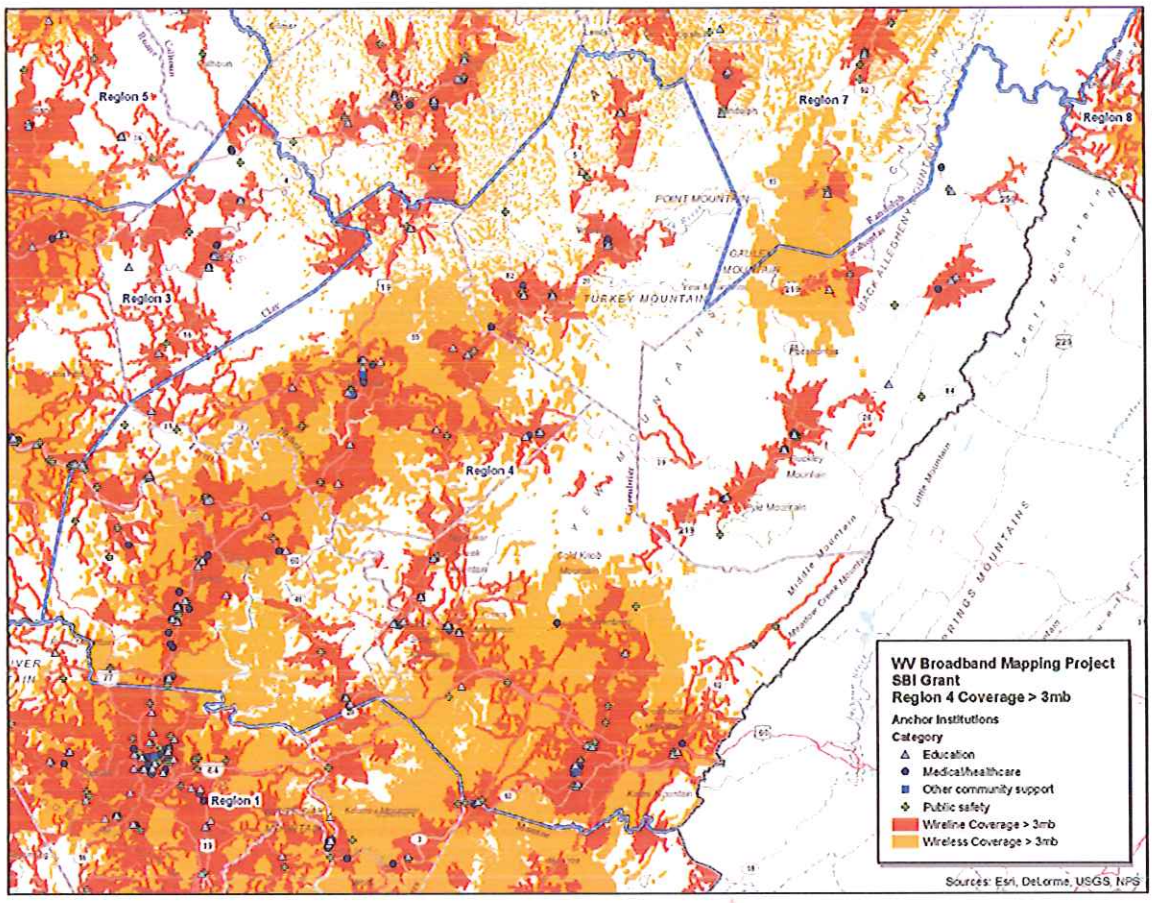
Region 4 Planning & Development Council



Broadband Strategic Plan

Funded and Supported By

Region 4 Planning & Development Council

REGION 4 BROADBAND STRATEGIC PLAN

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Introduction

Purpose of Planning Exercise

As the State of West Virginia continues to grow broadband initiatives and leverage existing infrastructure and future broadband expansion, it is important for the continued development of programs that will improve broadband use and adoption. With funding from the State Broadband Data Development Grant, the State of West Virginia has developed, and continues to improve, a statewide broadband coverage mapping program that provides a comprehensive picture of current infrastructure deployment and availability of broadband service in the State. This program began with a 1.4 million dollar grant from the National Telecommunications and Information Administration in support of the National Map. The State received an additional 3.3 million to ensure updates are made and any changes in the source data are observed, while adding information from any new providers. This new funding supported the development of two additional projects known as the Technical Assistance Project (TA) and the Regional Broadband Planning Teams Project (RBPT).

The Technical Assistance Project supports the activities needed to improve digital literacy by providing technical expertise to non-profits, community institutions and other local and regional groups. The first two key elements of a production broadband technical assistance engagement are identification/engagement of businesses and organizations with limited capacity and then developing an assessment of their current performance with identified paths toward future opportunities. To this end, the Broadband Mapping Program will use 1.2 million dollars for its Technical Assistance Project.

The TA Project aims to conduct community level research based analytics and trend analysis cut across representative demographics in West Virginia. The program will use this trend data to identify those areas with the greatest need at the individual organization level and perform a review of patterns of utilization, gaps, barriers and opportunities, resulting in customized information that will encourage organizations to adopt broadband and broadband enabled applications and processes. The TA Project is the foundation of the RBPT Project. Effective data collection on broadband utilization and its impact is essential to the success of any broadband awareness and adoption effort. It is important to get a "lay of the land" to know whether individuals, businesses, and organizations are utilizing broadband and broadband enabled applications, and to understand where the State's weaknesses or missed opportunities lie. The RBPT was created to benchmark data collection and analysis of high-speed Internet connectivity and e-solutions for economic and social development. By partnering with the Planning and Development Councils in conducting benchmarking surveys across the 11 regions of the State, the Broadband Mapping Program (BMP) has built a unique repository of primary data about broadband usage across the State, separate, but complementary to that which may be acquired in the Mapping Project. The analysis of this data has been crucial for the RBPT to develop effective and comprehensive regional strategic broadband initiatives and

adoption plans that will later take advantage of federal, state and other grant opportunities.[1]

As stated above, the most critical part of this comprehensive effort has been local and regional planning. In November 1971, the West Virginia Legislature passed the Regional Planning and Development Act, designating the responsibilities of both the State and local governments to guide the orderly growth of the State of West Virginia. On May 3, 1972, the Governor designated the current eleven (11) planning and development regions in the State to carry out the functions of Article 25, Chapter 8 of the State Code of West Virginia. Region 4 Planning & Development Council was designated to serve Fayette, Greenbrier, Nicholas, Pocahontas and Webster counties and the municipalities contained within. Region 4 consists of 3,847 square miles and a population of 125,625 (2010 Census). After a series of organizational meetings with the local officials of those counties and the adoption of its bylaws, the Region 4 Planning & Development Council began operations on July 1, 1973 in Summersville, West Virginia.

Region 4 includes five (5) counties and twenty-six (26) municipalities. According to the 2010 Census, the municipal governments range in size of population from seven (7) persons in Thurmond, Fayette County, to 7,589 persons in Oak Hill, also in Fayette County. The municipalities range in age from Lewisburg, Greenbrier County, incorporated in 1782, to Gauley Bridge, Fayette County, incorporated in 1977. [2]

Region 4 Mission Statement – "It is the mission of Region 4 Planning and Development Council to strategically and effectively plan for and facilitate the comprehensive development of Fayette, Greenbrier, Nicholas, Pocahontas, and Webster Counties, West Virginia. Such planning includes, but is not limited to, infrastructure development, economic development, technical assistance, education, community development, health care improvement, resource development, intergovernmental coordination, social enrichment, transportation enhancement, and environmental protection. Inclusive and integral to the Council's comprehensive planning is the ultimate goal of ensuring that the region's public services and facilities are maintained at acceptable levels with the goal of promoting the general health, safety, economic prosperity, and welfare of all its citizens."

The Planning & Development Council's overall mission was a perfect fit with the West Virginia BMP and the TA Project. The overall mission of the BMP is to "*advance broadband demand and adoption, and to study and support broadband service and infrastructure development in the State of West Virginia.*"

Each Regional Broadband Planning team was expected to pursue this mission through a twofold process:

1) Conduct a broadband needs assessment and,
2) Develop a Broadband Strategic Plan for the region based on the assessment.

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[1] Regional Broadband Planning Teams Toolkit
[2] Region 4 Planning and Development Council 2013 Comprehensive Economic Development Strategy

The initial work of the Planning Teams occurred in a period of about 18 months, but the process is designed to be enduring, such that the needs assessment can be updated overtime and the Strategic Plan can remain dynamic and be adjusted according to changes of circumstances, technologies and the results of the previous implementation efforts.

The Broadband Planning Team members of Region 4 Planning and Development Council are as follows:

- David Ayersman – Vice President of Institutional Advancement/Workforce Education, New River Community and Technical College, Greenbrier/Nicholas Counties
- Rita Griffith – Frontier, Pocahontas County
- Chris Hanshaw – Nicholas County Board of Education, Nicholas County
- Dr. Beverly Jo Harris – President, Bridgemont Community and Technical College, Fayette County
- Dr. Arnold Hassen – Osteopathic School, Greenbrier County
- Geoff Heeter – Owner, Opossum Creek Retreat, Fayette County
- Bryan Heller – Facilities Director, Boy Scouts of America, Fayette County
- Debbie Hill – Chief Executive Officer, Summersville Region Medical Center, Nicholas County
- Pete Hobbs – Mayor of Ansted, Fayette County
- Chris Kyle – Vice-President, Shentel
- John Manchester – Mayor of Lewisburg, Greenbrier County
- Don McCourt – Mayor of Webster Springs, Webster County
- Tom Minnich – CIO, Bridgemont Community and Technical College, Fayette County
- Vickie Nutter – Principal, Nicholas County Vocational School, Nicholas County
- Sara Palfrey – Summersville Library, Nicholas County
- Tony Simental – State GIS Coordinator
- Geary Weir – Executive Director, Webster County Economic Development Authority, Webster County
- Steve Weir – Executive Director, Greenbrier Valley Economic Development Corporation, Greenbrier/Pocahontas Counties
- Randy Underwood – Class VI, Fayette County

Regional Overview

The Region 4 Planning & Development Council serves the counties of Fayette, Greenbrier, Nicholas, Pocahontas and Webster and is located in the southeastern portion of West Virginia. The area is referred to as the Appalachian Ridge and Plateau region of the State. The geographic center of Region 4 is located sixty-six (66) miles from Charleston, fifty-two (52) miles from Beckley and eighty-seven (87) miles from Fairmont.

The region encompasses a total land area of 3,847.28 square miles or 16% of the total land area of West Virginia. Region 4 is the largest geographical area of the State's eleven (11) Planning and Development Council regions. The area is heavily forested, has many mineral deposits and has many natural scenic sites. A large portion of the land is undeveloped and is owned by the State or Federal government.

Region 4 is known for its many tourist attractions such as white-water rafting, hunting, fishing, rock climbing, snow skiing, mountain biking, recreational boating, etc. The Region is also blessed with various state parks as well as nationally recognized recreational areas.

Region 4 is rich in natural resources such as coal, natural gas, hydroelectric, wind, timber, limestone, scenic beauty, wildlife, national rivers, national parks and recreational areas, whitewater rafting, rock climbing, snow skiing, etc. With the abundance of these resources, the Region 4 counties are becoming more of a tourism destination. [3]

Fayette County

Fayette County was founded in 1831. The municipalities of Fayette County are Ansted, Fayetteville, Gauley Bridge, Meadow Bridge, Montgomery, Mount Hope, Oak Hill, Pax, Smithers and Thurmond. The county's population in 2012 was estimated to be at 45,869.[4] Fayette County is part of the Beckley Metropolitan Area. It has 661.5 sq. miles in land area and a population density of 69.3 per square mile. On the most recent census form, 98.7% of the population reported only one race, with 4.6% of these reporting African-American. The population of this county is 0.9% Hispanic (of any race). The average household size is 2.30 persons compared to an average family size of 2.90 persons.

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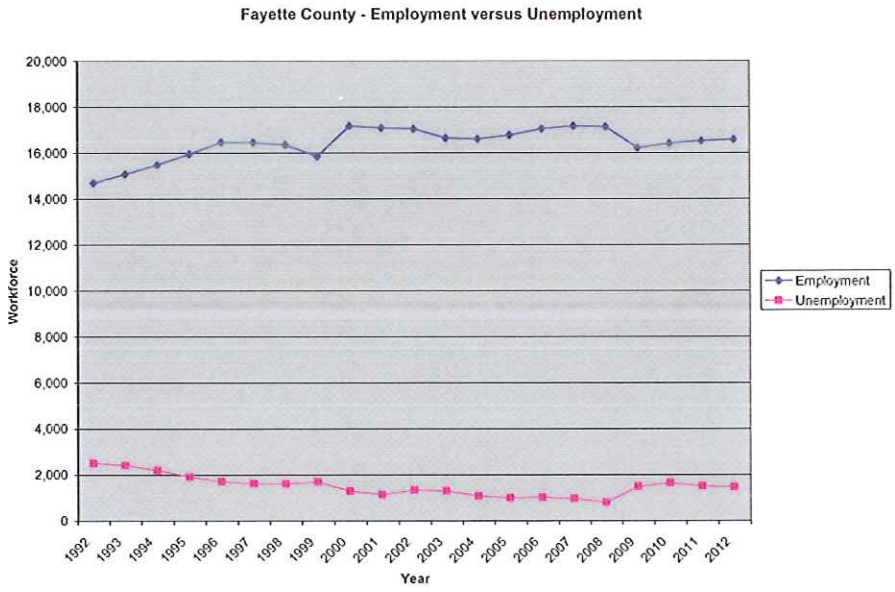
[3] Region 4 Planning and Development Council 2013 Comprehensive Economic Development Strategy
[4] U.S. Census Bureau, Population Division

In 2012 retail trade was the largest of 20 major sectors. It had an average wage per job of $24,455. Per capita income grew by 15.3% between 2001 and 2011 (adjusted for inflation).[5]

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2012) (By Place of Work)	Value	Rank in U.S.
Population (2012)	45,869	1050	Covered Employment	12,125	1257
Growth (%) since 2010 Census	-0.4%	1767	Avg wage per job	$35,072	1378
Households (2011)	17,801	1046	Manufacturing - % all jobs in County	4.2%	2255
Labor Force (persons) (2012)	18,076	1234	Avg wage per job	$54,973	523
Unemployment Rate (2012)	8.2	1224	Transportation & Warehousing - % all jobs in County	2.3%	1475
Per Capita Personal Income (2011)	$29,277	2412	Avg wage per job	$34,211	2675
Median Household Income (2011)	$32,316	2818	Health Care, Social Assist. - % all jobs in County	D	N/A
Poverty Rate (2011)	21.8	651	Avg wage per job	D	N/A
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	78.4	2,421	Finance and Insurance - % all jobs in County	3.0%	888
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	10.8	2,889	Avg wage per job	$31,187	2541

In 2011 Fayette County had a per capita personal income (PCPI) of $29,277. This PCPI ranked 31st in the state and was 88 percent of the state average, $33,403, and 70 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 6.0 percent from 2010. The 2010-2011 state change was 5.0 percent and the national change was 4.4 percent. In 2001 the PCPI of Fayette was $19,992 and ranked 35th in the state. The 2001-2011 compound annual growth rate of PCPI was 3.9 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[6]



[5] http://www.statsamerica.org/profiles/us_profile_frame.html
[6] http://www.bea.gov/regional/bearfacts/action.cfm

Greenbrier County

Greenbrier County was founded in 1778. The municipalities of Greenbrier County are Alderson, Falling Springs/Renick, Lewisburg, Quinwood, Rainelle, Ronceverte, Rupert and White Sulphur Springs. The county's population in 2012 was estimated to be at 35,820.[7] It has 1,019.6 sq. miles in land area and a population density of 35.1 per square mile. On the most recent census form, 98.5% of the population reported only one race, with 2.8% of these reporting African-American. The population of this county is 1.2% Hispanic (of any race). The average household size is 2.30 persons compared to an average family size of 2.80 persons.

