MOVRC
Mid-Ohio Valley Regional Council

REGIONAL BROADBAND
STRATEGIC PLAN

Funded and supported by

TABLE OF CONTENTS

INTRODUCTION

At the request of the State, the Mid Ohio Valley Regional Council (MOVRC) has facilitated the development of a regional broadband strategic plan (strategic plan). In order to develop the plan, a Regional Broadband Planning Team (RBPT) was formed with representatives from government, healthcare, education, the broadband community, and the private sector. These individuals were recruited based on their reputation in the community, and their breadth of local knowledge and experience of broadband challenges. The MOVRC would like to thank all of the team members who volunteered their time and resources to make this a successful project. The goal of the project was to outline the current broadband environment, make recommendations for expanding and enhancing broadband in the region, and to provide strategies to state and local governments for implementation.

Funding for this broadband strategic plan was provided by the West Virginia Geologic and Economic Survey, Office of GIS Coordination (WVOGC) through a grant from the National Telecommunications and Information Administration (NTIA) in collaboration with the MOVRC.

PROJECT OVERVIEW

The RBPT conducted a broadband needs assessment to ensure that it had an understanding of the current broadband environment in Region 5. To accomplish this, the RBPT surveyed residents and businesses throughout the region and reviewed existing studies (e.g., Federal Communications Commission (FCC) reports, state broadband maps, state speed test data, unserved and underserved areas, and economic development plans).

With this knowledge, the RBPT identified the region's Strengths, Weaknesses, Opportunities, and Challenges (SWOC). Next, the RBPT outlined six (6) broadband strategic objectives to help improve broadband availability, reliability, and utilization throughout the region. To effectively garner broad participation in the planning effort, the RBPT utilized broadband technology and virtual meetings to conduct the majority of their planning meetings. This enabled participation from all eight (8) counties without requiring lengthy travel. Thus decreasing volunteer time commitment and increasing participation. The strategic objectives are outlined in this plan and include implementation strategies needed to successfully meet each goal. The strategic plan will be provided to the state and local government for implementation.

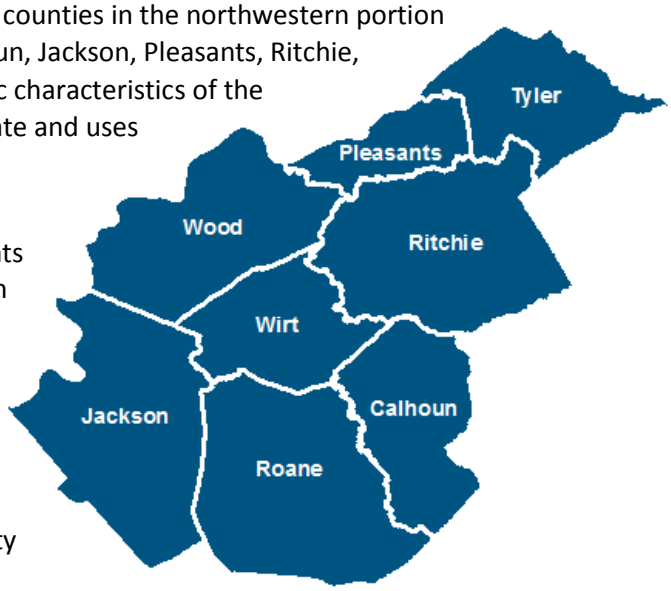
EXECUTIVE SUMMARY

As a result of the strategic planning effort, the RBPT determined that isolation, education, and infrastructure were the three key factors that impact broadband in the region, and therefore are critical to shaping the strategic objectives for this plan. **For example**, ***only 28% of residents and 41.5% of businesses have broadband speed according to the FCC definition (4Mbps/1Mbps).*** The following matrix provides an at-a-glance summary of the six (6) strategic objectives that were formulated as a result of identifying these factors, and each of the corresponding goals defined during the strategic planning process. The summary provides a quick review of the overall objectives and the level of effort required to implement the objectives.

STRATEGIC OBJECTIVE	GOAL
S.O.1: Support/Advocate universal broadband services to unserved areas in the Region.	Goal S.O.1.1: Inventory households and businesses.
	Goal S.O.1.2: Aggregate demand.
	Goal S.O.1.3: Engage broadband provider community.
	Goal S.O.1.4: Monitor and support the implementation of disruptive technologies to provide broadband to unserved areas.
	Goal S.O.1.5: Discuss opportunity with the state.
	Goal S.O.1.6: Engage foundations for assistance.
	Goal S.O.1.7: Consider municipal or P3 options.
S.O.2: Seek ways to reduce cost of broadband services and equipment.	Goal S.O.2.1: Identify and support programs that provide reduced cost broadband services.
	Goal S.O.2.2: Monitor and leverage existing federal programs.
	Goal S.O.2.3: Support a computer refurbishing program.
S.O.3: Promote the development of online applications by local entities (i.e., governments and businesses).	Goal S.O.3.1: Provide information regarding potential online content and service offerings and how they can be developed.
	Goal S.O.3.2: Establish innovation support group.
S.O.4: Support a "dig once" policy to encourage broadband providers to lay fiber in conjunction with road, water, and sewer infrastructure.	Goal S.O.4.1: Work with local planning officials to encourage expansion of existing zoning, subdivision, and ordinance policies to include broadband infrastructure as part of the development process.
	Goal S.O.4.2: Identify subject matter experts to assist with technical guidance and development of amendments.
	Goal S.O.4.3: Coordinate a meeting of the local planning officials and subject matter experts.
S.O.5: Encourage non-profit organizations, higher education institutions, and other stakeholders to partner with the Region to ensure the public has access to free or reduced-cost training programs.	Goal S.O.5.1: Conduct a gap analysis on existing programs.
	Goal S.O.5.2: Promote existing educational opportunities and services.
	Goal S.O.5.3: Work with stakeholders to develop necessary courses that are not offered.
S.O.6: Identify broadband expansion and funding opportunities through gas drilling efforts.	Goal S.O.6.1: Meet with Industry Leaders and Trade Organizations.
	Goal S.O.6.2: Develop a comprehensive funding strategy.
	Goal S.O.6.3: Implementation of the Funding Strategy.

REGIONAL OVERVIEW

West Virginia's Mid Ohio Valley Region encompasses eight counties in the northwestern portion of state along the Ohio border. The Region includes Calhoun, Jackson, Pleasants, Ritchie, Roane, Tyler, Wirt, and Wood Counties. The socioeconomic characteristics of the region provide some insight into the potential utilization rate and uses of broadband services.



- Home to Parkersburg, Wood County is the most populous county in the Region with 86,956 residents reported in the 2010 Census. While the population of the Region as a whole increased slightly (0.37%) between 2000 and 2010, Wood County's population declined by 1.2%. Four counties in the Region drove the Region's growth with increases in population. Jackson County had the greatest population growth in that period at 4.3%, followed by Pleasants County (1.2%), Ritchie County (1.0%), and Calhoun County (0.6%). Tyler County experienced the greatest decline in population at -4.0%.
- The concentration of residents between the ages of 25 and 64, the age range that represents the Region's workforce, is relatively consistent in all eight counties in Region 5, and is slightly higher than the national and statewide concentrations. Tyler County leads the region in the senior population, with a concentration of 19.2% who are over the age of 65. In contrast, Wirt County has the lowest percentage of seniors, with a concentration of 16.3% who are over the age of 65. The concentration of young children in Region 5 (under the age of 15) is consistent with state levels, but lower than the national trend.
- In 2012, the median household income in Region 5 ranged from a high of $39,633 in Wood County to a low of $27,730 in Roane County. Households in Region 5, as well as in West Virginia, have lower median incomes than the continental U.S. with income gaps of $10,000 + in 2012. In 2012, the estimated gap between local median incomes and the national median ranged from over $10,400 in Wood County to nearly $22,400 in Roane County. With the exception of Wirt County, the gap is expected to continue to widen through 2017. Between 2012 and 2017, the median income in Wirt County is expected to close its gap by $680 to a total gap of just over $12,800. Wood County's gap by 2017 is expected to increase by nearly $700 to around $11,160.
- The level of educational attainment in Region 5 is similar to that of West Virginia, and slightly lower than the United States. Historically, the region relied heavily on manufacturing, so an education beyond high school wasn't necessary to earn a good income. In recent decades, however, educational attainment has increased and the percent of the population with at least a college degree has more than doubled since 1970. The most common level of educational attainment is still a high school diploma, held by 41.1% of the region. Approximately 22.2% of the region's population has an associate's degree or above, and 15.3% has a bachelor's degree or above. Wood County, home of the WV University Parkersburg, has the highest rate of attainment of a bachelor's degree or higher within the region. Calhoun County lags behind the region in educational attainment of a bachelor's degree or higher. The increase in educational attainment in the Mid-Ohio Valley Region in the last several decades suggests increased needs for broadband connections.

- According to data obtained from the U.S. Census Bureau's Local Employment Dynamics, there were 59,603 jobs in Region 5 in 2011, 65.9% of which were located in Wood County, 12.7% in Jackson County, 5.4% in Roane County, 5.1% in Ritchie County, and less than 5% in each of the remaining four counties. Between 2006 and 2011, employment in Region 5 decreased by nearly 2,400 jobs. During that time period, seven of the region's eight counties experienced declines in employment ranging from a decline of 14 jobs in Roane County to a decline of 1,162 jobs in Jackson County. The employment level in Tyler County increased by 272 jobs during this time period.
- The largest industry sector in Region 5 in 2011 was the health care and social assistance sector, comprising 18.4% of the region's employment base. In addition to being the largest sector, this sector grew by 11.6% between 2006 and 2011, adding 1,143 new jobs. The second-largest industry sector in the region was the retail trade sector, which comprised 15.2% of its employment base. The manufacturing sector, the educational services sector, and the accommodation and food services sector follow as the next-largest industry sectors, each employing between 9% and 10% of workers in Region 5.
- Because of its rural nature and the locations of its economic centers, Region 5 has significant levels of workforce commuters. Wood County has the lowest percentage of outbound commuters at 43%. The percentage of outbound commuters in other areas of the Region ranges from 62% in Ritchie County to 95% in Wirt County. As employers move toward more workplace flexibility, an increasing number of workers telecommute, increasing the demand for broadband services in residential neighborhoods throughout the region. Residents who travel significant distances to work, and hold jobs with flexibility to telecommute represent demand for broadband services.

Even though Region 5 as a whole experienced an overall decline in population and employment over the past decade, four of its counties experienced growth in population, which suggests an attractive quality of life, which is an essential ingredient for economic growth. Access to affordable and reliable broadband service is essential to supporting economic growth in Region 5, and also plays a significant role in maintaining the attractiveness of the area to residential and commercial developers and to businesses looking to expand or relocate to the area. The existing quality of life in the area and a comparatively low cost of living, coupled with the region's transportation corridors and its solid economic development plans make the region attractive for both residential and business growth. Population and business growth will increase demand for broadband services in the region. In addition, as higher education institutions transition from traditional classroom settings and increase their online education options, the demand for broadband coverage will increase to meet the needs of students in neighborhoods throughout the region. Ensuring that broadband infrastructure and redundancies are in place in priority areas with affordable, reliable broadband service is critical to the attractiveness of Region 5 for economic development.

KEY ASSESSMENTS AND FINDINGS

Through the analysis and independent research conducted by the RBPT, the following key assessments and findings have been assembled from county, regional, state, and federal surveys, studies, data sources, and reports. The RBPT reviewed best practices for sustainable adoption and increased utilization of high-speed broadband that were successfully implemented in other states. In some cases, high-speed broadband initiatives were a priority consideration, paramount to critical infrastructure such as roads, electricity, and water. Through this research, it was discovered that in order to provide fast, reliable access to underserved and unserved rural communities, motivation must exist for broadband and telecommunication providers to invest large capital expenditures. In other words, demand must be present in order to supply the need.

Resident and business consumers surveyed indicated an overwhelming need to have fast, reliable, and affordable robust broadband service considered essential to the daily operation of their businesses, and enhancing their quality of life. High speed Internet is viewed as a necessity to take advantage of online education and healthcare services, conduct online banking and bill payment, access entertainment, and serve as a communication tool. The lack of availability and low connection speeds in many areas potentially render the region unsuitable for home-based businesses. ***Based on the data results produced by the speed test taken and submitted by participants as part of the regional survey study, broadband speeds as defined by the FCC are not being met with the current technology and infrastructure that exists in Region 5.*** Additionally, Residents are very dissatisfied or dissatisfied with their broadband service and pricing.

Research was conducted to determine the current broadband situation in each of the counties. Internet service providers (ISP) were identified through the regional survey data and the state's broadband mapping program. ISPs' web sites provided a majority of the data. Outreach was conducted by calling several providers to validate the findings, and a comparison was performed on the region's raw survey speed test data. In some cases, business broadband information was only available to actual subscribers. Based on this research, many providers have a presence in all of the counties, their service offerings range from dial up to Metro Ethernet, and pricing ranges from $10 - $140.

The chart below illustrates the region's ISPs and their availability (cable, DSL, wireless, satellite) in each county. Please refer to the following page to see the list of providers, available speeds, and pricing information.

RESIDENTIAL OFFERINGS

County Name:	Internet Service Providers:										
	Armstrong	CAS	EarthLink	Frontier	HughesNet	StratusWave	SuddenLink	T-Mobile Wireless	Toast.Net Wireless	Verizon	Wild Blue Satellite
Calhoun			✓	✓	✓	✓		✓	✓	✓	✓
Jackson	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Pleasants	✓		✓	✓	✓	✓	✓	✓	✓		✓
Ritchie	✓		✓		✓	✓		✓	✓		✓
Roane			✓	✓	✓	✓	✓	✓	✓		✓
Tyler			✓	✓	✓	✓	✓	✓	✓		✓
Wirt	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wood	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓

BUSINESS OFFERINGS

County Name:	Internet Service Providers:								
	CityNet	CAS	EarthLink	Frontier	HughesNet	Lumos	StratusWave	SuddenLink	Time Warner
Calhoun	✓	✓	✓	✓	✓		Business Internet available but no details listed.	✓	✓
Jackson	✓	✓	✓	✓	✓			✓	✓
Pleasants	✓	✓	✓	✓	✓			✓	✓
Ritchie	✓	✓	✓	✓	✓			✓	✓
Roane	✓	✓	✓	✓	✓			✓	✓
Tyler	✓	✓	✓	✓	✓			✓	✓
Wirt	✓	✓	✓	✓	✓			✓	✓
Wood	✓	✓	✓	✓	✓	✓		✓	✓

Provider:	Speed (Mbps):	Pricing (per month):
Armstrong Utilities – Cable (Down/Up)	5 / .512	$40
CityNet – OCX (Business)**	OC3: 155, OC12: 622, OC48: 2450	No costs listed
CityNet - DS3 (Business)	45	No costs listed
CityNet - ISDN Speeds (Business)	.112	No costs listed
CityNet - ISDN (Business)	1 Band / 2 Band	$19.95 / $39.90
Comcast Cable (Home/Business)	Not available in area	Not available in area
CAS Cable	5 / 15 / 30 / 50 / 75	$34.95/44.95/64.95/74.95/89.95
CAS - Business Internet Speed	1000	$79.95 (with phone)
Earthlink - Standard DSL Speed (Business) (Down/Up)	6 / .768	$67
Earthlink - Dedicated ADSL Speed (Down/Up)	7 / .768	$97
Earthlink - Satellite Speed	5	$59.99
Frontier - DSL Speed (Down/Up)	6 / .768	$29.99
Frontier Business Speed	7/15/20/40	$49.99/79.99/109.99/139.99
Hughesnet - Satellite Speed (Down/Up)	5 / 1 – 10 / 1 – 10 / 2 – 15 / 2	$49.99/59.99/79.99/129.99
Hughesnet Business Speed	15	$69.99
Lumos Business	4 / 10 / 15 / 20 / 35 / 50	No pricing available
Ntelos Mobile Wireless Cost (Unlimited Minutes)	Not available	$10
Shentel DSL	Not available in area	Not available in area
Sprint	Not available in area	Not available in area
StratusWave DSL	3 / 5	$19.95/34.95
Suddenlink Cable	15	$35
Suddenlink Business (Down/Up)	6 /.768 – 8 / 1 – 12 / 2 – 20 / 5 – 50 / 8	$74.95/134.95/204.95/299.95/349.95
T-Mobile Wireless Speed (Down/Up)	2 - 5 / 1 - 3	500M: $20, 2G: $30, 4G: $40, 6G: $50, 8G: $60, 10G: $70, 12G: $80
Time Warner Cable Speed	Not available in area	Not available in area
Time Warner Business Speed (Down/Up)	7 - 15 / .768 - 2	Costs not listed
Toast.Net Wireless Mobile Data Plan (GB)	.5/1/3/6	$15/25/40/60
Verizon Residential Speed (Down/Up)	15 / 5 – 50 / 25 – 75 / 35	$49.99/59.99/69.99

Virgin Mobile	Not available in area	Not available in area
WildBlue Satellite Speeds (Down/Up)	12 / 3	10GB: $50, 15GB: $80, 25GB: $130
Windstream	Not available in area	Not available in area
Dial Up ISPs (offered in ALL counties):	**Speed (Mbps):**	**Pricing (per month):**
CityNet	56 Kbps	$16.95
EarthLink		$12.50
FrogNet		$14.95
Intergate		$9.95
LocalNet		$9.95
NetZero		$9.95
StratusWave		$9.95
WVNet		$16.95
Zzzip Dialup		$9.99

***CityNet offers "T1" and "Metro Ethernet" business plans but does not specify speed, cost, or availability on their website.*

Where noted as “not available in area”, either the provider was listed as an option on the survey form or the answer was written in the “other” option but the provider does not provide service, or the survey respondent was outside the 8-county area (i.e., Athens, Harrison, Lewis counties.)

