THE BROADBAND AVAILABILITY AND ADOPTION STRATEGIC PLAN FOR THE SOUTHWEST MISSOURI REGION

Developed by
The Southwest Missouri Regional Technology Planning Team

April 2012
MEMBERS OF THE SOUTHWEST MISSOURI REGIONAL TECHNOLOGY PLANNING TEAM

<table>
<thead>
<tr>
<th>Sector</th>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Wesley Tucker</td>
<td>Agriculture Business Specialist</td>
<td>Polk County Extension Center</td>
</tr>
<tr>
<td>Work Force Development</td>
<td>Bill Dowling</td>
<td>Director</td>
<td>Missouri Career Center</td>
</tr>
<tr>
<td>Work Force Development</td>
<td>Sherry Coker</td>
<td>Workforce Development Business Manager</td>
<td>Ozarks Technical Community College</td>
</tr>
<tr>
<td>Public Schools</td>
<td>Dan Swadley</td>
<td>Teacher</td>
<td>Republic R-III Schools</td>
</tr>
<tr>
<td>Higher Education</td>
<td>Jeff Morrissey</td>
<td>Chief Information Officer</td>
<td>Missouri State University</td>
</tr>
<tr>
<td>Higher Education</td>
<td>Mark Harsen</td>
<td>Networking Services</td>
<td>Missouri State University</td>
</tr>
<tr>
<td>Libraries</td>
<td>Regina Cooper</td>
<td>Executive Director</td>
<td>Springfield-Greene County Library</td>
</tr>
<tr>
<td>Libraries</td>
<td>Gay Wilson</td>
<td>Planning and Development Librarian</td>
<td>Springfield-Greene County Library</td>
</tr>
<tr>
<td>Health Care</td>
<td>Dan Brewer</td>
<td>Director of Communications</td>
<td>CoxHealth Systems</td>
</tr>
<tr>
<td>Professional</td>
<td>Lisa Bernet</td>
<td>Owner</td>
<td>Bernet Investments</td>
</tr>
<tr>
<td>Police/Emergency Services</td>
<td>Sean Barnwell</td>
<td>Sergeant</td>
<td>Branson Police</td>
</tr>
<tr>
<td>Local Government</td>
<td>Nancy Edson</td>
<td>City Administrator</td>
<td>City of Rogersville</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Cy Murray</td>
<td>Community Development Manager</td>
<td>White River Electric</td>
</tr>
<tr>
<td>Tourism</td>
<td>Dave Edwards</td>
<td>Director-Safety, Security &amp; Health Services</td>
<td>Silver Dollar City</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Gena Ross</td>
<td>Asst. Executive Director</td>
<td>Missouri Association of Manufacturers</td>
</tr>
</tbody>
</table>
Southwest Missouri RTPT Members

<table>
<thead>
<tr>
<th>Sector</th>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizen</td>
<td>Natasha Longpine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Provider</td>
<td>Bill Fallin</td>
<td>Vice President/General Manager</td>
<td>CenturyLink</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Todd Murren</td>
<td>Director</td>
<td>Springnet</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Mike Haynes</td>
<td>Regional Director</td>
<td>AT&amp;T</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Donald Lester</td>
<td>Owner</td>
<td>Lake View Broadband Wireless LLC</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Cindy Evans</td>
<td></td>
<td>Show-Me Technologies</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Tim Lewis</td>
<td></td>
<td>Show-Me Technologies</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Dan Dunbar</td>
<td></td>
<td>Totalhighspeed</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Bret Chrismer</td>
<td></td>
<td>Suddenlink</td>
</tr>
</tbody>
</table>

This Strategic Plan and the recommendations made herein were developed by the members of the Southwest Missouri region RTPT for the benefit of the regional community. MoBroadbandNow provided support for the development of the Strategic Plan, including data collection, analysis, mapping and meeting facilitation, but is not the author of the Plan.
# Table of Contents

MEMBERS OF THE SOUTHWEST MISSOURI REGIONAL TECHNOLOGY PLANNING TEAM .......... I

INTRODUCTION ................................................................. 1

- PURPOSE OF THE BROADBAND PLANNING EXERCISE ........................................... 1
  - Statewide MoBroadbandNow Initiative ......................................................... 1
  - RTPT Process Overview ................................................................................. 2

SOUTHWEST MISSOURI REGIONAL OVERVIEW ...................................................... 4
  - County Profiles .............................................................................................. 5
  - Maps of the Southwest Missouri Region ..................................................... 8
  - Highlights of Broadband Activity within the Southwest Missouri Region ........ 10
  - BTOP/RUS Awardees ..................................................................................... 10

KEY NEEDS ASSESSMENT FINDINGS ................................................................. 12

- KEY RESIDENTIAL COMMUNITY NEEDS ASSESSMENT FINDINGS .............. 12
  - Broadband and Related Technology and Service Adoption .............................. 12
  - Access to Computers ................................................................................... 12
  - Access to the Internet .................................................................................. 12
  - Type of Internet Service ................................................................................. 13
  - Broadband Access and Availability .............................................................. 13
  - Broadband Applications ............................................................................... 19

- BUSINESS COMMUNITY NEEDS ASSESSMENT FINDINGS ............................ 20
  - On-line Business Survey Results .................................................................. 20
  - Types of Businesses ....................................................................................... 20
  - Broadband Service and Technology Adoption ............................................. 21
  - Type of Business Internet Connection ........................................................ 22
  - Importance of Broadband among Businesses ............................................. 22
  - Business Broadband Access and Availability ............................................... 23
  - Broadband Providers in the Southwest Missouri Region .............................. 23
  - Competitiveness of Commercial Broadband ............................................... 23
  - Broadband Service Ratings ......................................................................... 23
  - Applications for Business ............................................................................. 24
  - Additional Survey Comments ...................................................................... 24

- Key Sector-based Needs Assessment Findings ................................................. 24
  - Broadband Service Adoption ......................................................................... 24
  - Broadband Infrastructure and Service Availability ....................................... 25
  - Key Sector Applications of Broadband .......................................................... 27

SWOC FINDINGS AND ANALYSIS .................................................................. 28
SOUTHWEST MISSOURI REGION SWOC ANALYSIS OVERVIEW .................................................. 28

Top Five (5) Strengths of the Southwest Missouri Regional Broadband Environment .......... 28
Top Five (5) Weaknesses of the Southwest Missouri Regional Broadband Environment ..... 29
Top Five (5) Opportunities Concerning the Southwest Missouri Regional Broadband Environment ........................................................................................................... 29
Top Five (5) Challenges in the Southwest Missouri Regional Broadband Environment ........ 30

STRATEGIC DIRECTIONS ........................................................................................................ 32

SUMMARY OF CRITICAL FINDINGS .................................................................................. 32
Adoption ................................................................................................................................ 32
Availability ............................................................................................................................ 33

STRATEGIES TO INCREASE BROADBAND AVAILABILITY AND ADOPTION IN THE SOUTHWEST MISSOURI REGION .. 35
Adoption ................................................................................................................................ 35
1. Increase Access to Affordable Broadband/Internet ......................................................... 35
2. Increase Broadband/Internet, Computer/Access Device Ownership ........................ 40
3. Increase Computer/Technology/Internet Literacy .......................................................... 46
Availability ............................................................................................................................ 52
1. Expand Broadband Availability such that it Meets and Exceeds the Governor’s Goal of 95% Availability for the Entire Southwest Missouri Region .............................. 52
2. Expand Broadband Capacity throughout the Southwest Missouri Region .............. 57
Attachments

1 – Link to Online Broadband Planning Toolkit
2 – Southwest Missouri Region Planning Process Elements
3 – Southwest Missouri Region Residential Community Broadband Survey Results
4 – Southwest Missouri Region Business Broadband Survey Results
5 – Southwest Missouri Region Sector Groups Broadband Survey Results
6 – Southwest Missouri Region SWOC Analysis Summary
7 – Southwest Missouri Region Broadband Service Providers
8 – Additional Maps Profiling the Southwest Missouri Region
9 – Additional Maps Profiling Broadband Providers in the State of Missouri
INTRODUCTION

PURPOSE OF THE BROADBAND PLANNING EXERCISE

The State of Missouri is in the midst of a transformative effort to expand the reach of affordable, broadband (high-speed internet) access to at least 95% of Missourians by the end of 2014. This effort involves working to enhance broadband access, create public computing centers, develop sustainable broadband adoption efforts, document broadband availability through comprehensive statewide mapping, and enhance Strategic Planning activities throughout the State, to ensure that expanded broadband infrastructure and services will be available to meet the growing needs of citizens, businesses, non-profit organizations, and public institutions.

A critical part of this comprehensive effort is local and regional broadband planning. In line with this, the State has developed 19 regional technology-planning teams (RTPTs), one of which was the Southwest Missouri RTPT. The Southwest Missouri RTPT and the other 18 RTPTs throughout the state have the same overall mission: to advance broadband demand and adoption, and broadband service and infrastructure availability, within their region.

The Federal American Recovery and Reinvestment Act (ARRA) passed in 2009 provided funding for the development of broadband infrastructure as well as sustainable broadband adoption efforts, statewide broadband mapping and development of the regional Strategic Plans. Missouri competed aggressively and, as further described below, millions of dollars in stimulus funds are now being used to help meet critical broadband availability and adoption goals. Some of this funding was used to support the efforts of the RTPTs.

Statewide MoBroadbandNow Initiative

MoBroadbandNow was established by Governor Jeremiah W. (Jay) Nixon in 2009 as a public-private initiative to expand and enhance broadband accessibility and adoption. The initiative’s first effort was partnering with broadband providers to identify communities that were underserved or unserved with high-speed Internet within the state. Through a competitive award process, funding was secured to design and build new broadband infrastructure. Missouri broadband providers were awarded $261 million for 19 projects. Including additional cash and in-kind support, the total available is nearly $325 million.
MoBroadbandNow has seven core objectives including: collecting and verifying data and information; preparing comprehensive state and regional broadband maps; establishing regional technology planning teams; building new, and leveraging existing, relationships with broadband stakeholders; providing technical assistance; tracking the progress of infrastructure projects; and providing transparency and convening public forums and community outreach.

A series of state and regional maps have been produced identifying population density, the number of broadband providers and service coverage, average download speed and geographic topography. There are currently over 100 broadband Internet Service Providers (ISPs) participating in data submissions.

Missourians have already begun reaping the benefits of improved high-speed Internet. In May 2011, Ralls County Electric Cooperative was one of the first American Recovery and Reinvestment Act awarded providers to substantially complete construction and provide service to homes and businesses. Other MoBroadbandNow endorsed projects are underway and more citizens will see faster, reliable connections in the future. Additional data, maps, and broadband information can be found at www.mobroadbandnow.com.

**RTPT Process Overview**

Consistent with the objectives of MoBroadbandNow, and to ensure a collaborative approach that would represent the diversity of the region, the membership of the RTPT was developed to represent local stakeholders from a variety of different sectors. Within Southwest Missouri, these sectors included Agriculture, Broadband and Internet Service Providers, Business and Professional Services, Economic Development, Energy, Environment, Healthcare, Higher Education, Industrial and Manufacturing, K-12 Education, Library, Local Government, Public Safety, Tourism and Workforce Development.