In 2012 accommodation and food services was the largest of 20 major sectors. It had an average wage per job of $26,985. Per capita income grew by 10.3% between 2001 and 2011 (adjusted for inflation).[8]

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2012) (By Place of Work)	Value	Rank in U.S.
Population (2012)	35,820	1281	Covered Employment	13,547	1165
Growth (%) since 2010 Census	1.0%	903	Avg wage per job	$32,319	1981
Households (2011)	15,412	1183	Manufacturing - % all jobs in County	5.9%	2018
Labor Force (persons) (2012)	15,236	1376	Avg wage per job	$36,741	1991
Unemployment Rate (2012)	7.8	1387	Transportation & Warehousing - % all jobs in County	1.9%	1673
Per Capita Personal Income (2011)	$32,130	1855	Avg wage per job	$42,453	1402
Median Household Income (2011)	$35,924	2421	Health Care, Social Assist. - % all jobs in County	19.8%	188
Poverty Rate (2011)	17.9	1276	Avg wage per job	$36,758	989
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	79.4	2,333	Finance and Insurance - % all jobs in County	1.6%	2355
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	17.0	1,628	Avg wage per job	$35,689	2175

In 2011 Greenbrier County had a per capita personal income (PCPI) of $32,130. This PCPI ranked 15th in the state and was 96 percent of the state average, $33,403, and 77 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 5.0 percent from 2010. The 2010-2011 state change was 5.0 percent and the national change was 4.4 percent. In 2001 the PCPI of Greenbrier was $22,933 and ranked 17th in the state. The 2001-2011 compound annual growth rate of PCPI was 3.4 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[9]

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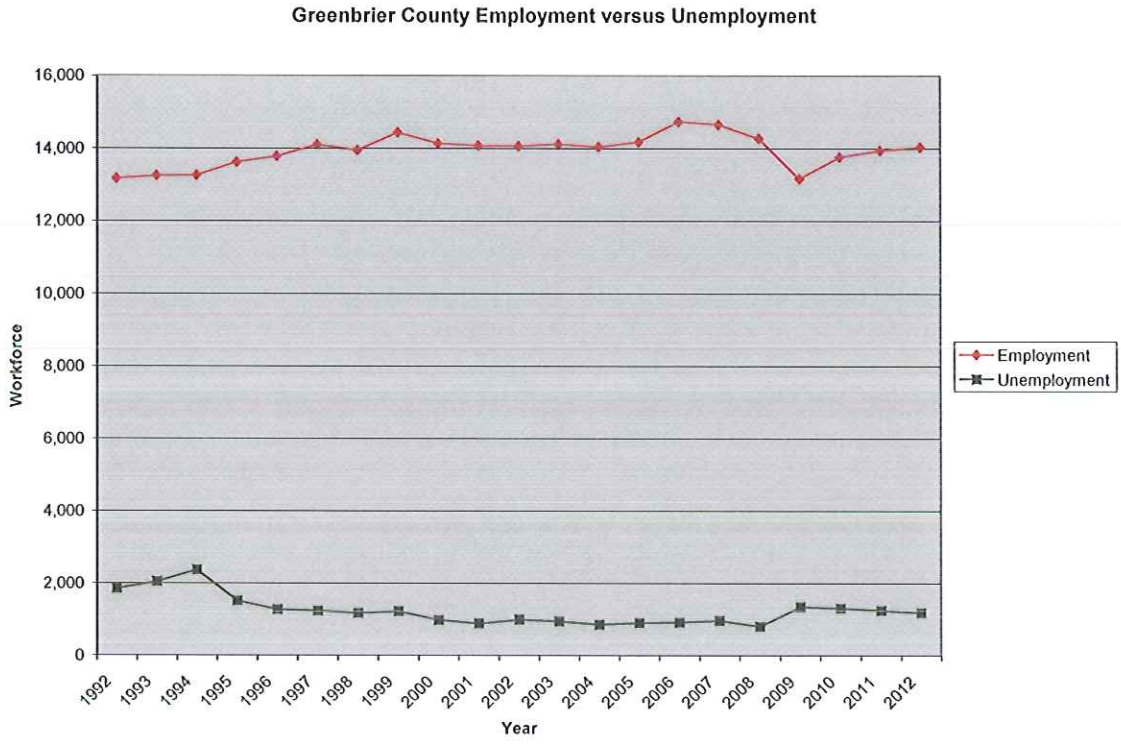
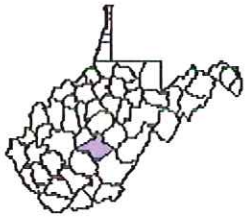
[7] U.S. Census Bureau, Population Division

[8] http://www.statsamerica.org/profiles/us_profile_frame.html

[9] http://www.bea.gov/regional/bearfacts/action.cfm



Nicholas County



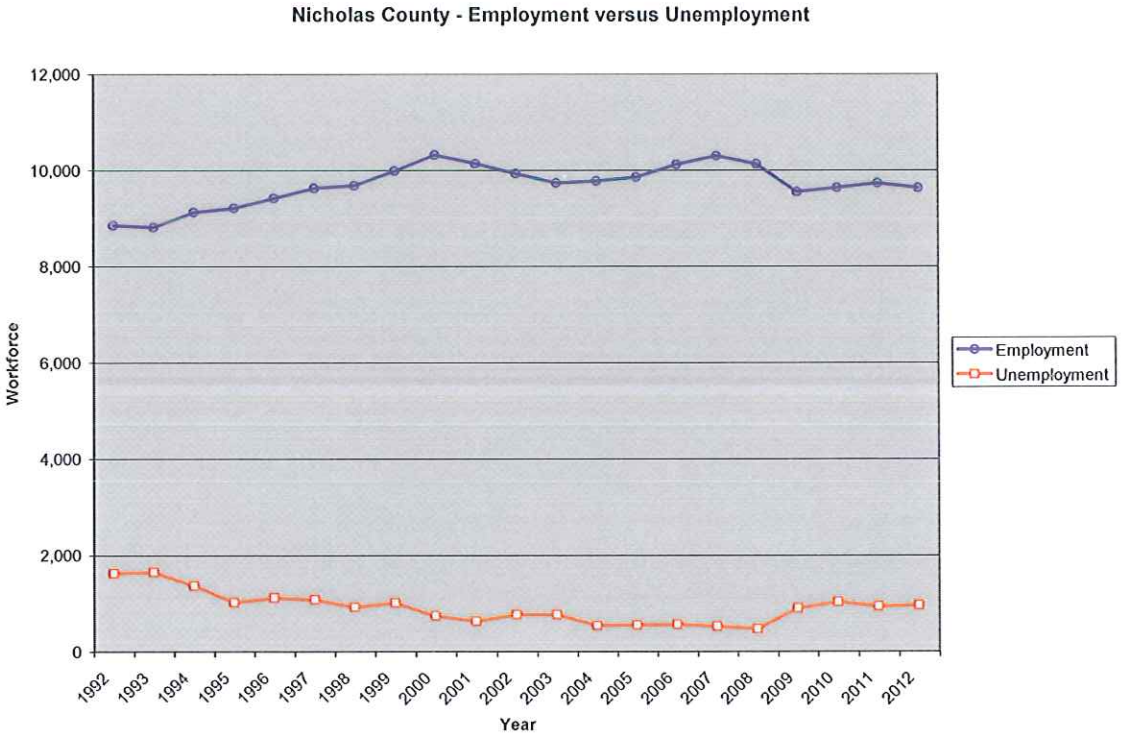
Nicholas County was founded in 1818. The municipalities of Nicholas County are Richwood and Summersville. The county's population in 2012 was estimated to be at 26,229.[10] It has 1,019.6 sq. miles in land area and a population density of 35.1 per square mile. On the most recent census form, 98.5% of the population reported only one race, with 2.8% of these reporting African-American. The population of this county is 1.2% Hispanic (of any race). The average household size is 2.30 persons compared to an average family size of 2.80 persons.

In 2012 accommodation and food services was the largest of 20 major sectors. It had an average wage per job of $26,985. Per capita income grew by 10.3% between 2001 and 2011 (adjusted for inflation). [11]

[10] U.S. Census Bureau, Population Division
[11] http://www.statsamerica.org/profiles/us_profile_frame.html

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2012) (By Place of Work)	Value	Rank in U.S.
Population (2012)	35,820	1281	Covered Employment	13,547	1165
Growth (%) since 2010 Census	1.0%	903	Avg wage per job	$32,319	1981
Households (2011)	15,412	1183	Manufacturing - % all jobs in County	5.9%	2018
Labor Force (persons) (2012)	15,236	1376	Avg wage per job	$36,741	1991
Unemployment Rate (2012)	7.8	1387	Transportation & Warehousing - % all jobs in County	1.9%	1673
Per Capita Personal Income (2011)	$32,130	1855	Avg wage per job	$42,453	1402
Median Household Income (2011)	$35,924	2421	Health Care, Social Assist. - % all jobs in County	19.8%	188
Poverty Rate (2011)	17.9	1276	Avg wage per job	$36,758	989
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	79.4	2,333	Finance and Insurance - % all jobs in County	1.6%	2355
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	17.0	1,628	Avg wage per job	$35,689	2175

In 2011 Nicholas County had a per capita personal income (PCPI) of $31,088. This PCPI ranked 21st in the state and was 93 percent of the state average, $33,403, and 75 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 5.8 percent from 2010. The 2010-2011 state change was 5.0 percent and the national change was 4.4 percent. In 2001 the PCPI of Nicholas was $20,738 and ranked 28th in the state. The 2001-2011 compound annual growth rate of PCPI was 4.1 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent. [12]



[12] http://www.bea.gov/regional/bearfacts/action.cfm

Pochahontas County

Pocahontas County was founded in 1821. The municipalities of Pocahontas County are Durbin, Hillsboro and Marlinton. The county's population in 2012 was estimated to be at 8,692.[13] It has 940.3 sq. miles in land area and a population density of 9.2 per square mile. On the most recent census form, 99.0% of the population reported only one race, with 0.7% of these reporting African-American. The population of this county is 0.8% Hispanic (of any race). The average household size is 2.20 persons compared to an average family size of 2.80 persons.

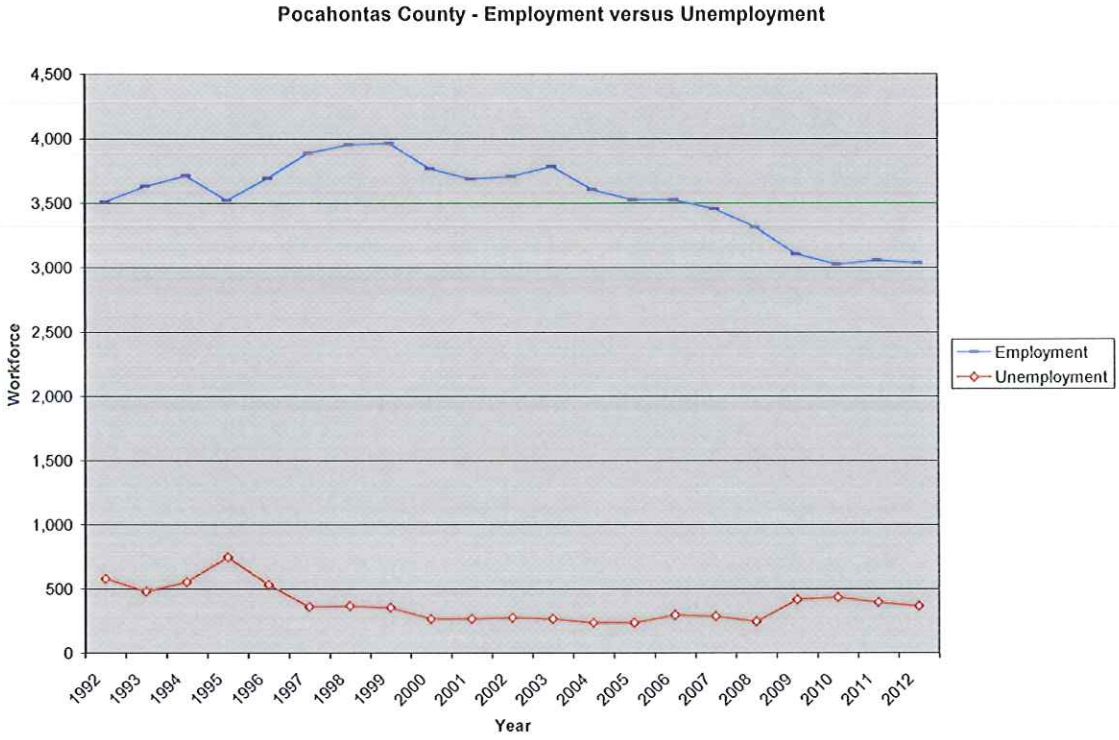
In 2012 accommodation and food services was the largest of 20 major sectors. It had an average wage per job of $22,241. Per capita income grew by 6.9% between 2001 and 2011 (adjusted for inflation). [14]

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2012) (By Place of Work)	Value	Rank in U.S.
Population (2012)	8,692	2549	Covered Employment	3,063	2369
Growth (%) since 2010 Census	-0.3%	1692	Avg wage per job	$27,475	2899
Households (2011)	3,819	2524	Manufacturing - % all jobs in County	8.2%	1697
Labor Force (persons) (2012)	3,410	2664	Avg wage per job	$30,350	2476
Unemployment Rate (2012)	10.8	369	Transportation & Warehousing - % all jobs in County	3.8%	790
Per Capita Personal Income (2011)	$30,446	2212	Avg wage per job	$33,536	2744
Median Household Income (2011)	$34,928	2550	Health Care, Social Assist. - % all jobs in County	D	N/A
Poverty Rate (2011)	18.7	1121	Avg wage per job	D	N/A
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	83.2	1,861	Finance and Insurance - % all jobs in County	1.4%	2475
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	16.4	1,756	Avg wage per job	$29,073	2623

In 2011 Pocahontas County had a per capita personal income (PCPI) of $30,446. This PCPI ranked 27th in the state and was 91 percent of the state average, $33,403, and 73 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 3.2 percent from 2010. The 2010-2011 state change was 5.0 percent and the national change was 4.4 percent. In 2001 the PCPI of Pocahontas was $22,417 and ranked 21st in the state. The 2001-2011 compound annual growth rate of PCPI was 3.1 percent. The

[13] U.S. Census Bureau, Population Division
[14] http://www.statsamerica.org/profiles/us_profile_frame.html

compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[15]



Webster County

Webster County was founded in 1860. The municipalities of Webster County are Camden-on-Gauley, Cowen and Webster Springs. The county's population in 2012 was estimated to be at 9,043.[16] It has 553.5 sq. miles in land area and a population density of 16.3 per square mile. On the most recent census form, 99.0% of the population reported only one race, with 0.2% of these reporting African-American. The population of this county is 0.5% Hispanic (of any race). The average household size is 2.40 persons compared to an average family size of 2.90 persons.

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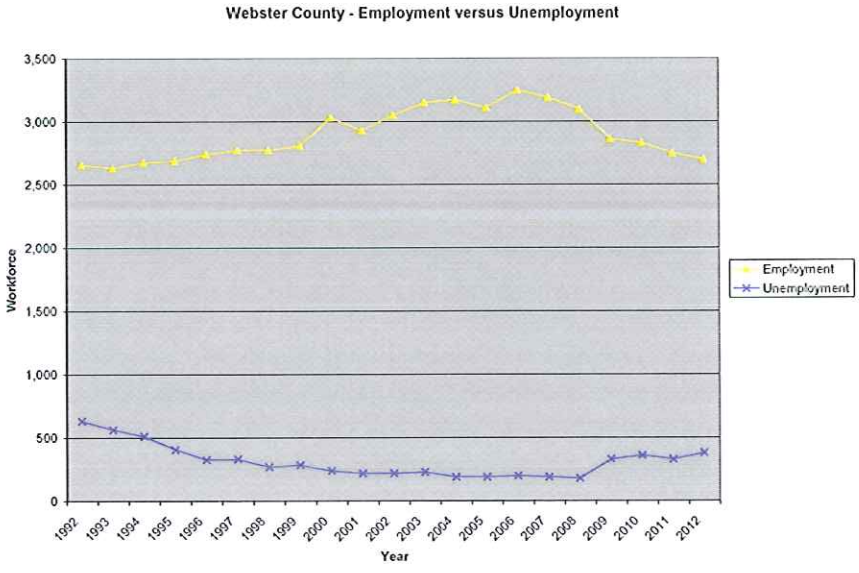
[15] http://www.bea.gov/regional/bearfacts/action.cfm
[16] U.S. Census Bureau, Population Division

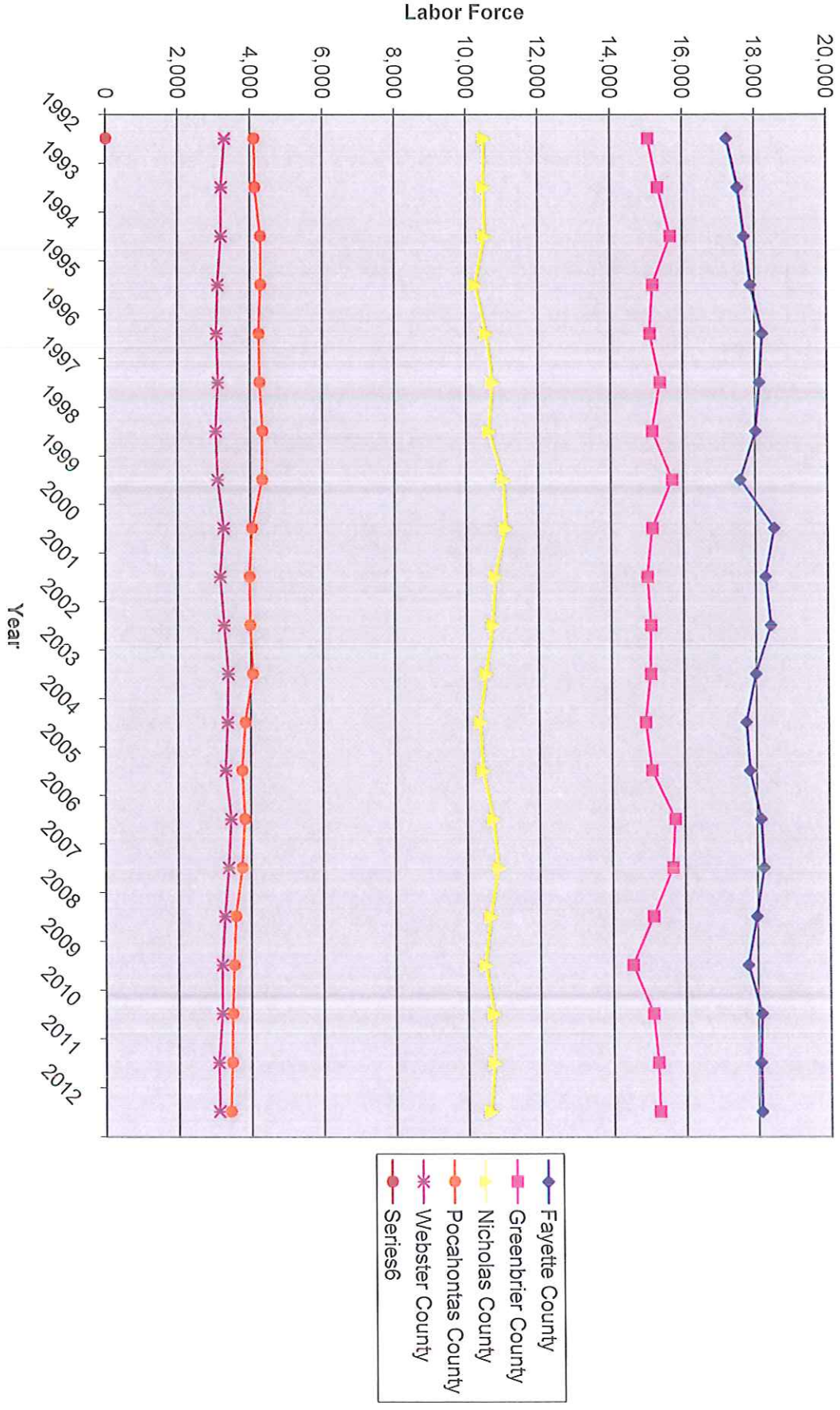
In 2012 health care and social assistance was the largest of 20 major sectors. It had an average wage per job of $20,603. Per capita income grew by 21.3% between 2001 and 2011 (adjusted for inflation). [17]