Sampling of cities and zip codes used for reference:

- Grantsville, 26141
- Ravenswood, 26164
- St. Mary’s, 26170
- Harrisville, 26362
- Spencer, 25276
- Paden City, 26159
- Elizabeth, 26143
- Parkersburg, 26104

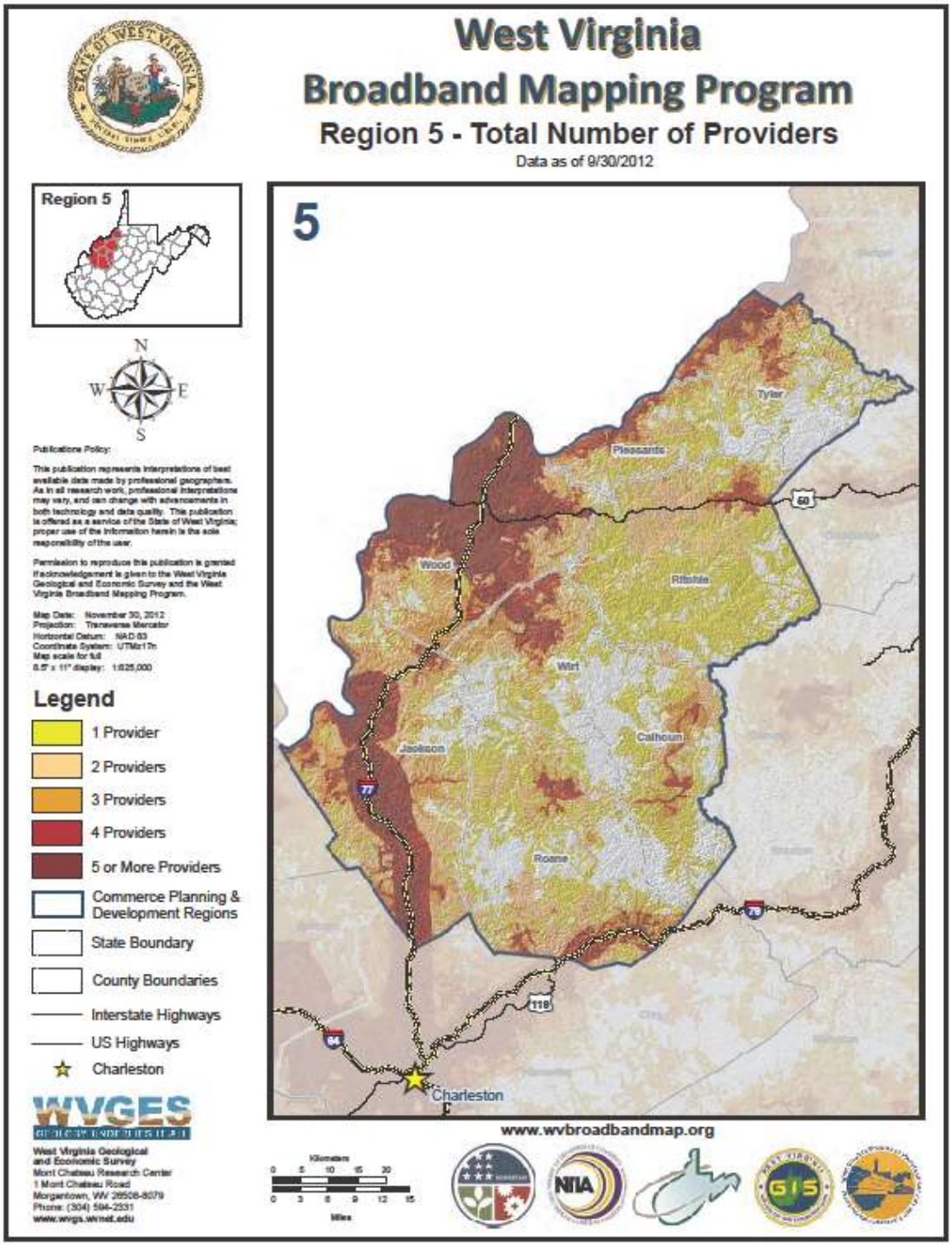
Provider service sources and references:

http://www.dslreports.com/comments/2626
http://www.citynet.net/page.cfm?mypage=Internet
http://www.cascable.com/coverage.html
http://www.cascable.com/business.html
http://order.frontier.com/Verification.aspx
http://www.ntelos.com/ncontrol
http://www.connectmyhighspeed.com/suddenlink/
https://www.suddenlinkbusiness.com/servicesproducts/Pages/Business%20Internet.aspx
http://www.t-mobile.com/coverage.html

WEST VIRGINIA BROADBAND COVERAGE

The West Virginia Broadband Mapping Program (WVBMP) worked with broadband providers throughout the state to map broadband availability information. The map below (see Figure 13) provides an overview of the number of broadband internet providers servicing Region 5.

Figure 13 – Number of Broadband Providers



WEST VIRGINIA UNSERVED BROADBAND ANALYSIS

The State of West Virginia used various criteria to classify areas as unserved by existing broadband providers into three main categories: Type 1, Type 2/Type 2 Priority, and Type 3. The Types are defined in the following manner:

Type 1

A **Type 1** unserved area is an area in which broadband may be deployed by service providers in an economically feasible manner.

Type 2 and Type 2 Priority

A **Type 2** unserved area is an area in which broadband may be deployed by broadband service providers and other entities in an economically feasible manner, provided some form of public money is made available. **Type 2 Priority** is an unserved area with population centers that should be targeted for grant funding. These areas have a higher likelihood of utilizing broadband service.

Type 3

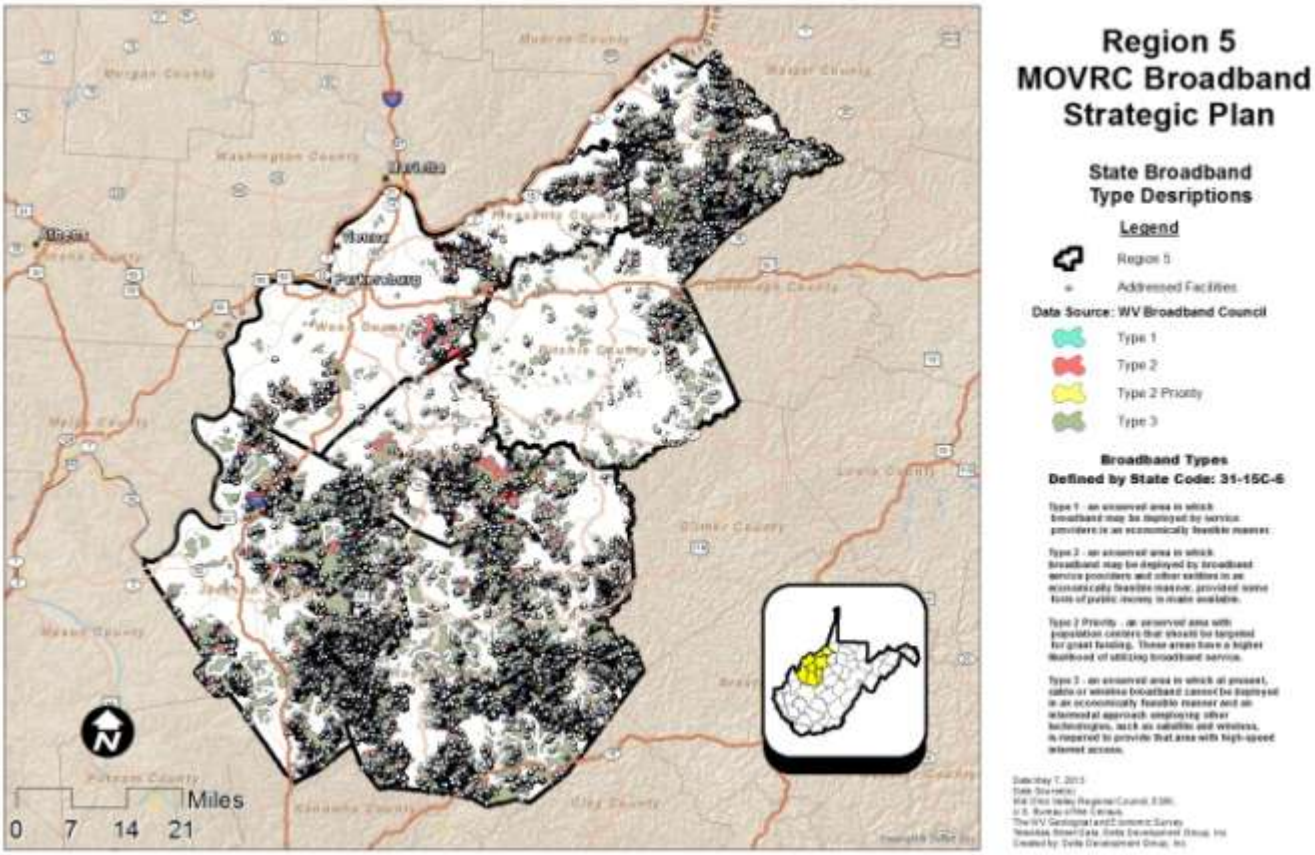
A **Type 3** unserved area is an area in which, at present, cable or wire-line broadband cannot be deployed in an economically feasible manner, and an intermodal approach employing other technologies, such as satellite and wireless, is required to provide that area with high-speed Internet access.

These areas were determined using a methodology developed by the state, which included analyzing various factors such as population density, population age, income, and proximity to existing networks. Each category was weighted on a scale indicating the likelihood to receive broadband service. See Appendix A to view a map of the typed areas in Region 5. The RBPT took the Type layers provided by the state and cross-referenced them with the West Virginia statewide 911 addressing data point layers (i.e., list of all addressed facilities in the state) to determine the number of facilities within each unserved type. Table 8 provides an overview of the analysis and Figure 14 maps the results.

Table 8– Unserved Areas by County, Type and Region

County	Type I	Type II	Type II Priority	Type III	County Total	% of Total Structures
Calhoun	76	1397	1060	69	2602	29%
Jackson	125	832	1156	83	2196	15%
Pleasants	30	238	338	3	609	10%
Ritchie	2	351	325	30	708	6%
Roane	113	2929	2187	220	5449	33%
Tyler	57	1967	1512	138	3674	34%
Wirt	24	798	616	61	1499	23%
Wood	20	54	297	0	371	1%
Total	***447***	***8566***	***7491***	***604***	***17108***	**15%**

Figure 14 – State Broadband Type Descriptions



FCC UNSERVED AND PARTIALLY UNSERVED BROADBAND ANALYSIS

The RBPT analyzed the FCC data layer that maps unserved and partially served by fixed broadband, with advertised speeds of 3 Mbps down and 768 Kbps up and the statewide 911 addressing data points. **According to this analysis 36% of the structures in the MOVRC are unserved by broadband and five (5) counties have more than 50% of their structures unserved (i.e., Calhoun, Pleasant, Roane, Tyler and Wirt).** See Table 9 for a detailed analysis.

Table 9– FCC Unserved and Partially Unserved Areas by County and Region

County	Unserved	% of Structures Unserved	Partially Unserved	% of Structures Partially Unserved	Total Unserved and Partially Served	% Total of Structures Unserved and Partially Served
Calhoun	5,944	**67%**	2,413	27%	8,357	95%
Jackson	3,972	27%	1,787	12%	5,759	40%
Pleasants	4,936	**79%**	90	1%	5,026	81%
Ritchie	613	5%	282	2%	895	7%
Roane	11,459	**69%**	2,235	13%	13,694	82%
Tyler	9,296	**85%**	336	3%	9,632	88%
Wirt	4,448	**67%**	427	6%	4,875	74%
Wood	1,393	3%	721	2%	2,114	5%
Total	**42,061**	**36%**	**8,291**	**7%**	**50352**	**43%**

RESIDENTIAL AND BUSINESS BROADBAND SURVEY FINDINGS

The MOVRC, in coordination with the West Virginia Geological and Economic Survey (WVGES), developed and released two regional broadband-related surveys (residential and business) in July 2012 to establish a broadband usage and capability assessment for the region. The surveys were modeled based on the examples published in the Regional Broadband Planning Team Toolkit. The Toolkit was provided to each region by the state to serve as a reference guide for their broadband planning purposes.

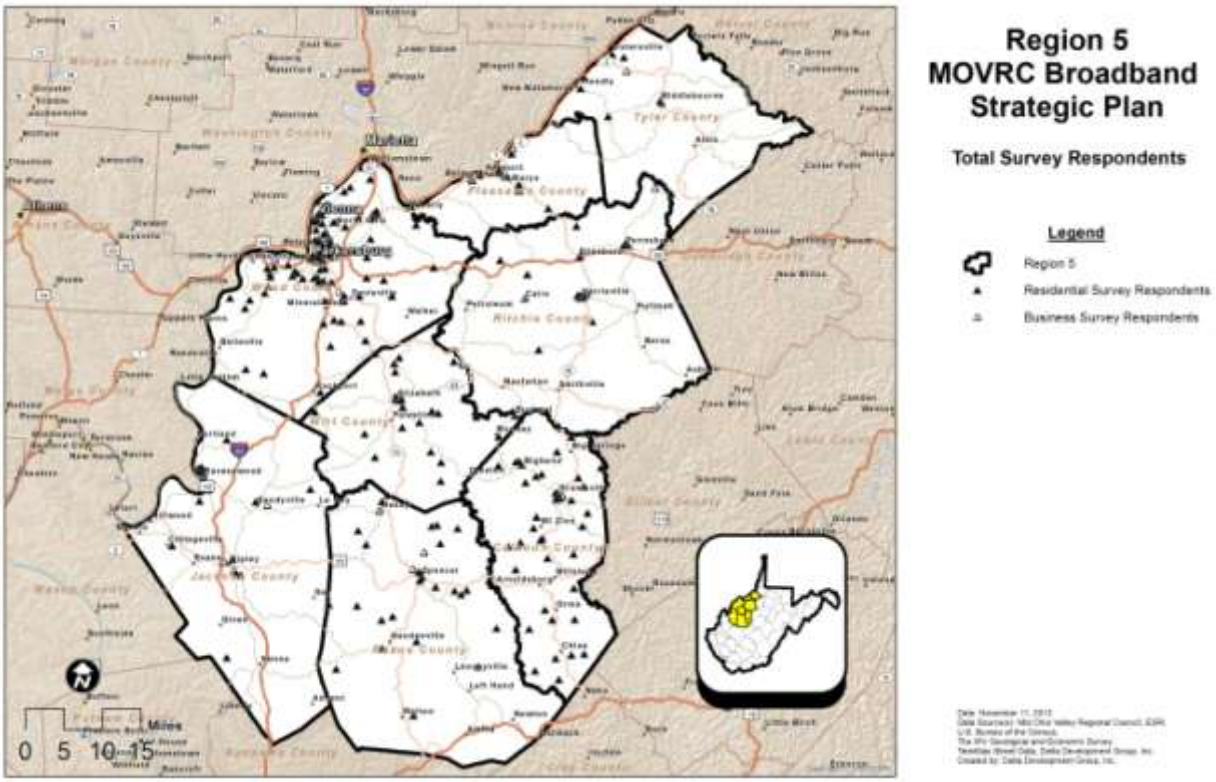
In total, 450 residential and business responses were received from the eight-county area (see Appendix B for copies of the surveys). Table 10 provides a detailed breakdown of respondents by county. Figure 15 maps business and residential survey respondents in Region 5. The map with the corresponding data can also be viewed in Appendix A.

Table 10: Survey Respondents by County

County	Residential	Business	Total
Calhoun	109	9	118
Jackson	16	5	21
Pleasants	10	4	14
Ritchie	24	8	32
Roane	24	5	29
Tyler	9	2	11
Wirt	43	4	47
Wood	103	11	114
Other*	57	7	64
Total:	**395**	**55**	**450**

** - Represents areas beyond the region's eight-county area (i.e., Athens, Clay, Wetzel, Ohio, United States, West Virginia, etc.), and errant data*

Figure 15 – Survey Respondents



Survey Outreach

Initially, the RBPT developed an outreach strategy that served as a guideline to effectively market and distribute the surveys and to ensure the surveys were conducted successfully. The residential and business surveys were made available to the public in numerous formats including online access through a link provided on the MOVRC's website. These surveys were distributed in paper form at post offices, courthouses, city halls, schools, and other public areas. Economic Development Authorities, Boards of Education, and Chambers of Commerce throughout the region were integral in distributing the surveys. A modified version of the residential survey was created for senior citizens that did not have Internet access but still had valuable, qualitative opinions on the matter. The RBPT utilized the Senior Companion Program and the Retired and Senior Volunteer Program, two region-wide programs that provide services for hundreds of senior citizens, for distribution.

According to the survey results, when the respondents were asked how they learned about the survey study, the top answers were through the local printed newspaper, the online local newspaper, and by word of mouth. Other methods cited for learning about the survey included:

- schools, libraries, and senior centers
- e-mail
- television and radio
- work
- local EDA's, Chambers, and various public agencies
- Facebook
- and MOVRC's website

The survey questions were aimed at seeking information about the general characteristics of Internet service, such as type of connection, who provides Internet service, connection speed, availability, reliability, cost, and overall satisfaction with service. Examples of the residential and business surveys can be found in Appendix B.

Residential Survey Data

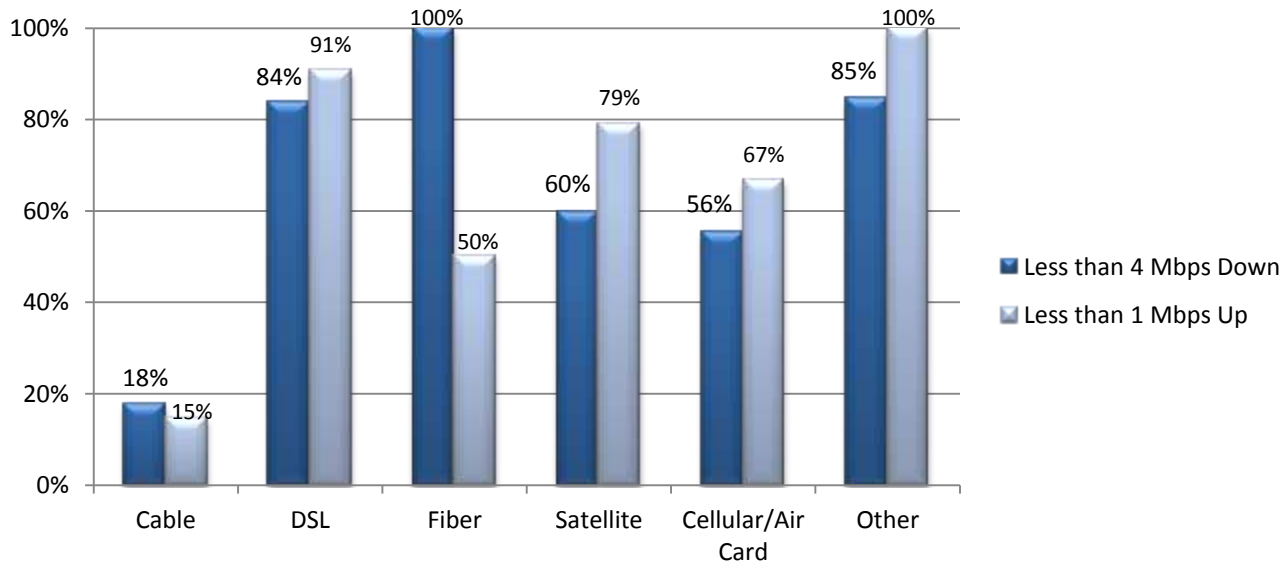
The RBPT conducted residential survey studies throughout the eight-county area to gather critical information to gauge availability of high-speed Internet access that would help form the basis of a strategic broadband planning report. A total of 395 respondents participated in the survey, with 54% of the responses submitted by Calhoun and Wood county residents. Those answering the survey were between the age range of 40 to 74 years old, and 69.5% of the total responses were submitted by females.