The process was twofold, with the first half being devoted to the Needs Assessment. It was designed to gather needs, interests, attitudes and opinions concerning broadband access, availability and adoption from a variety of different communities of interest, including: the residential community, the business community at large and the various sectors represented by the RTPT members.

The second part of the process was development of this Strategic Plan (SP or Plan). The RTPT analyzed the findings from the Needs Assessment, conducted a Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis concerning the findings and then developed this Strategic Plan to enhance and expand broadband infrastructure and service availability and broadband adoption among all the communities of interest within the region.
The RTPTs had many resources available to them to perform the Needs Assessment and prepare the Strategic Plan. These are further detailed in Attachment 1, the Broadband Planning Toolkit.

RTPT members were also involved in two Statewide Broadband Summits that featured nationally renowned speakers providing the latest information on trends in broadband service provision, adoption and utilization. These Summits also enabled RTPT members from different regions to share information and discuss strategies.

The culmination of the Strategic Planning effort has resulted in diverse community sectors, such as education, business, healthcare, government and local broadband and internet service providers, working together to craft and begin to implement the Strategic initiatives and directions detailed in the Plan to advance the broadband climate in the Southwest Missouri region. This plan includes measurable goals, objectives and benchmarks that will help keep this effort on track in ensuing years. Moreover, the regional technology planning process is designed to be enduring, such that the Needs Assessment can be updated over time and the Strategic Plan can remain dynamic and be adjusted and updated based on changing circumstances, technologies, and the results of the implementation efforts proposed herein.
SOUTHWEST MISSOURI REGIONAL OVERVIEW

The Southwest Missouri region is located in the southwest portion of the state of Missouri and is comprised of the following counties: Barry, Christian, Dade, Dallas, Greene, Lawrence, Polk, Stone, Taney and Webster. Overall, the region can be best characterized by its topography, population distribution, industries and socio-economic climate.

The region comprises 6,093 square miles, 8.7 percent of the total area for the State of Missouri, with an additional 105 square miles consisting of water resources. The topography of the region includes plateaus, rolling hills, forests, and valleys, with rivers, streams, and other bodies of water. The Ozarks Plateau physiographic province is subdivided in two areas within the region. Most of the northern and northwestern portions, including Lawrence County and segments of Barry, Christian, Dade, Dallas, Greene, Polk and Webster are located on the Springfield Plateau. The Springfield Plateau is characterized by fairly level to moderate rolling plains, which means topographical barriers are not a major issue. However, the terrain of the Salem Plateau may cause more broadband access issues related to topography because of the rugged hills and deeply entrenched stream valleys located in Taney, Stone, and portions of Barry and Christian counties.

The average population density for this region is 96.2 people per square mile according to the Missouri Census Data Center in 2010, which is slightly above the state’s average at 87.1. Within the region, Dade and Dallas have the lowest population densities at 16.1 and 31 respectively. Greene County has the highest density at 407.5, while Christian County has the second highest at 137.6.

Many of the counties within this region contain relatively independent and specialized sub-economies which impact the broadband service needs and availability. Historically, farming has been a significant factor in the economy of the 10-county region and continues today. For example, Dade and Dallas Counties have the highest concentration of farming, demonstrating the rural character of much of the region. Because of Branson, Taney County relies heavily on their tourism industry, including food and accommodation services. Alternatively, the local economic base for Barry County is focused on their manufacturing and industrial sectors.

The per capita income for this region is also significantly lower than the state’s average of $23,920. The counties that lie closest to this average for the state are Christian and Greene. On the other hand, the counties with the lowest per capita income are Dade at $16,638 and Polk at $18,138. The rest of the region ranges from $18,500 – $22,000, all landing below the average for the state.
**County Profiles**

Demographic and economic profiles of the counties in the Southwest Missouri region are shown below in Table 1.

Table 1: Demographic and Economic Profile of Counties in the Southwest Missouri Council of Governments (SMCOG) area (Please see next page for more information)

<table>
<thead>
<tr>
<th>Variables</th>
<th>BARRY</th>
<th>CHRISTIAN</th>
<th>DADE</th>
<th>DALLAS</th>
<th>GREENE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>County Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metro or non-metro county</td>
<td>Non-metro</td>
<td>Metro</td>
<td>Non-metro</td>
<td>Metro</td>
<td>Metro</td>
</tr>
<tr>
<td>USDA County Typology: Economic Dependence</td>
<td>Manufacturing</td>
<td>Not Specialized</td>
<td>Not Specialized</td>
<td>Not Specialized</td>
<td>Service</td>
</tr>
<tr>
<td>USDA County typology: Federal policy types*</td>
<td>None</td>
<td>Retire</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Number of community anchors</td>
<td>82</td>
<td>67</td>
<td>33</td>
<td>28</td>
<td>212</td>
</tr>
<tr>
<td><strong>Population Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total population (% of region’s population)</td>
<td>35597 (6%)</td>
<td>77422 (13%)</td>
<td>7883 (1%)</td>
<td>16777 (3%)</td>
<td>275174 (46%)</td>
</tr>
<tr>
<td>Population Density (pop per sq. mile)</td>
<td>45.7</td>
<td>137.6</td>
<td>16.1</td>
<td>31</td>
<td>407.5</td>
</tr>
<tr>
<td>% rural Population</td>
<td>74.5</td>
<td>50.7</td>
<td>100</td>
<td>83.1</td>
<td>18.1</td>
</tr>
<tr>
<td>% of households with children (age 18 and under)</td>
<td>27.7</td>
<td>36.2</td>
<td>24.8</td>
<td>27.5</td>
<td>25.3</td>
</tr>
<tr>
<td>% white/ Caucasian</td>
<td>92.1</td>
<td>95.7</td>
<td>96</td>
<td>96.5</td>
<td>91.2</td>
</tr>
<tr>
<td>Median Age</td>
<td>41.8</td>
<td>36.3</td>
<td>45.9</td>
<td>41.4</td>
<td>35.8</td>
</tr>
<tr>
<td>% over 65 years</td>
<td>17.6</td>
<td>12.2</td>
<td>20.5</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td><strong>Income, Education and employment Indicators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Household Income</td>
<td>34838</td>
<td>48041</td>
<td>33452</td>
<td>37589</td>
<td>38059</td>
</tr>
<tr>
<td>Percentage unemployed</td>
<td>8.7%</td>
<td>8.4%</td>
<td>8.9%</td>
<td>11.7%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Population in poverty</td>
<td>18.9%</td>
<td>11.1%</td>
<td>21.7%</td>
<td>19.5%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Percentage of high school graduates</td>
<td>41%</td>
<td>34.1%</td>
<td>45.4%</td>
<td>41.5%</td>
<td>30.9%</td>
</tr>
<tr>
<td>Total Number of Businesses (CBP, 2009)</td>
<td>751</td>
<td>1635</td>
<td>149</td>
<td>270</td>
<td>8081</td>
</tr>
<tr>
<td>Total Small Businesses</td>
<td>441</td>
<td>1036</td>
<td>98</td>
<td>176</td>
<td>4020</td>
</tr>
<tr>
<td>Variables</td>
<td>BARRY</td>
<td>CHRISTIAN</td>
<td>DADE</td>
<td>DALLAS</td>
<td>GREENE</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Percentage of small businesses (less than 5 employees)</td>
<td>59%</td>
<td>63%</td>
<td>66%</td>
<td>65%</td>
<td>50%</td>
</tr>
<tr>
<td>Sector with most number of employee</td>
<td>Manufacturing</td>
<td>Retail Trade</td>
<td>Wholesale Trade</td>
<td>Healthcare and social services</td>
<td>Healthcare and social services</td>
</tr>
<tr>
<td>Sector with most number of businesses</td>
<td>Retail Trade</td>
<td>Construction</td>
<td>Retail Trade</td>
<td>Retail Trade</td>
<td>Retail Trade</td>
</tr>
</tbody>
</table>

*LEdu = Low education county, LEmp = Low employment county, PPov = Persistent poverty county and Ret = Retirement county

Table 1: Demographic and Economic Profile of Counties in the Southwest Missouri Council of Governments (SMCOG) area (Please see next pages for more counties)

<table>
<thead>
<tr>
<th>Variables</th>
<th>LAWRENCE</th>
<th>POLK</th>
<th>STONE</th>
<th>TANEY</th>
<th>WEBSTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metro or non-metro county</td>
<td>Non-metro</td>
<td>Metro</td>
<td>Non-metro</td>
<td>Non-metro</td>
<td>Metro</td>
</tr>
<tr>
<td>USDA County Typology: Based on Economic Dependence</td>
<td>Not Specialized</td>
<td>Service</td>
<td>Service</td>
<td>Service</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>USDA County typology: Federal policy types*</td>
<td>None</td>
<td>Retire</td>
<td>LEmp, Rec, Retire</td>
<td>Rec, Retire</td>
<td>None</td>
</tr>
<tr>
<td>Number of community anchors</td>
<td>71</td>
<td>60</td>
<td>67</td>
<td>74</td>
<td>48</td>
</tr>
<tr>
<td>Population Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total population (% of region’s population)</td>
<td>38634 (6%)</td>
<td>31137 (5%)</td>
<td>32202 (5%)</td>
<td>51675 (9%)</td>
<td>36202 (6%)</td>
</tr>
<tr>
<td>Population Density (pop per sq. mile)</td>
<td>63.2</td>
<td>49</td>
<td>69.4</td>
<td>81.7</td>
<td>61.1</td>
</tr>
<tr>
<td>% rural Population</td>
<td>61.7%</td>
<td>68.8%</td>
<td>100%</td>
<td>49.7%</td>
<td>80.3%</td>
</tr>
<tr>
<td>% of households with children (age 18 and under)</td>
<td>30.2%</td>
<td>28.6%</td>
<td>20.9%</td>
<td>25.7%</td>
<td>33.8%</td>
</tr>
<tr>
<td>% white/Caucasian</td>
<td>93.6%</td>
<td>96.2%</td>
<td>97.2%</td>
<td>93.6%</td>
<td>96.3%</td>
</tr>
<tr>
<td>Median Age</td>
<td>39.1</td>
<td>37.8</td>
<td>49.9</td>
<td>40.7</td>
<td>37.5</td>
</tr>
<tr>
<td>% over 65 years</td>
<td>16.4%</td>
<td>16.1%</td>
<td>24.5%</td>
<td>17.7%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Income, Education and employment Indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Household Income</td>
<td>38800</td>
<td>34837</td>
<td>37788</td>
<td>34281</td>
<td>42966</td>
</tr>
<tr>
<td>Percentage unemployed</td>
<td>8.4%</td>
<td>9.9%</td>
<td>12.4%</td>
<td>12.6%</td>
<td>10%</td>
</tr>
<tr>
<td>Population in poverty</td>
<td>16.7</td>
<td>21</td>
<td>16.3</td>
<td>20</td>
<td>17.2</td>
</tr>
<tr>
<td>Percentage of high school graduates</td>
<td>41.5%</td>
<td>39.7%</td>
<td>38.8%</td>
<td>37.8%</td>
<td>39.8%</td>
</tr>
<tr>
<td>Total Number of Businesses (CBP, 2009)</td>
<td>699</td>
<td>601</td>
<td>703</td>
<td>1827</td>
<td>668</td>
</tr>
<tr>
<td>Variables</td>
<td>LAWRENCE</td>
<td>POLK</td>
<td>STONE</td>
<td>TANEY</td>
<td>WEBSTER</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>Total Small Businesses</td>
<td>393</td>
<td>346</td>
<td>481</td>
<td>963</td>
<td>415</td>
</tr>
<tr>
<td>Percentage of small businesses (less than 5 employees)</td>
<td>56%</td>
<td>58%</td>
<td>68%</td>
<td>53%</td>
<td>62%</td>
</tr>
<tr>
<td>Sector with most number of employee</td>
<td>Manufacturing</td>
<td>Healthcare and social services</td>
<td>Arts, Entertainment and Recreation</td>
<td>Healthcare and social services</td>
<td>Retail Trade</td>
</tr>
<tr>
<td>Sector with most number of businesses</td>
<td>Other Services</td>
<td>Retail Trade</td>
<td>Construction</td>
<td>Retail Trade</td>
<td>Retail Trade</td>
</tr>
</tbody>
</table>

*LEd* = Low education county, *LEmp* = Low employment county, *Pov* = Persistent poverty county and *Ret* = Retirement county
Maps of the Southwest Missouri Region

The following maps provide an overview and topography of the Southwest Missouri region.
 Highlights of Broadband Activity within the Southwest Missouri Region

Although, as detailed herein, the Southwest Missouri region faces a number of challenges related to broadband infrastructure and service availability and adoption, there is a significant amount of current and projected activity related to broadband deployment in the region. For example, SpringNet, as well as the two-grant award winners described below, have indicated to the RTPT that they continue to enhance and expand their broadband services within the region. These and other providers are participants in the broadband availability mapping exercise. The total number of providers within the Southwest Missouri region that are represented on the current state map (http://mobroadbandnow.com/) is currently 22. These are listed in Attachment 7. General maps of broadband availability and service levels are included in the next section.