People & Income Overview (By Place of Residence)	Value	Rank in U.S.	Industry Overview (2012) (By Place of Work)	Value	Rank in U.S.
Population (2012)	9,043	2517	Covered Employment	2,026	2632
Growth (%) since 2010 Census	-1.2%	2389	Avg wage per job	$36,401	1140
Households (2011)	4,020	2477	Manufacturing - % all jobs in County	8.3%	1678
Labor Force (persons) (2012)	3,088	2728	Avg wage per job	$26,556	2644
Unemployment Rate (2012)	12.4	158	Transportation & Warehousing - % all jobs in County	7.8%	183
Per Capita Personal Income (2011)	$24,896	2973	Avg wage per job	$33,054	2789
Median Household Income (2011)	$28,697	3034	Health Care, Social Assist. - % all jobs in County	13.8%	812
Poverty Rate (2011)	26.8	242	Avg wage per job	$20,603	2134
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	67.9	3,090	Finance and Insurance - % all jobs in County	D	N/A
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	8.6	3,125	Avg wage per job	D	N/A

In 2011 Webster County had a per capita personal income (PCPI) of $24,896.00. This PCPI ranked 47th in the state and was 75 percent of the state average, $33,403, and 60 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 4.4 percent from 2010. The 2010-2011 state change was 5.0 percent and the national change was 4.4 percent. In 2001 the PCPI of Webster was $16,164.00 and ranked 54th in the state. The 2001-2011 compound annual growth rate of PCPI was 4.4 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[18]



[17] http://www.statsamerica.org/profiles/us_profile_frame.html
[18] http://www.bea.gov/regional/bearfacts/action.cfm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Pocahontas County
Webster County
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West Virginia Department of Commerce
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Fayette County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	12,125	$425,232,931	$35,071	12,284	$431,801,179	$35,152
Total, Private Sector	8,856	307,816,924	34,758	9,053	315,945,313	34,900
Natural Resources and Mining	798	60,740,037	76,115	856	69,598,338	81,306
Construction	390	13,048,531	33,458	429	14,275,188	33,275
Manufacturing	505	27,784,223	55,018	494	26,922,197	54,498
Trade, Transportation, and Utilities	2,364	71,749,375	30,351	2,423	72,393,498	29,878
42 Wholesale trade	360	17,590,063	48,861	364	17,867,024	49,085
44-45 Retail trade	1,722	42,109,843	24,454	1,768	42,506,565	24,042
48-49 Transportation and warehousing	195	6,128,671	31,429	203	6,332,884	31,196
Information	70	3,838,858	54,841	74	3,800,477	51,358
Financial Activities	420	12,661,276	30,146	457	13,001,635	28,450
Professional and Business Services	483	17,646,869	36,536	490	16,455,329	33,582
Education and Health Services	1,884	64,634,972	34,307	1,865	62,577,775	33,554
Leisure and Hospitality	1,555	21,880,959	14,071	1,530	21,111,670	13,798
Other Services	385	13,781,657	35,797	433	15,756,266	36,389
Government	3,269	117,416,007	35,918	3,230	115,855,866	35,869
Federal Government	290	16,713,220	57,632	289	16,884,579	58,424
State Government	1,186	44,393,727	37,431	1,185	43,677,754	36,859
Local Government	1,794	56,309,060	31,387	1,757	55,293,533	31,470

Demographics (2010 Census)	
Total Population 2012	45,869
Total Population 2000	47,498
Total Population 1990	47,952
Total Population 1980	57,863
Total Population 1970	49,332
Sex and Age	
Male	23,085
Female	22,954
Ages 14 and below	7,842
Ages 15 to 19	2,730
Ages 20 to 24	2,481
Ages 25 to 34	5,362
Ages 35 to 44	5,831
Ages 45 to 54	6,910
Ages 55 to 64	7,081
Ages 65 and older	7,802
Median Age	43.0
Race	
White	43,026
Black or African American	2,122
American Indian and Alaska Native	92
Asian	91
Native Hawaiian and Other Pacific	5
Some other race	84
Two or more races	619

Top 10 Employers	
March 2012	
1	Fayette County Board of Education
2	Mt. Olive Correctional Complex
3	Maple Coal Company
4	West Virginia University
5	Wal-Mart Stores, Inc.
6	WVA Manufacturing, LLC
7	Oak Hill Hospital Corporation (Plateau Medical Center)
8	Montgomery General Hospital
9	Kingston Mining, Inc.
10	New River Health Association, Inc.

Worker Commuting Patterns			
	Total	*Male*	*Female*
Number	15,839	8,716	7,123
Worked in state of residence:	15,556	8,447	7,109
Worked in county of residence	9,412	4,595	4,817
Worked outside county of residence	6,144	3,852	2,292
Worked outside state of residence	283	269	14

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$1,337,914
Percapita Personal Income	2011	$29,277
Household Income*		*Number*
Less than $10,000		2,087
$10,000 to $14,999		2,002
$15,000 to $24,999		3,338
$25,000 to $34,999		2,641
$35,000 to $49,999		2,830
$50,000 to $74,999		3,471
$75,000 to $99,999		1,254
$100,000 to $149,000		954
$150,000 or more		310
Median Household Income (2011)		$32,316

*US Census Bureau

Links
Labor Market Information
http://www.workforcewv.org/lmi/newsrelease.html
http://www.workforcewv.org/lmi/lateemp.html
Occupational Projections and Demand Occupations
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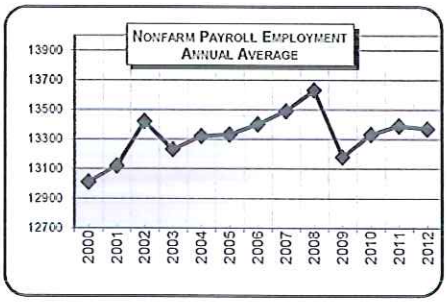
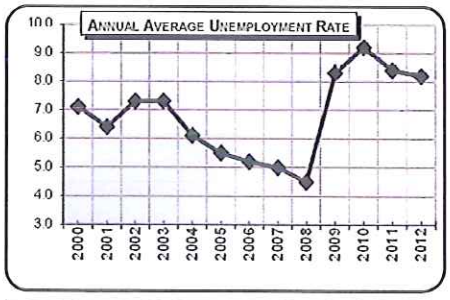
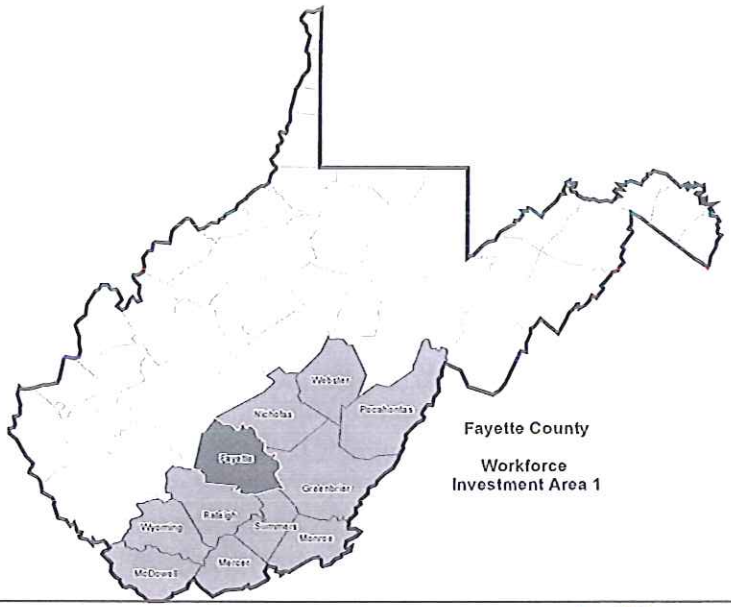
County: / County Seat:	Fayette / Fayetteville												
Labor Force Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Civilian Labor Force	18,500	18,270	18,370	17,890	17,770	18,010	18,200	18,070	17,910	17,960	18,100	18,060	18,080
Total Employment	17,190	17,110	17,030	16,590	16,690	17,010	17,260	17,160	17,100	16,460	16,430	16,540	16,600
Total Unemployment	1,320	1,160	1,340	1,300	1,080	1,000	940	910	810	1,500	1,670	1,520	1,480
Unemployment Rate	7.1	6.4	7.3	7.3	6.1	5.5	5.2	5.0	4.5	8.3	9.2	8.4	8.2
Total Nonfarm Payroll Employment by Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nonfarm Payroll Employment	13,010	13,120	13,420	13,230	13,320	13,330	13,400	13,490	13,630	13,180	13,330	13,390	13,370
Total Private	9,790	9,890	10,200	9,990	10,060	10,030	10,150	10,300	10,470	10,050	10,090	10,000	9,910
Goods Producing	1,780	1,830	1,850	1,670	1,570	1,600	1,630	1,820	2,070	1,800	1,730	1,790	1,680
Mining and Logging	280	420	540	490	450	500	520	680	830	720	**	**	**
Construction	580	540	530	470	480	480	490	530	620	540	**	**	**
Manufacturing	930	880	780	710	640	630	610	620	620	540	**	**	**
Service Providing	11,220	11,280	11,570	11,560	11,750	11,720	11,770	11,670	11,560	11,390	11,600	11,600	11,690
Private Service Providing	8,010	8,060	8,350	8,320	8,490	8,430	8,520	8,480	8,400	8,250	8,360	8,210	8,230
Trade, Transportation and Util	2,460	2,360	2,320	2,260	2,280	2,290	2,490	2,550	2,510	2,440	2,450	2,470	2,420
Wholesale Trade	360	350	280	290	320	350	370	370	370	320	**	**	**
Retail Trade	1,810	1,680	1,660	1,630	1,640	1,660	1,810	1,880	1,850	1,790	1,780	1,770	1,720
Transport, Warehousing & Util	290	330	370	340	310	290	310	300	300	320	**	**	**
Information	120	130	100	70	80	70	70	60	60	70	70	70	70
Financial Activities	360	350	720	780	850	750	760	680	610	560	**	**	**
Profess and Business Serv	580	550	530	610	610	590	530	480	460	460	**	**	**
Education and Health Serv	1,890	1,950	1,990	1,930	1,970	1,950	1,870	1,890	1,900	1,880	**	**	**
Leisure and Hospitality	1,550	1,590	1,530	1,490	1,490	1,540	1,560	1,590	1,600	1,570	**	**	**
Other Services	1,060	1,140	1,160	1,190	1,210	1,240	1,260	1,220	1,260	1,280	**	**	**
Total Government	3,220	3,230	3,230	3,240	3,260	3,290	3,250	3,190	3,160	3,140	3,240	3,390	3,450
Federal	310	290	300	300	300	280	290	300	310	320	340	290	290
State	1,130	1,260	1,280	1,280	1,300	1,310	1,300	1,210	1,160	1,110	1,080	1,240	1,240
Local	1,770	1,670	1,650	1,670	1,660	1,700	1,670	1,680	1,690	1,710	1,830	1,860	1,930

Benchmark 2012 *** not available*







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Greenbrier County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	13,542	$437,690,126	$32,321	13,505	$428,318,565	$31,716
Total, Private Sector	11,153	349,460,193	31,333	11,180	342,983,689	30,678
Natural Resources and Mining	290	14,261,093	49,176	246	11,491,764	46,714
Construction	398	12,086,466	30,368	410	12,208,475	29,777
Manufacturing	795	29,205,964	36,737	760	28,015,169	36,862
Trade, Transportation, and Utilities	2,379	66,829,578	28,091	2,422	66,581,436	27,490
42 Wholesale trade	153	5,295,532	34,611	208	7,184,802	34,542
44-45 Retail trade	1,968	48,935,007	24,865	1,953	46,832,169	23,980
48-49 Transportation and warehousing	207	8,547,004	41,290	209	8,487,092	40,608
Information	92	3,785,337	41,145	90	3,749,611	41,662
Financial Activities	339	11,278,822	33,271	338	11,098,191	32,835
Professional and Business Services	867	26,774,174	30,881	895	24,307,199	27,159
Education and Health Services	2,715	98,966,620	36,452	2,644	95,361,298	36,067
Leisure and Hospitality	2,887	76,691,710	26,564	2,985	80,905,489	27,104
Other Services	388	9,505,474	24,499	389	9,252,332	23,785
Government	2,389	88,229,933	36,932	2,324	85,334,876	36,719
Federal Government	101	5,139,359	50,885	111	5,489,806	49,458
State Government	878	38,791,022	44,181	861	36,838,699	42,786
Local Government	1,410	44,299,552	31,418	1,353	43,006,371	31,786

Demographics (2010 Census)	
Total Population 2012	35,820
Total Population 2000	34,423
Total Population 1990	34,693
Total Population 1980	37,665
Total Population 1970	32,090
Sex and Age	
Male	17,296
Female	18,184
Ages 14 and below	5,855
Ages 15 to 19	2,022
Ages 20 to 24	1,935
Ages 25 to 34	3,830
Ages 35 to 44	4,116
Ages 45 to 54	5,400
Ages 55 to 64	5,484
Ages 65 and older	6,838
Median Age	45.0
Race	
White	33,565
Black or African American	981
American Indian and Alaska Native	112
Asian	142
Native Hawaiian and Other Pacific	8
Some other race	138
Two or more races	534

Top 10 Employers		
March 2012		
	1	Greenbrier Hotel Corporation
	2	Greenbrier County Board of Education
	3	Greenbrier Valley Medical Center
	4	Wal-Mart Stores, Inc.
	5	West Virginia School of Osteopathic Medicine
	6	West Virginia Department of Highways
	7	ABB, Inc.
	8	The Kroger Company
	9	Seneca Health Services, Inc.
	10	Res-Care, Inc.

Worker Commuting Patterns			
	Total	*Male*	*Female*
Number	13,767	7,170	6,597
Worked in state of residence:	12,884	6,505	6,379
Worked in county of residence	11,546	5,557	5,989
Worked outside county of residence	1,338	948	390
Worked outside state of residence	883	665	218

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$1,150,251
Percapita Personal Income	2011	$32,130
Household Income*		*Number*
Less than $10,000		2,085
$10,000 to $14,999		1,278
$15,000 to $24,999		2,491
$25,000 to $34,999		2,539
$35,000 to $49,999		2,413
$50,000 to $74,999		2,623
$75,000 to $99,999		1,076
$100,000 to $149,000		655
$150,000 or more		343
Median Household Income (2011)		$35,924

*US Census Bureau

Links
Labor Market Information
http://www.workforcewv.org/lmi/newsrelease.html
http://www.workforcewv.org/lmi/lateemp.html
Occupational Projections and Demand Occupations
http://www.workforcewv.org/lmi/occproj/LongTermProjMenu.html
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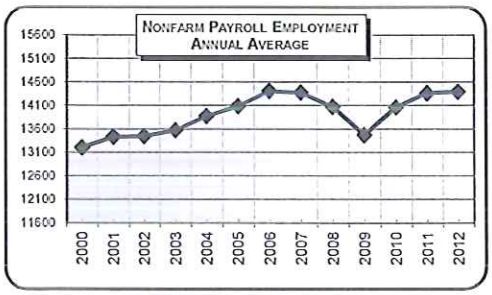
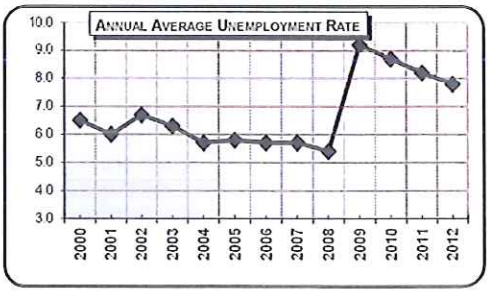
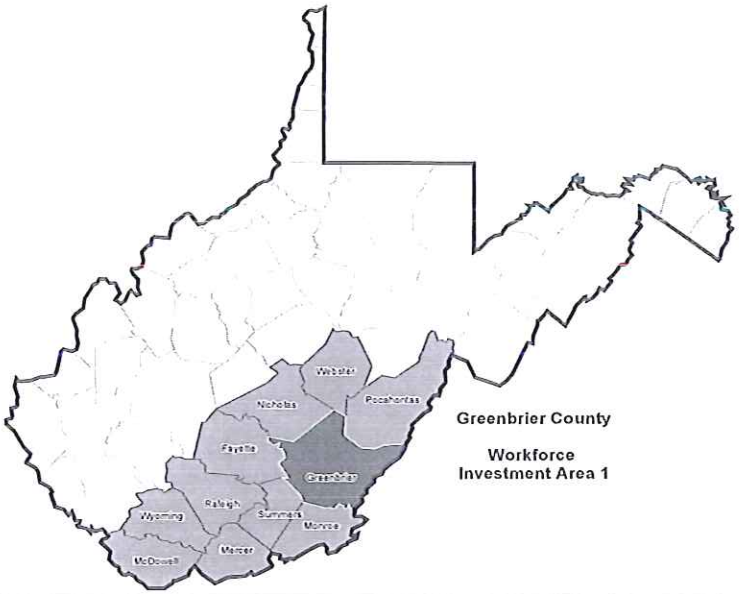
County:	Greenbrier												
County Seat:	Lewisburg												
Labor Force Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Civilian Labor Force	15,120	14,990	15,050	15,000	14,960	15,260	15,770	15,560	14,900	14,720	15,080	15,210	15,240
Total Employment	14,140	14,090	14,050	14,060	14,110	14,370	14,870	14,680	14,110	13,360	13,780	13,960	14,050
Total Unemployment	990	900	1,000	940	850	890	900	880	800	1,360	1,310	1,250	1,190
Unemployment Rate	6.5	6.0	6.7	6.3	5.7	5.8	5.7	5.7	5.4	9.2	8.7	8.2	7.8
Total Nonfarm Payroll Employment by Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nonfarm Payroll Employment	13,200	13,430	13,440	13,570	13,870	14,080	14,410	14,370	14,070	13,470	14,060	14,360	14,390
Total Private	10,890	11,170	11,230	11,350	11,600	11,800	12,090	12,130	11,870	11,200	11,690	11,920	11,890
Goods Producing	1,620	1,770	1,780	1,760	1,760	1,820	1,890	1,810	1,700	1,350	1,280	1,300	1,360
Mining and Logging	250	290	260	200	220	170	220	170	150	130	**	**	**
Construction	370	460	490	580	660	800	840	760	670	480	**	**	**
Manufacturing	1,000	1,020	1,020	980	880	850	830	880	880	740	**	**	**
Service Providing	11,590	11,660	11,670	11,810	12,100	12,260	12,520	12,570	12,370	12,120	12,770	13,060	13,030
Private Service Providing	9,270	9,400	9,450	9,590	9,840	9,990	10,200	10,320	10,170	9,850	10,410	10,620	10,520
Trade, Transportation and Util	2,680	2,630	2,630	2,600	2,630	2,730	2,760	2,840	2,770	2,550	2,530	2,490	2,450
Wholesale Trade	320	300	280	290	280	300	350	380	370	240	230	200	160
Retail Trade	1,990	1,990	1,990	1,960	2,000	2,080	2,040	2,060	2,000	1,940	1,960	1,970	1,980
Transport, Warehousing & Util	370	340	360	350	350	350	380	400	390	370	350	320	320
Information	120	120	110	110	100	100	100	100	90	80	**	**	**
Financial Activities	350	350	360	350	370	370	390	390	390	370	**	**	**
Profess and Business Serv	370	360	390	450	510	550	720	790	730	820	**	**	**
Education and Health Serv	2,140	2,240	2,260	2,260	2,350	2,370	2,320	2,370	2,490	2,530	**	**	**
Leisure and Hospitality	2,640	2,680	2,650	2,730	2,740	2,740	2,780	2,690	2,550	2,320	2,780	2,990	2,870
Other Services	980	1,040	1,050	1,080	1,140	1,140	1,130	1,150	1,170	1,160	**	**	**
Total Government	2,320	2,250	2,220	2,220	2,260	2,280	2,320	2,250	2,200	2,270	2,360	2,440	2,510
Federal	150	130	130	120	130	130	120	110	110	110	130	110	100
State	770	720	710	720	740	720	740	750	760	770	800	860	870
Local	1,400	1,400	1,380	1,380	1,400	1,430	1,470	1,390	1,330	1,380	1,430	1,470	1,530

