SET Overview and Exploration of Regional Data

Mount Rogers: Session 1
Introductions

What is skill, experience, and/or talent will you contribute to support a successful discussion?
Today, we will . . .

- Lay the foundation for SET work together
- Review the *Regional SET Civic Forum*
- Explore the **regional economic data:**
  - Regional industry clusters
  - Employment and occupation
- Chart the next steps
The SET States

32 States Total - 13 states in 2015 including
Illinois, Indiana, Iowa, Louisiana, Michigan, Missouri,
Nebraska, New Mexico, North Carolina, North Dakota,
Oklahoma, South Dakota, Virginia
Purpose of SET: Doing Better Together

Guide the Regional Team in developing and implementing a High Quality Regional Economic Development Plan that builds on the region’s current and emerging economic strengths.
# The SET Partners

## Mount Rogers Region: State Resource Team

<table>
<thead>
<tr>
<th>USDA Rural Development</th>
<th>Virginia Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Basil Gooden, Janice Stroud-Bickes, Anne Herring, Craig Barbrow, David Foster, Dr. Kasey Martin</td>
<td>Steve Gaylean &amp; Sandra Tanner</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Office of the Secretary of Commerce and Trade</th>
<th>Virginia Economic Development Partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Rae Carter</td>
<td>Liz Povar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Virginia Department of Housing &amp; Community Development</th>
<th>Virginia Cooperative Extension – Virginia Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug Jackson &amp; Michelle Jones</td>
<td>Dr. Ed Jones, Dr. Jim Pease, Dr. Mike Lambur, &amp; Dr. Martha Walker</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Virginia Rural Center</th>
<th>Virginia Tech Office of Economic Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christy Morton</td>
<td>Scott Tate</td>
</tr>
</tbody>
</table>

## National Team

- USDA
- SRDC
- Purdue University Center for Regional Development (PCRDC)
High Quality Plan: Essential Components

Team’s Regional Plan

- Evidence-Based
- Practical
- Aligned with Goals
- Broadly Supported
- Focused on Regional Economic Development
Building Shared Expectations

Collaborating

Cooperating

Coordinating

Networking

Effectiveness

Trust
Guiding Principles for Our Discussions

• Enter into the discussion enthusiastically.
• Give freely of your experience.
• Allow and encourage others to contribute.
• Listen attentively and take accurate notes.
• Ask questions when you don’t understand.
• Appreciate the other person’s point of view.
• Provide constructive feedback and receive it willingly.
• Keep confidences and assume others will.
• Confine your discussion to the topic.
• Think Regionally
• Be personally detached – open to ideas
Round I: Forum Review
Civic Engagement Forum Review

• Regional Strengths & Challenges

• Data Snapshot Reactions

• Opportunities
Mount Rogers Region: Strengths

Top Strengths

• Cultural/natural resources related to recreation and eco-tourism including arts

• Variety of organizations and agencies offering resources to support area

• Utility infrastructure is second to none

Other Strengths:

• Quality of life with low cost of living

• Strong sense of community with passionate individuals

• Accessibility related to geographic area

• Local and resilient workforce with strong work ethic

• Educational opportunities
Mount Rogers Region: Challenges

Top Challenges:
• Lack of unified approach has created an overlap in planning and access to resources
• Stigma of technical education or obtaining “just” a two-year degree
• Inability to accept reality and/or change
• Poverty still exists and families are locked into it
• Talent attraction
• Wi-fi and cell services availability affects information infrastructure
• Connecting the dots (workforce and education) → interest and skills to jobs

Other Challenges:
• Moving/aging populations creates a “brain drain” with talent leaving the region
• Access to education (educational opportunities are available but not accessible to everyone)
• Workforce issues including underemployment and availability of skilled workers
• Lack of access to transportation and internet in remote areas
• Substance abuse affects business, families, and the community
• Plant/company closures
• Lack of high paying jobs
• “the Nothing to do” mentality (amenities and job opportunities)
Mount Rogers Region: Opportunities

Communication/Network
- Increase coordination between agencies—like SET
- Increase dialog among stakeholders
- Workforce Development and economic development entities work collaboratively and meet quarterly
- Leadership/facilitation—enhance ways to work together
- Models of cooperation
- 2020 Summit—Collective Impact—Strive to work together

Workforce/Education
- Upcoming Sector Strategy Initiative
- Changing perception of technical education
- Develop workforce to meet current and emerging careers
- Match education with current and future vocational employment needs
- Connect K-12 education system with workforce pipeline
- Get offenders/drug addicts a change—help them instead of punishing them

Awareness/Education
- Educate K-12 students about region and opportunities
- Educate parents and teachers to funnel students in the right direction
- Mentoring poverty stricken families
- $300 million from Tobacco Commission and invest it in students and youth

Entrepreneurship
- Strong correlation between technical skills and entrepreneurship

Economic Strategies
- Reclaim coal mines and use methane gases to grow herbs such as Grow Chinese medicinal herbs (Ginseng, etc.) and export to China
- Double down on agriculture—keep locally grown products local
- Manufacture outdoor recreation products for outfitters

Rebrand Region
- Opportunity to rebrand and correct the stereotypes both internally and externally associated with Appalachia
Where Mount Rogers Region would invest . . .