**BTOP/RUS Awardees**

In Missouri, there are a number of middle mile and last mile infrastructure grant award winners through the NTIA’s BTOP (Broadband Technology Opportunities Program) and United States Department of Agriculture’s (USDA) RUS (Rural Utility Service) loan/grant process that received funds and are currently in the process of building additional broadband infrastructure within the region.

Within the Southwest Missouri region there are currently two awardees expanding their last mile broadband infrastructure. Windstream Corporation is extending the reach of its last mile broadband network in Barry, Lawrence and Polk counties, specifically in the communities of Exeter, Freistatt, Hoberg, McDowell, McKinley, Miller, Pleasant Ridge, Pioneer, Wheaton and Wishart. Windstream is deploying industry standard DSLAMs (Digital Subscriber Line Access multiplexers) using ADSL2Plus (asynchronous digital subscriber line 2 plus) protocols, which will enable a maximum of 12 Mbps downstream/768 Kbps upstream for the provision of internet access and other data communication services. This service can also be provisioned at 3 Mbps and 6 Mbps download as well as a pairing of 1.5 Mbps download/384 Kbps upload speeds. Windstream indicates that it is using the same pricing model as it does for services throughout its existing service area, meaning that the rural residents in these currently unserved areas will see the benefit of prices for broadband that customers in urban and more competitive markets pay.

Additionally, Sho-Me Technologies is building a high capacity fiber optic middle mile broadband network in central, southern and southwest Missouri that will ultimately provide 1,380 miles of middle mile infrastructure throughout 30 counties and provide 89 points of presence for last mile broadband providers to connect into the network. In southwest Missouri,
Sho-Me covers Christian, Dallas, Green, Polk, Stone, Taney and Webster Counties. Throughout the 30 county area it will also connect up 100 community anchor institutions.

Besides this, other broadband providers are actively engaged in broadband projects within the region to expand and enhance broadband infrastructure and service availability and adoption, including:

[SOCG to insert additional detail about projects (1 to 2 paragraphs per project) they are aware of]

[RTPT to insert additional detail about projects (1 to 2 paragraphs per project) they are aware of]

• ___
KEY NEEDS ASSESSMENT FINDINGS

The Needs Assessment performed by the Southwest Missouri RTPT focused on three major communities of interest as they relate to broadband access, availability and adoption. This included the Residential Community, the Business Community at large, and a wide variety of Institutional, Organizational and Business Sectors evident throughout the region.

Key broadband-related findings from the Needs Assessment are profiled below.

KEY RESIDENTIAL COMMUNITY NEEDS ASSESSMENT FINDINGS

The residential Needs Assessment was conducted largely through a written survey (more detail is provided in the Attachments). The results of the residential survey are categorized into two large areas, consistent with the goals of the planning exercise: broadband and related technology and service adoption; and broadband access and availability. Findings within these two categories are found below.

Broadband and Related Technology and Service Adoption

Respondents were asked a number of questions related to broadband adoption.

Access to Computers

Regarding access to computers, 93% of respondents indicated that they owned a computer. This computer ownership is higher in the Southwest Missouri region than nationally. Additionally, over eight in ten of these respondents have owned a computer for eight or more years, showing long-term adoption.

For the 7% of respondents who do not own a computer, the main reasons, and thus challenges to computer technology adoption are: they can’t afford a computer; they don’t know how to use a computer, or; they don’t want or need a computer.

Access to the Internet

Ninety-three percent (93%) of those with computers indicated having internet access at home. The largest percentage of those with internet access has broadband service (types of services are shown below, with additional information in the Attachments) with 36% having broadband for 8 or more years, 32% adopting high-speed internet four to seven
years ago, 22% in the last one to three years and 4% in the last year. This means more than two-thirds of all respondents with internet access are relatively long-time broadband adopters.

For approximately 14% of households that do not have internet access, the three main reasons are: cost; they don’t own a computer; or privacy/security concerns.

_Underline Type of Internet Service_ 

Those residents that had internet access indicated a variety of different types of internet service with many of them indicating some type of broadband service as shown below.

**Table 6: Types of Internet Services used by households in SMCOG (93% of the households with computers reported having internet)**

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>SMCOG Survey Response</th>
<th>Survey response for the State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial-up</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Satellite Internet service</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Cable modem</td>
<td>26%</td>
<td>20%</td>
</tr>
<tr>
<td>Cellular Broadband (air card)</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>DSL</td>
<td>38%</td>
<td>37%</td>
</tr>
<tr>
<td>Fixed Wireless</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Other / Don’t Know</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Percentage of HHs with internet</strong></td>
<td><strong>93%</strong></td>
<td><strong>88%</strong></td>
</tr>
</tbody>
</table>

(Data source: MoBroadbandNow – Residential Survey, 2011)

_Broadband Access and Availability_

Review of the residential needs assessment indicates that while most Southwest Missouri residents access the internet utilizing broadband, this leaves approximately 2 out of 10 without access to broadband service. Residential survey respondents noted several reasons for this. The largest of these was cost. Specifically, 32% indicated that they chose their connection type and service provider based on cost. Additionally, in open coded comments, 15% said they needed lower cost service and an additional 17% of those that provided final comments indicated that their primary need was lower cost.

The second reason for lack of broadband is related to a lack of ownership of computers or access to the internet and whether the respondent values either or both of those items. As profiled above, there are a number of residents that don’t want or need a computer and then don’t access the internet because of the lack of an access device. Additionally, in the Southwest Missouri region, 23% of residents indicated that access to computers and the internet was either somewhat or not at all important.
The third most common reason for choosing a type of internet service was availability. Specifically, 24% of survey respondents indicated that the reason that they chose a certain connection type and service provider was because it was the only available service. This was echoed in open coded concerns expressed by survey respondents, where 12% indicated that broadband is needed in more rural areas.

**Broadband Availability-Related Maps**

The following maps show housing unit density, broadband service availability and broadband service level availability in the Southwest Missouri region.
High-Speed Broadband Access Using the Latest FCC Definition of Broadband

If the FCC’s latest definition of Broadband is utilized instead of the NTIA’s definition, Broadband Access in the Southwest Missouri region appears as depicted in the map below.
**Broadband Applications**

Those that have access to the internet and broadband indicated a variety of applications and uses, including: a high degree of use of the internet for personal communications, health and product information, transactions, access to news, and social networking. These uses are compared with state and national trends in Table 3 below.

**Table 3: Internet Use for Various Activities in the Southwest Missouri Region as compared to Missouri and U.S. Averages**

<table>
<thead>
<tr>
<th>Activities</th>
<th>SMOCOG Region</th>
<th>Rural Missouri</th>
<th>Non-rural Missouri</th>
<th>Missouri Average</th>
<th>National Average (Pew Center)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep in touch with family and friends</td>
<td>91%</td>
<td>89%</td>
<td>88%</td>
<td>88%</td>
<td>--</td>
</tr>
<tr>
<td>Look for information about a service/ product you are thinking of buying</td>
<td>86%</td>
<td>86%</td>
<td>83%</td>
<td>84%</td>
<td>78%</td>
</tr>
<tr>
<td>Look for health or medical information</td>
<td>65%</td>
<td>70%</td>
<td>68%</td>
<td>69%</td>
<td>83%</td>
</tr>
<tr>
<td>Buy something online</td>
<td>62%</td>
<td>66%</td>
<td>62%</td>
<td>64%</td>
<td>71%</td>
</tr>
<tr>
<td>Look online for news or information about politics</td>
<td>66%</td>
<td>66%</td>
<td>66%</td>
<td>66%</td>
<td>76%</td>
</tr>
<tr>
<td>Use an online social networking site like Facebook or LinkedIn</td>
<td>65%</td>
<td>65%</td>
<td>64%</td>
<td>65%</td>
<td>65%</td>
</tr>
<tr>
<td>Do any online banking</td>
<td>22%</td>
<td>63%</td>
<td>66%</td>
<td>64%</td>
<td>61%</td>
</tr>
<tr>
<td>Visit your state, region or local government’s website</td>
<td>39%</td>
<td>46%</td>
<td>42%</td>
<td>44%</td>
<td>67%</td>
</tr>
<tr>
<td>Watch television or other videos</td>
<td>45%</td>
<td>40%</td>
<td>49%</td>
<td>44%</td>
<td>71%</td>
</tr>
<tr>
<td>Play online video games</td>
<td>34%</td>
<td>34%</td>
<td>36%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>Look online for information about a job</td>
<td>33%</td>
<td>33%</td>
<td>30%</td>
<td>31%</td>
<td>56%</td>
</tr>
<tr>
<td>Take a class or do homework</td>
<td>19%</td>
<td>24%</td>
<td>20%</td>
<td>22%</td>
<td>--</td>
</tr>
<tr>
<td>Work from home</td>
<td>16%</td>
<td>24%</td>
<td>26%</td>
<td>25%</td>
<td>--</td>
</tr>
<tr>
<td>Contribute to a website, blog or other online forum</td>
<td>25%</td>
<td>21%</td>
<td>24%</td>
<td>22%</td>
<td>32%</td>
</tr>
<tr>
<td>Look for information about a place to live</td>
<td>18%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>39%</td>
</tr>
<tr>
<td>Share something online that you created yourself</td>
<td>21%</td>
<td>19%</td>
<td>19%</td>
<td>19%</td>
<td>30%</td>
</tr>
<tr>
<td>Operate or support a home</td>
<td>33%</td>
<td>17%</td>
<td>13%</td>
<td>15%</td>
<td>--</td>
</tr>
<tr>
<td>Activities</td>
<td>SMOG Region</td>
<td>Rural Missouri</td>
<td>Non-rural Missouri</td>
<td>Missouri Average</td>
<td>National Average (Pew Center)</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>--------------------</td>
<td>-----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Based business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sell something online</td>
<td>19%</td>
<td>17%</td>
<td>14%</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>

(Data source: MoBroadbandNow – Residential Survey, 2011)

**BUSINESS COMMUNITY NEEDS ASSESSMENT FINDINGS**

To determine the broadband-related needs, interests, attitudes and opinions of the general business community, two main methods were employed: a General Business Community Survey, and individual Business Sector Surveys (economic development, tourism, industrial and manufacturing, etc.)