Benchmark 2012 *** not available*







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Nicholas County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	8,514	$313,223,986	$36,789	8,652	$315,271,448	$36,439
Total, Private Sector	6,659	245,527,921	36,872	6,786	248,727,807	36,653
Natural Resources and Mining	1,112	82,575,819	74,259	1,307	91,105,392	69,706
Construction	270	8,881,601	32,895	254	8,321,577	32,762
Manufacturing	703	31,322,257	44,555	704	30,295,910	43,034
Trade, Transportation, and Utilities	1,836	50,268,074	27,379	1,805	49,457,628	27,400
42 Wholesale trade	195	8,224,075	42,175	185	7,703,463	41,640
44-45 Retail trade	1,478	35,264,779	23,860	1,454	34,519,657	23,741
48-49 Transportation and warehousing	144	5,120,673	35,560	145	5,491,409	37,872
Information	45	2,352,888	52,286	46	2,183,478	47,467
Financial Activities	168	4,940,048	29,405	221	5,688,333	25,739
Professional and Business Services	394	20,325,371	51,597	398	21,067,351	52,933
Education and Health Services	1,090	26,938,967	24,715	1,036	24,712,216	23,853
Leisure and Hospitality	806	10,941,623	13,575	808	10,483,655	12,975
Other Services	232	6,901,989	29,750	204	5,312,656	26,042
Government	1,856	67,696,065	36,474	1,867	66,543,641	35,642
Federal Government	97	4,471,012	46,093	98	4,983,499	50,852
State Government	240	7,568,831	31,537	231	7,283,169	31,529
Local Government	1,519	55,656,222	36,640	1,537	54,276,973	35,314

Demographics (2010 Census)	
Total Population 2012	26,229
Total Population 2000	26,548
Total Population 1990	26,775
Total Population 1980	28,126
Total Population 1970	22,552
Sex and Age	
Male	12,914
Female	13,319
Ages 14 and below	4,519
Ages 15 to 19	1,663
Ages 20 to 24	1,294
Ages 25 to 34	2,825
Ages 35 to 44	3,392
Ages 45 to 54	3,986
Ages 55 to 64	4,077
Ages 65 and older	4,477
Median Age	43.3
Race	
White	25,805
Black or African American	43
American Indian and Alaska Native	53
Asian	69
Native Hawaiian and Other Pacific	7
Some other race	20
Two or more races	236

Links

Labor Market Information

http://www.workforcewv.org/lmi/newsrelease.html

http://www.workforcewv.org/lmi/lateemp.html

Occupational Projections and Demand Occupations

http://www.workforcewv.org/lmi/occproj/LongTermProjMenu.html

Occupational Wages

http://www.workforcewv.org/lmi/owqtr/WIA_menu.htm

Top 10 Employers

March 2012	
1	Nicholas County Board of Education
2	Alex Energy, Inc. (Intrepid Mining Company)
3	Summersville Regional Medical Center
4	Wal-Mart Stores, Inc.
5	Seneca Health Services, Inc.
6	Columbia West Virginia, Inc.
7	Lowe's Home Centers, Inc.
8	Nicholas County Nursing and Rehabilitation
9	Nicholas County Community Action
10	Brooks Run Mining Company, LLC

Worker Commuting Patterns

	Total	*Male*	*Female*
Number	10,029	5,460	4,549
Worked in state of residence:	9,835	5,312	4,523
Worked in county of residence	7,566	3,791	3,775
Worked outside county of residence	2,269	1,521	748
Worked outside state of residence	194	168	26

2010 American Community Survey 5-Year Estimates

Income

Total Personal Income (000)	2011	$816,630
Percapita Personal Income	2011	$31,088
Household Income*		*Number*
Less than $10,000		1,088
$10,000 to $14,999		968
$15,000 to $24,999		1,522
$25,000 to $34,999		1,251
$35,000 to $49,999		1,818
$50,000 to $74,999		1,735
$75,000 to $99,999		950
$100,000 to $149,000		748
$150,000 or more		167
Median Household Income (2011)		$36,080

*US Census Bureau

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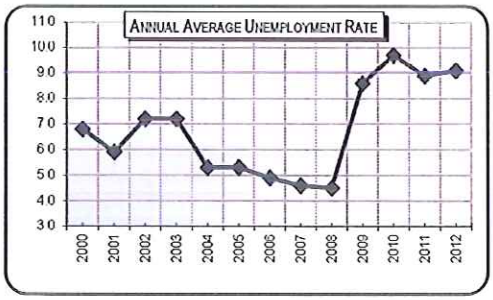
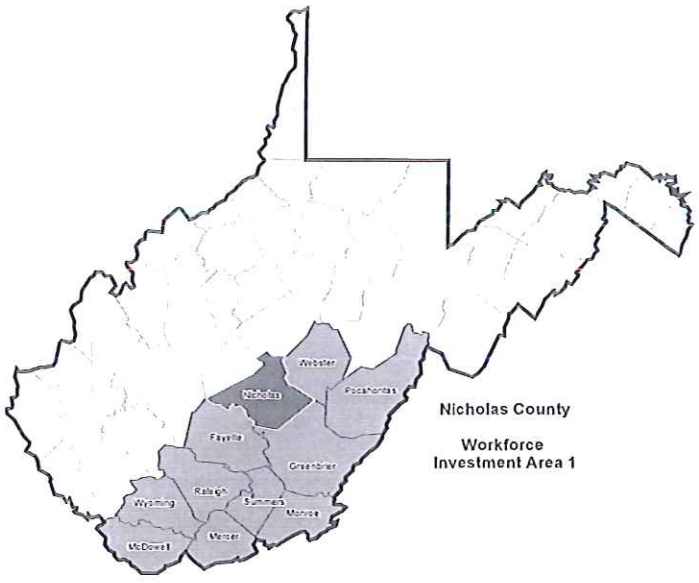
County:	Nicholas												
County Seat:	Summersville												
Labor Force Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Civilian Labor Force	11,070	10,790	10,690	10,460	10,380	10,550	10,760	10,760	10,540	10,600	10,690	10,700	10,600
Total Employment	10,320	10,160	9,920	9,700	9,830	10,000	10,230	10,260	10,070	9,690	9,650	9,740	9,640
Total Unemployment	750	630	770	760	550	560	530	500	470	910	1,040	950	970
Unemployment Rate	6.8	5.9	7.2	7.2	5.3	5.3	4.9	4.6	4.5	8.6	9.7	8.9	9.1
Total Nonfarm Payroll Employment by Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nonfarm Payroll Employment	9,050	9,090	8,930	8,800	9,010	9,110	9,240	9,380	9,300	9,050	9,120	9,280	9,130
Total Private	7,140	7,160	6,940	6,850	7,090	7,190	7,260	7,440	7,470	7,200	7,240	7,360	7,220
Goods Producing	2,100	2,100	1,930	1,850	1,970	2,060	2,090	2,160	2,220	2,090	2,190	2,260	2,050
Mining and Logging	660	720	700	630	680	710	770	930	1,070	1,090	**	**	**
Construction	410	340	280	260	290	320	330	280	250	220	**	**	**
Manufacturing	1,040	1,030	960	960	1,000	1,030	990	950	900	780	**	**	**
Service Providing	6,950	6,990	7,000	6,940	7,040	7,050	7,160	7,220	7,080	6,970	6,940	7,020	7,080
Private Service Providing	5,040	5,070	5,010	5,000	5,120	5,130	5,180	5,280	5,250	5,110	5,050	5,100	5,160
Trade, Transportation and Util	2,170	2,090	2,020	1,970	1,980	1,980	1,940	1,940	1,880	1,840	1,800	1,810	1,850
Wholesale Trade	150	140	130	140	150	170	190	190	200	200	**	**	**
Retail Trade	1,520	1,510	1,460	1,440	1,490	1,490	1,450	1,470	1,450	1,420	1,450	1,450	1,490
Transport, Warehousing & Util	500	440	430	390	330	320	310	280	240	220	**	**	**
Information	60	60	50	50	50	50	50	50	50	40	**	**	**
Financial Activities	200	200	210	290	390	390	390	420	360	280	**	**	**
Profess and Business Serv	400	420	410	370	350	340	360	380	400	410	**	**	**
Education and Health Serv	710	740	750	750	780	790	820	860	930	930	**	**	**
Leisure and Hospitality	770	800	800	790	810	800	810	780	780	790	**	**	**
Other Services	720	760	770	780	770	780	820	850	850	840	**	**	**
Total Government	1,910	1,920	1,990	1,950	1,930	1,920	1,980	1,950	1,840	1,850	1,880	1,920	1,920
Federal	130	120	120	130	120	120	110	110	110	110	120	100	100
State	220	220	240	230	210	200	200	200	190	180	190	230	240
Local	1,560	1,580	1,630	1,590	1,600	1,610	1,670	1,640	1,540	1,570	1,580	1,590	1,590

Benchmark 2012 *** not available*





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Pocahontas County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	3,063	$84,149,191	$27,473	3,071	$83,205,489	$27,094
Total, Private Sector	2,216	57,968,965	26,159	2,236	58,228,081	26,041
Natural Resources and Mining	66	1,428,189	21,639	71	1,576,869	22,209
Construction	64	1,505,324	23,521	72	1,908,949	26,513
Manufacturing	251	7,615,441	30,340	260	7,413,748	28,514
Trade, Transportation, and Utilities	424	10,589,504	24,975	429	10,672,597	24,878
44-45 Retail trade	305	6,403,084	20,994	307	6,391,553	20,819
48-49 Transportation and warehousing*	94	3,142,114	33,427	97	3,208,564	33,078
Information	39	1,612,758	41,353	36	1,442,235	40,062
Financial Activities	73	1,725,825	23,641	78	1,722,998	22,090
Professional and Business Services	180	8,124,814	45,138	168	8,524,451	50,741
Education and Health Services	280	6,816,057	24,343	285	6,518,995	22,874
Leisure and Hospitality	757	16,712,303	22,077	759	16,763,169	22,086
Other Services	81	1,819,695	22,465	78	1,684,070	21,591
Government	847	26,180,226	30,909	836	24,977,408	29,877
Federal Government	57	2,586,829	45,383	61	2,800,193	45,905
State Government	286	7,931,304	27,732	275	7,582,702	27,573
Local Government	505	15,662,093	31,014	499	14,594,513	29,248

Demographics (2010 Census)	
Total Population 2012	8,692
Total Population 2000	9,110
Total Population 1990	9,008
Total Population 1980	9,919
Total Population 1970	8,870
Sex and Age	
Male	4,473
Female	4,246
Ages 14 and below	1,274
Ages 15 to 19	430
Ages 20 to 24	409
Ages 25 to 34	954
Ages 35 to 44	1,015
Ages 45 to 54	1,478
Ages 55 to 64	1,475
Ages 65 and older	1,684
Median Age	47.1
Race	
White	8,528
Black or African American	60
American Indian and Alaska Native	19
Asian	4
Native Hawaiian and Other Pacific	1
Some other race	19
Two or more races	88

Top 10 Employers	
March 2012	
1	Snowshoe Mountain, Inc.
2	Pocahontas County Board of Education
3	Pocahontas Memorial Hospital
4	Associated Universities (National Radio Astronomy Observatory)
5	Inter-State Hardwoods Company, Inc.
6	West Virginia Division of Natural Resources
7	Stillwell Road Operations, LLC
8	West Virginia Department of Corrections, Denmar Facility
9	Beckwith Lumber Company, Inc.
10	Pocahontas County Commission

Worker Commuting Patterns	*Total*	*Male*	*Female*
Number	3,528	2,086	1,442
Worked in state of residence:	3,399	1,966	1,433
Worked in county of residence	2,951	1,654	1,297
Worked outside county of residence	448	312	136
Worked outside state of residence	129	120	9

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$267,500
Percapita Personal Income	2011	$30,446
Household Income*		*Number*
Less than $10,000		327
$10,000 to $14,999		266
$15,000 to $24,999		670
$25,000 to $34,999		764
$35,000 to $49,999		533
$50,000 to $74,999		590
$75,000 to $99,999		285
$100,000 to $149,000		115
$150,000 or more		50
Median Household Income (2011)		$34,928

*US Census Bureau

Links
Labor Market Information
http://www.workforcewv.org/lmi/newsrelease.html
http://www.workforcewv.org/lmi/lateemp.html
Occupational Projections and Demand Occupations
http://www.workforcewv.org/lmi/occproj/LongTermProjMenu.html
Occupational Wages
http://www.workforcewv.org/lmi/owqtr/WIA_menu.htm

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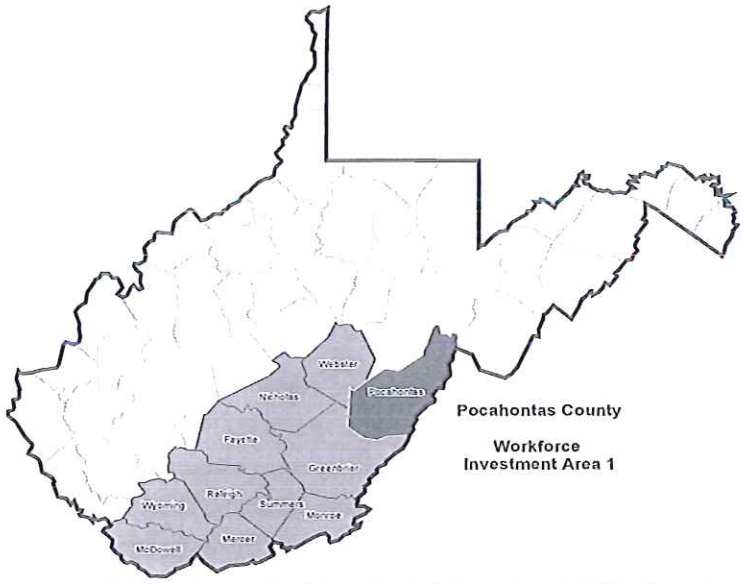
County:	Pocahontas												
County Seat:	Marlinton												
Labor Force Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Civilian Labor Force	4,040	3,970	3,980	4,040	3,860	3,800	3,850	3,730	3,560	3,570	3,570	3,450	3,410
Total Employment	3,770	3,690	3,700	3,770	3,620	3,570	3,570	3,480	3,320	3,150	3,140	3,060	3,040
Total Unemployment	270	270	270	270	240	230	270	250	250	420	430	400	370
Unemployment Rate	6.7	6.9	6.9	6.6	6.1	6.1	7.1	6.8	6.9	11.7	12.0	11.4	10.8
Total Nonfarm Payroll Employment by Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nonfarm Payroll Employment	3,830	3,840	3,810	3,890	3,830	3,780	3,660	3,580	3,510	3,410	3,390	3,310	3,270
Total Private	2,980	3,000	2,950	3,030	2,970	2,890	2,770	2,700	2,660	2,530	2,510	2,420	2,370
Goods Producing	680	660	590	590	590	570	560	550	510	430	**	**	**
Mining and Logging	90	100	80	80	70	70	70	70	70	70	**	**	**
Construction	160	130	110	130	120	130	140	140	110	80	70	70	60
Manufacturing	430	430	400	390	390	370	360	340	330	290	**	**	**
Service Providing	3,160	3,180	3,220	3,300	3,240	3,200	3,100	3,030	3,000	2,980	**	**	**
Private Service Providing	2,300	2,340	2,370	2,440	2,380	2,320	2,200	2,150	2,150	2,100	**	**	**
Trade, Transportation and Util	400	420	440	440	430	400	400	440	470	450	440	430	430
Wholesale Trade	40	30	30	20	30	20	20	**	**	**	**	**	**
Retail Trade	290	310	340	340	340	310	320	330	320	320	320	310	310
Transport, Warehousing & Util	80	80	80	70	70	60	60	90	130	110	**	**	**
Information	30	40	30	40	40	40	40	40	40	30	30	40	40
Financial Activities	110	110	90	100	100	120	110	100	90	90	**	**	**
Profess and Business Serv	250	240	260	290	300	300	290	220	180	180	**	**	**
Education and Health Serv	220	230	240	270	220	190	180	220	260	290	**	**	**
Leisure and Hospitality	1,010	1,030	1,010	1,010	970	970	910	860	840	780	**	**	**
Other Services	270	280	300	310	320	300	290	280	270	280	**	**	**
Total Government	860	840	860	860	860	890	890	880	850	880	880	890	890
Federal	90	80	80	70	70	70	70	60	70	60	70	60	60
State	250	260	260	270	260	270	270	270	270	270	270	280	280
Local	520	510	530	520	530	550	560	550	520	540	540	550	550

Benchmark 2012 *** not available*



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Webster County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	2,025	$73,741,832	$36,416	2,091	$82,974,815	$39,682
Total, Private Sector	1,422	52,923,755	37,218	1,486	62,570,008	42,106
Natural Resources and Mining	378	25,057,926	66,291	426	33,714,052	79,141
Construction	24	747,279	31,137	41	1,361,290	33,202
Manufacturing	169	4,488,035	26,556	127	3,402,710	26,793
Trade, Transportation, and Utilities	373	12,114,118	32,478	405	13,417,110	33,129
44-45 Retail trade	164	3,398,406	20,722	168	3,412,055	20,310
48-49 Transportation and warehousing	145	4,656,606	32,115	173	6,100,868	35,265
Information	15	550,216	36,681	24	818,890	34,120
Financial Activities	31	1,699,423	54,820	29	1,601,423	55,221
Professional and Business Services	33	773,682	23,445	41	1,507,055	36,757
Education and Health Services	279	5,772,845	20,691	268	5,021,036	18,735
Leisure and Hospitality	84	798,321	9,504	96	889,231	9,263
Other Services	36	921,910	25,609	29	837,211	28,869
Government	603	20,818,077	34,524	605	20,404,807	33,727
Federal Government	12	541,063	45,089	14	565,747	40,411
State Government	90	2,955,420	32,838	90	2,815,652	31,285
Local Government	501	17,321,594	34,574	502	17,023,408	33,911

Demographics (2010 Census)	
Total Population 2012	9,043
Total Population 2000	9,688
Total Population 1990	10,729
Total Population 1980	12,246
Total Population 1970	9,809
Sex and Age	
Male	4,531
Female	4,623
Ages 14 and below	1,556
Ages 15 to 19	612
Ages 20 to 24	427
Ages 25 to 34	922
Ages 35 to 44	1,187
Ages 45 to 54	1,402
Ages 55 to 64	1,444
Ages 65 and older	1,604
Median Age	44.1
Race	
White	9,027
Black or African American	14
American Indian and Alaska Native	6
Asian	5
Native Hawaiian and Other Pacific	1
Some other race	6
Two or more races	95

Links

Labor Market Information

http://www.workforcewv.org/lmi/newsrelease.html

http://www.workforcewv.org/lmi/lateemp.html

Occupational Projections and Demand Occupations

http://www.workforcewv.org/lmi/occproj/LongTermProjMenu.html

Occupational Wages

http://www.workforcewv.org/lmi/owqtr/WIA_menu.htm

Top 10 Employers

	March 2012
1	Webster County Board of Education
2	ICG Eastern, LLC
3	Webster County Memorial Hospital
4	Brooks Run Mining Company, LLC
5	ASI, Inc.
6	Webster County Senior Citizens, Inc.
7	AMFM of Webster County, Inc.
8	Seneca Health Services, Inc.
9	Jim C Hamer Company
10	Haney Brothers Trucking Company, Inc.