In addition to questions about the general characteristics of their Internet service, key pieces of information were collected, including who uses the Internet in the household, if telecommuting is an option, and other places where the Internet is used outside of the home. Those who answered the survey were largely the users of the Internet. If they used the Internet other than at home, it was either at work (64.9%), cellular phone (60.5%), at a relative or friend's house (59.3%), a public library (42%), retail stores (38.9%), or school (27.1%).

The surveys contained a link to the state's speed test tool. Survey respondents were asked to take a speed test to capture download and upload speeds. A variety of connection types were used for the speed tests – cable, DSL, fiber, cellular, satellite, however, the majority of the speed tests were conducted on cable or DSL connections. The speed test data was integrated into the maps to achieve a more thorough picture of the areas where there is no broadband coverage and speeds do not meet the FCC's broadband definition of 4 Mbps down and 1 Mbps up. ***Only 28% of residents have broadband speed according to the FCC definition (4Mbps/1Mbps)***

Figure 16 below outlines the percentage of residential respondents not meeting FCC speeds by broadband provider type. See Appendix A to view respondents not meeting the FCC speed definition mapped against the number of providers and the state priority type areas.

Figure 16 – Percentage of Residents not Meeting FCC Standard



Residential respondents that do not have high-speed Internet access indicated the top three reasons for not subscribing are:

- 38.1% - Broadband service not available
- 23.1% - Cost/too expensive
- 20.4% - Don't own a computer

69.5% of residential respondents that do not have high-speed Internet access indicated that if these concerns were addressed, they would utilize broadband Internet service.

Other key findings drawn from the residential survey data demonstrate that

- 85.4% of residents surveyed have Internet access in their home
- 87.2% responded that they are the primary users of their home Internet service
- 62.5% subscribe to either cable or DSL service
- 91.7% chose the connection type based on speed and availability of service
- 70% pay between $19.95 - $60 per month for Internet

- 78.9% of respondents indicated that their employer does not allow telecommuting
- 57.6% of respondents use Internet other than their home (i.e., work, library, relative or friend's house, cell phone), and
- 58% of residents are serviced by two broadband providers

Table 11 illustrates the overall satisfaction rating of residents' Internet connection.

Table 11 – Overall Satisfaction with Internet Services: Residential

Internet Characteristics	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Speed of Connection	6.5%	25.6%	**31.3%**	**36.6%**
Cost of Internet	3.4%	22%	**42.3%**	**32.4%**
Technical Support	7.6%	38.6%	**29%**	**24.8%**
Reliability of Access	7.3%	30.4%	**30.1%**	**32.1%**
Customer Service	8.7%	38%	**30.4%**	**22.8%**
Number of Providers	1.4%	18.9%	**31.8%**	**47.9%**

In summary, the results reveal that survey respondents are either dissatisfied or very dissatisfied with all of the characteristics of their current Internet service:

- 67.9 % very dissatisfied or dissatisfied with the speed of their connection
- 74.7% are very dissatisfied or dissatisfied with the cost of Internet service
- 53.8% are very dissatisfied or dissatisfied with Internet providers' technical support
- 62.1% are very dissatisfied or dissatisfied with reliability of access
- 53.2% are very dissatisfied or dissatisfied with Internet providers' customer service, and
- 79.7% are very dissatisfied or dissatisfied with the available number of providers

Business Survey Data

The business survey study was conducted to determine the broadband usage, needs, and interests among local businesses. A thorough analysis of the surveys revealed there is a profound need for an enhanced broadband environment to benefit customer and client-based services. Additionally, participants of the business survey were provided with a link to the speed test. The speed test data analysis shows that over 58% do not meet the FCC standard transmission speeds of 4 Mbps down and 1 Mbps up. In conclusion, the consensus is the lack of robust broadband access significantly affects future business growth and economic development.

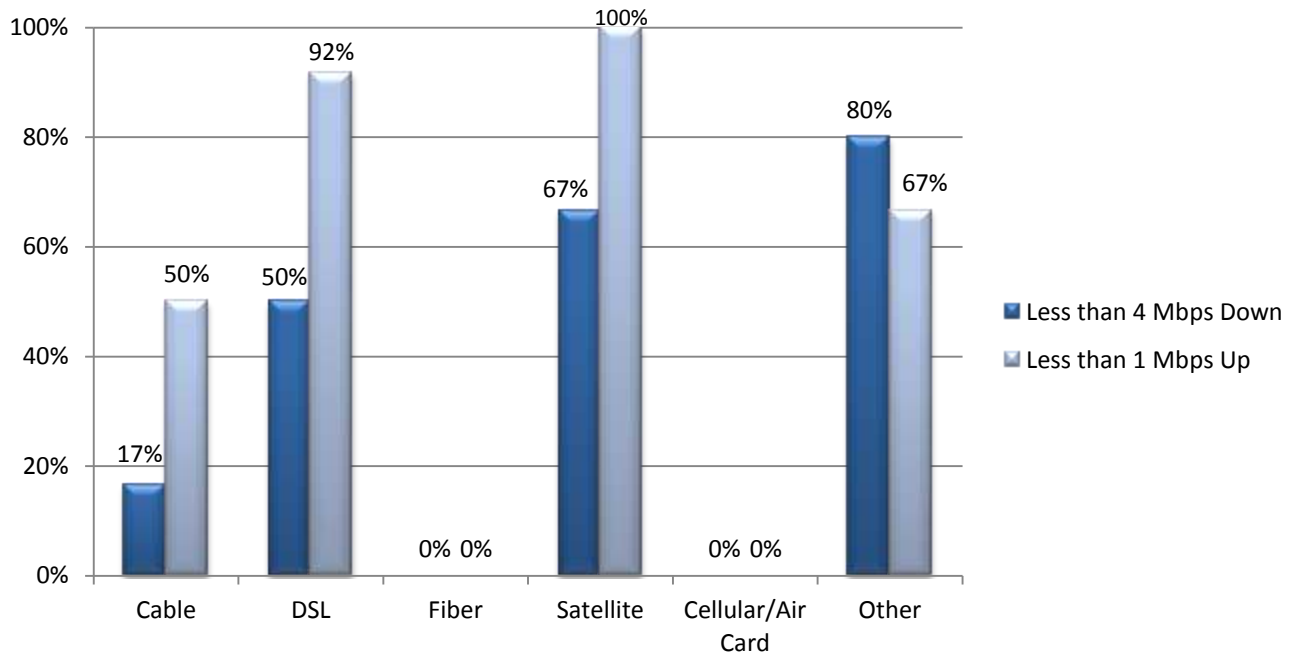
When seeking broadband Internet services to enhance operations, 75% of businesses described the availability of multiple, competing broadband provider options as not competitive, with only one or two providers to choose from. Additionally, 16.7% of businesses responded high speed Internet service simply was not available for their location. Out of the 53 businesses that participated in the survey, 75.5% employed from 1 to 25 employees.

Key findings drawn from the business surveys are highlighted below.

- 94.3% of businesses surveyed have Internet access
- Two (2) providers service 61.5% of businesses
- 90.4% connect to the Internet using cable, DSL, or fiber
- 65.3% do not allow their employees to telecommute
- 29.2% pay more than $50 and less than $100 per month for service
- 82.6% cited a robust broadband connection as very important to their day-to-day operations
- 84.8% agree that if the broadband environment is enhanced, it would benefit their customers and clients
- Only 41.5% of businesses have broadband speed according to the FCC definition (4Mbps/1Mbps) – See Figure 17

Figure 17 below outlines the percentage of business respondents not meeting FCC speeds by broadband provider type. See Appendix A to view respondents not meeting the FCC speed definition mapped against the number of providers and the state priority type areas.

Figure 17 – Percentage of Businesses not Meeting FCC Standard



**Note – Businesses that took the speed test did not use a Cellular/Air Card connection type.*

Businesses were asked to rate their overall satisfaction with aspects of their Internet service. In stark contrast to the residential survey satisfaction ratings, Table 12 below clearly illustrates that businesses are satisfied or very satisfied with their Internet services, if they can get service. Businesses are satisfied or very satisfied with the speed and reliability of their connection, the providers' billing practices, technical support, and customer service. Moreover, the survey data for businesses shows that they are satisfied with what they pay for their Internet service.

Table 12 – Overall Satisfaction with Internet Services: Business

Internet Characteristics	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	N/A
Cost of Internet	**4.1%**	**59.2%**	24.5%	8.2%	4.1%
Speed of Connection	**8.2%**	**55.1%**	16.3%	14.3%	6.1%
Billing Practices	**10.2%**	**69.4%**	4.1%	2%	14.3%
Technical Support	**12.2%**	**59.2%**	8.2%	8.2%	12.2%
Customer Service	**12.2%**	**57.1%**	12.2%	6.1%	12.2%
Reliability of Access	**14.3%**	**51%**	20.4%	8.2%	6.1%

Those business respondents that indicated they do not have high-speed Internet cited these top two reasons:

- 71.4% - Broadband service not available
- 28.6% - Cost/too expensive

77.8% of businesses that do not have to high-speed Internet stated they would utilize broadband Internet service if these concerns were addressed.

SWOC ANALYSIS

After reviewing federal, state, and regional data, studies and surveys, combined with the RBPT's local broadband experience and knowledge, the RBPT conducted a SWOC analysis of the region's broadband capabilities. Figure 18 provides an overview of the top priority items in each quadrant.

Figure 18 – SWOC Analysis

STRATEGIC DIRECTION

The strategic direction section outlines the strategic objectives identified during the RBPT strategic planning process. The objectives are presented in order of priority as identified by the RBPT. This is followed by an implementation matrix that outlines the specific tasks and time frames for each strategic objective.

Currently an organization(s) and/or funding resources have not been identified to implement the broadband strategic plan. In the following sections, the **implementation team** refers to any organization or cooperative at the state or local level that decides to champion the implementation of one or all strategic objectives. The MOVRC will assist its members, as needed, in project planning and preparing applications for funding.

STRATEGIC OBJECTIVE S.O.1: SUPPORT/ADVOCATE UNIVERSAL BROADBAND SERVICES TO UNSERVED AREAS IN THE REGION.

MOVRC continues to have areas that are unable to receive Internet service other than through dial-up or satellite connectivity. In fact, the survey data clearly shows that residents and businesses cite the top reason they don't have high speed Internet access is due to the lack of broadband service in their area. Additionally, if service is available, it usually does not meet federal broadband speed definitions. **For example, *only 28% of residents and 41.5% of businesses have broadband speed according to the FCC definition (4Mbps/1Mbps).*** This limitation can affect the quality of life (e.g., healthcare, education, business opportunities) for residents and the competitiveness of businesses in these areas. Therefore, the implementation team may work to ensure broadband availability throughout the region.

Goal S.O.1.1: Inventory households and businesses.

The implementation team may develop an inventory of households and businesses that are unable to receive broadband Internet services. In order to focus on unserved and underserved areas, the implementation team may use multiple sources of data:

- The West Virginia statewide 911 addressing data point layers
- The state's Type I, II, and III priority area maps
- FCC data layer to the mapping project that shows areas that are reported as unserved by fixed broadband, with advertised speeds of 3 Mbps down and 768 Kbps up
- Address data from the RBPT's survey of individuals and businesses that indicated they do not have broadband available in their area

Utilizing the state's priority type data layers and the statewide 911 addressing data points, the RBPT has identified unserved cluster areas in each county. The implementation team may target these areas for demand aggregation as outlined in Goal S.O.1.2 below. Table 13 illustrates the number of unserved and underserved addressed facilities by County.

Table 13 – Unserved Areas by County, Type, and Region

County	Type I	Type II	Type II Priority	Type III	County Total	% of Total Structures
Calhoun	76	1397	1060	69	2602	29%
Jackson	125	832	1156	83	2196	15%
Pleasants	30	238	338	3	609	10%
Ritchie	2	351	325	30	708	6%
Roane	113	2929	2187	220	5449	33%
Tyler	57	1967	1512	138	3674	34%
Wirt	24	798	616	61	1499	23%
Wood	20	54	297	0	371	1%
Total	***447***	***8566***	***7491***	***604***	***17108***	**15%**

Utilizing the FCC data layer that maps unserved and partially served by fixed broadband, with advertised speeds of 3 Mbps down and 768 Kbps up and the statewide 911 addressing data points, the RBPT has identified unserved cluster areas in each county. The implementation team may target these areas for demand aggregation as outlined in Goal S.O.1.2 below. Table 14 illustrates the number of unserved and and partially unserved addressed facilities by County.

Table 14 – Unserved and Partially Unserved by FCC definition and County

County	Unserved	% of Structures Unserved	Partially Unserved	% of Structures Partially Unserved	Total Unserved and Partially Served	% Total of Structures Unserved and Partially Served
Calhoun	5,944	**67%**	2,413	27%	8,357	95%
Jackson	3,972	27%	1,787	12%	5,759	40%
Pleasants	4,936	**79%**	90	1%	5,026	81%
Ritchie	613	5%	282	2%	895	7%
Roane	11,459	**69%**	2,235	13%	13,694	82%
Tyler	9,296	**85%**	336	3%	9,632	88%
Wirt	4,448	**67%**	427	6%	4,875	74%
Wood	1,393	3%	721	2%	2,114	5%
Total	**42,061**	**36%**	**8,291**	**7%**	**50352**	**43%**

Goal S.O.1.2: Aggregate demand.

In order to demonstrate market demand, the implementation team may survey the identified residents and businesses to determine their desire to purchase broadband. The outreach may include educational information to demonstrate the benefits of broadband. This task may be accomplished through phone calls or a mailing. Furthermore, residents and businesses could be encouraged to sign a letter of intent stating that if broadband is provided at a specified service level for a specified price they will purchase the service. The information may be analyzed to determine if priority areas or regions exist.

Demand aggregation is an important step in increasing broadband availability. Broadband providers have informed the RBPT that when making network expansion decisions the key variables that are considered are capital improvement cost, operation cost, number of likely users, and return on investment. Identifying early adopters and likely users will help the provider community make clear investment decisions.

The implementation team may seek funding from the West Virginia Broadband Deployment Council to assist with demand aggregation. Demand aggregation in unserved and underserved areas is an eligible funding activity.

Goal S.O.1.3: Engage broadband provider community.

Once the total population and the initial level of interest have been assessed, the broadband provider community will be engaged to identify solutions. The implementation team may present the providers with an overview of the opportunity and discuss their ability and willingness to provide services. This may be accomplished through a provider conference or a request for information process. If no provider is interested in committing to providing services in the identified area, the implementation team may work with the provider community to identify barriers (e.g., capital expense, technical issues) to expanding broadband services.

Goal S.O.1.4: Monitor and support the implementation of disruptive technologies to provide broadband to unserved areas.

The implementation team may monitor the progress of potential disruptive technologies that may have the ability to provide broadband to unserved areas. Some of the technologies that will be monitored include the use of white space spectrum currently utilized by broadcast companies, advancements in broadband over power lines, and increasing speed and reliability of broadband via satellite.

If these or new distribution methods prove promising, the implementation team may support funding efforts and pilot programs in the region.

Goal S.O.1.5: Discuss opportunity with the state.

The implementation team may engage the state government as a partner throughout this process and invite them to participate in the provider outreach program. Additionally, any barriers of entry identified by the providers may be shared with the state. The implementation team may engage the state to identify resources, funding, and assistance in the implementation and support of potential projects in unserved and underserved areas. Furthermore, the implementation team may work with the state to leverage its Broadband Technology Opportunities Program (BTOP) investment in fiber and high-performance routers to anchor institutions throughout the region to determine if the new resources can benefit the unserved and underserved areas. (See Appendix A for a map of Region 5 anchor institutions).

Goal S.O.1.6: Engage foundations for assistance.

In addition to state and federal funding, many foundations provide assistance to bring broadband services to unserved and underserved areas. The implementation team may present the foundations with an overview of the opportunity and discuss their ability and willingness to assist. Examples of potential foundation partners include: GigU, Google, Cisco, and Bill and Melinda Gates.

Goal S.O.1.7: Consider municipal or P3 options.

If the telecommunication community is unable to provide service once demand has been identified, the implementation team may research both municipal and public-private partnership (P3) opportunities to meet the demand. The implementation team may need to develop a business plan that identifies capital cost, operation cost, ownership, organizational structure, and potential partners. There are several examples of successful models throughout the country that can be used for reference and best practices (e.g., Dublin, OH; Crestone, CO; Orangeburg County, SC; and Chattanooga, TN).

Performance Measures – Strategic Objective S.O.1:

- Targeted communities that gain broadband access.

STRATEGIC OBJECTIVE S.O.2: SEEK WAYS TO REDUCE COST OF BROADBAND SERVICES AND EQUIPMENT

One of the challenges the region faces is increasing the broadband take rate in economically depressed areas and low-income households. West Virginia's take rate is currently 59%. The take rate is the number of people who have broadband available to them and procure the service.

According to the survey results, if high speed Internet access is available, residential and business respondents cited prohibitive costs as a reason for not subscribing to broadband service. Over 20% of residents also indicated they don't have high speed Internet because they don't own a computer. Therefore, the implementation team may take the lead in identifying, participating, and promoting existing programs designed to provide affordable computer equipment and reduced-rate broadband services for struggling, low-income families.

Goal S.O.2.1: Identify and support programs that provide reduced cost broadband services.

To begin, the implementation team may collaborate with local broadband provider companies to develop a program that incentivizes consumers to utilize high-speed Internet services. It is recommended that the technical assistance and funding of the program be the primary responsibility of the provider.

Goal S.O.2.2: Monitor and leverage existing federal programs.

The implementation team may want to monitor the following programs for future availability and funding opportunities to support low income families access to high-speed internet and computer equipment.

Connect2Compete – is a national, nonprofit organization of public-private partnerships. The FCC announced the creation of this program in October 2011 and identified its mission of helping Americans improve their lives by becoming digitally literate. It began as a pilot project in California, but has expanded throughout the country in 2012, and will ultimately be available for all 50 states by late 2013.

This program is designed to help organizations promote and advance the adoption of high speed Internet by making it accessible and affordable for low-income families. However, the low-cost Internet service and computer offer is not available within the Region at this time. The organization is working to make sure Connect2Compete reaches communities throughout the country in the coming year. To follow Connect2Compete's progress, the implementation team may periodically monitor the organization's website at www.connect2compete.org. More information will be available in the coming months.

LifeLine Broadband Pilot Program – is another FCC initiative that was created to help low-income families receive basic telephone service. Earlier this year, a number of ISPs were awarded funding to participate in the pilot program that is currently undergoing modernization reforms to extend LifeLine discounts to broadband services for certain customers and promote digital literacy.