**On-line Business Survey Results**

*Types of Businesses*

The response to the on-line business survey came from a variety of different types of businesses according to their National Business Classification as shown below in Table 4. The large majority were small businesses, consistent with the region’s economic profile. More information is available in Attachment 4.

**Table 4: Business Survey Responses by NAICs Sectors with Total Businesses by Sectors**

<table>
<thead>
<tr>
<th>NAICS</th>
<th>National Business Classification</th>
<th>Percentage of the Total Business Survey Respondents of the total in SMOG (n=46)</th>
<th>Percentage of Total Businesses in the SMOG Region* (N=15,384)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>10%</td>
<td>0.10%</td>
</tr>
<tr>
<td>21</td>
<td>Mining, Quarrying, and Oil and Gas</td>
<td>0%</td>
<td>0.19%</td>
</tr>
<tr>
<td>22</td>
<td>Utilities</td>
<td>8%</td>
<td>0.24%</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
<td>5%</td>
<td>10.58%</td>
</tr>
<tr>
<td>31</td>
<td>Manufacturing</td>
<td>0%</td>
<td>4.36%</td>
</tr>
<tr>
<td>42</td>
<td>Wholesale Trade</td>
<td>0%</td>
<td>4.81%</td>
</tr>
<tr>
<td>44</td>
<td>Retail Trade</td>
<td>5%</td>
<td>16.40%</td>
</tr>
</tbody>
</table>
NAICS | National Business Classification | Percentage of the Total Business Survey Respondents of the total in SMCOG (n=46) | Percentage of Total Businesses in the SMCOG Region* (N=15,384)
---|---|---|---
48 | Transportation and Warehousing | 0% | 3.29%
51 | Information | 10% | 1.42%
52 | Finance and Insurance | 3% | 6.98%
53 | Real Estate and Rental and Leasing | 5% | 4.97%
54 | Professional, Scientific and Technical | 10% | 8.32%
55 | Management of companies and | 0% | 0.70%
56 | Administrative and Support Services | 0% | 5.00%
61 | Educational Services | 10% | 0.72%
62 | Health Care and Social Assistance | 20% | 8.70%
71 | Arts, Entertainment and Recreation | 8% | 1.92%
72 | Accommodation and Food Services | 5% | 8.89%
Other (81 & 99) | Other services and not classified | 3% | 12.41%

*County Business Pattern, 2009

**Broadband Service and Technology Adoption**

Ninety-five percent (95%) of the Southwest Missouri region business survey respondents reported having internet access. For those that didn’t, high-speed internet service wasn’t available to them, but they plan on establishing service when it is offered (they were told, however, that it may be years before it is available). For those that did, the majority of businesses have some type of broadband connection (3% of business respondents are on dial-up connections and 11% have satellite broadband, which may or may not be a broadband [as defined by the NTIA] connection unless it is a business class link).
**Type of Business Internet Connection**

The specific types of internet connections are shown in Table 5 below.

**Table 5: Types of Business Internet Services Used**

<table>
<thead>
<tr>
<th>Types of Internet connection</th>
<th>Response Percent in SMCOG (n=46)</th>
<th>Response Percent Missouri (n=1182)</th>
<th>National Survey* (n=1,329)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL</td>
<td>22%</td>
<td>38%</td>
<td>57%</td>
</tr>
<tr>
<td>T-1</td>
<td>14%</td>
<td>11%</td>
<td>-</td>
</tr>
<tr>
<td>Cable Modem</td>
<td>17%</td>
<td>8%</td>
<td>34%</td>
</tr>
<tr>
<td>Fiber to the Premises</td>
<td>11%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Fixed Wireless</td>
<td>14%</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Satellite Broadband</td>
<td>11%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Mobile Wireless</td>
<td>14%</td>
<td>5%</td>
<td>23%</td>
</tr>
<tr>
<td>Dial-up Line - 56 Kbps or Less</td>
<td>3%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Frame Relay/CIR</td>
<td>3%</td>
<td>1%</td>
<td>-</td>
</tr>
</tbody>
</table>

(Data source: MoBroadbandNow – Business Survey, 2011)
(Due to the definition of the types of connections used in the national level survey by FCC, the percentages are approximate comparison)

**Importance of Broadband among Businesses**

Every survey respondent indicated that a high-speed internet connection was very important (89%) or important (11%) to the day-to-day operations of their business. Additionally, 97% indicated that it would be beneficial to their business if broadband in the region were enhanced. The majority of the reasons given for this high response were related to the need for faster speeds to save time and grow their business, enhanced broadband would increase productivity and the need for more reliable connections.

Regarding importance, a Wordle was developed that provided insight into the top words and phrases described during open coded comments on why broadband was important to the business respondents. As noted below, it is evident from the survey responses that communication via the internet is critical to business.
Why is Broadband Important?

Business Broadband Access and Availability

Broadband Providers in the Southwest Missouri Region

A variety of providers in the Southwest Missouri region provide high-speed internet service to businesses. The top ones listed by survey respondents included AT&T, CenturyLink and Mediacom. Following these, Wildblue, Verizon, Suddenlink and Sho-Me Technologies, were all tied at 6% of the business marketplace.

Competitiveness of Commercial Broadband

While a number of different providers serve the Southwest Missouri business broadband marketplace, half of businesses noted in the survey that only one of them or none of them is an option for their business. Specifically, 53% of respondents indicate that the business broadband marketplace is not competitive at all (one-provider option), or that there isn’t an option suitable for their business.

Broadband Service Ratings

Regarding service characteristics, the largest area of dissatisfaction, 45% of survey respondents was cost of internet service. Not far behind at 42% dissatisfaction was speed of the connections (echoed in the broadband enhancement response described above).
Reliability is also an issue, where dissatisfaction was expressed by 28% of respondents. The survey results indicated that a majority of business broadband subscribers pay between $50 and $100 per month for broadband internet service.

Applications for Business

Regarding broadband usage applications for business, email is the number one application, followed by website applications and then banking, research, on-line education and file sharing. See Attachment 4 for more detail.

Additional Survey Comments

Overall, businesses that have broadband service need more options including more wireline broadband providers, more stable connections and faster speeds. Respondents who don’t have broadband talked about the need to extend existing systems to provide service to both their business and residents.

Key Sector-based Needs Assessment Findings

Institutional, organizational and business sector data concerning the sectors’ broadband-related needs, interests, attitudes and opinions, was collected primarily through written and on-line surveys.

Each sector is delineated in Attachment 2 with the methodologies used. The highlights for each sector can be seen in the sector sheets attached as Attachment 5 to this document. Below, the sectors are analyzed collectively and key findings from the sector-based results are arranged into three (3) categories: Broadband Service Adoption, Broadband Infrastructure and Service Availability and Key Applications of Broadband.

Broadband Service Adoption

The major broadband adoption issues for institutional, organizational and business sectors in the Southwest Missouri region are:

- Broadband has been adopted for critical operations by every sector profiled
- The vast majority of sector respondents see a variety of enhancements needed in the future to increase the nature, amount and type of adoption. These include: increased bandwidth, providing more access to citizens, especially in rural areas, better mobile connections and more reliable connections.
• The use of broadband can only fully facilitate service provision within any given sector when it is present throughout the service provision chain (i.e., especially in the Southwest Missouri for businesses to clients and other businesses, colleges and universities to students, tourism-oriented businesses and libraries to patrons, etc.). For many of the sectors profiled, there are existing problems in the region with the continuity of the “broadband chain”.

• Where broadband is available but has not been adopted for certain operations or at a higher level, this is primarily due to: the less than optimum level of broadband being available in some areas, the high cost of high levels of broadband in other areas, the lack of broadband service in some parts of the region and the right hardware, software and other tools not being in place.

• Additional training, especially on technology and applications is needed for workers and organizations to effectively use broadband technology
  
  o In the Southwest Missouri region, this was especially seen for workforce development, agricultural, local government, public safety and educational organizations.

[SMCOG provides additional broadband adoption issues, here, if any, based on their analysis]

[RTPT provides additional broadband adoption issues, here, if any, based on their analysis]

**Broadband Infrastructure and Service Availability**

Although all sectors noted that broadband was available to institutions, organizations and businesses within their sectors, many noted availability problems. Key availability issues include:

• Lack of access in rural areas, including those just outside of population centers. Rural areas north of Collins and in Nixa were specifically denoted by sector representatives.

• Less than optimal access to the level of broadband needed.

• Lack of broadband availability, cited as problematic by a number of sectors, including:
  
  o Agriculture – Without broadband, agribusiness workers are not getting proper training
- Economic Development – Sharing of project information is compromised by a lack of uniform broadband
- Energy – Without broadband, consumers lack real-time pricing and use information, which, if available, could heighten energy efficiency
- Healthcare – Without broadband availability, clinics cannot use the base and advanced applications from the main hospital facility
- Higher Education – Where fast and stable broadband connections are not available, it inhibits participation in on-line instruction, which is the only way for educational institutions to continue to grow and reach and teach more students.
- Industrial and Manufacturing – Broadband availability is key to attracting up and coming businesses and to enable existing businesses to grow
- K-12 Education - Lack of broadband availability creates unequal access to educational resources for students, families and teachers
- Library – Rural patrons are at a significant disadvantage in receiving information based on a lack of broadband availability
- Local Government – City facilities in outlying areas have limited access to broadband, which compromises computer system access and disaster recovery options. Also, it hampers communication with citizens in the event of an emergency
- Public Safety – Broadband inaccessibility in the region is a problem for both public safety professionals as well as the citizens they serve
- Tourism – Access to broadband is critical for tourism-oriented businesses because they use the internet for almost every part of what they do (outreach, service to clients, internal operations, etc.)
- Workforce Development – Residents and businesses in remote areas without broadband are not able to access on-line training or job search sites

- Many areas in the region are “just beyond” the reach of existing providers, but the providers indicate it is too costly to expand their systems.

[SMCOG provides other broadband infrastructure and service availability issues here, if any, based on their analysis]
[RTPT provides other broadband infrastructure and service availability issues here, if any, based on their analysis]

**Key Sector Applications of Broadband**

All sectors report the use of the most common institutional, organizational, and business applications such as a variety of web-site applications, e-mail, on-line research and other common applications. A variety of other applications are profiled throughout this Plan. Specific additional applications that are important to mention that provide critical information for different sectors include:

- Critical weather and storm information (Agriculture and Public Safety)
- Training (multiple sectors)
- Disaster recovery (Energy and Local Government)
- Product and service provision (multiple sectors)
- Marketing and business to business functions (Agriculture, Business and Professional Services, Economic Development, Industry and Manufacturing and Tourism)
- Education (Higher Education and K-12 Education)
- Telemedicine (Healthcare)
- Providing internet access to patrons/clients (Tourism and Libraries)
- Client communications (multiple sectors)

- [SMCOG provides other key applications here, if any, based on their analysis]

- [RTPT provides other key applications here, if any, based on their analysis]
SWOC FINDINGS AND ANALYSIS

A part of the RTPT’s mission in developing a Broadband Strategic Plan for the Southwest Missouri region was to: leverage and build upon existing broadband-related strengths; overcome current weaknesses; effectively address current and future challenges; and take full advantage of current and future broadband opportunities. In order to do this, at its 2\textsuperscript{nd} full in-person meeting, the RTPT engaged in a review of the residential, business and institutional and organizational sector needs assessment data and findings. Based on this, they then performed a strengths, weaknesses, opportunities and challenges (SWOC) analysis. This analysis, fully detailed in Attachment 6, helped identify broadband availability and adoption issues that are considered high priority and ultimately led to the development of the Strategic Directions, Goals, Objectives and Initiatives profiled in the last section of this Plan.