• Workforce/Education
• Awareness Education
• (tie) Entrepreneurship
• (tie) Rebrand region
Community Challenge

Finding from your discussions on regional economic growth . . .

Who did you interview?

What did you discover?
Round II: Economic Data
Data Scavenger Hunt: Thriving Businesses

- Number of employees
- Workforce skills needed
- Type of business (i.e. manufacturing, retail, health services)
- Average earnings
- County

- Size
  - Large = over 100 employees
  - Small = under 100
- Other businesses/industries for which it is providing support
Round III: Explain, Examine, and Explore
05 industry and occupation

- Establishments
- Employment by industry
- Cluster analysis
- Top occupations
- STEM occupations
Establishments
Establishments

An establishment is a physical business location. Branches, standalones and headquarters are all considered types of establishments.

**Definition of Company Stages**

0  1  2  3  4

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-employed</td>
<td>2-9 employees</td>
<td>10-99 employees</td>
<td>100-499 employees</td>
<td>500+ employees</td>
</tr>
</tbody>
</table>

Source: National Establishment Time Series (NETS) - 2011 Database
## Establishments

### Components of Change for Establishments 2000-2011

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishments Launched</td>
<td>14,037</td>
</tr>
<tr>
<td>Establishments Closed</td>
<td>7,575</td>
</tr>
<tr>
<td>Net Change</td>
<td>6,462</td>
</tr>
<tr>
<td>Net Migration (moving in minus moving out)</td>
<td>267</td>
</tr>
<tr>
<td>Total Change</td>
<td>6,729</td>
</tr>
</tbody>
</table>

**Note:** In-migration and Out-migration includes movement within the Mt Rogers region.

Source: National Establishment Time Series (NETS) – 2011 Database
## Industry and occupation

### Establishments

#### Number of Establishments by Company Stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Establishments</th>
<th>Proportion</th>
<th>Establishments</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td></td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>Stage 0</td>
<td>1,969</td>
<td>24.5%</td>
<td>4,340</td>
<td>29.4%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>4,594</td>
<td>57.2%</td>
<td>8,874</td>
<td>60.1%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1,321</td>
<td>16.4%</td>
<td>1,405</td>
<td>9.5%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>135</td>
<td>1.7%</td>
<td>136</td>
<td>0.9%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>18</td>
<td>0.2%</td>
<td>11</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>8,037</td>
<td>100%</td>
<td>14,766</td>
<td>100%</td>
</tr>
</tbody>
</table>

### 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?
### Establishments

**Number of Jobs by Company Stages**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Year 2000</th>
<th>Year 2011</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>1,969</td>
<td>4,340</td>
<td>120%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>17,431</td>
<td>26,559</td>
<td>52%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>33,686</td>
<td>37,810</td>
<td>12%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>26,886</td>
<td>26,949</td>
<td>0.2%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>12,335</td>
<td>9,322</td>
<td>-24%</td>
</tr>
<tr>
<td>Total</td>
<td>92,307</td>
<td>104,980</td>
<td>13.7%</td>
</tr>
</tbody>
</table>

**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?

**Sales ($ 2013) by Company Stages**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Year 2000</th>
<th>Year 2011</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>225,789,198</td>
<td>292,057,777</td>
<td>29%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>2,435,780,242</td>
<td>2,185,013,625</td>
<td>-10%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>3,756,403,934</td>
<td>3,162,230,055</td>
<td>-16%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>3,481,543,625</td>
<td>2,994,336,968</td>
<td>-14%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>2,368,702,860</td>
<td>1,485,804,652</td>
<td>-37%</td>
</tr>
<tr>
<td>Total</td>
<td>12,268,219,860</td>
<td>10,119,443,077</td>
<td>-18%</td>
</tr>
</tbody>
</table>
## Mt Rogers PDC
### Census of Agriculture 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms</td>
<td>5452</td>
</tr>
<tr>
<td>Farms by Sales less than $100K</td>
<td>4968</td>
</tr>
<tr>
<td>Farms by Sales $100K and over</td>
<td>484</td>
</tr>
<tr>
<td>Land in Farms (acres)</td>
<td>882,791</td>
</tr>
<tr>
<td>Total Sales ($)</td>
<td>$270,291,000</td>
</tr>
<tr>
<td>Crop Sales ($)</td>
<td>$35,524,000</td>
</tr>
<tr>
<td>Livestock Sales ($)</td>
<td>$234,767,000</td>
</tr>
<tr>
<td>Net Cash Farm Income ($)</td>
<td>$24,691,000</td>
</tr>
</tbody>
</table>
## Industry and occupation