This program's goal is to study the effects of varying subsidy amounts, end user charges, access to digital literacy, data usage limits, choices for broadband speed, access to equipment, and other important variables that affect broadband choices. The 18-month pilot program, which began on February 1, 2013, includes three months to allow eligible telecommunications carriers (ETCs) to implement all necessary back-office functions, 12 months of subsidized broadband service, and three months for finalization of data collection and analysis.[1] This is a federally funded program that should be monitored closely for future funding opportunities and participation of local Internet service providers that may expand the program to the Region.[2]

Goal S.O.2.3: Support a computer refurbishing program.

Promote a program that refurbishes used computers and provides them at a discounted price to residents and businesses. The implementation team may explore the following options:

- Consult with the state's Office of Technology to determine if they are willing to provide surplus computers to the program.
- Identify and appoint an organization(s) to provide refurbishing and distribution. Potential partners include, but are not limited to:
    - Future Generations
    - MissionWV
    - PC's for People
    - CFY (formerly Computers for Youth)
    - Microsoft Certified Refurbishers
- Create a refurbishing program – develop and conduct an "IT 101" training program to instruct students on how to build computers from donated equipment and parts. The rebuilt computers would either be donated or a nominal charge would be assessed.

The implementation team may establish an ad-hoc team to lead and organize one or more of the efforts outlined above. The group would be responsible for

- reaching out to organizations to garner their support and assistance, including the Gates Foundation for help to subsidize/train
- overseeing the development of a refurbishing program
- coordinating the collection, handling, and distribution of equipment
- providing assistance and technical guidance to help families navigate the process
- frequently reviewing and monitoring the program's activities
- promoting the program through a network of public entities (i.e., schools, libraries, unemployment agencies, etc.)

[1] http://www.fcc.gov/encyclopedia/low-income-broadband-pilot-program

[2] Federal Communications Commission Document, accessed at http://www.fcc.gov/document/14-projects-chosen-lifeline-broadband-pilot-program-competition.

Performance Measures – Strategic Objective S.O.2:

- Increased access to more affordable computers and discounted Internet services for low income consumers.

STRATEGIC OBJECTIVE S.O.3.: PROMOTE THE DEVELOPMENT OF ONLINE APPLICATIONS BY LOCAL ENTITIES (I.E., GOVERNMENTS AND BUSINESSES)

The RBPT recognizes that increasing the availability of online local content and services will increase demand and utilization of broadband. Local content and services can span across many public sectors, including government, health, safety, social services, education, and employment. It can be defined based on where people live and work, their language, location, culture, religion, ethnicity, and areas of interest. The delivery of timely, relevant, content-rich, online information and services is important to people in many ways. For example, rural communities, immigrant populations, individuals with special needs, and diabetes patients, to name a few, can experience a better quality of life if they have access to information and programs relative to their needs.

As the demand for more critical services grows, budgets are unfortunately shrinking. The presence of broadband has increased consumer expectations for, and consumption of, online services. Conversely, popular services can be widely and instantaneously delivered at lower costs through the Internet. For example, face-to-face interaction and contact with public servants is valuable; however, broadband supports accessibility and capacity to efficiently deliver these types of services while providing a new gateway for public involvement and civic engagement. Governments and businesses need to understand how they can use technology to provide online information and services. The focus should be on developing and delivering online content and services to

- increase utilization of local government services;
- create more local demand for products and services to foster growth in the economy;
- sustainably enhance skill-sets, resulting in more job opportunities;
- allow access to more educational programs;
- ensure free flow of and access to data, information, and knowledge; and
- alleviate budgetary restraints.

To achieve this, the implementation team may evaluate web services and products that are currently offered and accessible online. From that starting point, a comparison can be made to deduce where gaps exist between programs the state offers and the region can leverage.

The following goals will help shape the outcomes for this strategic objective.

Goal S.O.3.1: Provide information regarding potential online content and service offerings and how they can be developed.

Online services can significantly improve the way local governments and agencies work with the public and realize efficiencies in providing services for the rural communities. The implementation team members may examine local and regional government programs that are effectively used but are not currently offered online. By conducting a gap analysis and identifying best practices, the implementation team may be able to determine where gaps in service exist, and influence the decisions to deliver those targeted services in an online format.

For example, at the federal level, e-government and public assistance services are nearly exclusively accessible online and include the following:

- Medicaid/Medicare
- Food Stamps
- U.S. Department of Housing and Urban Development (HUD) Programs
- Head Start
- Social Security
- Immigration

Voter registration, public safety services, tourism applications, and property and tax record information are just a few of the programs and services offered by state, county, and local governments that may be developed online to better serve the local community. After the initial assessment, the implementation team may develop a comprehensive list of recommended services, identify technical support to meet demand, and define ways to increase utilization of these services.

Next, the implementation team may begin conducting outreach to local government and public agencies, to proactively advocate the advancement of and methods to assemble and deliver their services in an online format.

The implementation team may routinely monitor current programs and evaluate new ones to supplement existing services. To expand these services to the business community, the team may consider engaging with local businesses, encouraging businesses to participate in the development of information and content that is timely and useful, such as

- business process assessments,
- how to find incentives to aid relocation/expansion plans,
- online access to a large workforce, and
- how to use e-government applications and services.

The implementation team may cultivate relationships with universities, Chambers of Commerce, and other resources that can provide solid recommendations and practical solutions for developing and delivering online services that will be widely accepted and used.

Goal S.O.3.2: Establish innovation support group.

The implementation team may solicit volunteers with diverse skill-sets and experiences to form an ad hoc committee known as the Innovation Support Team (Team). The Team will be responsible for conducting ongoing research and collaborating with the implementation team on identifying and promoting online governmental services and content. The Team will initially convene with a kick-off meeting to

- develop a mission statement and goals,
- review what other groups/organizations have done successfully,
- focus and collaborate on innovative ideas and solutions,
- work together to devise methods to implement solutions, and

- determine when and where to periodically meet.

In addition, once the mission and the goals are established the Team may focus on

- fostering local content development;
- promoting the free flow of information and ideas;
- fostering technological, economic, and social innovation;
- soliciting and collaborating on innovative ideas;
- reviewing best practices;
- promoting knowledge dissemination;
- enhancing knowledge utilization; and
- ensuring knowledge preservation.

A few examples of initiatives that similar groups have successfully implemented online include the following:

- Integrated therapy services/established "telehealth" programs – provide specialized healthcare and educational services to families in rural areas where they are not available
- Network of services for families with special needs would allow access to support without the travel
- Virtual museums – rich media and broadband content delivery, regional education opportunity and dynamic history resource, web application

Performance Measure – Strategic Objective 3.0:

- Increase in governmental services and programs available online to the general public.

STRATEGIC OBJECTIVE S.O.4.: SUPPORT A "DIG ONCE" POLICY TO ENCOURAGE BROADBAND PROVIDERS TO LAY FIBER IN CONJUNCTION WITH ROAD, WATER, AND SEWER INFRASTRUCTURE

Local planning officials can help to ensure that broadband access is a consideration in subdivision planning for residential, commercial, and industrial development through the use of regulatory requirements for land development. Subdivision and land development ordinances, especially in designated growth areas, can ensure that developers provide adequate broadband infrastructure that will support the land uses targeted for specific areas. Adequate broadband infrastructure, coupled with the lower-than-average cost of doing business in the region, can also be a key factor in attracting targeted businesses to the region.

Goal S.O.4.1: Work with local planning officials to encourage expansion of existing zoning, subdivision, and ordinance policies to include broadband infrastructure as part of the development process.

The implementation team may encourage local planning officials to amend zoning and subdivision and land development ordinances to include broadband requirements. These amendments can include the following types of items:

- Requirements that cell towers allow for multiple users.
- Inclusion of a "dig once" regulation requiring, at a minimum, infrastructure (conduit) is included in land development. Even if it is not feasible at the time of construction to run fiber, requiring the infrastructure at the time of development will minimize cost and inconvenience when fiber is feasible.
- Require the inclusion of dark fiber with transportation/streetscape improvements and new roadway construction.
- Require that external provider's investments conform to current local standards (e.g., visual impact, restrictions regarding types of antennas and towers, deployment of antennas to existing infrastructure such as light poles, etc.)
- Require, as a condition of approval, the removal of broadband and other advanced telecommunication towers and equipment when they are no longer needed.
- Require that new or renovated residential and commercial development projects include infrastructure components necessary to support broadband.
- Require publicly subsidized developments to provide broadband connectivity and include infrastructure components necessary to support broadband.

Goal S.O.4.2: Identify subject matter experts to assist with technical guidance and development of amendments.

As local planners consider regulatory amendments to support broadband infrastructure expansion and enhancement, they may require technical support in ensuring that ordinance revisions are aligned with locally specific broadband infrastructure, and that they are broad enough to anticipate and accommodate future technological advances. The implementation team may provide technical assistance to planning officials as needed in developing ordinance amendments, and therefore, should include partners who are subject-matter experts with the technical expertise to assist in this process.

While broadband needs and development priorities vary across the region's counties and municipalities, there is no "one size fits all" approach to these amendments, and each county and municipality may choose various approaches to regulating broadband infrastructure depending on their individual economic and regulatory environments. The American Planning Association's recent publication, *Planning and Broadband: Infrastructure, Policy, and Sustainability*[3], is a good resource for county and municipal planners.

[3] McMahon, K., Thomas, R.L. & Kaylor, C. (July 2012). *Planning and Broadband Infrastructure, Policy, and Sustainability*. Chicago, IL. American Planning Association

Goal S.O.4.3: Coordinate a meeting of the local planning officials and subject matter experts.

To further the efforts of the implementation team and to successfully affect change in local planning ordinances and policies, the implementation team may organize a meeting to assemble local planning officials, broadband providers, and subject matter experts to discuss changes and inclusions in current planning policies to address broadband as a required improvement and utility infrastructure.

Performance Measures – Strategic Objective S.O.4:

- Broadband infrastructure is included as a utility in all local zoning, subdivision, and development ordinances.

STRATEGIC OBJECTIVE S.O.5.: ENCOURAGE NON-PROFIT ORGANIZATIONS, HIGHER EDUCATION INSTITUTIONS, AND OTHER STAKEHOLDERS TO PARTNER WITH THE REGION TO ENSURE THE PUBLIC HAS ACCESS TO FREE OR REDUCED-COST TRAINING PROGRAMS

It is the goal of the RBPT to increase broadband demand and utilization within the Region. Education is a key element to successfully achieving this goal. Individuals and businesses must be willing to learn about the benefits, opportunities, and value broadband services can bring to their daily lives in order to fully embrace it. Developing concrete methods to address and deliver broadband educational offerings to the community will ultimately have a positive impact on the Region's successful social and economic growth and development.

Largely an awareness issue, consumers must be empowered with knowledge about the advantages of having access to broadband to increase adoption and utilization throughout the Region. Consumers make better decisions if they are properly educated and informed about broadband technology choices that are available to them. A broadband "adopter" understands the benefits that transformative technologies brings to their lives, and is invested in exploring and expanding those benefits.

Non-adopters may not understand or recognize the value of broadband, and therefore, they are at a distinct disadvantage. Isolation from broadband creates barriers to career and educational opportunities, health care assistance, governmental services, and social media. Potential adopters must perceive broadband access as a way to enrich their lives. However, there are some very valid concerns that affect a consumer's decision to not subscribe:

- Content is irrelevant and it's a waste of time
- Potential risk of exposing children to inappropriate material
- A fear of having their identity stolen
- Uncertainty about broadband services, availability, cost, and reliability
- Unaffordable for fixed or low income families

Small business owners experience their own set of challenges connecting to broadband. These challenges limit their capabilities for growing and diversifying business operations. Without a thorough, working knowledge of what broadband is and how it can enhance their operations, businesses are at a competitive disadvantage if they truly don't understand the benefits of having access to robust broadband services. Understanding how to capitalize on opportunities such as having an effective web site presence, connecting with customers and suppliers, and expanding to global markets will contribute to a business's sustained growth. Broadband is a critical component of a successful company.

Goal S.O.5.1: Conduct a gap analysis on existing programs.

As a facilitator of the advancement of broadband, the implementation team may identify potential opportunities and programs that will address obstacles to broadband access, raise awareness about relevancy and affordability of connecting to high speed Internet, and help educate the community-at-large about the benefits broadband brings to their lives, and the communities they live and work in.

To assess broadband educational needs throughout the Region, the implementation team may conduct a gap analysis to 1) inventory existing programs or services that provide educational value (teach digital literacy, computer usage, online access, etc.), 2) identify relevant programs that need to be developed, and 3) determine which organizations or groups would be able to support or develop programs.

The implementation team may initially consult with credible stakeholders that are trusted in the community, may already have relevant, broadband educational programs in place, and can provide equipment and resources to support this effort. Potential stakeholders include:

- Unemployment agencies
- Non-profit organizations
- Public Service Commission of West Virginia
- Libraries (WV Library Commission)
- National Guard armories
- Veteran's Association
- Gates Foundation
- AARP
- Senior centers
- Broadband providers
- Educators at colleges and schools (public, private, business, charter, etc.)

Goal S.O.5.2: Promote existing educational opportunities and services.

The implementation team may partner with key constituents to promote existing educational opportunities identified in the gap analysis designed to instruct individuals about the advantages of broadband access. For example, the implementation team may collaborate with AARP to help with outreach and training, and to offer programs they currently use (i.e., teach older citizens about computers and how to safely get online) to parents, rural residents, vulnerable populations, the unemployed, and low-income families.

Goal S.O.5.3: Work with stakeholders to develop necessary courses that are not offered.

The implementation team may collaborate with stakeholders to develop the necessary training programs that provide educational value about broadband capabilities which may not be currently offered to the general community. The RBPT team anticipates most services (i.e., building permits, utilities, health care portals, etc.) will eventually be available online, therefore, greater emphasis will be placed on consumers to access these programs via the Internet .

Courses should be designed to be practical, provide hands-on training, and developed to accommodate all types of audiences – parents, students, and the older population. Several partners and potential programs were suggested during the regional strategic planning process and are as follows:

- Future Generations – set up community centers to train public
- MissionWV – offer free and reduced cost workstations
- Senior centers – provide computer labs for training
- Department of Agriculture – access to programs that offer training and community development programs
- Colleges – work with employers to offer distance learning programs to train employees

Performance Measures – Strategic Objective S.O.5:

- More programs and greater access to digital literacy programs for the general public.
- Increase in adoption and utilization of computers and high speed Internet.

STRATEGIC OBJECTIVE S.O.6.: IDENTIFY BROADBAND EXPANSION AND FUNDING OPPORTUNITIES THROUGH GAS DRILLING EFFORTS

A variety of funding and financing mechanisms are available at the local, state, and federal levels to assist with the advancement of strategic planning and capital improvements initiatives. These grant, loan, and tax incentive programs can be pursued to support the broadband strategic objectives of the RBPT. Additionally, the RBPT has identified the oil and gas industry as a partner and potential financial supporter of broadband expansion effort. The industry utilizes broadband capabilities at their drilling locations to monitor production data and safety issues in real time.

As funding and financing sources are identified, the implementation team may monitor and vet specific funding sources for applicability and align them with the broadband strategic plan's priorities and initiatives, including provisions for broadband infrastructure. The following key goals defined herein will serve as a guide for developing and advancing an effective funding strategy.

Goal S.O.6.1: Meet with Industry Leaders and Trade Organizations

The implementation team may meet with oil and gas industry leaders and trade organizations to discuss the broadband strategic plan. Additionally, the meeting would garner input and support from the industry on specific target areas and needs throughout the region. The meeting would be used to gain support and lay the ground work for potential financial assistance with targeted projects.

Goal S.O.6.2: Develop a Comprehensive Funding Strategy

The overarching goals and objectives for the broadband strategic plan may be successfully achieved if the proper funding strategy is developed and implemented. When initially approaching a funding strategy, costs associated with each targeted initiative must be evaluated and prioritized. Once eligible costs are aligned with applicable programs, a comprehensive funding strategy, including a detailed accounting of sources and uses, should be developed.

A preliminary funding overview matrix was created during the broadband strategic planning process. It includes potential funding programs that are currently available and may be leveraged to help saturate broadband services throughout the Region (see Resource Section). The funding overview matrix highlights key characteristics of the programs:

- type of program (grants, loans, or tax credits)
- applicant's eligibility requirements
- administering agency
- eligible use(s) for the funding
- matching fund requirements
- timeframe for submission and award

The implementation team may engage the Oil and Gas Industry to solicit financial support on appropriate projects. The industry support can demonstrate public private partnership and could be used as local match to state and federal funding opportunities.

Goal S.O.6.3: Implementation of the Funding Strategy

Upon determining the appropriate, eligible program(s) to pursue, an application with all supporting documentation should be developed, including a concise Executive Summary. Outreach to elected officials and other stakeholders (i.e., Oil and Gas Industry) at the local, state, and federal levels is critical to ensuring stakeholder support for funding or financing requests.

Once applications are submitted, a collective effort must be orchestrated for stakeholders to pro-actively engage the administering agency, or source, to voice support for the request and encourage its approval. If approvals are secured, facilitation and monitoring of the funds draw-down process is required to ensure compliance and maximize the fiscal benefit of the award. An on-going dialogue with all elected officials and stakeholders must be maintained throughout the process to facilitate a true collaborative effort.

A thorough, working knowledge of the application funding process is necessary to successfully secure funding awards. To support this level of effort, the implementation team may assign a resource to monitor funding, and prepare, submit, and track the status of the applications. Additionally, this resource could work in a concerted effort with the implementation team to continue to seek out diverse funding mechanisms from various federal, state, and local agencies.

Performance Measures – Strategic Objective S.O.6:

- The number of funding opportunities sought.
- The amount of funding secured.

IMPLEMENTATION

The strategic plan will be provided to the State and local government for implementation. The MOVRC will assist its members, as needed, in project planning and preparing applications for funding. The following implementation matrices and schedule were developed as recommendations to assist implementation.

IMPLEMENTATION MATRIX

The following matrix outlines the 6 strategic objectives and details the goals and action items necessary to implement the strategy. The matrix can be used as a management tool to assist in the implementation process and will be updated and amended as necessary.