Review and analysis of the feedback from the RTPT members, together with all of the preceding information, resulted in the Southwest Missouri region SWOC analysis overview described below, listing the top 5 in each of the SWOC categories.

SOUTHWEST MISSOURI REGION SWOC ANALYSIS OVERVIEW

The top five (5) strengths, weaknesses, opportunities and challenges as they relate to both broadband availability and adoption are listed below.

**Top Five (5) Strengths of the Southwest Missouri Regional Broadband Environment**

1. There is a substantial broadband user base in the Southwest Missouri region to build upon, including residential, business, and organizational/institutional.

2. Three of the top four (4) vote-receiving sectors (Higher Education, Agriculture and K-12 Education), exhibited significant strengths as both sectors and strong users of broadband. Other Sectors were also strong Users and supporters of broadband enhancements.

3. There are many broadband/internet related applications already being well utilized in the Southwest Missouri region.
4. There are a variety of broadband providers in the Southwest Missouri region, enabling a high level of availability in much of the region. This sector was also the fifth-highest vote-receiving sector.

5. Broadband users rated a number of service and support-oriented aspects of their current broadband providers and services highly.

**Top Five (5) Weaknesses of the Southwest Missouri Regional Broadband Environment**

As is seen in many SWOC analyses, some weaknesses run counter to the strengths, especially where there is a large minority expressing problems, issues or concerns. After review of all of the needs assessment data and the SWOC voting by RTPT members, the following are the top five (5) weaknesses related to broadband in the Southwest Missouri region.

1. There is no or limited broadband connectivity to a number of rural areas within the Southwest Missouri region.

2. Adoption is an issue in the broadband/internet/technology arena. Nearly 1 in 10 households do not have computers; another one in 10 does not have internet access, and of those, approximately one in ten Southwest Missouri households do not have broadband service.

3. Many businesses and institutions are highly dissatisfied with either connection speed or their ability to expand applications based on current connection capacity.

4. Emergency management, a critical issue in the region, is not as effective as it could be, based on a lack of uniform broadband.

5. Consistent with the above, some necessary applications cannot be effectively, efficiently or uniformly implemented when there is a lack of sufficient broadband. This, in turn, has a cascading affect across sectors.

**Top Five (5) Opportunities Concerning the Southwest Missouri Regional Broadband Environment**

As strengths are leveraged, and ways and means are devised to overcome the weaknesses, there will be a number of opportunities to advance and enhance broadband availability and adoption.
within the Southwest Missouri region. The top five (5) opportunities noted during the SWOC analysis for the Southwest Missouri region include the following:

1. Sixty percent (60%) of residents without internet at home, including 73% of households without computers, use the internet elsewhere. Focus on getting broadband, and computers where needed, to these households.

2. Those that have broadband desire higher capacity connections, with access to multiple technologies.

3. Growth in certain sectors, such as Business, Agriculture, Education and Tourism will have a positive cascading affect on Economic Development and other sectors.

4. The vast majority of residents, businesses and institutions place a high value on internet access and broadband within the Southwest Missouri region.

5. More affordable, uniform, higher capacity broadband equals growth and enhancement for all sectors.

**Top Five (5) Challenges in the Southwest Missouri Regional Broadband Environment**

Similar to weaknesses running counter to strengths, there are multiple challenges to taking advantage of the opportunities listed, as well as leveraging the strengths and overcoming the weaknesses in the Southwest Missouri region. The top five (5) challenges are listed below.

1. Cost/affordability is a significant inhibitor across the board to expansion in broadband availability and adoption.

2. Competition is highly desired by end users. Providers, though, indicate that the cost of last mile infrastructure is a significant inhibitor to cost-effective service development.

3. Continued economic growth and effective provision of public services by such sectors as Local Government, Public Safety and Libraries in the Southwest Missouri region rely heavily on the uniform availability of high capacity, affordable broadband.

4. Rural areas do not have uniformly available, competitive broadband services. Again, the cost of last mile infrastructure is an inhibitor.
5. A percentage of households do not value computers or broadband and consequently the ancillary services that connect to computers through broadband. Accordingly, Technology/Computer/Internet literacy is a need for these households.

[SMCOG can provide additional enhancements to the top five strengths, weaknesses, opportunities and challenges listed above, if any, based on their analysis]

[RTPT members can provide additional enhancements to the top five strengths, weaknesses, opportunities and challenges listed above, if any, based on their analysis]
STRATEGIC DIRECTIONS

After review of all the findings gleaned from the Southwest Missouri region broadband needs assessment and other associated information concerning broadband availability and adoption in the region, the following are the strategic directions developed by the RTPT to enhance broadband availability and adoption in the Southwest Missouri region. These strategic directions emanate from the need to resolve a number of issues identified during the planning process, as summarized below in the summary of critical findings.

SUMMARY OF CRITICAL FINDINGS

**Adoption**

There are clear technology, internet access and broadband adoption problems in the Southwest Missouri region, where resources within the region and the State need to be focused. Specifically:

- 7% of households do not own a computer
- 7% of those with computers do not have internet access
- 1 in 10 of those with internet access don’t have broadband
- Cost is a significant barrier, being the number one reason for not having internet access at home, the number one reason for not owning a computer and the top reason concerning the decision on making a choice for broadband service. It also is cited as the top reason why businesses and institutions are unable to upgrade the bandwidth of their current connections.
- Computer/technology literacy is the second most offered reason for not owning a computer. This then further plays into a lack of internet access, because lack of a computer at home is the second most given reason for not having internet access.
- Perceived lack of need is the third most given reason why households don’t own a computer, indicating a lack of value placed on computer ownership. Additionally, 23% of residents feel that broadband is either somewhat or not at all important.
• Concerning business respondents, adoption of computers, the internet and broadband is a lesser issue. Business issues are more associated with speed, cost and competition problems. Also, those that don’t have broadband desire it, but can’t get it.

• Regarding organizational sectors, broadband has been adopted by every sector profiled in the Southwest Missouri region. However, enhancements in broadband adoption are compromised by:
  o Affordability
  o The need for additional training, hardware, software and other tools
  o Lack of reliability of connections in a number of cases
  o Lack of uniform availability of connections, which in turn affects lack of continuity throughout the service supply chain

These are the major adoption issues that need to be resolved by developing and implementing short-term, medium-term and long-term goals and objectives and associated strategic initiatives.

**Availability**

The lack of availability is an issue that depresses broadband access and enhancements. Specifically:

• A review of the zip codes provided by those with dial-up and satellite internet access show that a number fall in areas with the least amount of broadband availability - those that are considered underserved or unserved based on NTIA definitions. Specifically, such users can be found in parts of Christian, Dade, Dallas and other counties. The data here suggests that some of these users are faced with lack of availability issues, while others may require the lower cost of dial-up.

• Sixty-percent (60%) of households with no internet access, including 73% of households with a computer but no internet, use internet elsewhere, indicating that they place a significant value on it, but may lack the available speed of connection that they need.

• Regarding businesses, 45% of business survey respondents were dissatisfied with their connection speed and 97% of respondents indicated that it would be beneficial if broadband in their area was enhanced. This indicates a significant need to increase affordable speed and capacity capabilities for businesses.

• Uniformly available, high capacity, affordable, broadband will help with business recruitment and growth that in turn will contribute to an expansion in economic development.
• Businesses that do not subscribe to broadband would if it were available to them.

• Regarding institutions, organizations and businesses within varying sectors, they indicate significant infrastructure and service availability needs and issues, including:
  
  o Lack of competition is creating availability problems in meeting the need for either different types of technologies or higher speeds and capacity. In other words, they need enhancements beyond the basic broadband climate.
  
  o There is a significant lack of access in rural areas, including those just outside of population centers.
  
  o There is a lack of broadband availability in critical portions of the “broadband chain”. The “very last miles” have no assurances that they will ever be served.
  
  o Uniformly available broadband will improve workforce development in the region.
  
  o Uniformly available broadband will help expand the provision of higher educational services in the region.
  
  o Uniformly available broadband is critical to the effective provision of local government and public safety services, especially emergency services.
  
  o Uniformly available broadband is critical to sustaining and expanding tourism and agribusiness.

These are the key availability issues that require resolution by short-term, medium-term and long-term goals and objectives and associated strategic initiatives.
STRATEGIES TO INCREASE BROADBAND AVAILABILITY AND ADOPTION IN THE SOUTHWEST MISSOURI REGION

The strategies discussed below are divided into two major categories: Availability and Adoption. Each strategy is discussed beginning with the goal and then key objectives. At this stage, the objective is provided for consideration by the RTPT members during their review and placement into the plan as a short-term item (those that can be achieved within the first Year of the Strategic Plan’s implementation), medium-term item (2-5 Years after Plan implementation) and/or long-term item (6+ Years after Plan implementation). Then the Plan discusses the proposed policies, action items and implementation plan, as well as the financial, human, organizational, technical and training/education resources to achieve the goals. This is followed by benchmarks to measure progress and degree of success, with timelines again to be considered and inserted by the RTPT members after their review.

Adoption

Goals

There are three major overall broadband adoption goals. They are:

1. Increase access to affordable broadband/internet
2. Increase broadband/internet, computer/access device ownership
3. Increase computer/technology/internet literacy

Each adoption goal is discussed from beginning to end below.

1. *Increase Access to Affordable Broadband/Internet*  
[SMCOG to determine whether the objectives below are short-term, medium-term and/or long-term.]

[RTPT members to determine whether the objectives below are short-term, medium-term and/or long-term.]

Objectives

   a. Expand public access availability to computers and the internet – This will mean expanding both the capacity of internet/broadband at existing locations as
well as the number of devices at these locations and support for those that seek to
to utilize public access by Year ____.

b. **Continue to expand public access, including to new locations** – This would
mean placing public access computers in locations where they currently aren’t,
including potentially at Chambers of Commerce (for businesses to use), non-
profits, community centers, businesses in remote areas that have high-speed
internet access but surrounding residents do not (to primarily support their
employees) potentially through public/private partnerships, and other such
locations during Year(s) ____.

c. **Develop and expand a low cost, basic broadband access throughout the
region** – Experience indicates that the price point for such access has to be
reduced to approximately $9.95 per month (the current cost for a number of dial-
up circuits, as well as the cost of CenturyLink’s and some other providers’ most
basic broadband service). Experience indicates that when affordability is the
broadband adoption inhibitor, this price point will attract adopters.

