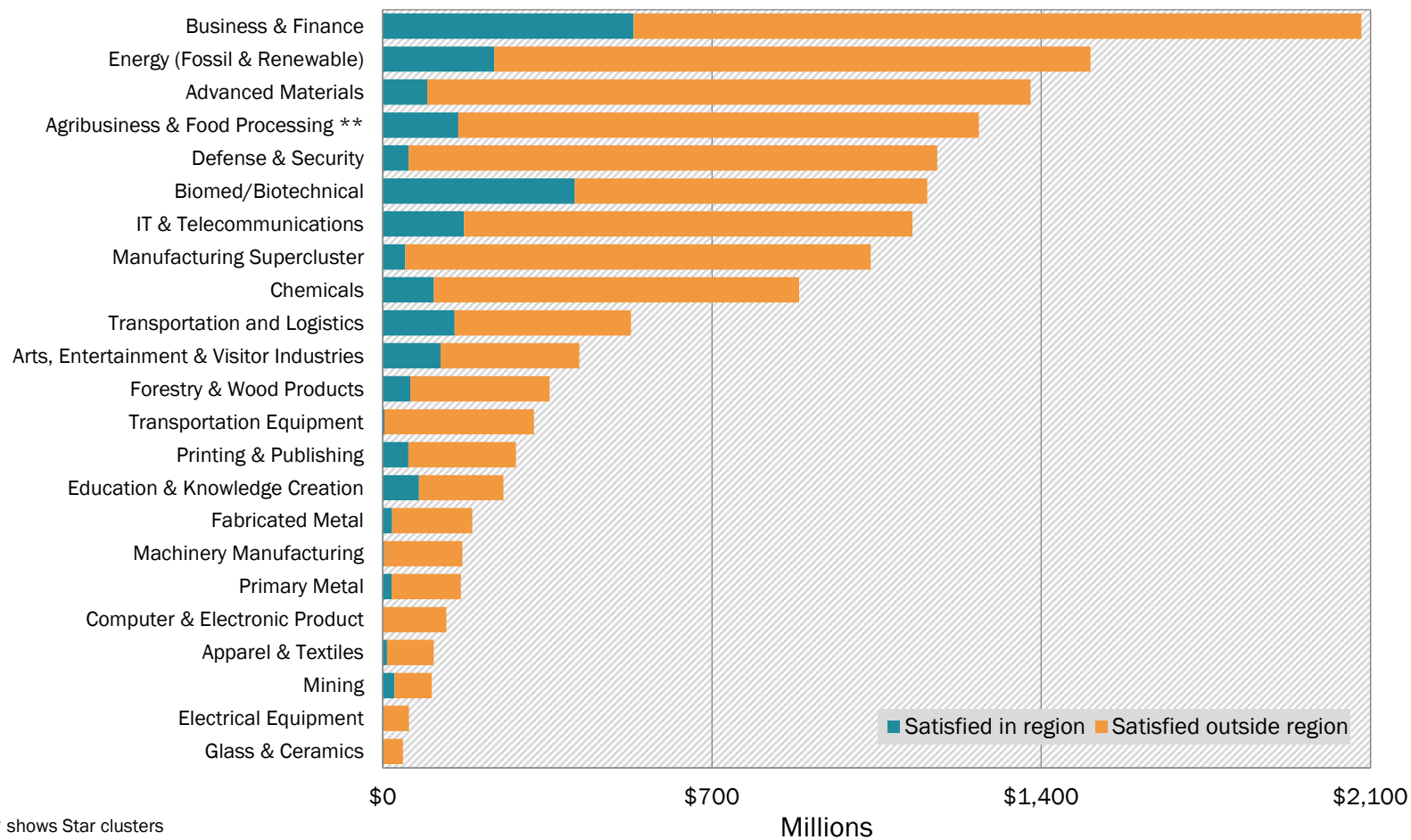Computer & Electronic Product Mfg. (0.24; 164)

Note: Glass and ceramics cluster has too few jobs.

section 02

NOTE: The first number after each cluster represents its location quotient while the second number represents the number of total jobs (full and part time jobs by place of work) in that cluster in the region in 2014. The clusters are sorted in decreasing order by location quotient.