Strategic Objective S.O.1: Support/Advocate Universal Broadband Services to Unserved Areas in the Region		
Goals	**Action Item**	**Time Frame**
S.O.1.1: Inventory households and businesses.	1. Utilize state address point data and the Type I, II, and III shapefile and FCC shapefile to develop the initial list.	Year 1 1st Quarter
	2. Review the list of individuals and businesses that reported no broadband availability on the survey.	
	3. Finalize the inventory.	
S.O.1.2: Aggregate demand.	1. Develop a survey tool and Letter of Intent.	Year 1 Partial 1st and Full 2nd Quarter
	2. Survey individuals and businesses.	
	3. Analyze results for priority areas.	
	4. Develop a profile of priority areas and the level of interest.	
S.O.1.3: Engage broadband provider community.	1. Develop a list of current and potential providers.	Year 1 2nd and 3rd Quarter
	2. Present providers with an overview of the opportunities in the region.	
	3. Gauge provider community willingness to expand services.	
	4. Identify any barriers to expansion.	
S.O.1.4: Monitor and support the implementation of disruptive technologies to provide broadband to unserved areas.	1. Identify various types of potential disruptive technologies.	Ongoing
	2. Follow FCC and utility legislation and regulations to monitor the progress of these technologies.	
	3. Identify ways to support funding efforts and pilot programs in the region where disruptive technologies can be implemented.	
S.O.1.5: Discuss opportunity with the state.	1. Meet with representative from the State Broadband Deployment Council and Mapping project to discuss opportunities.	Year 1 2nd and 3rd Quarter
	2. Catalog any potential state assistance, including timelines, eligible uses, and next steps.	
	3. Help eligible applicants apply for funding.	
	4. Track targeted communities that gain broadband access.	
S.O.1.6: Engage foundations for assistance.	1. Develop a list of foundations that support broadband expansion efforts.	Year 1 3rd and 4th Quarter
	2. Draft a message statement that identifies potential opportunities and demand for the region.	
	3. Discuss opportunities with foundations and identify any potential assistance.	
S.O.1.7: Consider municipal or P3 options.	1. Analyze municipal service and P3 options.	Year 2 1st – 3rd Quarter
	2. Develop an initial business plan.	
	3. Identify potential funding sources.	Ongoing

Strategic Objective S.O.2: Seek Ways to Reduce Cost of Broadband Services and Equipment.		
Goals	**Action Item**	**Time Frame**
S.O.2.1: Identify and support programs that provide reduced cost broadband services.	1. Reach out to local providers to find out if there are reduced-cost broadband services available for low income consumers.	Year 1 1st and 2nd Quarter
	2. If programs exist, determine what services are offered, and if certain criteria apply.	
	3. If none are available, work with providers to develop an incentivized program for low income consumers (e.g., a voucher program.)	
	4. Ensure providers are willing to offer technical assistance and invest funding for the programs.	
	5. Collaborate with providers to promote the low cost broadband programs. • Identify methods to market programs • Identify target audiences • Host information on programs on Region's website	
S.O.2.2: Monitor and leverage existing federal programs.	1. Monitor federal programs that are targeted towards low income consumers (i.e., Connect2Compete.)	Ongoing
	2. Advocate the utilization of existing federal programs: • Encourage broadband providers to become a partner in these programs. • Identify ways to leverage these programs for the benefit of the community.	
S.O.2.3: Support a computer refurbishing program.	1. Consult with state's OIT to identify surplus computers and computer parts for donation.	Year 1 3rd and 4th Quarter
	2. Create a program for students to learn how to refurbish and/or build computers from donated parts.	
	3. Identify and appoint an entity to oversee refurbishing and distribution efforts.	Ongoing

Strategic Objective S.O.3: Promote the Development of Online Applications by Local Entities (i.e., Governments and Businesses).		
Goals	**Action Item**	**Time Frame**
S.O.3.1: Provide information regarding potential online content and service offerings and how they can be developed.	1. Conduct a gap analysis. • Inventory the region's government, non-government, business services and applications to identify services and programs that are not offered online ○ Voter registration ○ Public safety services ○ Tourism applications ○ Property and tax record information • Determine where gaps exist between state and local programs.	Year 2 1st and 2nd Quarter
	2. Develop recommendations for services that need to be made available online.	
	3. Identify and implement technical support to	

Strategic Objective S.O.3: Promote the Development of Online Applications by Local Entities (i.e., Governments and Businesses).		
Goals	**Action Item**	**Time Frame**
	• provide assistance with delivery of online services • define ways to increase utilization of online services	
	4. Conduct outreach to local government and agencies to proactively advocate advancement, assembly, and delivery of online services.	
	5. Monitor current and upcoming programs. • Conduct ongoing, routine evaluations of programs. • Convene annually to review options and services. • Encourage agencies to develop dynamic, relevant content. • Trend watch (i.e., use web crawlers to search and compile information).	
	6. Engage local businesses to participate in the development of timely and useful content.	
	7. Cultivate relationships with higher education institutions, chambers, and other organizations to • collaborate on information and ideas • help identify standards	
S.O.3.2: Establish innovation support group.	1. Solicit volunteers in the community to join the group.	Year 2 3rd and 4th Quarter
	2. Convene a kick-off meeting to • define the group's mission and goals • discuss initiatives • formulate a plan ○ review best practices ○ focus and collaborate on innovative ideas and solutions ○ find methods to effectively share and implement solutions • identify dates and times for future meetings	
	3. Foster local content development.	Ongoing

Strategic Objective S.O.4: Support a "Dig Once" Policy to Encourage Broadband Providers to Lay Fiber in Conjunction with Road, Water, and Sewer Infrastructure.		
Goals	**Action Item**	**Time Frame**
S.O.4.1: Work with local planning officials to encourage expansion of existing zoning, subdivision, and ordinance policies to include broadband infrastructure as part	1. Coordinate a meeting between the local planning officials and the implementation team to discuss the inclusion of broadband infrastructure in the development process and • Introduce all parties involved in the process (planners, developers, providers, implementers, etc.) • Share vision and the benefits of broadband • Identify the need for broadband in planning	Year 2 1st and 2nd Quarter

Strategic Objective S.O.4: Support a "Dig Once" Policy to Encourage Broadband Providers to Lay Fiber in Conjunction with Road, Water, and Sewer Infrastructure.		
Goals	**Action Item**	**Time Frame**
of the development process.	• Facilitate discussions on zoning and policy changes	
	2. Collaborate to define the requirements that would be included in amendments and include; • Environmental concerns • Sustainability issues • Innovative solutions	
	3. Work with planning officials to implement changes to amendments.	
	4. Work with developers to implement changes.	
S.O.4.2: Identify subject matter experts to assist with technical guidance and development of amendments.	1. Collaborate with officials to identify broadband champions to facilitate the process. They should have knowledge and expertise in • broadband technologies • housing and neighborhood development	Year 2 3rd Quarter
	2. Engage subject matter experts in all phases of planning process.	
	3. For additional technical guidance, reference and employ certain guidelines and recommendations found in the American Planning Association's publication *Planning and Broadband: Infrastructure, Policy, and Sustainability*[4].	
S.O.4.3: Coordinate a meeting of the local planning officials and subject matter experts.	1. Assemble a group of local planning officials, broadband providers, and SMEs to facilitate discussions on policy changes and amendments.	Year 2 4th Quarter
	2. Inform state and local public officials on policy issues and challenges a. Right of ways b. Licensing c. Funding d. Ownership	
	3. Identify various approaches to regulating broadband infrastructure based on economic and regulatory environment.	
	4. Determine how and when the changes should take effect.	
	5. Conduct ongoing meetings annually to review and assess progress.	Ongoing

[4] McMahon, K., Thomas, R.L. & Kaylor, C. (July 2012). *Planning and Broadband Infrastructure, Policy, and Sustainability*. Chicago, IL. American Planning Association

Strategic Objective S.O.5: Encourage Non-Profit Organizations, Higher Education Institutions, and Other Stakeholders to partner with the Region to Ensure the Public has Access to Free or Reduced-Cost Training Programs.		
Goals	**Action Item**	**Time Frame**
S.O.5.1: Conduct a gap analysis on existing programs.	1. Inventory current broadband programs or services that provide educational value.	Year 3 1st Quarter
	2. Identify relevant programs that need to be developed.	
	3. Identify stakeholders that would be capable of supporting and developing programs.	
S.O.5.2: Promote existing educational opportunities and services.	1. Work with key stakeholder groups to help promote existing programs.	Year 3 2nd Quarter
	2. Incorporate information about these programs into the awareness campaign.	
	3. Conduct ongoing assessment of programs to align with educational needs.	Ongoing
S.O.5.3: Work with stakeholders to develop necessary courses that are not offered.	1. Seek help from stakeholder groups to develop educational programs identified through the gap analysis.	Year 3 3rd Quarter
	2. Collaborate with stakeholders groups to develop programs designed to be • practical, real-world experiences • hands-on, using latest technology • intended for diverse audiences	
	3. Work with stakeholder groups to promote new programs, including incorporating into the awareness campaign.	
	4. Monitor programs to assess their relevancy and success.	Ongoing

Strategic Objective S.O.6: Identify Broadband Expansion and Funding Opportunities through Gas Drilling Efforts.		
Goals	**Action Item**	**Time Frame**
S.O.6.1: Meet with industry leaders and trade organizations.	1. Identify and enlist the help of officials and leaders in the industry.	Year 1 1st Quarter
	2. Coordinate a meeting with officials and leaders in the industry to discuss funding opportunities and efforts.	
	3. Develop relationships to ensure support and financial assistance for targeted projects.	
S.O.6.2: Develop a comprehensive funding strategy.	1. Identify specific initiatives that need full or partial funding to be implemented.	Year 1 2nd Quarter
	2. Identify associated costs with each initiative.	
	3. Develop a detailed accounting of sources and uses.	
	4. Determine which funding sources are needed for the appropriate initiatives.	
S.O.6.3: Implementation of the funding strategy.	1. Develop supporting documentation for applications.	Year 1 3rd and 4th Quarter
	2. Seek the support of public officials and stakeholders through Letters of Support.	
	3. Conduct outreach to administering agencies to encourage application approval.	
	4. Monitor and facilitate the funding draw-down process.	
	5. Assign a dedicated resource to handle the funding application process. This resource	

Strategic Objective S.O.6: Identify Broadband Expansion and Funding Opportunities through Gas Drilling Efforts.		
Goals	**Action Item**	**Time Frame**
	would be responsible for • preparing and submitting applications • tracking the statuses of applications • monitoring and vetting specific funding sources for applicability	
	6. Identify a set period of intervals that the resource would report back to the implementation team.	
	7. Maintain communications and dialogue with public officials and stakeholders throughout the process.	Ongoing

RESOURCE CONSIDERATION

One of the biggest challenges facing the RBPT is identifying the necessary resources (e.g., people, funding, and materials) to successfully implement the broadband strategic plan. The following matrix outlines funding programs that may be used to support the implementation of the strategic plan. It provides program name, eligible uses, and timeframe for application.

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Appalachian Regional Commission (ARC) - Area Development Program	Project activities must be consistent with ARC/State of West Virginia Goals, Objectives, and Strategies. FY 2014 Goals include the following: • Increase job opportunities and per capita income in Appalachia to reach parity with the nation • Strengthen the capacity of the people of Appalachia to compete in the global economy • Develop and improve Appalachia's infrastructure to make the region economically competitive The highest priorities for the ARC program are in water, sewer, and telecommunication projects that lead to job creation or address a critical community need (such as public health). Please note that ARC is a regional economic development agency, and therefore, requests for ARC assistance should focus on economic development. Additionally, there is no longer a match requirement for ARC Local Access Road grants.	Submit applications through the state ARC office (West Virginia Development Office). Applications for FY2014 ARC funding are due on January 31, 2014. Approval of applications is a two-step process: West Virginia Development Office staff reviews projects and recommendations are made to the Governor for approval. Projects are then forwarded to ARC for final approval.
USDA Rural Broadband Loan Program	Broadband loans provide funding for: the construction, improvement, and acquisition of all facilities required to provide service at the broadband lending speed to rural areas, including facilities required for providing other services over the same facilities; the cost of leasing facilities required to provide service at the broadband lending speed if such lease qualifies as a capital lease under Generally Accepted Accounting Principles (GAAP); and an acquisition, under certain circumstances, and with restrictions.	Applications can be submitted throughout the year and will be reviewed and processed on a first-come, first-served basis according to the time the application is received.

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Distance Learning and Telemedicine (DLT) CFDA # - 10.855	Purposes eligible for 100% grant, combination loan/grant, and 100% loan: • Acquisition of eligible capital assets (interactive video equipment, audio and video equipment, terminal equipment, data terminal equipment, inside wiring, computer hardware and software, computer network components, and other facilities that further DLT services) • Acquisition of instructional programming that is a capital asset • Acquisition of technical assistance and instruction for using eligible equipment	The application window for 100% grants is announced annually (typically after the first of the year) through a Notice of Funds Availability (NOFA) in the Federal Register. DLT 100% loan and loan/grant combination applications are accepted year-round and are non-competitive.
Community Connect Grant Program CFDA # - 10.863	Funds may be used to build broadband infrastructure and establish a community center that offers free public access to broadband for two years.	Funding through the Community Connect program is typically announced in December or January with applications do in June or July.
Telecommunications Infrastructure Loan Program	Loan funds may be used to finance telecommunications services in rural areas for:- Improvements- Expansions- Construction- Acquisitions (cost of acquisition must be incidental to cost of improvements in loan)- Refinancing (amount refinanced cannot exceed 40% of loan amount)	Applications are accepted year-round.
Expansion of 911 Access Loan Program	This program will finance the construction of interoperable, integrated public safety communications networks in rural areas. The program will also finance wireless upgrades for public safety and security.	Applications are accepted year-round. Applications are accepted through the RUS Telecommunications Infrastructure Loan Program.

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Rural Health Care Program	**Telecommunications Services and Charges:** ATM, Centrex, DSL, Ethernet, Fiber, Fractional T1, Frame Relay, Internet Access Charges, ISDN, Mileage-related Charges, MPLS, NRS, OC-1, OC-3, Refundant Circuit, Satellite Service, Telephone Service, T1, T3, or DS3 **Internet Services and Charges:** Monthly Internet access charges • E-mail • Web hosting • DSL	Applications are accepted annually. The USAC funding year runs from July 1 through June 30. The RHC accepts the first form in the application process (FCC Form 465) for the upcoming funding year in the spring of each year and will accept them until June 30 of the following year. To ensure a full year of support, applicants should submit the FCC Form 465 before June 1. FCC Form 465 outlines the HCP's requested services and must be posted on USAC's website for a minimum of 28 days to allow service providers to bid on the requested services. Once the 28-day bidding period has expired, the HCP's choose a service provider and submit FCC Form 466 and/or Form 466A for each service requested. USAC reviews and approves each Form 466/A and issues a funding commitment letter. The service provider then reduces the HCP's rate for the telecommunications/Internet services, and the service provider is issued a credit for the difference.
Schools and Libraries Program	Eligible services are organized in five sections that represent the five funding categories established by the FCC plus a miscellaneous section that is applicable to multiple categories: • Telecommunications Services • Telecommunications • Internet Access • Internal Connections • Basic Maintenance • Miscellaneous Only eligible products or services that will be used for educational purposes can be considered for funding. See the Eligible Services List (ESL) for more information.	Applications are accepted annually. The USAC funding year runs from July 1 through June 30. • Submit Form 470 at least 28 days before filing Form 471 • Submit Form 471 – This form will be available in early November to early February preceding the start of the Funding Year (exact dates for each funding year will be posted on the website). Must be received or postmarked no later than 11:59 p.m. EST on the last day of the Form 471 filing window. • Submit Form 486 - Received or postmarked no later than 120 days after the date of the Funding Commitment Decision Letter or 120 days after the Service Start Date, whichever is later • Form 472/474 - Received or postmarked no later than 120 days after the date of the Form 486 Notification Letter or 120 days after the last date to receive service, whichever is later The program is currently being rolled out

Funding Overview		
Program	**Uses**	**Window of Opportunity**
		across the nation. Applications will be accepted on an ongoing basis.
Connect to Compete	**Internet:** $9.95 per month, high-speed Internet for free school lunch families (no deposit or contract required; no installation or equipment fees; price lock for two years) **Computers:** $150 laptop or desktop computer for free school lunch families **Free Training:** Free digital literacy training online	Applications will be accepted on an ongoing basis.
HRSA Rural Health Grants	**Licensure Portability** is a competitive grant program that provides support for state professional licensing boards to carry out programs under which licensing boards of various states cooperate to develop and implement state policies that will reduce statutory and regulatory barriers to telemedicine. **Telehealth Network** is a competitive grant program that funds projects that demonstrate the use of telehealth networks to improve healthcare services for medically underserved populations in urban, rural, and frontier communities. **Telehealth Resource Center** is a competitive grant program that provides support for the establishment and development of Telehealth Resource Centers (TRCs). These centers are to assist healthcare organizations, healthcare networks, and healthcare providers in the implementation of cost-effective telehealth programs to serve rural and medically underserved areas and populations. **Telehealth Resource Center Grant Program (G22)** The purpose of the Telehealth Resource Center Grant Program (TRCGP) is to support the establishment and development of Telehealth Resource Centers. The Centers are to be an impartial, independent source of technical assistance to healthcare organizations, healthcare networks, and healthcare providers in the implementation of cost-effective, telehealth programs to serve rural and medically underserved areas and populations. This opportunity will fund three different types of resource centers: a national resource center, two regional telehealth resource centers, and two telehome care resource centers.	HRSA-14-043 **Rural Health Network Development Grant** • Apply at Grants.gov by January 16

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Media Democracy Fund	Areas of recent interest include, but are not limited to, the following: • Expanding/diversifying the base of constituencies engaged in creating a media environment that serves their communities. • Responding to the urgent need to keep the Internet and mobile web open. • Creating policies that promote access to and adoption of affordable broadband services in underserved areas. • Equitable spectrum allocation and expanding low-power radio licenses. • Promoting policies that preserve journalism and public media. • Rebalancing the copyright regime.	The Media Democracy Fund provides grants annually in December and maintains the capacity to support grantees' direct and grassroots lobbying efforts. The last round was due in Fall 2013. The Rapid Response Fund provides grants throughout the year for unanticipated policy threats or opportunities. The Rapid Response Fund has been established to respond to unanticipated threats or opportunities that may arise outside of MDF's regular grant cycles.
Community Development Block Grant (CDBG) Program	Projects must either assist in eliminating blight or primarily (51% or greater of service area) serve low-income individuals. Uses related to potential broadband service: • Acquisition of real property • Public facilities and improvements and privately owned utilities • Clearance, rehabilitation, reconstruction, and construction of buildings • Public services (must provide a new service or a quantifiable increase in existing service) • Public services can include computer training and education programs	Applications to the state are typically due by mid-March. Each entitlement city has its own project selection and award process.