For both efforts, the success should begin to be measured at ___ during the
planning horizon, and then again at the end of ____ Years.

d. **At the end of Year ____ make decisions to sustain, reduce, or expand public
access and basic broadband provision efforts to ensure 95% access and
adoption or greater.**

**Policies**

a. **Regarding public access** – Much work is being done by current educational
institutions and libraries to develop and sustain public computing centers. This
work should be leveraged to fine-tune plans to enhance existing and expand
public access locations.

As discussed below, expansion will also depend upon other available funding.
Significant funding is available through grants, and is anticipated to be going
forward, as well as through partnerships with organizations like One Economy.
These opportunities should also be leveraged to enhance and expand the level of
public access needed to reach the 95%+ level of adoption.

b. **Regarding basic broadband/internet access cost** - Two policies need to be
pursued at the State level. First, the State should consider incentives, favorable
tax policies, etc. for those providers that indicate that they will offer affordable,
basic broadband access through the planning horizon and beyond. Similar to the
conditions of, for example, CenturyLink’s Internet Basics program, the State may
want to place some conditions on such access to ensure that it targets those most in need. If financially feasible, though, it would be most beneficial if it was available to everyone (since a percentage of internet adopters clearly perceive that dial-up is enough, even when broadband is available. Their inhibitor is primarily their current price/value comparison).

**Action Items/Implementation Plan**

*[SMCOG to separate the action items listed below into short-term, medium-term and long-term items]*

*[RTPT members to separate the action items listed below into short-term, medium-term and long-term items]*

**a. For Public Access Computer Centers**

- Evaluate existing centers for expansion by ___.
- Determine items needed for expansion (hardware/software, personnel support, space, etc.) by ___.
- Seek partners for development of new centers by ___.
- Begin and continue to expand existing centers by ___.
- Determine hardware/software, etc. needed for development of new centers by ___.
- Develop and continue to expand new centers during Year(s) ___.
- Make decisions to sustain, reduce or expand public computer access based on the 95%+ adoption benchmark by ___.

**b. For Basic, Low Cost Broadband Access**

- Work with providers to determine how to implement low cost broadband access during Year(s) ___.
- Determine parameters needed by ___.
- Implement initial basic access in targeted locations during Year(s) ___.
- Expand initial offering throughout the region during Year(s) ___.
- Continue basic service provision if needed to maintain broadband adoption levels as of Year ___.

37
Resources Needed

a. Financial

- **Expand public access computers** – This will require financial support for new hardware/software and replacement over the planning horizon as well as additional personnel support costs, especially for new locations. The exact amount of funding support will depend significantly on the amount of expansion made, as well as how much capability is implemented in new locations (i.e., number of devices, amount of broadband capacity accessed, number of support personnel to assist users, etc.)

Accordingly, for planning purposes, we have projected the following unit costs:

- $1,000 per hardware/software package
- $15.00 per square foot of operational space
- $150.00 per month for broadband connection capacity expansion
- $50,000 in loaded personnel cost for support at new locations; $25,000 at existing locations

- **Region-wide, low cost broadband internet access tier** – This will depend upon the incentives provided. Some estimates indicate that this is generally consistent with the true cost of providing basic broadband service, once a system is established as a going concern, without profit and without placing money in reserve for enhancements and expansion. Likely, provision of this service will need to be negotiated with the service provider industry.

b. Human

- **Similar to the above, coordinative resources will be needed at the SMCOG level to help design and implement expansions of existing public access computing locations as well as partner with other organizations to develop new locations** - Additionally, there will likely need to be additional, trained, skilled, personnel to support the public’s access to the computing and application resources.

- **Development of a basic broadband tier region-wide** – There will need to be resources at the State level to help develop incentives, resources at the local level to work with the providers locally to implement such a service, as well as promote it throughout the region. Additionally, service
providers will need to allocate resources to interface with the State and SMCOG, as well as provide outreach to those that would qualify for the program.

c. Organizational

- The central focus would be the Broadband Development Program at the regional office, as well as specific resources at the State, including the MoBroadbandNow Office as well as, most likely the PUC, the Department of Economic Development, and others who would help establish the incentives to spur the provision of basic broadband service. Additionally, resources would be needed at each of the current organizations that provide public access to computers, internet and broadband as well as partner organizations. These same entities may be involved, as indicated above, in educational and training functions since access to hardware/software will be needed for those functions as well.

d. Technical

- Expansion of Public Access Computing – Technical resources will be needed to install new hardware/software, as well as train support personnel (and potentially users) and maintain the equipment.

- Concerning the basic level of broadband access - Service providers should anticipate heightened service support, since many who will take the lowest tier of service will be broadband users for the first time.

e. Training/Education

- As indicated above, part of the support personnel function for Public Access computers would be to educate users on the use of both the hardware and software resources at the public access locations. Additionally, service providers should anticipate additional education and training support, including materials and personnel for first time broadband users.

Timeline/Benchmarks

[SMCOG to consider the timeline needed to reach the following benchmarks]

[RTPT members to consider the timeline needed to reach the following benchmarks]
a. Both existing and new public access computing locations are targeted for expansion and development by the end of Year _____. Also, initial discussions occur with all service providers to establish a basic broadband tier of service similar to “Internet Basics” by the end of Year _____.

b. Existing locations are expanded to provide greater access to public computers, broadband and related applications by the end of Year _____.

c. Initial access to basic broadband service is provided and contributes to a rise in broadband adoption. Seven percent of computer users have not adopted the internet at home, and 10% of the Southwest Missouri region with internet access at home currently have not adopted broadband, but there are other factors besides affordability contributing to this. Accordingly, a rise of between 2 and 4% per year in broadband adoption due to availability of a low cost broadband tier would be seen as significant by the end of Year _____.

d. Additional public computing centers are made available. The basic broadband tier of service is offered to all throughout the region. Broadband adoption increases such that it reaches 95% levels by the end of Year _____.

e. Public Access computing centers are maintained as well as basic broadband service to sustain 95%+ broadband adoption levels as of Year _____.

2. Increase Broadband/Internet, Computer/Access Device Ownership

[SMCOG to provide input as to whether these are short-term, medium-term or long-term objectives]

[RTPT members to provide input as to whether these are short-term, medium-term or long-term objectives]

Objectives

a. Expand computer reclamation and redistribution/repurposing efforts – Efforts should be made locally, most likely supported by a Statewide campaign, to have institutions, businesses and homeowners give old and/or unused computer/access devices to be reclaimed, repurposed and redistributed to those that desire such devices, but can’t afford them. They would be recycled to a central location(s) where they would be repurposed. Residents and businesses would apply to receive them at no or low cost. Where efforts already exist, such as through Altec Solutions Group, Inc. and the Computer Recycling Center in
Springfield and the Midwest Computer Recycling center in Branson, seek to support and expand such efforts during Year _____. Where new efforts need to be developed, look at the potential for public/private partnerships during Year(s) _____.

b. **Continue reclamation, redistribution/repurposing efforts as a going concern during Year(s) _____.**

c. **Develop and implement a mechanism to provide low cost tablet computers** – It has been projected that as time increases, tablet computing devices will become the primary means for non-work access to the internet (as well as the preferred means of portable work-related access to the internet), and also the easiest device to learn and use effectively. Accordingly, there should be a significant push within the planning horizon during Year(s) ____ to develop low or no cost tablet distribution to those that desire computer/access devices, but do not have access to them.

d. **Ensure access by Year ____ to all those within the region that desire computers but don’t have them through continuation of the efforts started previously** - This should include provision of devices to all those that desired computer/access device ownership at the beginning of the planning horizon, plus those that subsequently desired such devices based on the efforts under other adoption goals, concerning an increase in computer literacy as well as in the perceived value of computing devices.

**Policies**

a. **Statewide Campaign and Incentives** – To support local efforts, there should be an expansion in statewide outreach campaigns to encourage computer reclamation, redistribution and repurposing efforts. This can include incentives to businesses, institutions and homeowners. It can also include involvement in national, non-profit or private sector sponsored initiatives, such as One Economy, to distribute low cost computing devices, again focusing on tablets as time progresses.
Action Items/Implementation Plan

[SMCOG to separate the action items listed below into short-term, medium-term and long-term items]

[RTPT members to separate the action items listed below into short-term, medium-term and long-term items]

a. Proposed Action Items

- Outreach to homes, businesses and institutions to recycle computing devices by ____.
- Build on the existing recycling locations in Springfield and Branson, potentially developing sub-regional drop-off locations in each SMCOG County by ____.
- Expand testing, repairing, and repurposing of units received to create the largest feasible inventory by ____.
- Develop/update the application process by ____.
- Continue and expand distribution during Year(s) ____.
- Measure the success of the initial effort, revise procedures and processes as necessary and continue to expand the program during Year(s) ____.
- Begin and expand the program to procure and develop an inventory of tablet computers by ____.
- Revise the application process to determine the best distribution of tablets versus other computing devices by ____.
- Measure progress on an annual basis, revise procedures and processes as necessary during Year(s) ____.
- Near the end of ____ Year, determine whether both processes are necessary, or whether it is feasible to distribute repurposed or new tablets at no or low cost so that only one program needs continuation
- Measure the success of the entire project during Year(s) _____. If it is determined that everyone in the region that desires a computer has one, then down scale efforts as needed.
Resources Needed

a. Financial

- **Computer reclamation/redistribution/repurposing** – Experience indicates that the best success in this area has been achieved through a combination of volunteer efforts and monetary support. Specifically, space typically can be donated for drop-off points including Chamber of Commerce locations, educational facilities, excess space at industrial/manufacturing locations, etc. Volunteer resources, as explained below, can often be enlisted for transporting devices to and from drop-off locations, as well as to homebound residents.

Monetary support is typically needed for personnel needed to coordinate and manage the program, as well as technicians to repair and reclaim computing devices. Monetary support is also needed to set up, maintain and expand the capital equipment needed to support repair and reclamation operations.

Although this cost would need to be significantly refined as detailed operational plans are developed, a good starting point would be to estimate up to approximately $100,000 in monetary support needed initially, with up to $50,000 per year needed thereafter and then funding budgeted as needed once everyone in the region who desires a computer has one.

- **Tablet computer procurement and distribution** – It is likely that both commercial tablet computer vendors and programs such as One Economy will seek to distribute low cost tablet computers at a price point of approximately $100. Application typically needs to be made to these programs at the point at which they are available, but the Strategic Plan can be utilized to demonstrate the need. Assuming that such programs will be subsidized, but not at no cost, potentially 1,000 units could be budgeted starting in ____ and continuing through ____ , totaling approximately $100,000 per year for this program. At the end of ____, it can be determined whether additional support is needed based on the level of increase in computer penetration in the region.

[SMCOG to consider the procurement and distribution timeframes to input in the above section]
[RTPT members to consider the procurement and distribution timeframes to input in the above section]

- **Available grant funding** – There are continual funds available to especially provide capital support. Part of the organizational resources recommended in this Plan include grant-writing support. Wherever feasible, such funds should be applied for and accessed to defray the cost described above.