Regional requirements, 2013

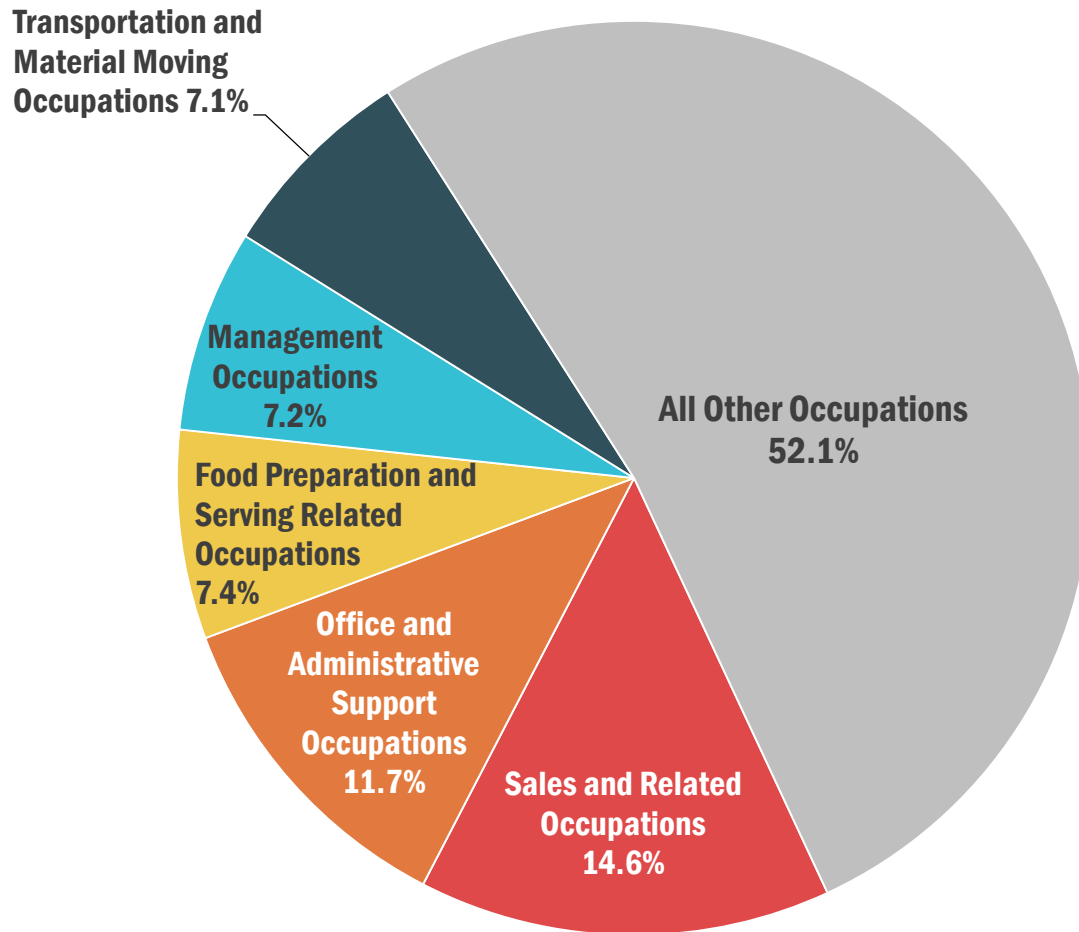|	
Business & Finance	
Energy (Fossil & Renewable)	
Advanced Materials	
Agribusiness & Food Processing **	
Defense & Security	
Biomed/Biotechnical	
IT & Telecommunications	
Manufacturing Supercluster	
Chemicals	
Transportation and Logistics	
Arts, Entertainment & Visitor Industries	
Forestry & Wood Products	
Transportation Equipment	
Printing & Publishing	
Education & Knowledge Creation	
Fabricated Metal	
Machinery Manufacturing	
Primary Metal	
Computer & Electronic Product	
Apparel & Textiles	
Mining	
Electrical Equipment	
Glass & Ceramics	