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Tax Increment Financing (TIF)	• Infrastructure construction or repair (sewers, storm drainage, street construction/expansion, water supply access expansion, park improvements, bridge construction/repair, curb/sidewalk improvements, devices for traffic control, street lighting, etc.) • Land acquisition • Land improvements (building demolition, brownfield remediation, site improvements, etc.) • Community revitalization construction (landscaping, street lighting) • Development or redevelopment of an area for housing, housing developments, public facilities, or industrial or commercial development • New infrastructure for housing developments, housing, or industrial or commercial development • Other development that eliminates unsanitary or unsafe conditions; reduces overcrowding in the area, reduces traffic congestion, eliminates traffic hazards, or eliminates obsolete or detrimental uses to the area • Other capital improvements to the area • Any other projects deemed appropriate by the county/municipality	N/A
Sales Tax Increment Financing (STIF)	Counties and municipalities may create economic opportunity development districts with state legislature approval and use state sales tax increment for up to 30 years to finance certain development costs, including transportation infrastructure, property acquisition, utilities, etc.	N/A

Funding Overview		
Program	**Uses**	**Window of Opportunity**
Business Improvement District (BID)	• Beautification of the district (landscaping, benches, decorations, etc.) • Provision of public services (sanitation, security, construction of public facilities) • Payment of principal or interest on bonds issued by the municipality for public improvements in the district • Financial support for public transportation and public parking facilities • Constructing, operating, and maintaining parking facilities • Developing plans for architectural design of public areas and developing plans for the future development of the district • Developing, supporting, and promoting community events • Providing administrative costs for a district management program • Providing any other services which the municipality or district board is authorized to perform	N/A
Neighborhood Investment Program (NIP)	**Eligible activities:** Projects generally eligible for program participation include but are not limited to the following: • Health clinics • Homeless shelters • Educational programs • Housing programs • Preservation/revitalization activities • Domestic violence shelters • Children's shelters • Meal delivery programs • Senior citizens' centers • Community foundations • Scholarship programs • Hospice care	Annual application process. Applications are due on June 15 each year

Funding Overview		
Program	**Uses**	**Window of Opportunity**
	• Transportation programs • Day care centers • Counseling services • Services for the disabled	

TIMELINE AND SCHEDULE

The matrix below provides a high-level implementation schedule. Since the objectives are presented in priority order, the schedule assumes starting three (3) strategic objectives in year one, two (2) strategic objectives in year two, and one (1) strategic objective in year three. The schedule may change according to available funding and local implementation champions. Green lines represent initial implementation time and blue lines represent ongoing support efforts.

Strategic Objective & Goals	Yr. 1/Qtr. 1	Yr. 1/Qtr. 2	Yr. 1/Qtr. 3	Yr. 1/Qtr. 4	Yr. 2/Qtr. 1	Yr. 2/Qtr. 2	Yr. 2/Qtr. 3	Yr. 2/Qtr. 4	Yr. 3/Qtr. 1	Yr. 3/Qtr. 2	Yr. 3/Qtr. 3	Yr. 3/Qtr. 4
Strategic Objective S.O.1												
Goal S.O.1.1												
Goal S.O.1.2												
Goal S.O.1.3												
Goal S.O.1.4												
Goal S.O.1.5												
Goal S.O.1.6												
Goal S.O.1.7												
Strategic Objective S.O.2												
Goal S.O.2.1												
Goal S.O.2.2												
Goal S.O.2.3												
Strategic Objective S.O.3												
Goal S.O.3.1												
Goal S.O.3.2												
Strategic Objective S.O.4												
Goal S.O.4.1												
Goal S.O.4.2												
Goal S.O.4.3												

Strategic Objective & Goals	Yr. 1/Qtr. 1	Yr. 1/Qtr. 2	Yr. 1/Qtr. 3	Yr. 1/Qtr. 4	Yr. 2/Qtr. 1	Yr. 2/Qtr. 2	Yr. 2/Qtr. 3	Yr. 2/Qtr. 4	Yr. 3/Qtr. 1	Yr. 3/Qtr. 2	Yr. 3/Qtr. 3	Yr. 3/Qtr. 4
Strategic Objective S.O.5												
Goal S.O.5.1												
Goal S.O.5.2												
Goal S.O.5.3												
Strategic Objective S.O.6												
Goal S.O.6.1												
Goal S.O.6.2												
Goal S.O.6.3												

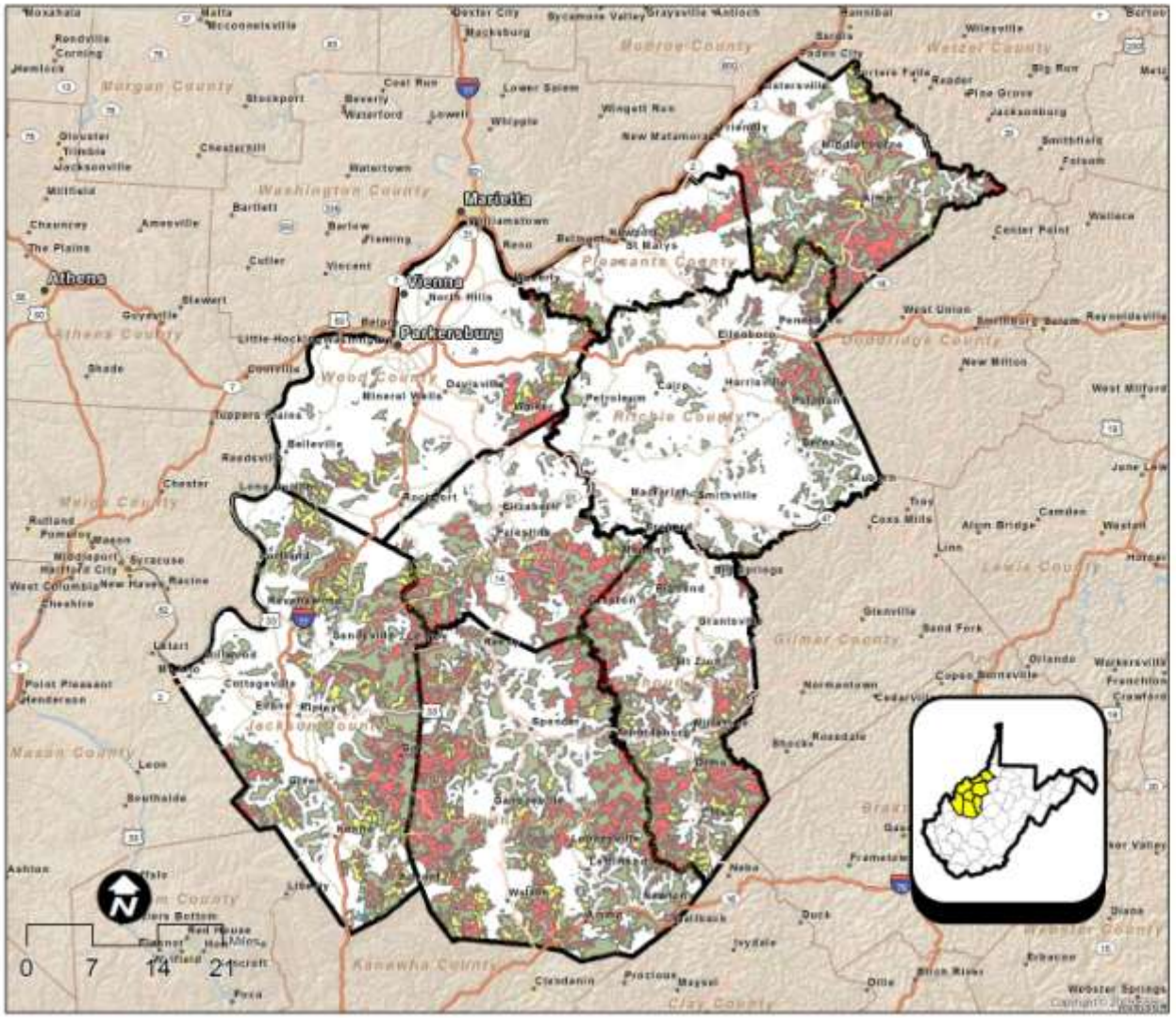
PERFORMANCE METRICS

The RBPT has identified the following metrics to track the success of the broadband strategic plan.

STRATEGIC OBJECTIVE	METRICS
S.O.1: Support/Advocate universal broadband services to unserved areas in the Region.	• Targeted communities that gain broadband access.
S.O.2: Seek ways to reduce cost of broadband services and equipment	• Increased access to more affordable computers and discounted Internet services for low income consumers.
S.O.3: Promote the development of online applications by local entities (i.e., governments and businesses)	• Increase in governmental services and programs available online to the general public.
S.O.4: Support a "dig once" policy to encourage broadband providers to lay fiber in conjunction with road, water, and sewer infrastructure.	• Broadband infrastructure is included as a utility in all local zoning and subdivision and development ordinances.
S.O.5: Encourage non-profit organizations, higher education institutions, and other stakeholders to partner with the Region to ensure the public has access to free or reduced-cost training programs.	• More programs and greater access to digital literacy programs for the general public. • Increase in adoption and utilization of computers and high speed Internet.
S.O.6: Identify broadband expansion and funding opportunities through gas drilling efforts.	• The number of funding opportunities sought. • The amount of funding secured.

APPENDIX A: BROADBAND MAPS

STATE BROADBAND TYPE DESCRIPTIONS



Region 5
MOVRC Broadband Strategic Plan

State Broadband Type Desriptions

Legend

Region 5

Data Source: WV Broadband Council

Type 1

Type 2

Type 2 Priority

Type 3

Broadband Types
Defined by State Code: 31-15C-6

Type 1 - an unserved area in which broadband may be deployed by service providers in an economically feasible manner.

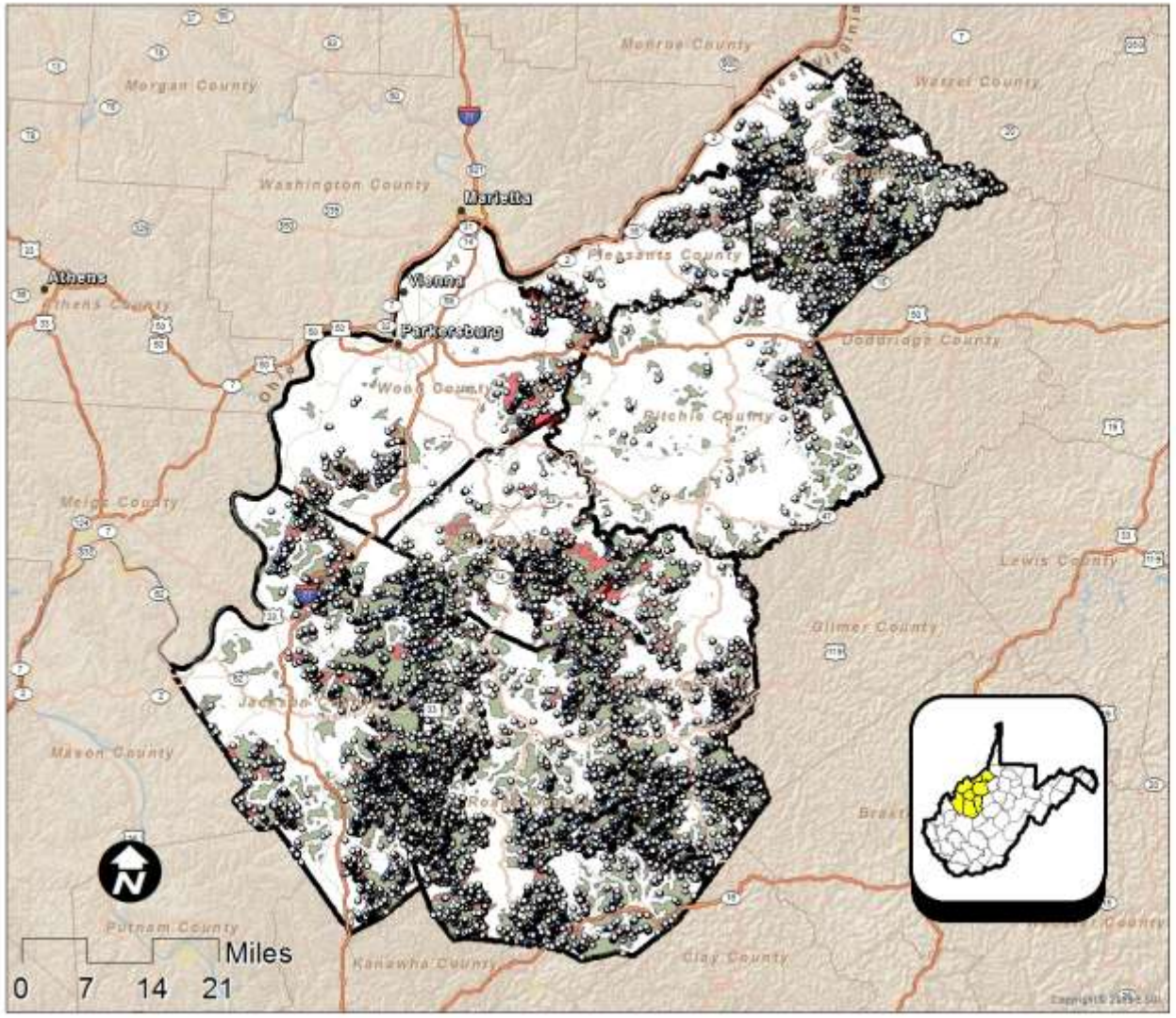
Type 2 - an unserved area in which broadband may be deployed by broadband service providers and other entities in an economically feasible manner, provided some form of public money is made available.

Type 2 Priority - an unserved area with population centers that should be targeted for grant funding. These areas have a higher likelihood of utilizing broadband service.

Type 3 - an unserved area in which at present, cable or wireline broadband cannot be deployed in an economically feasible manner and an intermodal approach employing other technologies, such as satellite and wireless, is required to provide that area with high-speed internet access.

Date: November 7, 2013
Data Source(s): Mid Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc

ADDRESSED FACILITIES LOCATED IN PRIORITY AREAS



Region 5 MOVRC Broadband Strategic Plan

State Broadband Type Desriptions

Legend

Region 5

Addressed Facilities

Data Source: WV Broadband Council

Type 1

Type 2

Type 2 Priority

Type 3

Broadband Types
Defined by State Code: 31-15C-6

Type 1 - an unserved area in which broadband may be deployed by service providers in an economically feasible manner.

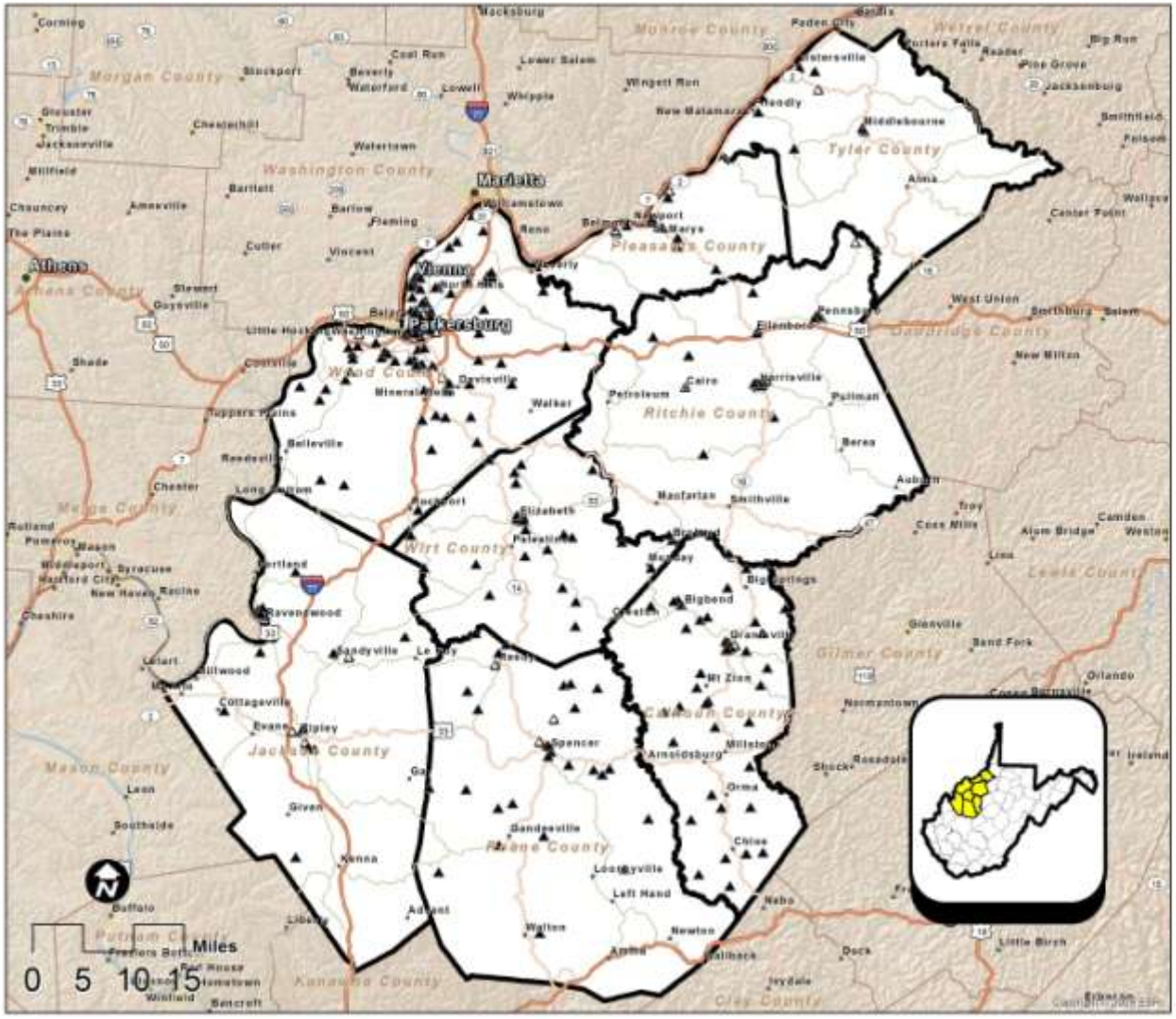
Type 2 - an unserved area in which broadband may be deployed by broadband service providers and other entities in an economically feasible manner, provided some form of public money is made available.

Type 2 Priority - an unserved area with population centers that should be targeted for grant funding. These areas have a higher likelihood of utilizing broadband service.

Type 3 - an unserved area in which at present, cable or wireline broadband cannot be deployed in an economically feasible manner and an intermodal approach employing other technologies, such as satellite and wireless, is required to provide that area with high-speed internet access.

Date: May 7, 2013
Data Source(s):
Mid-Ohio Valley Regional Council, ESRI,
U.S. Bureau of the Census,
The WV Geological and Economic Survey
TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc.