### Top industry sector employment growth

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>2009 Jobs</th>
<th>2014 Jobs</th>
<th>Change</th>
<th>Change (%)</th>
<th>State Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>Real Estate and Rental and Leasing</td>
<td>2,439</td>
<td>2,970</td>
<td>531</td>
<td>22%</td>
<td>15%</td>
</tr>
<tr>
<td>52</td>
<td>Finance and Insurance</td>
<td>2,874</td>
<td>3,339</td>
<td>465</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>61</td>
<td>Educational Services</td>
<td>1,200</td>
<td>1,272</td>
<td>72</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>31</td>
<td>Manufacturing</td>
<td>14,286</td>
<td>14,666</td>
<td>380</td>
<td>3%</td>
<td>-2%</td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
<td>7,084</td>
<td>7,299</td>
<td>215</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>54</td>
<td>Professional, Scientific, and Technical Services</td>
<td>2,327</td>
<td>2,394</td>
<td>67</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>62</td>
<td>Health Care and Social Assistance</td>
<td>9,152</td>
<td>9,290</td>
<td>138</td>
<td>2%</td>
<td>11%</td>
</tr>
<tr>
<td>90</td>
<td>Government</td>
<td>15,262</td>
<td>15,449</td>
<td>187</td>
<td>1%</td>
<td>-0.2%</td>
</tr>
</tbody>
</table>

### 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?
## Industry and occupation

### Top industry sector employment decline

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>2009 Jobs</th>
<th>2014 Jobs</th>
<th>Change</th>
<th>Change (%)</th>
<th>State Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Utilities</td>
<td>217</td>
<td>113</td>
<td>-104</td>
<td>-48%</td>
<td>-7%</td>
</tr>
<tr>
<td>21</td>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
<td>739</td>
<td>553</td>
<td>-186</td>
<td>-25%</td>
<td>-4%</td>
</tr>
<tr>
<td>56</td>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>4,259</td>
<td>3,474</td>
<td>-785</td>
<td>-18%</td>
<td>9%</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
<td>5,361</td>
<td>4,526</td>
<td>-835</td>
<td>-16%</td>
<td>-7%</td>
</tr>
<tr>
<td>51</td>
<td>Information</td>
<td>819</td>
<td>749</td>
<td>-70</td>
<td>-9%</td>
<td>-10%</td>
</tr>
<tr>
<td>48</td>
<td>Transportation and Warehousing</td>
<td>2,747</td>
<td>2,558</td>
<td>-189</td>
<td>-7%</td>
<td>5%</td>
</tr>
<tr>
<td>81</td>
<td>Other Services (except Public Administration)</td>
<td>5,175</td>
<td>4,941</td>
<td>-234</td>
<td>-5%</td>
<td>9%</td>
</tr>
<tr>
<td>42</td>
<td>Wholesale Trade</td>
<td>2,576</td>
<td>2,458</td>
<td>-118</td>
<td>-5%</td>
<td>-1%</td>
</tr>
<tr>
<td>44</td>
<td>Retail Trade</td>
<td>12,275</td>
<td>11,774</td>
<td>-501</td>
<td>-4%</td>
<td>4%</td>
</tr>
<tr>
<td>11</td>
<td>Crop and Animal Production</td>
<td>5,662</td>
<td>5,615</td>
<td>-47</td>
<td>-1%</td>
<td>-2%</td>
</tr>
</tbody>
</table>

### 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?
Exploring Industry Clusters
Clusters Defined

Similar and related firms in a defined geographic area that share:

• Common markets
• Technologies
• Worker skill needs
• Buyer-seller relationships
Clusters: Characteristics and Comparisons

- **Size**: Jobs, revenues
- **Specialization**: Proportion of employment relative to average
- **Growth**: Employment, revenue growth rate relative to average
- **Depth**: Proportion of good/service value that is exported
- **Breadth**: Of cluster segments in national/global industry
- **Dynamism**: Degree of company formation and survival
- **Stage of Life Cycle**: Evolution over time
Example Cluster

Industry and occupation
LIST OF CLUSTERS in SET

- Advanced Materials
- Agribusiness, Food Processing & Technology
- Apparel & Textiles
- Arts, Entertainment, Recreation & Visitor Industries
- Biomedical/Biotechnical (Life Sciences)
- Business & Financial Services
- Chemicals
- Computer & Electronic Product Manufacturing
- Defense & Security
- Education & Knowledge Creation
- Electrical Equip, Appliance & Component Manufacturing
- Fabricated Metal Product Manufacturing
- Energy (Fossil & Renewable)
- Forest & Wood Products
- Glass & Ceramics
- Information Technology & Telecommunications
- Machinery Manufacturing
- Manufacturing Super-cluster
- Mining
- Primary Metal Manufacturing
- Printing & Publishing
- Transportation & Logistics
- Transportation Equipment Manufacturing
Clusters by Job Concentration and Job Growth

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

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.