Worker Commuting Patterns

	Total	Male	Female
Number	3,228	1,782	1,446
Worked in state of residence:	3,203	1,757	1,446
Worked in county of residence	1,997	939	1,058
Worked outside county of residence	1,206	818	388
Worked outside state of residence	25	25	0

2010 American Community Survey 5-Year Estimates

Income

Total Personal Income (000)	2011	$227,620
Percapita Personal Income	2011	$24,896
Household Income*		*Number*
Less than $10,000		622
$10,000 to $14,999		459
$15,000 to $24,999		868
$25,000 to $34,999		490
$35,000 to $49,999		637
$50,000 to $74,999		704
$75,000 to $99,999		329
$100,000 to $149,000		74
$150,000 or more		33
Median Household Income (2011)		$28,697

*US Census Bureau

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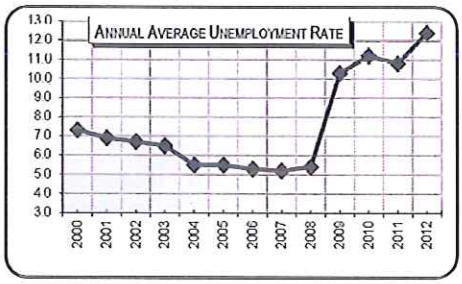
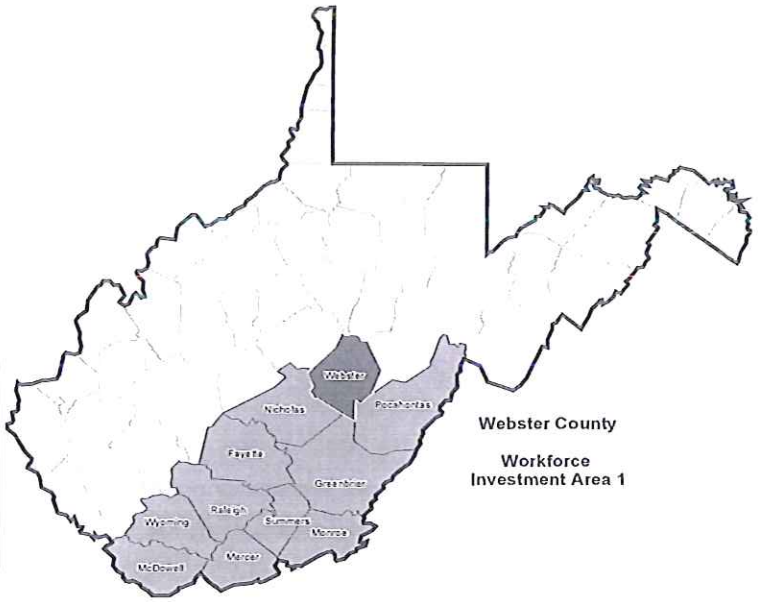
County:	Webster												
County Seat:	Webster Springs												
Labor Force Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Civilian Labor Force	3,260	3,150	3,260	3,360	3,370	3,340	3,460	3,360	3,260	3,230	3,180	3,080	3,090
Total Employment	3,020	2,930	3,040	3,140	3,180	3,150	3,270	3,180	3,080	2,890	2,830	2,750	2,700
Total Unemployment	240	220	220	220	190	190	180	180	180	330	360	330	380
Unemployment Rate	7.3	6.9	6.7	6.5	5.5	5.5	5.3	5.2	5.4	10.3	11.2	10.8	12.4
Total Nonfarm Payroll Employment by Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nonfarm Payroll Employment	2,370	2,330	2,380	2,490	2,650	2,620	2,640	2,560	2,560	2,460	2,370	2,290	2,220
Total Private	1,670	1,640	1,670	1,780	1,940	1,930	1,960	1,910	1,960	1,830	1,730	1,630	1,550
Goods Producing	710	670	670	680	780	800	820	770	730	670	**	**	**
Mining and Logging	380	360	420	430	510	530	570	540	530	500	**	**	**
Construction	80	60	30	40	50	50	50	60	50	50	30	40	20
Manufacturing	250	250	220	220	220	220	190	170	160	120	**	**	**
Service Providing	1,660	1,670	1,710	1,810	1,870	1,830	1,820	1,790	1,830	1,800	**	**	**
Private Service Providing	960	970	1,000	1,100	1,150	1,130	1,140	1,140	1,230	1,160	**	**	**
Trade, Transportation and Util	340	350	350	380	410	450	460	460	490	450	430	420	380
Wholesale Trade	**	**	**	**	**	**	**	**	**	**	**	**	**
Retail Trade	210	190	190	200	210	230	230	210	200	190	190	170	170
Transport, Warehousing & Util	80	100	110	130	150	180	180	190	230	210	**	**	**
Information	20	30	30	80	100	80	90	60	80	60	60	20	20
Financial Activities	50	50	50	40	50	50	50	50	50	30	**	**	**
Profess and Business Serv	40	40	40	50	50	30	30	40	40	40	30	30	30
Education and Health Serv	260	260	270	290	290	260	250	260	310	300	**	**	**
Leisure and Hospitality	80	80	80	90	90	90	90	90	100	110	**	**	**
Other Services	160	180	180	180	180	170	170	180	170	170	**	**	**
Total Government	700	690	710	710	710	700	680	650	600	630	650	660	670
Federal	30	20	20	20	20	20	20	20	20	20	20	10	10
State	90	90	90	90	90	90	80	80	80	90	90	90	90
Local	590	590	600	610	610	590	580	550	500	530	540	550	570

Benchmark 2012 *** not available*





Key Assessment Findings

Survey Initiatives

Region 4 Planning and Development Council executed two strategies in an effort to gather data needed to develop effective and comprehensive regional strategic broadband initiatives and adoption plans that will later take advantage of federal, state and other grant opportunities. An online survey and single stage cluster sample random mailing were the strategies pursued and executed. Separate, yet complimentary, initiatives included in Region 4's planning are a broadband field testing study deployed by engineering firm L.R. Kimball, as well as the State of West Virginia's Broadband Mapping Program survey and speed testing site results. Each strategy is detailed below.

Online Broadband Survey

At the first meeting of the Region 4 Regional Broadband Planning Team, held September, 26, 2012, it was decided that an online broadband survey be created to tackle the task of collecting the data necessary to develop the strategic plan. An unofficial subcommittee was formed to manage the task of creating and implementing the survey.

Several discussions were held by the subcommittee before the online survey was finalized and made available to the public. The group followed the outline of the residential and business surveys provided in the Regional Broadband Planning Teams Toolkit as a guide to create the backbone of the survey, but crafted the survey to be a combined residential/business survey that would also allow respondents opportunities to provide additional information focused on home based enterprise and use of broadband service.

The survey was advertised using several strategies including publication in each newspaper of Region 4, supplying of an advertisement to each member of the planning team for community distribution, supplying of an advertisement to every library within Region 4 for display, display of the survey link on the Region 4 website, as well as advertisement on the Webster County Board of Education's Edline for a short period of time.

As detailed below, 50.5% of the survey respondents were from Pocahontas County, an area of the Region that has long lagged behind in the development of high-speed Internet access much due to the location of the Green Bank National Radio Astronomy Observatory. The area surrounding the observatory is designated as a National Radio Quiet Zone in order to minimize harmful interference to the observatory.

In what county is your home located?		
Answer Options	Response Percent	Response Count
Fayette	17.2%	40
Greenbrier	8.6%	20
Nicholas	15.5%	36
Pocahontas	50.6%	118
Webster	8.2%	19
Other (please specify)		5
	answered question	233
	skipped question	29

While 92.8% of respondents stated that they do have Internet access in their home, the majority were very dissatisfied with several elements of their service. This indication shows a need for the availability of more reliable and competitive service.

Do you have Internet access at home?		
Answer Options	Response Percent	Response Count
Yes	92.8%	180
No	7.2%	14
	answered question	194
	skipped question	68

Please indicate your level of satisfaction with your Internet service:						
Answer Options	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Not a Consideration	Response Count
Connection Speed	66	35	35	15	0	151
Cost	33	46	47	15	6	147
Ease of Use	23	23	81	20	2	149
Reliability of Access	52	40	44	13	0	149
Availability of Access	46	39	48	17	0	150
Customer Service	40	35	47	18	7	147
Number of Providers	79	29	18	4	14	144
				answered question		151
				skipped question		111

The 69.2% of respondents who indicated that they do not have Internet access in their home contributed the lack of access to the unavailability of high speed Internet access.

Please check all the reasons why you DO NOT have Internet service in your home. (Check all that apply)		
Answer Options	Response Percent	Response Count
High-speed Internet is not available	69.2%	9

Cost	23.1%	3
Sufficient access elsewhere	7.7%	1
Nothing on the Internet I need	0.0%	0
I plan to establish service within the next year	0.0%	0
No time to learn to use the Internet	0.0%	0
Don't know how to set it up	0.0%	0
Problems with cable access	0.0%	0
Problems with DSL access	15.4%	2
Child safety and content	7.7%	1
Privacy/security concerns	0.0%	0
Other (please specify)		2
answered question		13
skipped question		249

Respondents ranged in age from 18 to 75 or older with 32.4 being between the ages of 55 to 64 and 51.9% being male.

Of businesses responding to the survey, 71.6% stated that they have access to or use an Internet capable device at their place of work.

Please select Yes if you have access to, or use a computer, tablet, smartphone or Internet capable TV or DVD player that you use via a data plan or the Internet access at your place of business or work. Otherwise, answer No.

Answer Options	Response Percent	Response Count
Yes	71.6%	126
No	28.4%	50
answered question		176
skipped question		86

Contrasted to the data found within the residential portion of the survey, many business owners expressed satisfaction with their service, but a large portion of business respondents still expressed dissatisfaction. Again, when asked about the availability of multiple, competing broadband providers considered when purchasing service, 56.2% of respondents stated that they had the choice of service from only one provider.

Please rate the following aspects of your service:

Answer Options	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Don't Know/Not Applicable	Response Count
Cost of Internet	20	17	30	6	10	83
Speed of connection	35	16	18	10	3	82
Billing practices	18	12	37	6	9	82
Technical support	20	8	33	7	14	82
Customer support	19	13	29	10	11	82
Installation tech's ability and courtesy	15	4	34	14	14	81
answered question						83
skipped question						179

When asked if it would be beneficial to the respondent to enhance the broadband environment in their area 96.7% said yes.

See Appendix A for more of the online broadband survey's highlights and mapping results.

Single Stage Cluster Sample Random Mailing

In order to determine the availability, use, and need for broadband Internet use in Region 4, a quantitative survey research methodology was utilized. Region 4, in coordination with Region 1, worked with Concord University's Danette Light, Ph.D., Associate Professor of Sociology and also previous Director of Assessment, to formulate the methodology used for the statistically random mailing of the survey. West Virginia State Addressing and Mapping Board (SAMB) address points for residential and business structures were used to create an address bank for the survey in a Microsoft Excel format. The decision to use SAMB points was based on the data's assignment of unique identification numbers to each address that allows for geological referencing, ultimately enabling the mapping the location of each response.

The project target population included the five counties of Region 4, composed of 106 Census Block Groups (CBGs) and 104,466 SAMB structures. The sampling frame was identical to the target population. A single stage cluster sample design was employed. CBGs were considered the primary sampling units, or clusters. SAMB structures in each of the 106 CBGs were listed sequentially and a random sample from each was used to compose the total sample.

Sample size was determined assuming a low response rate of approximately 8%. Accordingly, Region 4 administered the survey to 50 randomly selected residences and businesses in each of the 106 CBGs, however Census Tract 960200 Block Group 4 in * County only had a total of 41 addresses within the tract, for a total of 5,291 mailed surveys.

County	# of CBGs	# of SAMBs	Sample size
Fayette	39	35,037	1,950
Greenbrier	31	34,472	1,550
Nicholas	21	16,156	1,050
Pocahontas	9	14,336	450
Webster	7	4,465	350
TOTAL	**106**	**104,466**	**5,291**

Scantron was procured to execute the mailing and organize the data received. Of the 5,291 surveys mailed, approximately 4,361 were returned undeliverable, leaving only 930 reaching their designated locations. Failure of the address system used is believed to be due to the updating of addresses to the 911 addressing system in Region 4, which may

have caused the two addressing systems not to link up. However, the statistician still stated that the survey constitute a viable random survey.

Responses to the Broadband/High Speed Internet Survey in Region 4 were obtained from 44 addressable structures including 15 businesses and 29 residences. Respondents ranged in age from 33 to 77 years, with an average age of 53. Thirty-two percent of the respondents were male, while 68% were female.

Ninety percent of respondents indicated Internet access at their location. The service providers most frequently cited were Hughes net (41%) and Ntelos (18%). The types of connections included Cable (18%), DSL (36%), Satellite (21%), Cellular/Air card (9%), Dial-up (11%), and other (5%). When asked why they choose this connection type, 27% cited speed, 23% cited cost, 16% cited reliability, and the 46% responded that this was the only service available. The following table illustrates respondents' satisfaction with their current Internet service. Due to missing responses, the percentages do not add up to 100%.

Table One. Satisfaction with current Internet service
n=44

SERVICE ISSUE	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know/NA
Speed of connection	7%	36%	23%	11%	2%
Cost of Internet	7%	23%	30%	21%	2%
Technical support	16%	41%	22%	14%	8%
Reliability of access	8%	37%	26%	24%	4%
Customer service	11%	49%	22%	14%	5%
Number of Providers	5%	3%	27%	41%	24%

+/- 10% at p=0.5

Of the 10% of respondents who indicated they had no high-speed service, 9% indicated that access was too expensive. Other reasons cited included not owning a computer (5%), lack of broadband availability (21%), lack of Internet skills (2%), no need for broadband services (2%), and other (2%). Ninety-three percent indicated that if those concerns were resolved, they would utilize Broadband (high-speed) Internet service.

Residences

Information provided by the 29 residences revealed that the average number of people occupying each residence was 2, and the median annual household income was $40,000.

Thirty-three percent of respondents indicated their employers allow them to work from home, while only 24% actually do telecommute or work from home. Of the respondents who were self-employed (14%), 56% work from home. The following table indicates who uses the Internet in the home.

Table Two. Users of Internet in the home
n=29

Respondent	66%
Spouse/Partner	43%
Children	23%
Friend	5%
Grandparent	0%
Parent	7%
Housemate or Roommate	9%
Other	11%

+/- 10% at p=0.5

Many of the respondents indicated they use the Internet in places other than their homes.

The following table illustrates the places they, other than the home, where they access the Internet.

Table Three. Places other than the home where the Internet is used
n=29

Work	36%
School	7%
Public Library	18%
Relative or friend's house	11%
Retail shop with wireless access	14%
Cell phone	27%
Other	2%

+/- 10% at p=0.5

Businesses

Responses were obtained from 15 businesses in the Region Four PDC. The businesses were fairly evenly distributed among the National Business classifications with the largest percentages being Educational Services (5%) and Other (11%). Forty-six percent of businesses indicated they allow employees to telecommute (work from home). Ninety-two percent of the businesses indicated that broadband enhancement would be beneficial to their customers/clients, and 85% indicated that high-speed Internet access is

important or very important to the day-to-day operations of their businesses.

Please see Appendix B for mapping of the mailing responses.

Broadband Field Testing

L.R. Kimball's broadband filed testing consisted of drive-testing the five county area while using specific app-enabled smart phones provided by the State. The purpose of this testing was to assess the spatial and attribute accuracy of the service area polygons that four providers, AT&T, nTelos, US Cellular and Verizon, submitted to West Virginia in March 2013 as part of the National Telecommunications Information Agency (NTIA) State Broadband Data and Development Program (SBDD). Comparisons between the field data collected and the provider-supplied service area polygons facilitated the identification of possible coverage and speed inaccuracies reported to the State by the providers.[19]

Please see Appendix C for mapping originally provided by the examined providers and Appendix D for the full study.

Broadband Mapping Program

The purpose of this program is to develop an easily read map that shows a comprehensive picture of existing broadband service and to identify areas in the state that still do not have it. This program is funded by a grant from the National Telecommunications and Information Administration (NTIA) State Broadband Data & Development Program (SBDD).