TOTAL SURVEY RESPONDENTS



Region 5
MOVRC Broadband Strategic Plan

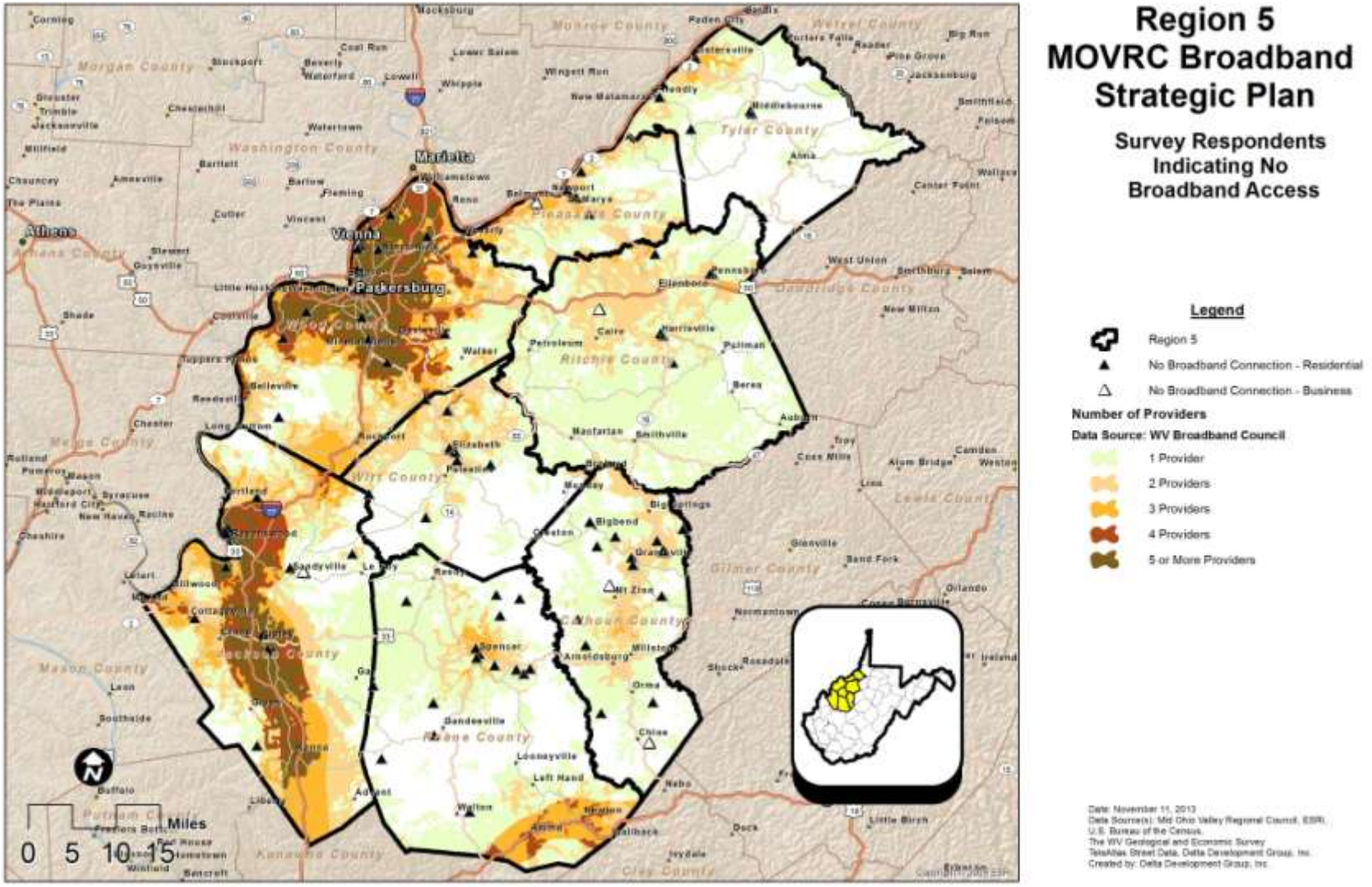
Total Survey Respondents

Legend

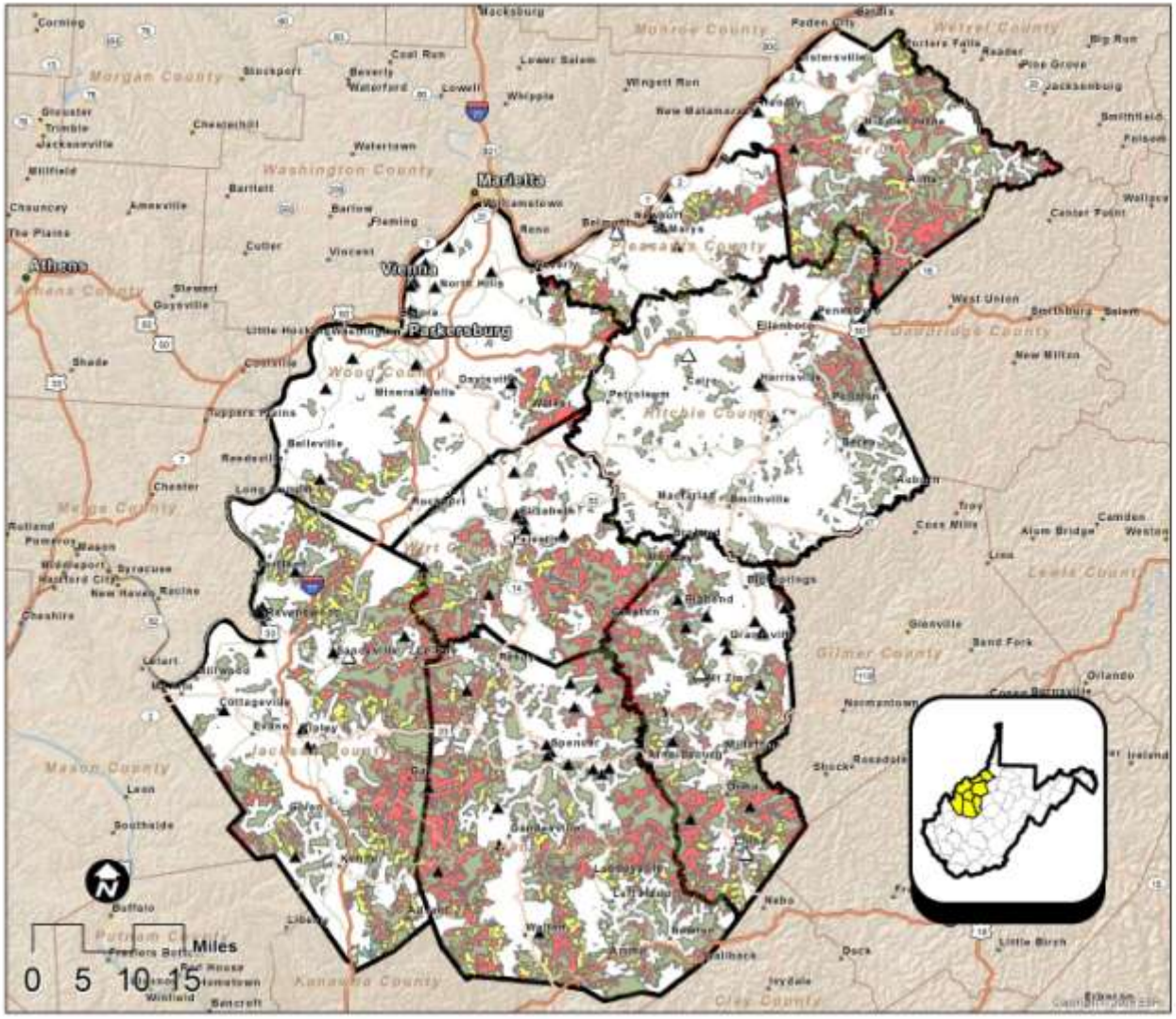
- Region 5
- Residential Survey Respondents
- Business Survey Respondents

Date: November 11, 2013
Data Source(s): Mid Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey, TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc

SURVEY RESPONDENTS INDICATING NO BROADBAND ACCESS COMPARED TO NUMBER OF PROVIDERS



SURVEY RESPONDENTS INDICATING NO BROADBAND ACCESS COMPARED TO PRIORITY TYPES



Region 5 MOVRC Broadband Strategic Plan

Survey Respondents Indicating No Broadband Access

Legend

- Region 5
- No Broadband Connection - Residential
- No Broadband Connection - Business

Data Source: WV Broadband Council

- Type 1
- Type 2
- Type 2 Priority
- Type 3

Broadband Types Defined by State Code: 31-15C-6

Type 1 - an unserved area in which broadband may be deployed by service providers in an economically feasible manner.

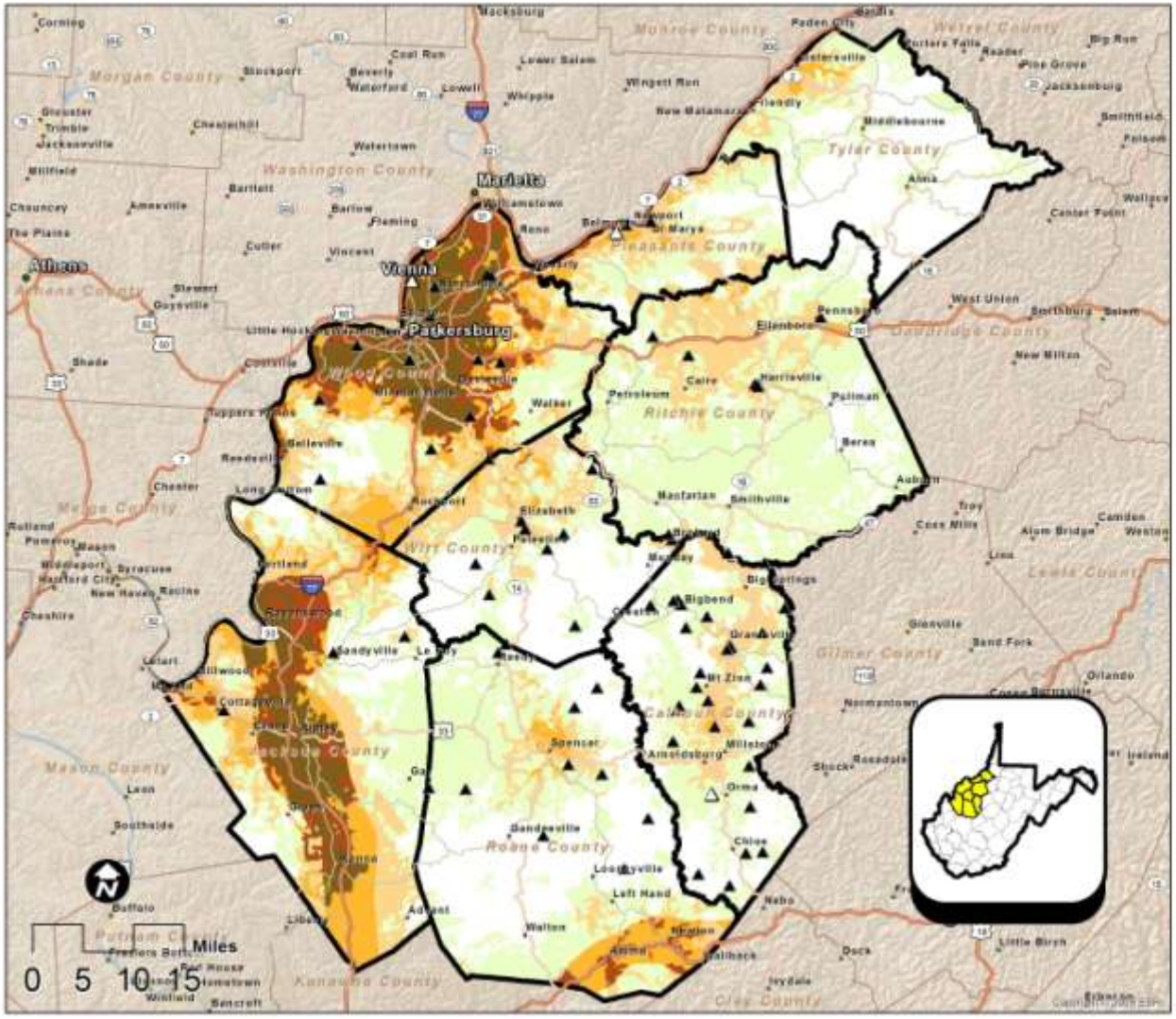
Type 2 - an unserved area in which broadband may be deployed by broadband service providers and other entities in an economically feasible manner, provided some form of public money is made available.

Type 2 Priority - an unserved area with population centers that should be targeted for grant funding. These areas have a higher likelihood of utilizing broadband service.

Type 3 - an unserved area in which at present, cable or wireline broadband cannot be deployed in an economically feasible manner and an intermodal approach employing other technologies, such as satellite and wireless, is required to provide that area with high-speed internet access.

Date: November 11, 2013
Data Source(s): Mid-Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc

SURVEY RESPONDENTS BELOW FCC SPEED DEFINITION COMPARED TO NUMBER OF PROVIDERS



Region 5 MOVRC Broadband Strategic Plan

Survey Respondents Below FCC Speed Definitions

FCC Download Speed Definition = 4MBPS
FCC Upload Speed Definition = 1MBPS

Legend

- Region 5
- ▲ Resident Below FCC Speeds
- △ Business Below FCC Speeds

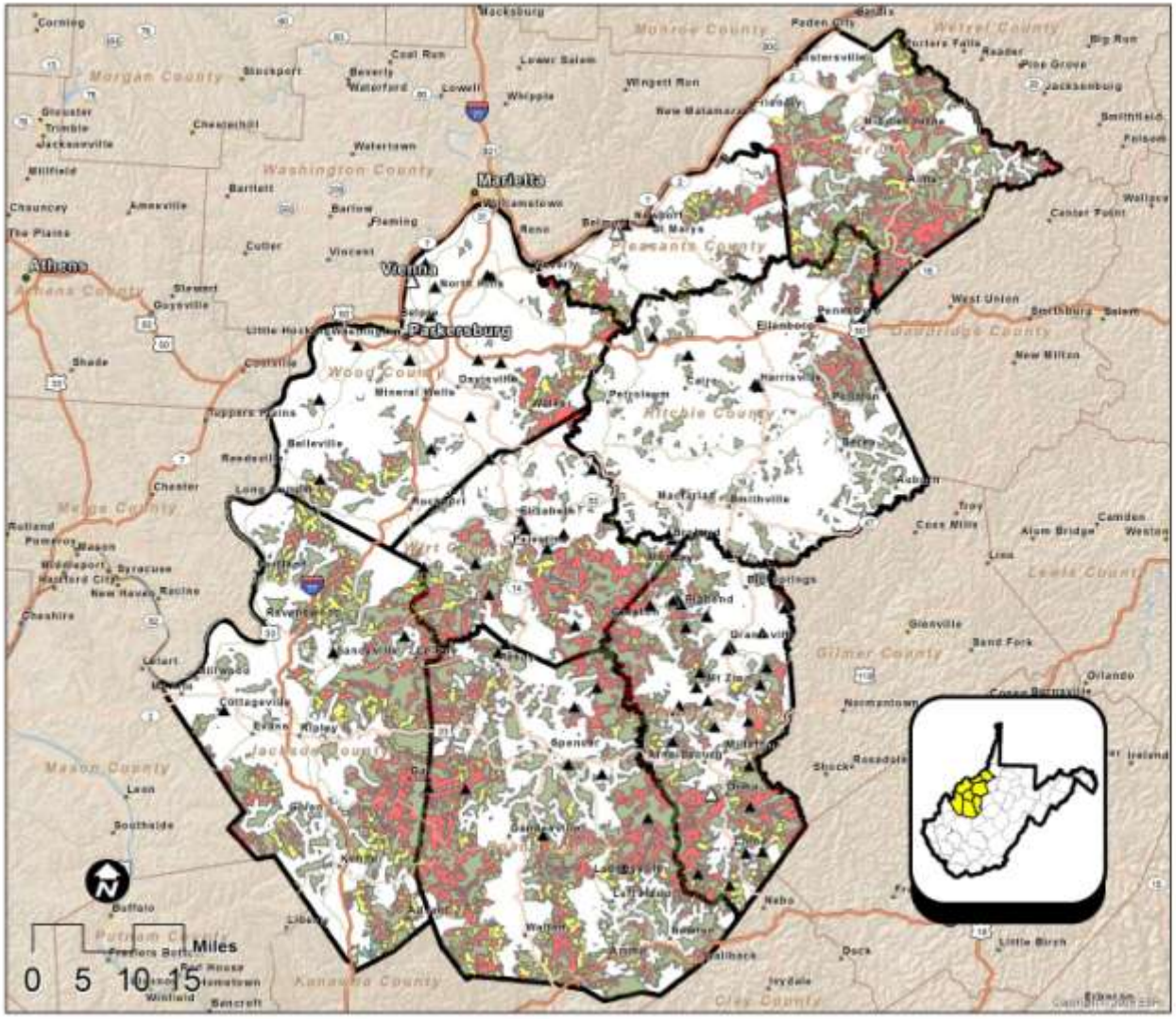
Number of Providers

Data Source: WV Broadband Council

- 1 Provider
- 2 Providers
- 3 Providers
- 4 Providers
- 5 or More Providers

Date: November 11, 2013
Data Source(s): Mid Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey, TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc

SURVEY RESPONDENTS BELOW FCC SPEED DEFINITION COMPARED TO PRIORITY TYPES



Region 5 MOVRC Broadband Strategic Plan

Survey Respondents Below FCC Speed Definitions

FCC Download Speed Definition = 4MBPS
FCC Upload Speed Definition = 1MBPS

Legend

- Region 5
- Resident Below FCC Speeds
- Business Below FCC Speeds

Data Source: WV Broadband Council

- Type 1
- Type 2
- Type 2 Priority
- Type 3

Broadband Types
Defined by State Code: 31-15C-6

Type 1 - an unserved area in which broadband may be deployed by service providers in an economically feasible manner.