- **Support for SMCOG** – Since the Plan, as described further below, anticipates that SMCOG will continue in its broadband development role by establishment of a Regional Broadband Development Program, there will need to be support for this function. A large-scale estimated cost would be approximately $25,000 per year for someone at SMCOG to oversee and coordinate all the efforts described below.

b. **Human**

- **Computer reclamation/redistribution/repurposing** – As discussed above, the human resources needed for this program include:
  
  o Volunteers for transport and receipt of devices at drop-off locations, as well as “word of mouth” outreach
  
  o Paid administrative and technical personnel to coordinate outreach efforts, interface with SMCOG and the State and oversee technical repair and reclamation operations
  
  o Paid technical staff to perform the repairs, if needed to augment existing efforts

- **Tablet computer procurement and distribution** – Paid administrative staff will need to be put in place, most likely combined with that for the program above, to seek out and apply for available programs, and then administer distribution of the computers. This person would also coordinate with institutions to help distribute such devices (such as through K-12 schools to parents and workforce development centers to job seekers, in households that have no computing devices)

c. **Organizational**

- **Computer reclamation/redistribution/repurposing** – This program most appropriately would fall as a subprogram of the overall Southwest
Missouri Broadband Development Program. The most feasible way to administer such an overall program, including oversight of the efforts detailed further below, would be to house the program under the auspices of the current SMCOG.

- **Tablet computer procurement and distribution** – Similarly, this part of the computer ownership enhancement program would be administered overall under SMCOG.

- **Available grant funding** – Similar to the above, SMCOG’s Broadband Development Program would administer this function, including receipt of funds.

d. **Technical**

- **Computer reclamation/recycling/repurposing** – Technical support will be needed here in the form of technicians to repair and certify the reclaimed computers. Some of this technical support already exists at current recycling centers.

- **Tablet computer procurement and distribution** – Technical support will be needed here to specify the computing devices and supply information to grant writers.

e. **Training/Education**

For all efforts under this adoption goal, training and education in computer literacy will be needed to ensure the best utilization of the devices distributed. This is covered in the next goal.

**Timeline/Benchmarks**

a. **Computer reclamation/recycling/repurposing and Tablet PC procurement and distribution** –

[SMCOG to consider the timeline needed to reach the following benchmarks]

[RTPT members to consider the timeline needed to reach the following benchmarks]

- The program is put into place, fully funded and distributing PCs by the end of Year ____.
• The program expands computer ownership approximately 1-2% per year until it hits 95% in the Southwest Missouri region by the end of Year ____.

• Computer ownership is sustained and is increased if feasible (experience indicates that 100% of the population may never own a computing device, based on lack of perceived value despite all computer ownership-spurring efforts) by the end of Year ____.

3. **Increase Computer/Technology/Internet Literacy**

[SMCOG to determine whether the objectives below are short-term, medium-term and/or long-term.]

[RTPT members to determine whether the objectives below are short-term, medium-term and/or long-term.]

**Objectives**

a. **Increase the perceived value of computer ownership and use, internet access and broadband access** – As a first objective, engaging every sector (Agricultural, Business, Education, Government, Healthcare, Public Safety, Workforce Development, etc.) in a regional (supported by a Statewide) campaign to show the value of access devices, internet access and broadband for all segments of the population, will help raise awareness and understanding of their utility in each individual’s life (home, work, recreation, education, etc.) and have the consequential affect of increasing value. Once seen as valuable, individuals without computers, internet access and/or broadband at this point will be willing to make price/value decisions based on their projection of the cost/benefit. This outreach and educational campaign should begin with the inception of the Strategic Plan and ramp up during the ____ Year.

b. **Continuation and heightening of the outreach campaign** – Evaluation of the campaign’s efforts should be made after the end of the ____ Year and the campaign adjusted to better reach target audiences (at the outset, target audiences include: lower socioeconomic households, elderly residents, and rural residents).

c. **Enhancement of existing and development of new computer/technology/internet/broadband literacy programs** – Based on the response to the regional outreach effort, existing programs (at the Ozarks
Technical Community College locations in Springfield and Branson, Missouri State University in Springfield, workforce training and development locations, K-12 School Districts, Libraries such as the Barry-Lawrence Regional Library, Dallas County Library and others, etc.) should be expanded where feasible to incorporate the individuals that respond to the outreach campaign. Additionally, other programs can be developed (in conjunction with the Chambers of Commerce, private businesses, governments, etc.) to help fulfill the need.

At the outset there should be three types of interwoven training:

- Computer literacy and use training
- Internet access, especially broadband, training, and
- Application training, from basic to advanced, depending upon the level of the trainee

This should begin with expansion of existing programs in Year ____ and ramp up to programs region wide, with a variety of partners by the end of Year _____. Such programs can level off or even be reduced, once attendance begins to drop, indicating that residents and business representatives are sufficiently trained.

d. **Sustain the level of outreach needed to maintain the highest possible (95%+) perceived value of computers, internet and broadband within the region by _____.**

e. **Sustain the level of training by Year ____ needed to ensure that all that desire such training receive the level that they need to sustain their desired quality of life** - Also, in working with business and industry, ensure that the level of training remains high to both retain and attract knowledge and information-based businesses.

**Policies**

a. It will be important for the State to both support and design templates for outreach campaigns, that can then be tailored locally, to heighten the perceived value and enable individuals and businesses to make reasonable cost/benefit, price/value comparisons. The desired outcome is increasing computer/internet/broadband technology literacy and use.

b. There should also be incentives given to non-profits, businesses, educational and public sector entities to expand current educational and training programs in this area, or to start-up new educational and training programs.
Action Items/Implementation Plan

[SMCOG to separate the action items listed below into short-term, medium-term and long-term items]

[RTPT members to separate the action items listed below into short-term, medium-term and long-term items]

a. Develop a Statewide template and local outreach plan and associated materials by ____.

b. Establish a list of educational/training partners that can enhance and expand their programs by ____.

c. Implement the outreach plan by ____ through partnering with those that currently educate and train in this area, as well as new partners (business, healthcare, industry, community services, etc.) that would find benefit in outreach to its workforce and client base.

d. Structure plans to enhance and expand existing programs by ____.

e. Continue outreach efforts

f. Expand existing programs by ____. Then, start up programs with additional participants who have responded to the outreach program.

g. Evaluate both the outreach efforts and the expanded training efforts by ____.

h. Adjust efforts during ____ based on the outcome of initial efforts to better target outreach; continue sustaining and expansion of, successful, existing programs and plan for and implement new programs by ____.

i. Evaluate all efforts to-date in ____.

j. Change to a sustaining mode by ____ if 95% of residents and businesses indicate that they are sufficiently trained or are able to access training when needed to advance their skills.

Resources Needed

[SMCOG to determine whether the timeframes below are short-term, medium-term and/or long-term.]
[RTPT members to determine whether the timeframes below are short-term, medium-term and/or long-term.]

a. Financial

- **Outreach Programs** – Funding will be needed at both the State and regional level to: develop a template; tailor it locally; work with existing and potential partner organizations; develop outreach materials; and publicize training and education programs. Funding will also be needed to sustain and expand these efforts as needed over the planning horizon, as well as continually evaluate and modify these efforts as needed.

It is recommended that full time staff at the State and local level be responsible for the outreach efforts with supporting operational materials and resources. Accordingly, up to an estimated $100,000 should be allocated for this in Year ____ ($50,000 at the State level and $50,000 at the regional level).

For Years ____, this could drop to approximately $50,000 annually ($25,000 at each level).

- **Training and education programs** – These are at the heart of adoption spurring programs, and as such will take significant financial resources to implement, especially initially.

On a region-wide level, expanding existing and adding new programs (as referenced above) could potentially take upwards of $100,000 to $250,000, which would need to be sustained for both maintenance and expansion purposes through _____. Evaluation can be made at the end of Year ____ to see if such budgets could be reduced.

- **Grant availability** – There are a variety of educational grants for at least the short-term that are available from foundations, educational associations, other non-profits (such as One Economy), and the federal government. Additional ones are anticipated. One resource to start with is One Economy, which has recently been tapped by the FCC to lead its “Connect 2 Compete” initiative. As such, funding for grant writing resources will be critical. Such grant writing funding should be seen as an ongoing expense until at least 95% levels of training/education have been obtained.

b. Human
**Outreach Programs** – Regarding outreach, human resources will be needed, including both those at the State and regional level that have a background in education, training and marketing communications. Again, we anticipate that this will be a fulltime job for at least the first ___ Years of the planning horizon.

**Training and education programs** – This will require trained educators, as well as “train the trainer” personnel. Some of these positions will be existing, and will handle expansions in attendance at their existing programs. Other programs and classes at existing locations will need to be established, perhaps doubling the number of educational/trainers at some existing locations and adding new ones at other locations. Once the results of the outreach are known, the exact education/training workforce needed over the length of the planning horizon will need to be more finitely determined. This may also adjust the initially proposed budgets under financial resources.

c. **Organizational**

**Similar to the above, we anticipate that coordinative efforts will be needed at the SMCOG level under a continuing regional broadband enhancement program** - Beyond this, every partner organization will need to coordinate with SMCOG, specifically those involved in the outreach and education training effort. It would also be wise to establish at least a virtual (by electronic means of meeting and communication) Education and Training Committee which involves chief administrators of the training components of healthcare organizations, workforce development entities, Chambers of Commerce, large businesses and industry, School Districts, Missouri State University, Ozarks Technical Community College, the Libraries, etc.

d. **Technical**

**Potentially additional hardware/software to support the training and education efforts, as well as additional or expanded broadband connectivity at training and education locations will be needed.** If funds are provided for new hardware/software, it is likely that existing locations that have been set up for training to-date can be expanded. Where that is not feasible, classroom/training room design work may be necessary.

e. **Training/Education**
It would be useful to develop a tailored curriculum which would focus on the specific issues of the Southwest Missouri region. This should include computer/internet/application/broadband skills that are highly valued and utilized in agriculture; industrial and manufacturing organizations and small businesses within the region, or those businesses and industries that are desirous of either relocating to the region or those that it would be beneficial to attract to the region, such as additional knowledge/information-based businesses; skills that are needed to support the tourism industry, such as highly graphic intensive and interactive web design to attract tourists and vacationers; and others. This curriculum could be developed as a template at the statewide level and then tailored regionally.

Timeline/Benchmarks

[SMCOG to consider the timeline needed to reach the following benchmarks]

[RTPT members to consider the timeline needed to reach the following benchmarks]

b. Outreach

- Outreach efforts designed and implemented by the end of Year ____.
- Outreach efforts evaluated and modified by Year ____.
- Outreach efforts continuing and measured for success in Year(s) ____.
- Outreach efforts evaluated for level of continuation for Year(s) ____.

c. Training/Education

- Partners for both expansion of existing programs and development of new programs determined by the end of Year ____.
- Expansion of existing programs by the end of Year ____.
- Addition of new programs by the end of Year ____ as well as evaluation of existing programs.
- Evaluation of existing and new programs during Year(s) ____.
- Evaluate at what level the program should be continued at the end of Year ____.
Availability

Goals

There are two major goals to increase availability of broadband in the Southwest Missouri region. They are:

1. Expand broadband availability such that it meets and exceeds the Governor’s goal of 95% availability to the entire Southwest Missouri region
2. Expand broadband capacity where there is currently broadband access, such that individuals and businesses have access to:
   - Multiple providers
   - Multiple technologies
   - Multiple tiers of access, up to and including the highest levels of individual and business/institution access envisioned for the future in the National Broadband Plan (up to 100 Mbps download and 50 Mbps upload provided to residents and up to 1 Gbps or more provided to community anchor institutions and any businesses that desire such speeds).

The strategies and the elements to implement these goals are described in detail below.