Program staff members continuously work with broadband service providers in the state to gather information about broadband availability, technology, infrastructure, speed, ARPU and wireless service. The study also included information provided by private and public sources to meet the project objectives. This study included information about community anchor institutions such as schools, libraries, universities, colleges, hospitals, emergency and public safety installations, and all public buildings. Information obtained from service providers and other sources have all been kept confidential.

The project has also helped to determine what types of service are available and where.

Because the availability of broadband access is ever changing, there will be periodic updates to the map. To ensure accuracy information obtained from service providers will be cross-referenced with the State's Statewide Addressing and Mapping Board (SAMB) address file, which contains geospatial information and addresses for every structure in the state. This will be followed by ground inspections and consumer surveys to make sure the information is accurate. The project will continue to be updated in order to show

[19] L.R. Kimball, Region 4 Field Testing Findings Report

changes in infrastructure and broadband availability. The State will assume this responsibility using portions of the grant already available and continuing with alternate funding sources in the future.[20]

Please see Appendix E for mapping of the survey responses and speed test results.

Summary

- Region 4 encompasses a rural area with low population density with no urban areas and only a large few towns
- Topography is mountainous with many ridges and hollows making broadband deployment more difficult for both fiber and cell towers
- A high unemployment rate is evident throughout Region especially since 2008, indicating a need to grow job opportunities, which broadband can help to accomplish
- The area around Green Bank National Radio Astronomy Observatory in Pocahontas County restricts cell phone use, further limiting broadband and other communications options in this area
- Internet availability is growing, but many locations either do not have Internet at all or have access at very low speeds
- The middle mile fiber networks, WANs, is growing but location and access by other providers needs to be increased in the last mile deployment at reduced cost
- Updated broadband maps based upon new WV standard of 4 MBPS now show large areas of no broadband coverage in Region 4
- Strong interest from both residences and businesses in having access to faster and more reliable Internet
- Strong dissatisfaction throughout the Region in speed and service from current providers and service is often only available via one provider
- Satellite Internet, while better than DSL, is inadequate due to high latency and slow up load speeds, even with small files

[20] http://www.wvcommerce.org/business/wvbmp/default.aspx

- Municipal buildings and many schools have high speed Internet but many student's residences do not, limiting effectiveness for student's growth
- With Internet speeds of only 1 / 0.2 mbps in many locations, users likely do not know what they could do with true high speed Internet (e.g. > 25 mbps)

SWOC
Strengths, Weakness, Opportunities and Challenges

A SWOC analysis was administered at the meeting of the Region 4 Regional Broadband Planning Team held August, 20, 2013 in an effort to identify broadband availability and adoption issues that are considered high priority for development of strategic goals and objectives. The SWOC analysis has been created with the intention to provide a solid basis for indentifying achievable broadband goals and objectives at the local level and ultimately for the Region and its sectors as a whole. It addition, the process will help maximize grant funding efforts by providing the basis for a prioritization of tasking during the installation phase. Please see the SWOC analysis below.

Strengths

- The fiber "backbone" or wide area network (WAN), is growing and as a result customer costs are decreasing and usage caps are growing
- Prices are becoming more competitive as the service market grows
- Educated workforce ready to take advantage of broadband thus increasing demand, as well as growth in use and demand for distance education opportunities

Weaknesses

- The rate at which additional bandwidth is becoming available at an affordable price is lagging behind the needs of the community, especially in the education system
- The competition in the service market is growing, but the pace is slow and prices are still not competitive enough to allow all to afford service
- Older populations and less educated individuals show less interest in broadband or do not know how to utilize service, thus there is lack in demand from these sectors
- Areas rural in nature with small populations are often unable to receive services

- Reliability and poor customer services among current Internet providers result in low satisfaction in only service available
- Lagging economy in Region 4

Opportunities

- E-rate 2 will be coming available with more funding for schools to purchase higher bandwidth speeds
- FCC reallocating monies for broadband expansion
- Un-served communities can create "request for services" petitions
- Planning via Comprehensive Plans
- BTOP Towers can be used by multiple providers

Challenges

- Data limitations
- Limited provider competition
- Lack in demand from some sectors
- Lagging economy
- Rural communities with small populations
- Customer satisfaction

Strategic Direction

Education and Outreach, & Infrastructure Economic Development

The ultimate question to be answered by the Regional Broadband Planning Team's endeavors is what direction is best to facilitate broadband growth in the communities of Region 4? Data provided via the online survey and random survey mailing convey a population ready to or already utilizing broadband. However, with the low rate of return produced by the random survey mailing and the online survey's accessibility to residents and businesses who already utilize broadband service, it can readily be determined that further study of the area's residents and businesses is needed.

At the last count just under 80 percent of West Virginia residents had broadband access and the State Broadband Mapping Program is seeking to identify broadband needs and raise that number to 95 percent before 2015. The 80 percent figure was determined prior to the State's adoption of the FCC's definition of broadband, so this percentage could now be found to be significantly lower. In order to continue the move toward the 95 percent goal in the stated time frame, much focus must be given to the rural areas found within Region 4 and the obstacles that need to be overcome in order to reach residents and businesses in this mountainous area.

Education and outreach must be pursued in order to incubate the needed demand and skills to utilize broadband. Infrastructure is inevitable in reaching the broadband goals of Region 4 and the State and the economic needs of the communities of Region 4 will never be met without the availability of broadband speed Internet access.

Education and Outreach

Education and outreach are essential in facilitating the expansion of broadband availability. Without the understanding of the numberless doors that broadband opens, there will continue to be a lack in the demand needed to constitute growth in infrastructure. This is especially true in the rural areas of the Region where demand is not high enough to constitute expansion at an affordable price.

Demand must be high enough to entice providers to service an area and the area must provide a high enough customer base to offer the services at an affordable cost. Education and outreach should be held at a high priority in order to grow the demand needed for expansion.

Region 4's RBPT online survey does not indicate that residents who do not have broadband service in their home lack established service because of a lack in demand or knowledge to utilize the service

Please check all the reasons why you DO NOT have Internet service in your home. (Check all that apply)		
Answer Options	Response Percent	Response Count
High-speed Internet is not available	69.2%	9
Cost	23.1%	3
Sufficient access elsewhere	7.7%	1
Nothing on the Internet I need	0.0%	0
I plan to establish service within the next year	0.0%	0
No time to learn to use the Internet	0.0%	0
Don't know how to set it up	0.0%	0
Problems with cable access	0.0%	0
Problems with DSL access	15.4%	2
Child safety and content	7.7%	1
Privacy/security concerns	0.0%	0
Other (please specify)		2
answered question		13
skipped question		249

and 96.7% of respondents state that it would be beneficial to them if the current broadband environment in their area was enhanced.

Would it be beneficial to you if the broadband environment in your area was enhanced?		
Answer Options	Response Percent	Response Count
Yes	96.7%	88
No	3.3%	3
answered question		91
skipped question		171

Results from the random mailing indicate that only 2% of respondents indicated lack of Internet skills, while 93% indicated that if certain concerns were resolved they would utilize broadband Internet service.

While the results of the two surveys show little evidence of lack of demand or skills needed to utilize high-speed Internet services, it can still be reasonably determined that portions of the population are unaware of the advantages of high-speed Internet and do not know how to utilize what broadband has to offer.

Education and outreach efforts will ultimately impact broadband expansion by heightening demand for service, as well as, enhance the livelihood of those whom learn to take advantage of the opportunities made available through utilization of high-speed Internet access.

Education and outreach efforts are necessary to promote the importance of broadband and create the demand needed to foster the growth.

Strategic Objective S.O.1.1: To facilitate outreach programs that will educate residents and businesses within the Region of the benefits of utilizing broadband services

- ***Goal S.O.1.1: Reach out to target populations through methods such as regional awareness campaigns, advertising, talk radio, public service announcements, and other media***

While the data received via the online survey and the mailing does not indicate a lack of know how from residents and businesses to utilize broadband, it can still be reasonably assumed that portions of the population do not have the necessary skills needed to take full advantage of broadband and may not know the full extent of what broadband can really offer.

Target populations for the above stated outreach efforts will include rural community residents, low-income residents, senior citizens, students of higher and lower level education and those determined not have broadband access. The outreach programs should be ready for initiation by the fall of 2014.

- ***Goal S.O.1.2: Host demonstration events and workshops***

As a platform to reach the target populations named in S.O.1.2 resources such as community organizations (i.e. rotary clubs, farmer's associations, etc.), welfare departments and the Department of Health and Human Resources, senior centers, senior living facilities, local schools and community colleges, trade fairs and technology conferences can all be utilized to reach out these populations by facilitating demonstrative events and workshops via these resources.

A minimum of at least two workshops specific to each target population should be held in each county annually.

Workshops should include demonstrations of what can be accomplished with broadband vs. current slow Internet speeds. It should also be a goal to educate residents and businesses on broadband terms in order to provide them with the knowledge they need to make educated choices in relation to broadband and voice their opinions on broadband effectively.

- ***Goal S.O.1.3: Leverage and/or work to organize programs that provide subsidized broadband service to income-qualified households in order to secure broadband build-out projects and increase availability and usage***

Work with welfare departments and The Department of Health and Human Resources to organize a subsidized broadband service plan to be provided to income-qualified households.

Prior to the implementation of the above stated goals, further study is needed to better determine what areas would benefit most from the outreach. Percentages of the stated populations that lack the necessary skills to utilize broadband and are unaware of its many advantages need determined in order to conduct a follow up study to measure the effectiveness of the outreach program in reaching its goals.

Infrastructure

State planning efforts seek to provide at least 95% of West Virginia's population with broadband access by 2015. Infrastructure and utilization of current infrastructure will be crucial in achieving this goal.

Per a press release from Senator Jay Rockefeller's office in September 2013, Senator Jay Rockefeller, Chairman of the Senate Commerce, Science, and Transportation Committee, along with Senator Joe Manchin and Congressman Nick Rahall, announced a multi-million dollar federal award supporting expansion of broadband infrastructure and high-speed Internet access to at least 40,000 rural homes and businesses in West Virginia.

The allocation of $24,106,003 follows a call from Rockefeller, and several of his colleagues, who urged the FCC in March 2013 to continue releasing resources from the Federal Communications Commission's (FCC) Connect America Fund so as to prevent a break in the construction of broadband infrastructure in areas that presently lack high-speed Internet service. The Connect America Fund was launched in 2012 to provide access to broadband service to tens of millions of Americans who have been without broadband service.

"The FCC is an important partner in the effort to bring broadband infrastructure and high-speed Internet to our rural communities. This funding award shows that the agency not only heard our concerns, but they understand that advancing next-generation Internet technology in rural areas, including those in West Virginia, cannot be done without them," said Rockefeller, who has long made it a top priority to bring the transformative power of broadband and Internet access to all parts of West Virginia. "With help from the FCC, so many more of our families and businesses will soon have the transformative and necessary power of high-speed Internet at their fingertips, opening the doors to many new educational and economic opportunities."

"Investing in ways to improve Internet access and broadband services will help West Virginia businesses become more competitive, advance economic opportunities and expand the scope of information available to West Virginians across our great state," Manchin said. "High-speed Internet will also encourage new educational opportunities for our kids and our future generations, and I am pleased that the partnership between the FCC and our state will specifically focus on expanding broadband to some of the areas around our state that have the most limited access in our rural communities."

"For the whole of America to keep a competitive pace in the world marketplace, investments like the FCC's major commitment to families and businesses are essential," said Rahall. "Whether advancing learning, expanding small business markets, researching and developing new products or services, today, broadband access is a basic economic necessity. Leveling the playing field for rural America to compete in the e-economy remains an essential federal role and responsibility."

Strategic Objective S.O.2.1: Conduct further research to determine what parts of the Region will benefit most from fiber optic or tower infrastructure or a combination of both to expand service in a way that allows for a more competitive market

The creation of maps showing where middle mile/backbone networks are currently installed, as well as where there are gaps, and that specify whether infrastructure was installed with State or Federal funds or private funds, should be created to aid in determining what strategies should be pursued and will work best in specific areas of the Region.

Encouraging legislature to revisit current rules regarding access to BTOP and other networks and loosen access and agreement requirements could allow providers to obtain access to backbones to make Internet available more broadly and competitively.

Legislature should also be encouraged to loosen overlap restrictions for grants, as these are often used by single providers to stifle nearby proposals and much needed competition.

All providers who are active in the Region should be identified, including those that have received grants and those who have applied for grants that were not approved, in order to hold collaborations aimed to determine what specific actions could be taken to broaden deployment at the lowest cost. For example, determining what terms in existing grant proposals are particularly onerous to providers, especially to co-op and other successful small providers, and determining which providers have existing projects in place, where an extension of the service area could potentially be implemented efficiently at lower incremental cost, can help to determine problems that need addressed in order to allow projects at the highest priority to be pursued.

Providing support for proposals for grants and other assistance that have growth potential will ensure that grant funds are most efficiently used. Proposals that do not have the capability to expand at a low cost may become obsolete in the future.

Proposals and plans should also be consistent with the overall long term goals of Region 4.

Strategic Objective S.O.3.1: Work with providers to utilize current infrastructure to meet unmet needs of residents and businesses

Data from both the online survey and mailing showed that the highest percentage of respondents without current broadband service indicated that they don't have the service because it is not available. This data indicates need for infrastructure in order to provide residents and businesses with the broadband service they so desperately need.

- ***Goal S.O.3.1: Work with providers to determine existing infrastructure and capacity in order to attract prospective businesses***

Broadband advocate teams detailed in Goal S.O.4.3 can work with current providers to discuss ways to increase service using existing infrastructure. Such methods as facilitating data exchange agreements should be pursued, specifically in relations to towers built by BTOP funds.

At least two meeting should be held annually between stakeholders and providers in order to discuss options to better utilize current infrastructure.

- ***Goal S.O.3.2: Facilitate communications between residents and providers regarding service locations, unmet needs, etc.***

Often times, rural residents will request broadband service from a provider but the area will lack the demand needed to feasibly extend service to that resident. Over time, the demand in the area may grow great enough to facilitate expansion; however, providers may be unaware that such a demand has grown. Broadband advocacy groups can work to organize user petitions to provide service providers with demand snapshots of areas that would otherwise fall through the cracks.

Economic Development

Broadband services are essential for the future development and sustainability of Region 4's communities. Residents and businesses that lack the ability to utilize broadband services are at an economic disadvantage and in respect are "left behind" in our fast paced world. In order to move forward and be competitive, broadband planning must be considered as a priority in order to continue the development of the areas of Region 4.

Broadband speed connections are crucial especially to employment. The following excerpts are from Region 4's RBPT's online survey, indicating a high percentage of respondents working from home using a broadband connection.

Does the nature of your business or employment allow you to work out of your home using broadband connectivity?		
Answer Options	Response Percent	Response Count
Yes	63.2%	84
No	36.8%	49
	answered question	133
	skipped question	129

Does your employer allow you to work from home (telecommute)?		
Answer Options	Response Percent	Response Count
Yes	82.6%	57
No	17.4%	12
	answered question	69
	skipped question	193

Do you ever work from home?		
Answer Options	Response Percent	Response Count
Yes	98.0%	50
No	2.0%	1
	answered question	51
	skipped question	211

The random survey mailing data shows that 33% of respondents are allowed to work from home, while only 24% actually do telecommute or work from home. Of the respondents who were self-employed (14%), 56% work from home.

Distance-Earning: A Vision for the Future, a study by West Virginia University of Public Administration Capstone students for the community of the Town of Ansted in Fayette County, indicated a high potential for an available workforce for work-from-home opportunities. The study also found indication that residents are willing to attend training or continuing education classes in order to work from home.

Bridgemont Community and Technical College has launched Telework West Virginia, offering trainings to residents in and around the Town of Ansted, Fayette County.

Without broadband speed connections, data transfer becomes problematic for home based entrepreneurs and other members of the workforce who telecommute. The lack of capability to adequately transfer data in a timely manner can inhibit one from taking advantage of telecommuting opportunities. For this same reason, residents often must leave an area and are unlikely to take up residence in an area that does not provide the broadband needed to perform work from home obligations.

In the same respect, educational opportunities are limited when broadband services are not available at both lower and higher education levels. Many lower education systems

require students to do research and complete assignments via the Internet. Students without easily accessible service are left at a disadvantage.

Many colleges and university's offer courses online and many have complete online campuses. Education is vital to economic growth and online opportunities open doors to those who would otherwise not be afforded an education otherwise. This is especially important for economically disadvantaged, rural areas. Without out an educated workforce these communities will continue to be at a disadvantage. The infrastructure of broadband facilitates opportunities far beyond the reach of physical limitation.

Strategic Objective S.O.4.1: Utilization of broadband to facilitate economic development

Reponses from the online survey indicate that a high percentage of individuals work from home and a study by West Virginia University of Public Administration Capstone students found that a Fayette County Community, the Town of Ansted, found a high potential for an available workforce for work-from-home in that area. In order to foster growth in home enterprise and telecommuting job opportunities, broadband implementation is crucial. Broadband expansion will also allow for current local business to operate more efficiently and opens the door to further growth for established as well as blooming businesses.

- ***Goal S.O.4.1: Work with county and local planning directors and the West Virginia University's School of Law Land Use and Sustainable Development Law Clinic to ensure that broadband infrastructure is included in comprehensive planning***

- ***Goal S.O.4.2: Work with county and local planning officials to incorporate the provision of broadband planning in current planning policies***

Meetings designed to provide collaborative sessions between residents and broadband stakeholders with county and local planning officials can be coordinated by working with local city and town halls and county commissions. Adequate advertisement of the meetings must be pursued to ensure all interested individuals are afforded an opportunity to prepare needed materials in advance to the meeting date.

Broadband planning should begin to be incorporated into planning policies by 2014.

- ***Goal S.O.4.3: Partner with local governments and economic development organizations to advance public funding requests***

In the meetings described by S.O.4.2 relationships formed with county and local planning officials can then be extended to include local governments and economic development organizations. Discussions between these parties can allow for planning at a more local level. Residents, businesses and other stakeholders along with representatives from county and local planning organizations, local government officials and economic

development representatives can form broadband advocate groups in order to consolidate their efforts and speak together with one voice.

- ***Goal S.O.4.4: Support trainings that will provide the skills residents need to utilize telecommuting opportunities and will open the door to home enterprise***

Bridgemont Community and Technical College has launched Telework West Virginia, offering trainings to residents in and around the Town of Ansted, Fayette County. Exploration of grant funds to facilitate replication of this model in surrounding areas should be explored as a means to foster growth in the telecommuting and home enterprise sector.