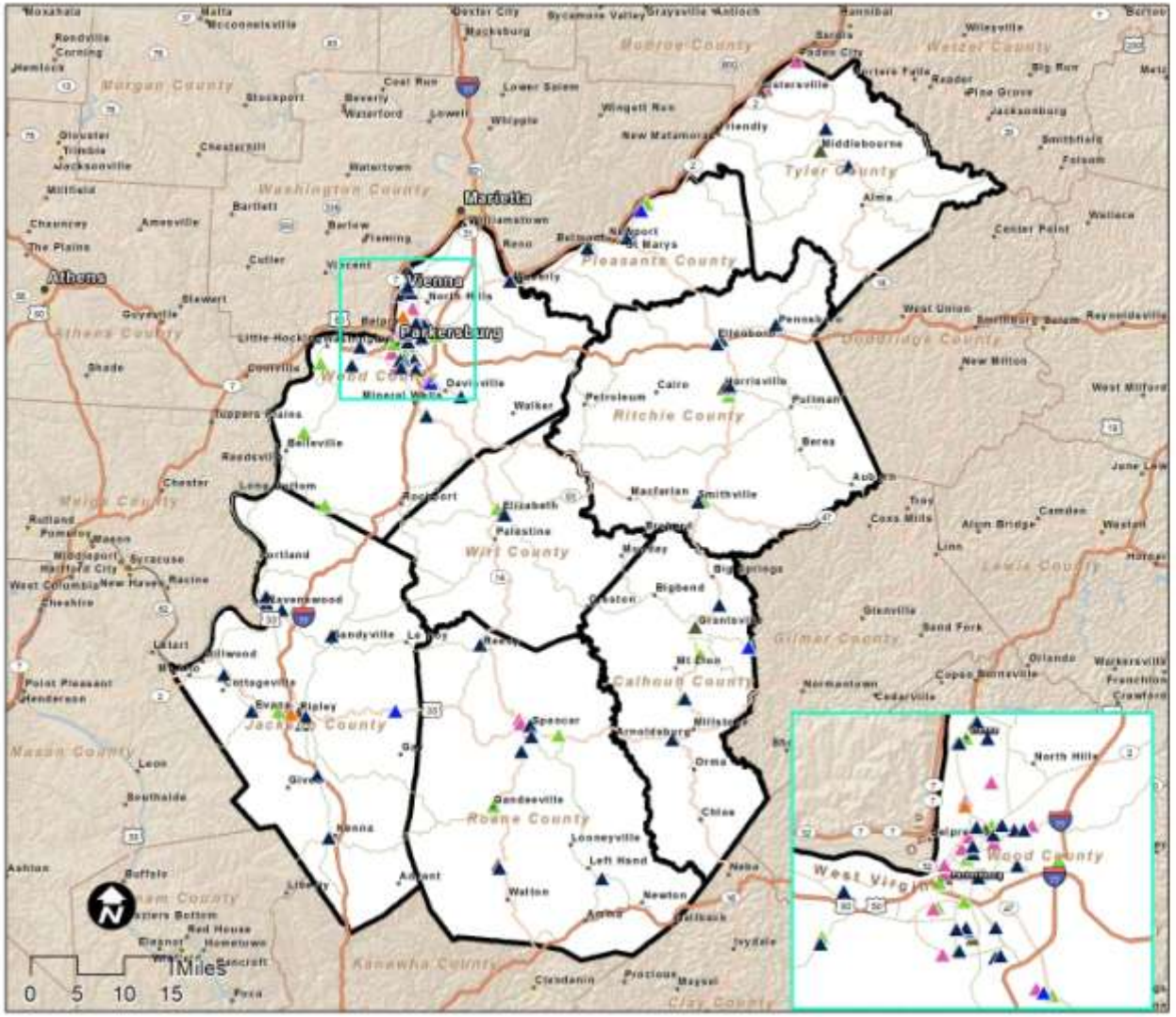
Type 2 - an unserved area in which broadband may be deployed by broadband service providers and other entities in an economically feasible manner, provided some form of public money is made available.

Type 2 Priority - an unserved area with population centers that should be targeted for grant funding. These areas have a higher likelihood of utilizing broadband service.

Type 3 - an unserved area in which at present, cable or wireline broadband cannot be deployed in an economically feasible manner and an intermodal approach employing other technologies, such as satellite and wireless, is required to provide that area with high-speed internet access.

Date: November 11, 2013
Data Source(s): Mid Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc

ANCHOR INSTITUTIONS BY BUILDING TYPE



Region 5 MOVRC Broadband Strategic Plan

Anchor Institutions by Building Types

Legend

Region 5

Building Type

- Library
- Medical/healthcare
- Other community support - government
- Other community support - nongovernmental
- Public safety
- School - K through 12
- University, college, other post-secondary

Date: November 7, 2013
Data Source(s): Mid Ohio Valley Regional Council, ESRI, U.S. Bureau of the Census, The WV Geological and Economic Survey, TeleAtlas Street Data, Delta Development Group, Inc.
Created by: Delta Development Group, Inc.

APPENDIX B: BLANK BUSINESS AND RESIDENTIAL SURVEY FORM

BUSINESS SURVEY

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

MOVRC
Mid-Ohio Valley Regional Council

The **Mid-Ohio Valley Regional Council** is participating in a statewide effort to better understand our high-speed Internet needs and create a strategic plan to meet these needs. As part of this process, we are conducting this survey to determine the Broadband usage, needs, and interests of local businesses. Broadband is typically defined as a service that enables high-speed Internet access as opposed to low-speed services, such as dial-up. The results of this survey will be used to determine who is using Broadband and how federal grant funding could be applied to improve Broadband access and online marketing opportunities for our business community. Please take a few minutes to let us know if you currently utilize Broadband Internet service and what impact Broadband has on your business.

If you have any questions, please contact the Mid-Ohio Valley Regional Council by e-mail at fred.rader@movrc.org or by phone at 304-422-4993.

Page 1

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***1. Contact Information**

Name of Business:

Street Address:

Street Address 2:

City/Town:

ZIP:

County:

Email Address:

***2. Name of person responding:**

***3. Title of person responding:**

***4. Which department do you work in?**

***5. How many employees work at your location?**

- ◯ 1-4
- ◯ 5-25
- ◯ 26-100
- ◯ 101-250
- ◯ 251-500
- ◯ 501 or more

Page 2

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***6. Indicate what national business classification best describes your business:**

- ☐ Accommodation and Food Services
- ☐ Agriculture, Forestry, Fishing/Hunting
- ☐ Construction
- ☐ Finance and Insurance
- ☐ Information
- ☐ Manufacturing
- ☐ Professional, Scientific, and Technical
- ☐ Real Estate and Rental and Leasing
- ☐ Transportation and Warehousing
- ☐ Waste Management and Remediation
- ☐ Administrative and Support Services
- ☐ Arts, Entertainment, and Recreation
- ☐ Educational Services
- ☐ Health Care and Social Assistance
- ☐ Management of Companies and Enterprises
- ☐ Mining, Quarrying, and Oil and Gas Extraction
- ☐ Public Administration
- ☐ Retail Trade
- ☐ Utilities
- ☐ Wholesale Trade

Page 3

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***7. Do you have Internet service at your business?**

- ◯ Yes
- ◯ No

***8. Who is your business' Broadband Internet provider?**

- ☐ AT&T Mobility LLC
- ☐ CityNet
- ☐ Comcast
- ☐ Frontier Communciations Corporation
- ☐ HughesNet
- ☐ NTELOS
- ☐ Other (please specify)
- ☐ Sprint
- ☐ SuddenLink Communications
- ☐ T-Mobile
- ☐ Verizon Wireless
- ☐ WildBlue Communications, Inc.

***9. What type(s) of Internet connection do you have?**

- ☐ Cable
- ☐ DSL
- ☐ Fiber
- ☐ Satellite
- ☐ Cellular/Air Card
- ☐ Dial-Up

Page 4

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

For all the types of Internet connections you have, indicate the speed of your connection(s).

Please check your speed at this website:

http://gis2.kimballdata.com/WVSpeedTest/WVSpeedTest.html?Id=speedtest

The Speed Test takes approximately 30 seconds.

If you have answered that internet service is unavailable in your area please skip this page of the survey

10. If you have a Cable connection type, what are your upload and download speeds?

Download Speed

Upload Speed

11. If you have a DSL connection type, what are your upload and download speeds?

Download Speed

Upload Speed

12. If you have a Fiber connection type, what are your upload and download speeds?

Download Speed

Upload Speed

13. If you have a Satellite connection type, what are your upload and download speeds?

Download Speed

Upload Speed

14. If you have a Cellular/Air Card connection type, what are your upload and download speeds?

Download Speed

Upload Speed

15. If you have another connection type, what are your upload and download speeds?

Connection type

Download Speed

Upload Speed

Page 5

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***16. Please rate the following aspects of your services by checking the appropriate column.**

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know/NA
Cost of Internet	○	○	○	○	○
Speed of Connection	○	○	○	○	○
Billing Practices	○	○	○	○	○
Technical Support	○	○	○	○	○
Customer Service	○	○	○	○	○
Reliability of Access	○	○	○	○	○

***17. Does your business allow employees to telecommute?**

○ Yes

○ No

Page 6

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***18. When you sought Broadband (high-speed) Internet services for your business at your location, how would you describe the availability of multiple, competing Broadband options:**

- ◯ Competitive, several options
- ◯ Somewhat Competitive, two providers
- ◯ Not Competitive, only one provider
- ◯ Suitable broadband is not available

***19. What do you currently pay each month for this service? (If you have indicated several services, indicate your total expense for these services.)**

- ◯ Less than $50
- ◯ More than $50 and less than $100
- ◯ Between $100 and $200
- ◯ Between $200 and $300
- ◯ More than $300 per month
- ◯ Don't know how much we pay
- ◯ Other (please specify)

20. IF you indicated that you DO NOT have Broadband (high-speed) Internet service (e.g. none or dial-up), please check all reasons for not having Internet service. (Check all that apply.)

- ☐ I don't own a computer
- ☐ Cost/Too Expensive
- ☐ Broadband Service Not Available
- ☐ Other (please specify)
- ☐ Do Not Need Broadband Services
- ☐ Security Reasons
- ☐ Need Training

21. IF concerns in the previous question were addressed, would you consider getting Broadband Internet service?

- ◯ Yes
- ◯ No

Page 7

MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***22. How important is a robust Broadband (high-speed Internet access) connection to the day-to-day operations of your business? (Check one.)**

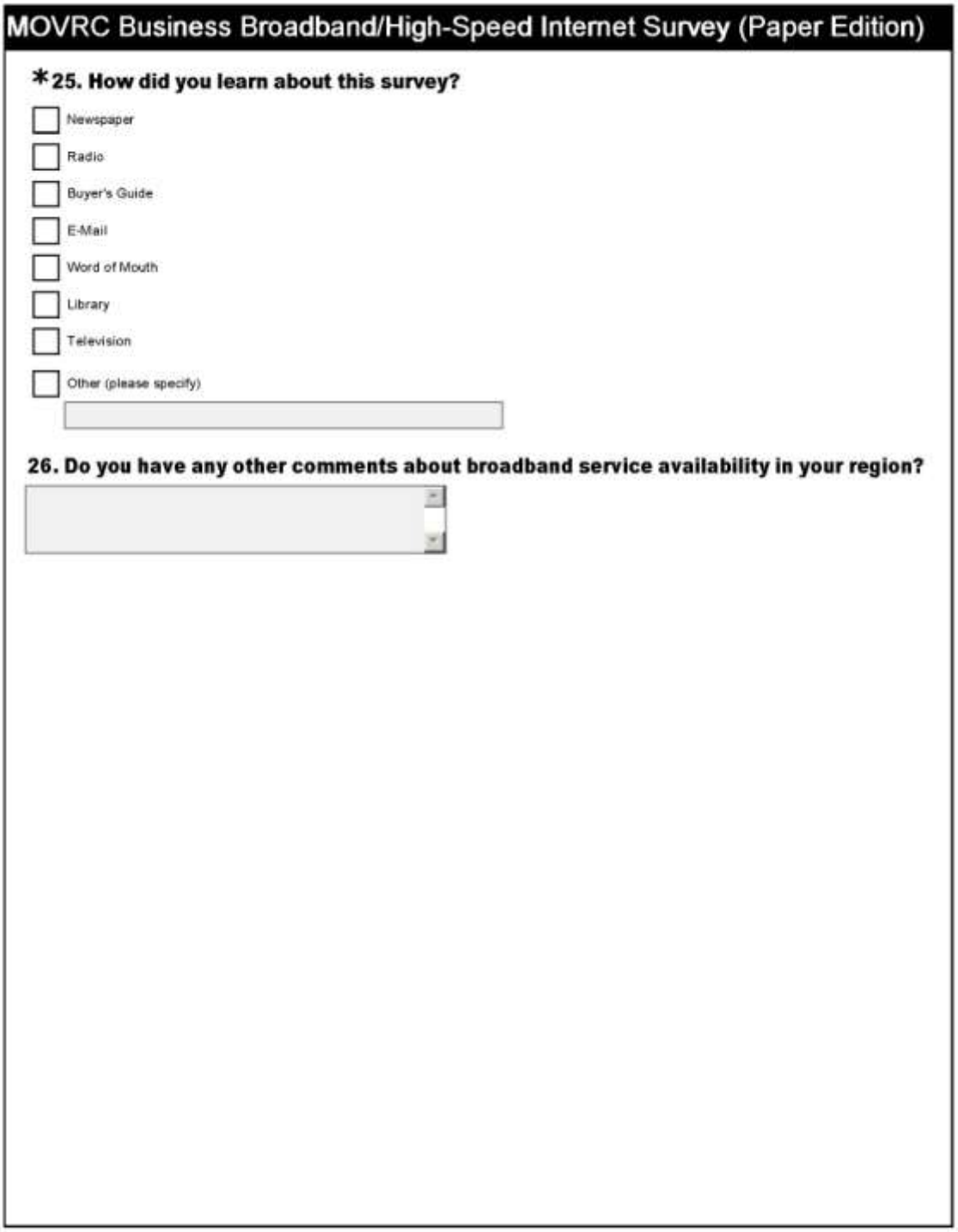
- ◯ Very Important
- ◯ Important
- ◯ Somewhat Important
- ◯ Not at all Important

***23. Do you think it would be beneficial to your customers/clients if the Broadband environment in your area was enhanced?**

- ◯ Yes
- ◯ No

24. If yes, why?

Page 8



MOVRC Business Broadband/High-Speed Internet Survey (Paper Edition)

***25. How did you learn about this survey?**

- ☐ Newspaper
- ☐ Radio
- ☐ Buyer's Guide
- ☐ E-Mail
- ☐ Word of Mouth
- ☐ Library
- ☐ Television
- ☐ Other (please specify)

26. Do you have any other comments about broadband service availability in your region?

Page 9

RESIDENTIAL SURVEY

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

MOVRC
Mid-Ohio Valley Regional Council

The **Mid-Ohio Valley Regional Council** is participating in a statewide effort to better understand our high-speed Internet needs and create a strategic plan to meet these needs. As part of this process, we are gathering vital information from residents about their Internet access that can help us improve service. Broadband is typically defined as a service that enables high-speed Internet access as opposed to low-speed services, such as dial-up. The results of this survey will be used to determine who is using Broadband and how federal grant funding could be applied to improve Broadband access for the community.

If you have any questions, please contact the Mid-Ohio Valley Regional Council by e-mail at fred.rader@movrc.org or by phone at 304-422-4993.

Page 1

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

To assist in the Region's efforts to direct federal and state spending, it is necessary to provide the most accurate answers to the questions below. By providing us with such detailed information as your street address and zip code, the Region could be able to better identify the gaps in coverage. Your responses will remain anonymous.

***1. Street Address:**

***2. Zip Code:**

***3. County:**

***4. What is your age?**

***5. Gender:**

- ☐ Male
- ☐ Female

***6. Number of household occupants?**

***7. Do you have Internet access in your home?**

- ☐ Yes
- ☐ No

Page 2

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

***8. Who uses the Internet at your home? (Check all that apply.)**

- ☐ I do
- ☐ Spouse/Partner
- ☐ Children
- ☐ Friend
- ☐ Grandparent
- ☐ Parent
- ☐ Housemate or Roommate
- ☐ Other

***9. Who is your Internet Service Provider?**

- ☐ AT&T Mobility LLC
- ☐ CityNet
- ☐ Comcast
- ☐ Frontier Communications Corporation
- ☐ HughesNet
- ☐ NTELOS
- ☐ Other (please specify)
- ☐ Sprint
- ☐ Suddenlink Communications
- ☐ T-Mobile
- ☐ Verizon Wireless
- ☐ WildBlue Communications, Inc.

***10. What type of connection do you use at home to access the Internet? (Check all that apply.)**

- ☐ T1/T3
- ☐ Cable
- ☐ DSL
- ☐ Fiber
- ☐ Other (please specify)
- ☐ Satellite
- ☐ Cellular/Air Card
- ☐ Dial-Up

***11. Why did you choose this connection type(s)?**

- ☐ Cost
- ☐ Speed
- ☐ Only Available Service
- ☐ Best Reliability

***12. How much do you pay per month for Internet service? (If you have indicated several services, indicate your total expense for these services.)**

Page 3

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

For all the types of Internet connections you have, indicate the speed of your connection(s).

Please check your speed at this website:

http://gis2.kimballdata.com/WVSpeedTest/WVSpeedTest.html?Id=speedtest

The Speed Test takes approximately 30 seconds.

If you have answered that internet service is unavailable in your area please skip this page of the survey

13. If you have a Cable connection type, what are your upload and download speeds?

Download Speed

Upload Speed

14. If you have a DSL connection type, what are your upload and download speeds?

Download Speed

Upload Speed

15. If you have a Fiber connection type, what are your upload and download speeds?

Download Speed

Upload Speed

16. If you have a Satellite connection type, what are your upload and download speeds?

Download Speed

Upload Speed

17. If you have a Cellular/Air Card connection type, what are your upload and download speeds?

Download Speed

Upload Speed

18. If you have another connection type, what are your upload and download speeds?

Connection type

Download Speed

Upload Speed

Page 4

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

***19. The following is a list of characteristics about your Internet service. Please indicate whether you are "very satisfied," "satisfied," "dissatisfied," or "very dissatisfied" with that aspect of your Internet service.**

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Speed of Connection	◯	◯	◯	◯
Cost of Internet	◯	◯	◯	◯
Technical Support	◯	◯	◯	◯
Reliability of Access	◯	◯	◯	◯
Customer Service	◯	◯	◯	◯
Number of Providers	◯	◯	◯	◯

***20. Does your employer allow employees to telecommute?**

◯ Yes

◯ No

***21. Do you use the Internet anywhere else other than your home?**

◯ Yes

◯ No

Page 5

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

22. If yes, please indicate other places where you use the Internet:

	Yes	No
Work	○	○
School	○	○
Public Library	○	○
A relative's or friends house	○	○
A retail shop with wireless Internet services	○	○
Cell phone	○	○
Other	○	○

Other (please specify)

23. IF you indicated that you DO NOT have Broadband (high-speed) Internet service (e.g., none or dial-up), please check all reasons for not having Internet service. (Check all that apply.)

- ☐ I Don't own a Computer
- ☐ Cost/Too Expensive
- ☐ Broadband Service Not Available
- ☐ Other (please specify)
- ☐ Do Not Need Broadband Services
- ☐ Security Reasons
- ☐ Do Not Know How to Use the Internet

24. IF concerns in the previous question were addressed, would you consider getting Broadband (high-speed) Internet service?

- ○ Yes
- ○ No

***25. How important do you think it is for all RESIDENTS in West Virginia to have access to computers and the Internet**

Page 6

MOVRC Residential Broadband/High-Speed Internet Survey (Paper Edition)

***26. How did you learn about this survey?**

- ☐ Newspaper
- ☐ Radio
- ☐ Buyer's Guide
- ☐ E-Mail
- ☐ Word of Mouth
- ☐ Library
- ☐ Television
- ☐ Other (please specify)

27. If you have any additional comments about Broadband (high-speed) Internet service in the State of West Virginia, please include them here:

Page 7