1. Expand Broadband Availability such that it Meets and Exceeds the Governor’s Goal of 95% Availability for the Entire Southwest Missouri Region

[SMCOG to determine whether the objectives below are short-term, medium-term and/or long-term.]

[RTPT members to determine whether the objectives below are short-term, medium-term and/or long-term.]

Objectives

a. Work with providers in Year(s) ___ to design initiatives to expand broadband to ensure dial-up and satellite customers have affordable, high-speed internet choices – Although all existing providers in the Southwest Missouri region should be involved in this effort, a review of the State’s
b. In Year ____ begin to implement the design initiatives discussed and agreed upon in Year ____.

c. In Year(s) ____ – Continue to expand high-speed, affordable broadband to all within the region as soon as feasible to reach 95+% availability in the Southwest Missouri region within the ____ Year planning horizon.

d. Maintain and expand broadband networks to reach 100% availability in the Southwest Missouri region as of Year ____.

Policies

a. It is already stated as a policy that broadband be available to 95% or more of the population statewide by 2014. A review of broadband availability maps shows that this has already been achieved for a significant portion, but not for all, of the counties within the Southwest Missouri region. Accordingly, the focus should now be on any remaining unserved areas, where dial-up and satellite are predominant. Consistent with the discussion above related to the provision of basic broadband service, similar incentives should be considered to begin by focusing on remaining unserved areas and provide them with at least basic broadband service availability.

This is not only a regional and statewide initiative, but also a national initiative. Providers, for example, should be able to tap in to the Connect America Fund (CAF) program to help accomplish this. The Southwest Missouri Broadband Development Program should work with providers regionally, as well as the State working at a statewide level, to assist providers in any way feasible to access such funds.

Action Item/Implementation Plan

[SMCOG to separate the action items listed below into short-term, medium-term and long-term items]

[RTPT members to separate the action items listed below into short-term, medium-term and long-term items]
a. SMCOG Broadband Development Program works with all providers, especially the providers discussed above, to develop design initiatives during Year ____.

b. Necessary funding and support is also obtained during Year ____ of the initiative.

c. Broadband system availability is expanded to reach 95+% throughout Southwest Missouri by Year ____.

d. Additional broadband system new build and expansion efforts begin in Year ____ and continue until 100% availability is achieved by the end of the ____ Year planning horizon.

e. Broadband availability is maintained at the 100% level and capacity is increased as discussed below as of Year ____.

Resources Needed

[SMCOG to determine whether the timeframes below are short-term, medium-term and/or long-term.]

[RTPT members to determine whether the timeframes below are short-term, medium-term and/or long-term.]

a. Financial

- Until designs are chosen, it is not known exactly how much funding will be needed to build out to the 95+% level and then to the 100% level of broadband availability within the Southwest Missouri region. This includes both Capital funds and the incremental operational cost that will be required to support the expanded networks. Detailed figures should be developed during Year ____ of the design phase, first for the targeted unserved areas described above and then for others, to determine costs to achieve the 95+% level by Year ____ and then the 100% level by the end of the ____ Year planning horizon. These should be determined in Year ____ and agreement reached both at the regional and state level on the appropriate level of funding needed. Then funds can be procured and the build initiated.

- Grant and other funding source application development – The region and the State should stand ready to support the providers in obtaining CAF funding (where pertinent), USF funding (until it is no longer available) and other infrastructure development funds to support the infrastructure builds designed.
b. Human

- There will be a variety of human resources needed, some which are factored into other activities, such as administrative and operational human resources at the State and regional level. A number of human resources will also be needed at the service provider level in order to design and build the network expansions.

c. Organizational

- Similar to the above, organizations involved will include the State, SMCOG, and the service providers.

d. Technical

- Primary technical resources will come from the service provider, including the design and engineering of the infrastructure expansions to achieve the levels of broadband availability within the timelines discussed above.

- There will also need to be some technical resources at the State and local level to evaluate the plans of the service providers.

e. Training/Education

- No additional resources are needed in this category, beyond those already described above for educating those on the utility of the broadband services that will be made available to them.

Timeline/Benchmarks

[SMCOG to consider the timeline needed to reach the following benchmarks]

[RTPT members to consider the timeline needed to reach the following benchmarks]

a. Design of infrastructure expansions to provide service to the unserved in the targeted areas described above by the end of ___.

b. Procurement of funding to implement the build by the end of ___.

c. Build out infrastructure to provide services to those targeted areas and achieve 95+ availability during Year(s) ___.

55
d. Design, secure funding and build infrastructure to provide 100% availability as of Year ____.
2. Expand Broadband Capacity throughout the Southwest Missouri Region

[SMCOG to determine whether the objectives below are short-term, medium-term and/or long-term.]

[RTPT members to determine whether the objectives below are short-term, medium-term and/or long-term.]

Objectives

a. Design capacity expansions during Year ___ where they are most feasible – For example, where plans are already on the drawing board, where it requires only swap-outs of equipment, in high-density areas where return on investment is relatively quick and the indicated need for higher speeds and competitive services is high.

b. Begin expansions of capacity in Year ___.

c. Continue capacity expansion in Year(s) ___ - Such that high levels of residential service (up to 100 Mbps download/50 Mbps upload) are available to residents and up to 1 Gbps is available to community anchor institutions and businesses in all areas with a non-rural population density (urban, suburban, incorporated areas, etc.).

d. Expand competition in Year(s) ___ - So that all areas with higher capacity also have multiple providers (more than 2) and multiple technologies (multiple wireline and wireless providers). This should provide the competition desired by residents and businesses. Such a competitive environment should also have a competitive market affect on pricing and incorporation of new technologies in order to stay competitive.

e. This also should include expansion of technologies by Year ___ that were heretofore not available to certain segments of the population. For example, while certain populated areas have both cable modem and DSL competition, just outside these areas there may be only wireless options or one wireline option.

f. Continue capacity expansion efforts so that by Year ___ everyone in the region has access to up to 100 Mbps for residential and up to 1 Gbps for community anchor institutions and businesses, including access to multiple technologies and multiple providers.
Policies

a. Capacity expansion is perhaps the most critical area where consensus policy-making needs to occur. For example, providers have noted during the assessment and planning process that they believe that some areas will not support competitive providers, because there is only a marginal return for a single provider. In other instances, providers indicate that the lack of cost-effective middle-mile infrastructure creates a climate where capacity cannot be expanded in an affordable way.

However, this dynamic significantly changes if the need and desire for adoption increases, based on the adoption spurring efforts detailed above. Additionally, if more services are available for both residential and business, the price/value comparison will move in a higher price direction, thus supporting the operation of competing providers with multiple technological solutions, the ability to provide redundant circuits, etc. and other characteristics which have shown to positively increase the amount of income expended on broadband services and related hardware applications.

Accordingly, it will be important for the federal government to continue to pursue the goals and objectives in the National Broadband Plan, which target, as an outcome, available, high capacity, competitive, affordable, broadband solutions for all. It is also important for the State to emulate these pursuits and establish statewide policies, including incentives, to spur availability such that it is ahead of, or at least consistent with, an increasing computer/internet/broadband adoption rate. A significant problem would occur if adoption is spurred, but broadband is not available. This has shown to cause significant consternation and subsequent abandonment of adoption efforts by individuals that face lack of availability.

Action Item/Implementation Plan

[SMCOG to separate the action items below into short-term, medium-term and long-term items]

[RTPT members to separate the action items below into short-term, medium-term and long-term items]

a. SMCOG Broadband Development Program works with all providers, especially the providers with the characteristics discussed above, to develop capacity-enhancing initiatives during Year ___.
b. Necessary funding and support is also obtained during Year ____ of the initiatives.

a. Capacity expansion efforts begin in Year ____ and continue until all non-rural areas have multiple competing providers offering multiple technological solutions, with up to 100 Mbps for residents and up to 1 Gbps for community institutions/businesses by the end of the ____ Year planning horizon.

b. All Southwest Missouri region residents and businesses have access to multiple, high capacity broadband as of Year ____.

Resources Needed

a. Financial

- **Similar to the above, it is not yet known what the financial implications are of development of higher capacity, competing provider and technology options, until such options are designed and return on investments evaluated.** It is known, that while competing options may cause initial reductions in price, thus initially reducing revenues, ultimately, if the need that has been defined herein is met, such options will expand the market by adding consumers, and expand the market by increasing the revenue per household or business, including instances where both business and residential consumers are choosing multiple providers (based on meeting fixed and mobile access, redundant and higher capacity needs for both work and residential applications).

It is likely that expanding capacity will be significantly cost efficient in a number of cases such as expanding the capability of current cable modem-based DOCSIS 3.0 solutions to provide greater capacity for residents and businesses, or where line extensions can be expanded from the core (for example to expand DSL and/or cable wireline competition in areas where either one or the other could expand from their existing network to provide competitive services). Additionally, it is feasible that an aggregation of demand could help spur development of new, cost-effective middle-mile infrastructure. Further, new middle-mile infrastructure from Sho-Me Technologies will help establish cost-effective system expansion options.

All of these options will need to be designed and evaluated. Where the return on investment is viable, these should be the first areas to see an expansion in capacity.

b. Human
• Coordinating resources will need to be done at the State and regional level, to ensure that this “enhanced capacity” goal continues to be on the radar screen. Additionally, providers will need to allocate personnel to focus on this as part of their medium and long-term planning.

c. Organizational

• Capacity expansion will be a significantly beneficial effort, but it must come on the heels of critical efforts to provide service to the unserved and underserved. However, some of the resources of both the State’s MoBroadbandNow Office as well as SMCOG’s Broadband Development Program need to be devoted to this effort, because it serves a critical need as well. Specifically, as capacity, technology and competition is expanded in an area, they continue to help open up greater opportunities for economic development and expansion in all sectors.

d. Technical

• Similar to the above, while some technical resources will be needed at the State and local level to evaluate the plans of the service providers, most of the technical resources will come from the provider community itself. This will include not only operational, design and engineering personnel, but also research and development personnel at both the State and Corporate level.

e. Training/Education

• Resources will be needed in this category to provide information on the benefits of enhanced access (faster speeds, new and additional applications, expanded use of portable technology, the need for redundant operations, etc.). The need for education and training should factor in again to the medium to long-term planning efforts of both the service provider community and the State and regional broadband programs.

Timeline/Benchmarks

[SMCOG to consider the timeline needed to reach the following benchmarks]

[RTPT members to consider the timeline needed to reach the following benchmarks]
a. Design initiatives during Year ___ to take advantage of expansion that is either currently on the drawing boards or could be done in a relatively short order with a known, reasonable return on investment.

b. Implement these capacity expansion efforts in Year ___, as well as beginning designs to bring expansions and capacity to the entire region.

c. Focus on expanding capacity, access to middle mile infrastructure, multiple providers and technology options during Year(s) ___ to those areas that currently only have a primary or two providers.

d. The long-term planning horizon should see 100% of the region with three or more providers, fixed and mobile, with residential capacity up to 100 Mbps per home and community anchor institution/business capacity up to 1 Gbps per business by Year ___.

[SMCOG provides additional detail for any of the above Strategic Directions, Goals/Objectives and others they believe are necessary here, if any, based on their analysis]

[RTPT provides additional detail for any of the above Strategic Directions, Goals/Objectives and others they believe are necessary here, if any, based on their analysis]

Additional detail supporting this Strategic Plan can be found in the Attachments.

#
ATTACHMENTS

(Provided in Separate Documents)