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 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.

**Industry cluster analysis**

### Mature Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Level of Specialization</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Equip, App. &amp; Comp. Mfg.</td>
<td>5.56; 1,110</td>
<td></td>
</tr>
<tr>
<td>Machinery Mfg.</td>
<td>2.99; 1,826</td>
<td></td>
</tr>
<tr>
<td>Glass &amp; Ceramics</td>
<td>2.59; 411</td>
<td></td>
</tr>
<tr>
<td>Forest &amp; Wood Products</td>
<td>1.92; 2,537</td>
<td></td>
</tr>
<tr>
<td>Fabricated Metal Product Mfg.</td>
<td>1.46; 1,100</td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>1.12; 308</td>
<td></td>
</tr>
</tbody>
</table>

### Star Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Level of Specialization</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Equipment Mfg.</td>
<td>4.23; 3,430</td>
<td></td>
</tr>
<tr>
<td>Manufacturing Supercluster</td>
<td>2.55; 7,998</td>
<td></td>
</tr>
<tr>
<td>Agribusiness &amp; Food Processing</td>
<td>2.43; 6,666</td>
<td></td>
</tr>
<tr>
<td>Apparel &amp; Textiles</td>
<td>2.38; 1,621</td>
<td></td>
</tr>
<tr>
<td>Chemicals &amp; Chemical Based</td>
<td>2.24; 2,518</td>
<td></td>
</tr>
<tr>
<td>Advanced Materials</td>
<td>1.22; 3,350</td>
<td></td>
</tr>
<tr>
<td>Primary Metal Mfg.</td>
<td>1.03; 217</td>
<td></td>
</tr>
</tbody>
</table>

### Emerging Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Level of Specialization</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer &amp; Electron. Product Mfg.</td>
<td>0.57; 315</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Financial Service</td>
<td>0.49; 6,000</td>
<td></td>
</tr>
</tbody>
</table>

### Transforming Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Level of Specialization</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (Fossil &amp; Renewable)</td>
<td>0.98; 4,909</td>
<td></td>
</tr>
<tr>
<td>Transportation &amp; Logistics</td>
<td>0.88; 2,585</td>
<td></td>
</tr>
<tr>
<td>Biomedical/Biotechnical</td>
<td>0.80; 5,769</td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Entertainment</td>
<td>0.7; 2,653</td>
<td></td>
</tr>
<tr>
<td>Defense &amp; Security</td>
<td>0.53; 2,081</td>
<td></td>
</tr>
<tr>
<td>Edu. &amp; Knowledge</td>
<td>0.53; 1,138</td>
<td></td>
</tr>
<tr>
<td>IT &amp; Telecommunication</td>
<td>0.52; 1,885</td>
<td></td>
</tr>
<tr>
<td>Printing &amp; Publishing</td>
<td>0.36; 580</td>
<td></td>
</tr>
</tbody>
</table>

**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.
Economic “Leakages”

In economic development terms, an economic leakage is money spent outside the regional economy.

If some leakages can be efficiently and effectively “plugged,” then clusters may become stronger and more economic growth occur.
Industry Clusters: Leakages

Regional requirements, 2013

Note: ** shows Star clusters

Source: EMSI 2014.4 (QCEW Employees, Non-QCEW Employees, Self-Employed, and Extended Proprietors); Industry cluster definitions by PCRD
Workforce Data

• What are the region’s unemployment trends?

• Are more people commuting into the region or commuting out?

• How do regional earnings compare to the state or nation?
Top five occupations in 2014

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?

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

Based on the assets of the region and current industrial trends...

What clusters should this region explore further?

What do we want to know?
Reality Check and Next Steps

Did the data reveal:

- Any new opportunities that should be considered?
- The need to eliminate previously considered opportunities?
- New partners that need to be included in the planning process.
Actions: Begin Writing the Plan

• Describe and summarize the Civic Engagement Forum process and results.

• Summarize key strengths and challenges based on the data

• Describe the selected clusters:
  • Why were these clusters selected for further exploration?
  • What are the strengths and challenges associated with the selected clusters?
  • Which suggested opportunities are associated with each selected cluster?
Reflections