■ Satisfied in region ■ Satisfied outside region

$0 $700 $1,400 $2,100

Millions

Note: ** shows Star clusters

section 05

Top five occupations in 2014

Transportation and Material Moving Occupations 7.1%

Management Occupations 7.2%

Food Preparation and Serving Related Occupations 7.4%

Office and Administrative Support Occupations 11.7%

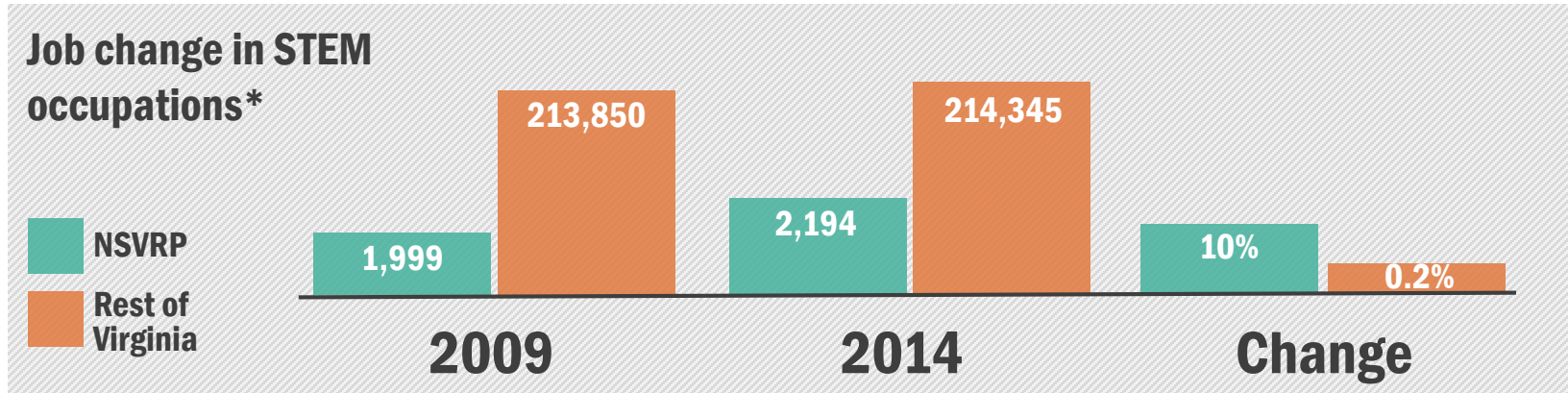**Sales and Related Occupations 14.6%**

All Other Occupations 52.1%

Questions:

- What are the education and skill requirements for these occupations?

- Do the emerging and star clusters align with the top occupations?

- What type salaries do these occupations typically provide?

section 05

Source: EMSI Class of Worker 2014.4 (QCEW, non-QCEW, self-employed and extended proprietors)

Industry and occupation

Science, Technology, Engineering & Math

Job change in STEM occupations*

- NSVRP
- Rest of Virginia

	2009	2014	Change
NSVRP	1,999	2,194	10%
Rest of Virginia	213,850	214,345	0.2%

Questions:

- How do STEM jobs compare to the state?

- What has been the trend of STEM jobs over time?

- How important are STEM jobs to the region's Star and Emerging clusters?

*Note: STEM and STEM-related occupation definitions from BLS (2010)

section 05

Source: EMSI Class of Worker 2014.4 (QCEW, non-QCEW, self-employed and extended proprietors)

Report Contributors

This report was prepared by the Purdue Center for Regional Development, in partnership with the Southern Rural Development Center and USDA Rural Development, in support of the Stronger Economies Together program.

Report Authors
Bo Beaulieu, PhD
Indraneel Kumar, PhD
Andrey Zhalnin, PhD

Data Analysis
Ayoung Kim

Report Design
Tyler Wright

The Purdue Center for Regional Development (PCRD) seeks to pioneer new ideas and strategies that contribute to regional collaboration, innovation and prosperity.

For more information,
please contact:

Dr. Bo Beaulieu,
PCRD Director:
ljb@purdue.edu

Or

765-494-7273

November 2015