- ***Goal S.O.4.5: Work with economic development organizations, municipal government officials, local planners, local employers, and entrepreneurs to facilitate a study showing how broadband availability expansion will help to promote and stimulate job growth in Region 4***

By organizing meetings, either at municipal or county wide level, with the above referenced groups, information can be gathered to prepare an analysis of the job growth that could be sustained by increasing broadband availability in the Region. It can be expected that not only industry and entrepreneurs will benefit by broadband availability, but that tourism in the Region will also reap the advantages of broadband availability, as well as other industries such as housing and real estate.

- ***Goal S.O.4.6: Facilitate studies that determine the need for broadband availability for lower and higher education in the Region***

Broadband advocacy groups can work with local education systems to determine the advantages that broadband will bring to local education institutions and reveal the disadvantages students and staffs are faced with in areas that have poor Internet connections. This will further validate the great need in the area for reliable, high speed Internet access in order to promote and provide an educated workforce.

Collaboration with economic development organizations, educational stakeholders and providers should then be held to work together to find solutions to current broadband obstacles that face education in the Region.

Appendix A

Region-4 Broadband Survey: Residential Portion

In what county is your home located?

Answer Options	Response Percent	Response Count
Fayette	17.2%	40
Greenbrier	8.6%	20
Nicholas	15.5%	36
Pocahontas	50.6%	118
Webster	8.2%	19
Other (please specify)		5
answered question		233
skipped question		29

Please select "Yes" if you own a computer, tablet, smartphone, or Internet capable TV or DVD player that you use via your phone carrier data plan or Internet access from your home. Otherwise, select "No".

Answer Options	Response Percent	Response Count
Yes	94.0%	218
No	6.0%	14
answered question		232
skipped question		30

Do you have Internet access at home?

Answer Options	Response Percent	Response Count
Yes	92.8%	180
No	7.2%	14
answered question		194
skipped question		68

Who uses the computer and Internet at your home?

Answer Options	Response Percent	Response Count
I do	94.4%	136
Spouse/Partner	66.7%	96
Children	38.2%	55
Friend	17.4%	25
Grandparent	4.9%	7
Parent	7.6%	11
Housemate or roommate	4.9%	7
Other (please specify)		8
answered question		144
skipped question		118

What type of Internet connection do you use (Check all that apply)

Answer Options	Response Percent	Response Count
Dial-up	7.0%	10
Cable modem	21.7%	31
Satellite Internet	12.6%	18
Cellular Broadband (Phone Data Plan)	13.3%	19
DSL	52.4%	75
Fixed Wireless	7.7%	11
Don't know	3.5%	5
Other (please specify)		4
answered question		143
skipped question		119

How long have you had Internet access at your home?

Answer Options	Response Percent	Response Count
Less than one year	4.9%	7
1 - 3 years	21.8%	31
4 - 7 years	32.4%	46
8 - 10 years	11.3%	16
More than 10 years	26.1%	37
Don't know	3.5%	5
answered question		142
skipped question		120

Why did you choose this connection type and service? (Check all that apply)

Answer Options	Response Percent	Response Count
Cost	20.7%	28
Speed	25.2%	34
Only available service	68.9%	93
Best reliability	6.7%	9
Other (please specify)		10
answered question		135
skipped question		127

Please indicate your level of satisfaction with your Internet service:

Answer Options	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Not a Consideration	Response Count
Connection Speed	66	35	35	15	0	151
Cost	33	46	47	15	6	147
Ease of Use	23	23	81	20	2	149
Reliability of Access	52	40	44	13	0	149
Availability of Access	46	39	48	17	0	150
Customer Service	40	35	47	18	7	147
Number of Providers	79	29	18	4	14	144
				answered question		151
				skipped question		111

Please check all the reasons why you DO NOT have Internet service in your home. (Check all that apply)

Answer Options	Response Percent	Response Count
High-speed Internet is not available	69.2%	9
Cost	23.1%	3
Sufficient access elsewhere	7.7%	1
Nothing on the Internet I need	0.0%	0
I plan to establish service within the next year	0.0%	0
No time to learn to use the Internet	0.0%	0
Don't know how to set it up	0.0%	0
Problems with cable access	0.0%	0
Problems with DSL access	15.4%	2
Child safety and content	7.7%	1
Privacy/security concerns	0.0%	0
Other (please specify)		2
answered question		13
skipped question		249

Do you use the Internet anywhere else other than home?

Answer Options	Response Percent	Response Count
Yes	85.3%	139
No	14.7%	24
answered question		163
skipped question		99

How important is it for ALL RESIDENTS of the State to have access to computers

Answer Options	Response	Response Count
Very Important	79.1%	125
Important	13.9%	22
Somewhat Important	6.3%	10
Not at all Important	0.6%	1
answered question		158
skipped question		104

What is your age?

Answer Options	Response Percent	Response Count
18 to 24	2.9%	4
25 to 34	8.1%	11
35 to 44	10.3%	14
45 to 54	26.5%	36
55 to 64	32.4%	44
65 to 74	18.4%	25
75 or older	1.5%	2
answered question		136
skipped question		126

What is your gender?

Answer Options	Response	Response Count
Female	48.1%	65
Male	51.9%	70
answered question		135
skipped question		127

What is your race/ethnicity?

Answer Options	Response	Response Count
Alaskan Native	0.0%	0
American Indian	0.8%	1
Asian	0.8%	1
Black	0.0%	0
Hispanic origin	0.8%	1
Indian (India) or middle-eastern	0.0%	0
Pacific Islander	0.0%	0
White or Caucasian	97.7%	128
Other (please specify)		4
answered question		131
skipped question		131

What is the highest level of school you have completed or the highest degree you

Answer Options	Response	Response Count
Less than high school degree	0.0%	0
High school degree or equivalent (e.g., GED)	14.1%	19
Some college but no degree	22.2%	30
Associate degree	3.0%	4
Bachelor degree	25.2%	34
Graduate degree	35.6%	48
Other (please specify)		5
answered question		135

skipped question		127

Which of the following categories best describes your employment status?

Answer Options	Response Percent	Response Count
Employed, working 1-39 hours per week	22.1%	30
Employed, working 40 or more hours per week	47.8%	65
Not employed, looking for work	4.4%	6
Not employed, NOT looking for work	4.4%	6
Retired	19.9%	27
Disabled, not able to work	1.5%	2
answered question		136
skipped question		126

What is your approximate average household income?

Answer Options	Response Percent	Response Count
$0-$24,999	15.4%	19
$25,000-$49,999	14.6%	18
$50,000-$74,999	22.8%	28
$75,000-$99,999	17.9%	22
$100,000-$124,999	5.7%	7
$125,000-$149,999	6.5%	8
$150,000-$174,999	3.3%	4
$175,000-$199,999	1.6%	2
$200,000 and up	12.2%	15
answered question		123
skipped question		139

Business Portion

Please select Yes if you have access to, or use a computer, tablet, smartphone or

Answer Options	Response Percent	Response Count
Yes	71.6%	126
No	28.4%	50
answered question		176
skipped question		86

Does the nature of your business or employment allow you to work out of your home using broadband connectivity?

Answer Options	Response Percent	Response Count
Yes	63.2%	84
No	36.8%	49
answered question		133
skipped question		129

Does your employer allow you to work from home (telecommute)?

Answer Options	Response Percent	Response Count
Yes	82.6%	57
No	17.4%	12
answered question		69
skipped question		193

Do you ever work from home?

Answer Options	Response Percent	Response Count
Yes	98.0%	50

No	2.0%	1
	answered question	51
	skipped question	211

Do you use your business access to the Internet primarily in support of your

Answer Options	Response Percent	Response Count
Direct support of business	60.5%	75
Casual or personal use	39.5%	49
	answered question	124
	skipped question	138

Indicate what national business classification best describes your business:

Answer Options	Response Percent	Response Count
Accommodation and Food Services	7.1%	3
Administrative and Support Services	0.0%	0
Agriculture, Forestry, Fishing/Hunting	0.0%	0
Arts, Entertainment and Recreation	0.0%	0
Construction	7.1%	3
Educational Services	14.3%	6
Finance and Insurance	0.0%	0
Government (city, county, state, federal)	23.8%	10
Health Care and Social Assistance	4.8%	2
Information	0.0%	0
Management of Companies and Enterprises	2.4%	1
Manufacturing	4.8%	2
Mining, Quarrying, and Oil and Gas Extraction	7.1%	3
Professional, Scientific and Technical	11.9%	5
Public Administration	0.0%	0
Real Estate and Rental and Leasing	14.3%	6
Retail Trade	0.0%	0
Transportation and Warehousing	0.0%	0
Utilities	2.4%	1
Waste Management and Remediation	0.0%	0
Wholesale Trade	0.0%	0
Other (please specify)		12
	answered question	42
	skipped question	220

Does your business pay for Internet service?

Answer Options	Response Percent	Response Count
Yes	90.4%	47
No	9.6%	5
	answered question	52
	skipped question	210

What class of Internet connection do you have?

Answer Options	Response Percent	Response Count
Dial-up (56Kbps or less)	11.1%	5
High-speed (DSL, cable, satellite)	88.9%	40
	answered question	45
	skipped question	217

What type of Internet connectivity do you have?

Answer Options	Response	Response Count
Fiber to the premises	22.6%	7
Fixed wireless	6.5%	2

Mobile wireless (Cellular Aircard)	3.2%	1
Frame Relay/Fractional T-1 (i.e., CIR)	0.0%	0
Satellite broadband	0.0%	0
DSL	35.5%	11
Cable modem	12.9%	4
T-1 or faster leased service	19.4%	6
Other (please specify)		7
answered question		31
skipped question		231

Please rate the following aspects of your service:

Answer Options	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied	Don't Know/Not Applicable	Response Count
Cost of Internet	20	17	30	6	10	83
Speed of connection	35	16	18	10	3	82
Billing practices	18	12	37	6	9	82
Technical support	20	8	33	7	14	82
Customer support	19	13	29	10	11	82
Installation tech's ability and courtesy	15	4	34	14	14	81
answered question						83
skipped question						179

In the last 30 days, indicate the applications you have used on your Internet access service:

Answer Options	Response Percent	Response Count
E-mail	97.6%	82
E-business	31.0%	26
On-line education	32.1%	27
Research	77.4%	65
Videoconferencing	17.9%	15
Website applications	50.0%	42
Banking	71.4%	60
On-line appointments	32.1%	27
File sharing	25.0%	21
Business-to-business functions	23.8%	20
Monitoring functions	10.7%	9
On-line customer support	33.3%	28
Connecting to Social Media sites	58.3%	49
answered question		84
skipped question		178

How important is a robust Broadband (High-speed Internet access) connection to

Answer Options	Response	Response Count
Very Important	90.2%	74
Somewhat Important	6.1%	5
Important	2.4%	2
Not at all Important	1.2%	1
answered question		82
skipped question		180

Would it be beneficial to you if the broadband environment in your area was enhanced?

Answer Options	Response	Response Count
Yes	96.7%	88
No	3.3%	3
answered question		91
skipped question		171

When you sought broadband services for your business at your location, how would you describe the availability of multiple, competing broadband options:

Answer Options	Response Percent	Response Count
Competitive, server providers available	9.6%	7
Somewhat competitive, two providers	17.8%	13
Not competitive, only one provider	56.2%	41
Suitable broadband is not available	16.4%	12
	answered question	73
	skipped question	189

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

Answer Options	Response Percent	Response Count
Less than $50	27.1%	19
More than $50 and less than $100	24.3%	17
Between $100 and $200	17.1%	12
Between $200 and $300	1.4%	1
More than $300	11.4%	8
Don't know how much we pay	18.6%	13
Other (please specify)		2
	answered question	70
	skipped question	192

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

1	THe internet brings the resources of world to our homes.	Apr 17, 2013 7:24 AM
2	I feel it is important for all children to have access to the internet at home. As a mother it is important to use edline to check my childrens progress. The kids use it to play learning games and research. I have personally used it to understand new ways of math. Had I not had access to google, I would not have understood how to help my children.	Apr 16, 2013 9:58 PM
3	It is very important for all residents to have GOOD access to internet. Especially for WV residents. Job and income opportunities for folks who live away from potential employment.	Mar 24, 2013 4:10 PM
4	It is important for me personally because my location is remote and I need the access for work. In my work I perform trainings I could not otherwise complete with Interent access. It is also important for our schools systems, both lower and higher level education, to be competitive and successful and even be able to complete daily tasks.	Mar 19, 2013 12:05 PM
5	Because it is educational ,and fast growing to be the only way to do commerce.	Mar 18, 2013 2:12 AM
6	They may need it for financial capabilities	Mar 17, 2013 6:14 PM
7	Less paper (greener) technology for all is way to the future	Mar 17, 2013 4:41 PM
8	All do not have a computer in the state	Mar 17, 2013 1:07 PM
9	primary way for people to communicate...all must have, otherwise those w/o Internet are 'out of the loop'.	Mar 16, 2013 6:56 PM
10	In order to be able to communicate in this digital age, to work from home, both for personal business and for business.	Mar 15, 2013 8:51 PM
11	This world we live in has become much larger and you are left out and left behind if you aren't familiar with the Internet and how to use it. Now we can connect to college, doctors, employers, etc... through the Internet and you are lost if you don't have that ability.	Mar 15, 2013 3:05 PM
12	Educational & buissiness purpases	Mar 15, 2013 3:03 PM
13	Access to outside media and news can impact security and daily lives of individuals without access otherwise.	Mar 15, 2013 2:08 PM
14	Most of the people in my area including me hold positions where we could work from home is there is increment weather. We are unable to do so because dsl is not avalaible in our area. Another area of concern at least for me is I have family all over the US and internet is how I keep in contact, again I have to wait to go to work where I have access because it is not avalable in my area.	Mar 15, 2013 12:07 PM
15	to be aware of whats going on	Mar 15, 2013 11:45 AM
16	People living in rural areas have a right to be up with the times. They pay their taxes and contribute to the world, as a whole, but are treated as second class clitizens when it comes to getting anything such as water or internet service. You	Mar 15, 2013 9:50 AM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

	will someday learn that higher income families are choosing to move out of the city.....get us up to speed.	
17	How can we be a community if not all have access to information?	Mar 15, 2013 8:28 AM
18	Information dissemination, emergency alerts	Mar 14, 2013 9:52 PM
19	it is how we communicate and do business today	Mar 14, 2013 8:49 PM
20	Information at your fingertips.	Mar 14, 2013 7:53 PM
21	This has become a major tool for information, news,and commerce	Mar 14, 2013 6:38 PM
22	To remain competitive with the rest of the world.	Mar 14, 2013 6:21 PM
23	Internet is replacing news media, emergency messaging, family bulletin boards, encyclopedia, libraries.	Mar 14, 2013 5:56 PM
24	very important for contacts, information and alerts	Mar 14, 2013 5:38 PM
25	In today's society an individual needs to have Internet access to function. Everything is being computerized so in order to function Internet access is vital. Banking, bill paying, Social Security are just a few examples of companies being computerized.	Mar 14, 2013 5:34 PM
26	to stay connected	Mar 14, 2013 2:19 PM
27	Current news, access to all other types of information.	Mar 14, 2013 2:00 PM
28	Before I moved to WV I lived on OH. In OH I lost my job and the only way to apply for jobs were to go on line. Some applications were multiple pages long and I would get booted off before my application was completed. I even had a doctor that asked me to go online and update my information. I had to go to a Library where I could access high speed internet. In WV I call my bank to ask them to do things for me that would take too long on dial up and run the risk of losing my connection in the process. And I have a friend with high speed to do all my online shopping for me. I am at the point where I am going to have a additional phone line installed so my Mother can go online and not tie up our phone line.	Mar 14, 2013 1:36 PM
29	If you can not keep up with others you will fall behind in everything	Mar 14, 2013 12:19 PM
30	Able to work from home, research,	Mar 14, 2013 10:09 AM
31	important in 2013	Mar 14, 2013 9:51 AM
32	BECAUSE THAT'S HOW THINGS ARE DONE NOW. YOU HAVE NO CHOICE BUT TRY TO HAVE ACCESS. IT USED TO BE INCONVENIENT, NOW IT'S A NECESSITY.	Mar 14, 2013 9:08 AM
33	Because lots of billings are sent on internet. Medical information is sent on internet. Schooling is on the internet. Business is on the internet. Business contacts are on the internet. Information attained on the internet for business and	Mar 14, 2013 8:14 AM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

	schooling.	
34	Everyone should at least have access via local schools and libraries to keep technologically updated. This is the way of modern communication.	Mar 13, 2013 10:27 PM
35	provides access to information and is a form of communication	Mar 13, 2013 7:58 PM
36	It keeps them informed (hopefully) and gives access to information and communication.	Mar 13, 2013 7:40 PM
37	Many citizens would likely complete college courses if Broadband was available. Business would have access to many services.	Mar 13, 2013 7:16 PM
38	Has taken the place of phone, tv. Communication and staying current critical. Has to be decent service and affordable.	Mar 13, 2013 6:52 PM
39	everthing is now on the internet, its hard not to have it, I pay bills and order all the time.	Mar 13, 2013 2:58 PM
40	Technology is needed for school (education), work, and communication. Most businesses use the internet to provide services to customers -billing, ordering etc.	Mar 13, 2013 2:57 PM
41	Sometimes it is the only way to communicate or to find information.	Mar 13, 2013 2:45 PM
42	Internet usage has and will an absolute necessity for all families. It's how we communicate beyond family to family. Doctor's, School's, Bank's etc now prefer to communicate via the internet.	Mar 13, 2013 2:16 PM
43	Everyone should have access to the knowledge available on the internet for business, commerce, school, world news, hobbies, and other uses.	Mar 13, 2013 1:32 PM
44	I do not believe we need to pay for others services when they can use the library as I have until I was willing to pay the price for the service.	Mar 13, 2013 12:16 PM
45	Many people take classes online. Larger access to computers and the Internet could assist them. More people could take classes and earn degrees therefore obtaining better jobs.	Mar 13, 2013 11:50 AM
46	I am a business owner, and 95% of my business is conducted by email. Streaming video is next to impossible, and very time consuming. Need these capabilities to compete.	Mar 13, 2013 11:17 AM
47	It's the key to life in this century	Mar 13, 2013 10:35 AM
48	because it is vitally important for me to be able to access the internet hourly to manage my finances.	Mar 13, 2013 9:52 AM
49	It is the world as we know it. You almost cannot do anything these days without internet access	Mar 13, 2013 9:15 AM
50	better informed equals better educated	Mar 13, 2013 8:34 AM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

51	Educational. Help with job searching and working and studying and learning. Safety: knowing weather, road conditions, emergencies, etc	Mar 13, 2013 8:03 AM
52	Just like everyone else in the world. It is a World Wide Web that is used for everything from social media to work related information. The amount of information that is available is geatly appriciated and is required to stay informed on information from all walks of life from social events, work related information and general infomation.	Mar 13, 2013 7:35 AM
53	1. Much communication (bills, etc) these days is done via the internet. 2. Much information (& ease of retrieval) is available via the internet. NOTE: "ALL Residents" access (for me) does not necessarily mean 'at home' - but could mean access in public areas (library, parks, gov. offices)	Mar 13, 2013 7:04 AM
54	Fastest and most efficient way to access specific information. Convenience of use. Educational & research tool.	Mar 13, 2013 6:15 AM
55	It is only important if you want to the state to grow and develop at a similar pace as other states and the rest of the world.	Mar 13, 2013 2:37 AM
56	We don't want to remain a third world country. Why do think? Everything is digital. Work, play live.	Mar 12, 2013 11:56 PM
57	With limited jobs in the State, high speed Internet could create Internet based jobs like computer programming, web design, web based sales sites, etc. City's Like Chattanooga are embracing the fast Internet speeds and seeing job growth and increase population of young prof.	Mar 12, 2013 11:43 PM
58	necessary for information in emergencies and to communicate since cell service sucks	Mar 12, 2013 9:32 PM
59	Everyone uses the internet, from students doing research to business owners managing accounts online. The internet is utilized by everyone.	Mar 12, 2013 9:26 PM
60	So we can scholastically compete with the rest of the world.	Mar 12, 2013 8:07 PM
61	This is a basic need that 97% of the country has; our children, our businesses, our lives are being hampered by not having access to h/s Internet. Economic growth is also affected. It makes our educational system sub par. How can WV expect to grow, much less compete, with the rest of the country w/o this??? I have to go to a public computer to file my taxes. Dial-up will not support TurboTax. How ridiculous is it that I cannot file my taxes at home? Pocahontas County in particular is at a particular disadvantage because we cannot use cell phones due to NRAO. I have plenty to say on this matter but will leave it at this. Thank you very much for asking!!! :)	Mar 12, 2013 7:04 PM
62	It is necessary to keep informed and function in todays society	Mar 12, 2013 6:06 PM
63	All media (Tv, phone, audio, video, newspapers, etc,) in the future will be transmitted via the internet.	Mar 12, 2013 4:58 PM
64	Cannot operate without it.	Mar 12, 2013 4:19 PM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

65	To keep up with the modern age, WV is usually behind in most important sectors.	Mar 12, 2013 4:10 PM
66	Communications	Mar 12, 2013 3:56 PM
67	TOO MUCH OF WHAT I DO IS RELATED TO THE COMPUTER.	Mar 12, 2013 2:06 PM
68	Communications with family and grandkids, research, business communications, entertainment, home shopping.	Mar 12, 2013 2:03 PM
69	Research and social interaction come to mind first. Students are more educated with they have access to the Internet. Libraries are great but in our rural area they are difficult to use.	Mar 12, 2013 1:03 PM
70	I am trying to operate a business. With poor service I cannot compete with a third world service. I need to be able to upload and download pictures and other information, which I can not do at times depending on time of day, and it is very very slow slow slow!!!!	Mar 12, 2013 12:30 PM
71	Internet should be free...	Mar 12, 2013 11:27 AM
72	Why should we be penalized because we live Rural? Modern Technology. My daughter's school work is now assigned on-line and half the time, we can't access the website due to poor, inadequate internet. Why should our kids suffer because one Internet provider won't increase our broadband but yet feels compelled to take our money for full price but we don't get full service. I pay as much as someone in Elkins, Charleston, Morgantown, but I don't receive the same service. Why can't we give Frontier some competition and see who can provide the Internet service we DESERVE too!	Mar 12, 2013 11:16 AM
73	it just is we need a good internet provider	Mar 12, 2013 8:08 AM
74	The internet is a very important learning tool. Almost everything we do now is computer related.	Mar 11, 2013 8:19 PM
75	important source of info	Mar 11, 2013 3:46 PM
76	It opens up people to new ideas and access to information.	Mar 11, 2013 2:57 PM
77	provide equal access to information otherwise unavailable	Mar 9, 2013 1:44 PM
78	So much information can be gleaned from the Internet. It is a very convenient and fast way to communicate, research and learn. I use the Internet not only for entertainment but also for education as I am currently taking online classes from the local community college for my degree.	Mar 9, 2013 10:35 AM
79	All aspects of the world are moving away from stores, snail mail, etc and into the world wide web. So it is only far that everyone who wants access has access.	Mar 8, 2013 8:21 PM
80	It makes things so much easier to have internet access. When I was in high school I had no internet and it was hard to do even simple take home school projects.	Mar 8, 2013 4:15 PM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

81	Broadband speeds need to be on reasonable parity with those available to ALL residents in urban areas, to attract bright, talented social and business entrepreneurs to live in rural areas. A thriving middle class is necessary for rural areas to thrive economically and socially. Fast broadband speeds (not the slow stuff foisted on us) is as necessary today as rural electrification was in the 1930's. One problem is that monopolistic practices common in rural areas mean that the sole provider will try to get by with copper lines, slow speeds, and high rates, figuring they can slip this by on us "stupid hillbillies." I am very upset that West Virginia governance is bamboozled by this.	Mar 8, 2013 11:50 AM
82	We live in a remote area. With internet there is so much access to news, shopping, communicating with people. For kids, it is invaluable for enhancing reading and access to all sorts of learning sites and tools.	Mar 8, 2013 11:28 AM
83	Internet is the new way to connect with friends and family and it is also an important way to stay on top of news and weather. You can also use it for information purposes much more thoroughly than books (unfortunately). You can also use it for entertainment purposes. It is a very important tool for performing business. You can shop from home so that saves time and money.	Mar 7, 2013 11:26 PM
84	In our increasingly technologically powered world it is almost a necessity for people to have easy access to the internet. Through it we are able to maintain contact with friends and family, maintain contact with the rest of our world, keep up to date on important information such as the news and weather, etc.	Mar 7, 2013 11:11 PM
85	For news, information, weather forecasts, etc.	Mar 7, 2013 6:21 PM
86	We are living in a technical world	Mar 7, 2013 5:05 PM
87	West Virginians, in my opinion, are some of the most ignorant people in the whole country! One very important way for that to change is to have easy access to computers and the Internet.	Mar 7, 2013 1:45 PM
88	Learning, News, Weather.	Mar 7, 2013 10:39 AM
89	Because you have to have it in everyday life	Mar 6, 2013 12:50 PM
90	With out internet, people don't have access to information.	Mar 6, 2013 12:41 PM
91	Education, and Connection to relatives and friends	Mar 6, 2013 11:46 AM
92	in many ways, social media and email have become the preferred methods of communication	Mar 6, 2013 11:45 AM
93	I feel it is important to stay current and aware of what our younger generation is doing.	Mar 6, 2013 10:18 AM
94	It seems to be the most used method for people to be able to receive warning, or information that would be useful during a disaster	Mar 6, 2013 9:53 AM
95	To be able to access information, make decisions based on current information, to keep in touch with others, to have a technologically literate work force	Mar 6, 2013 9:14 AM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

96	Just like the automobile, everyone needs one.	Mar 5, 2013 9:15 PM
97	There is so much knowledge available online. Good for future advancements.	Mar 5, 2013 7:31 PM
98	internet is a basic utility now - people that don't have access are cut off from how 'the rest of the world' is communicating, sharing info, learning, etc. additionally, we are at a point culturally where equality of access is a basic right, much like freedom of expression.	Mar 5, 2013 6:43 PM
99	SOme people do not need internet, because they use it for bad thing.	Mar 5, 2013 3:57 PM
100	Access to information, access to social networks	Mar 5, 2013 3:07 PM
101	It is very difficult to be a productive member of today's society if you do not have access to the internet. It is needed to get (and most times, keep) a job, access banking, government resources, etc. However, I do NOT think it is necessary for ALL RESIDENTS of WV to have access in their homes. For the most rural places, access at a local school or library is sufficient.	Mar 5, 2013 2:48 PM
102	Technology is rapidly changing. If all residents do not have access to high speed internet in their home, they are at a disadvantage. It is impossible to run a business or work as a virtual agent without high speed internet. Without Internet access, residents cannot upload resumes, pay bills electronically, work on homework assignments, take online courses. It creates an overall economic, social and educational disadvantage.	Mar 5, 2013 12:59 PM
103	Education, Information	Mar 5, 2013 12:13 PM
104	I believe that it is important because this is a very dependable way to get access to information and any warring that may arise due to weather, terriest, or local accident.	Mar 5, 2013 11:03 AM
105	Instant way to let people know of pending danger.	Mar 5, 2013 10:45 AM
106	So much is required, and expected, in schools to have access to research material online. For educational reasons, I believe it is very important for everyone to have access to computers and the internet.	Mar 5, 2013 10:44 AM
107	Computers and the internet access is the way of the future. Everyone should have access if they so desire.	Mar 5, 2013 10:27 AM
108	staying informed, education, lifelong learning, internet purchasing	Mar 4, 2013 5:32 PM
109	In The Near Future You Will Not Be Able To Communicate With Any Financial Or Governmental body Without Access, Or Find Printed Materials As more And More Media is Digital. Try To Find A tax Form Or Instruction Today Without A Computer. Good Luck!	Mar 1, 2013 11:16 AM
110	Great source of information on a whole variety of subjects inlcuding, medial, business, local and world events. great for communication. Especially important in rural areas esp if no cell phone service is available	Feb 28, 2013 3:56 PM
111	EQUALIZING AND PROMOTING BUSINESS AND EDUCATION	Feb 27, 2013 3:14 PM

Page 25, Q37. Please explain why you indicated that it is [Q36] for ALL RESIDENTS of the State to have access to computers and the Internet.

	OPPORTUNITIES FOR RURAL RESIDENTS AND THE REST OF WV.	
112	The area we live in cannot have cell phones, the internet is so important in this day and time everyone should be able to acess it	Feb 27, 2013 10:52 AM
113	It is a way of communication to always be in touch with family, friends, children, and work	Feb 19, 2013 11:37 AM
114	to stay current with present day life style	Feb 18, 2013 11:39 AM
115	Education and staying connected with friends and family	Feb 16, 2013 10:10 PM
116	There is a need to interact with businesses, government agencies, financial institutions etc. in a timely manner. Shopping online saves a one hundred mile round trip and allows one to purchase items not locally available. Easy access to news and current weather updates are necessary. No other method provides such a service.	Feb 15, 2013 6:15 PM
117	If you are enrolled in College, on-line courses, you might fail the course when you don't have internet access, when your internet fails you.	Feb 15, 2013 11:45 AM
118	For research, homework, instant access to bank and other financial accounts, to stay in touch in real-time vs US mail	Feb 13, 2013 8:21 PM
119	Times have changed and it is a very important part of my every day usage. Wether it be for banking, kids homework or googling information you can do anything you need to on it.	Feb 13, 2013 5:09 PM
120	I think the vast majority of internet users are addicted to social media and networking. I don't feel that's important. I do feel like the internet is vital for schools and businesses, less so (but handy) for shopping, especially for people in rural areas	Feb 13, 2013 3:18 PM
121	To process my utility, loan payments, access to weather, news. Just because I live in a rural area, it is not fair that I do not have high speed internet. When I contact Frontier they tell me they dont know how long it will be. It is not fair that I have to go to the Library to see what my relatives and friend are doing and how they are and to pay my bills online and so on. Come on people this is West Virginia. Can we not bring technology up to speed with other States? Why cannot I enjoy my beautiful state and have internet also?	Feb 13, 2013 2:59 PM
122	in today's world, everything is done 'online', banking, shopping, paying bills, news, etc. Broadband access definitely helps to get a lot of life's things done.	Feb 5, 2013 5:09 PM
123	Residents need access to email, web browser etc every day. I only use social media like facebook weekly	Feb 5, 2013 12:31 PM
124	Educational opportunities	Feb 1, 2013 1:21 PM

Page 54, Q84. Why is, or why isn't, a broadband connection important to you at your location?

1	Need VPN to work from home.	Mar 24, 2013 4:15 PM
2	I work remotely and could not work without my Internet access. I could work much more efficiently with higher speeds.	Mar 19, 2013 12:13 PM
3	Because there are no choices in this area just the one.	Mar 18, 2013 2:14 AM
4	It is Very important because it is 2013 not 1980	Mar 17, 2013 1:13 PM
5	Need high speed (greater than 3 Mbps) to be able to connect quickly and access services	Mar 15, 2013 8:56 PM
6	One we need the access to run the business, and second for guest accomidations. Most of them are on vacation but still need to stay connected to home and work.	Mar 15, 2013 12:16 PM
7	?	Mar 15, 2013 11:49 AM
8	I'm confused....I have internet at work but not at home. So, why is this relevant?	Mar 15, 2013 10:07 AM
9	it is essential for work and communications	Mar 14, 2013 8:57 PM
10	It is a major if not the most important contact I have for purchases, communication, news and information	Mar 14, 2013 6:44 PM
11	broadband connection is very important because it is the main tool we use to communicate amoung our employees and customers	Mar 14, 2013 12:04 PM
12	The speed to carry on business.	Mar 14, 2013 8:25 AM
13	Speed, Access	Mar 13, 2013 8:02 PM
14	Enables business to be conducted more efficiently.	Mar 13, 2013 1:41 PM
15	I can cope with what I have but I do not like paying for high speed and only getting the quality of dial up	Mar 13, 2013 12:28 PM
16	Broadband is most important because of speed, reliability and continuity of the connection.	Mar 13, 2013 9:57 AM
17	99% of my work revolves around Internet access either booking a reservation, looking up info or recording info	Mar 13, 2013 12:01 AM
18	obvious	Mar 12, 2013 9:47 PM
19	Security and Safety of our business.	Mar 12, 2013 8:20 PM
20	To be able to function and do my job in a timely and accurate form. My integrity is on the line when I have 549 emails in my inbox and cannot access them, much less reply due to the slowest, at times 20 Kbps, Internet possible. I cannot tell my market-sensitive clients "hang on, I'm waiting for this to load." My employer does not know I have dial-up Internet; that would be my undoing.	Mar 12, 2013 7:24 PM
21	Live in rural WV and need high speed connection to communicate with the real	Mar 12, 2013 4:26 PM

	world.	
22	To study and for leisure	Mar 12, 2013 4:12 PM
23	We must connect to our Corporate HQ, datacenters, credit card processors, etc. We must also provide connectivity for our guests.	Mar 12, 2013 1:10 PM
24	Why should I be denied what I pay for?	Mar 12, 2013 11:19 AM
25	Makes work faster	Mar 11, 2013 9:10 PM
26	Efficiency	Mar 11, 2013 3:07 PM
27	My work is centered on communications. I am either writing, on the phone, or researching on the Internet. I also run several websites. The slow speeds we are stuck with are maddening.	Mar 8, 2013 12:04 PM
28	It is very important, I live in a rural area and due to the vast distance I must travel to get anywhere it is much more convenient to have internet access. I am able to keep track of weather conditions, I can monitor local, national, and international news, I can keep in touch with my friends and family, I can actively spend quality time with friends and family through online gaming, video chatting, and instant messaging. It also allows me to save time and money by being able to shop from home for many items, both pleasure items such as books and games and also day to day necessities such as groceries and home improvement supplies.	Mar 7, 2013 11:23 PM
29	I fell it is important because of access to other people.	Mar 5, 2013 11:08 AM
30	Speed of connectivity and ease of transmittion	Mar 5, 2013 10:49 AM
31	fast connections are a part of life now--doing business, communicating, customer service/	Mar 4, 2013 5:40 PM
32	Time Is Money	Mar 1, 2013 11:26 AM
33	Again, this is the way of communication for this day and tiem	Feb 19, 2013 12:00 PM
34	Important to have communication and file sharing with Parent Corp. in another state	Feb 16, 2013 10:15 PM
35	Need enternet to be available to get courses on-line finished and turned on time	Feb 15, 2013 11:46 AM
36	To connect to our other offices in the state and to conduct everyday business in a timely manner. Our staff is billable and we don't want any wasted unbillable time.	Feb 13, 2013 8:44 PM
37	It is important becasuemofmthe speed. In today's world, even the satellite connection is like the old dial up. It's ridiculous. We need to get regular broadband to all citizens of the state or make the satellite providers step up there programs for whatntheybare charging. It's a scam that they can charge us whatnthey do knowing we only have two choices, dial-up or satellite. It's a joke.	Feb 13, 2013 5:16 PM
38	videoconferencing, faster downloading & uploading of documents, videos & other material	Feb 5, 2013 5:02 PM

Page 54, Q84. Why is, or why isn't, a broadband connection important to you at your location?

39	I do not usually conduct business from my home. My office needs better connectivity. My home depends on Hughes Net and needs better connectiviity.	Feb 5, 2013 12:08 PM
40	Critical, all of our operations us the internet for credit card processing, online selling of our products and services, etc. Internet is just as important to us as phone lines.	Jan 30, 2013 3:31 PM
41	I have extremely slow dial-up service. Hard to check e-mail.	Jan 30, 2013 11:31 AM
42	To help business grow and increase communication	Jan 15, 2013 5:10 PM
43	oh absolutely rather its business or personnal everyones time is very important and need to breeze swiftly through anything that needs done not be bogged down	Jan 8, 2013 3:47 PM
44	I live in a remote, rural location.	Dec 30, 2012 3:44 PM
45	School employee	Dec 28, 2012 11:39 AM
46	It is important because I use it in my job.	Dec 20, 2012 10:50 AM

Page 56, Q86. Why would it be beneficial to you if the broadband environment in your area was enhanced?

1	It would make life easier.	Apr 16, 2013 10:03 PM
2	VPN access would allow me to work again. I would work at home three weeks and travel one week each month. I need the work phone to ring through my VPN also. And to be able to attend webcasts meetings and training.	Mar 24, 2013 4:16 PM
3	My trainings would run smoother. My children could do college courses online prior to leaving for college. My children also have difficulty completing their assignments because the of slow speeds we encounter.	Mar 19, 2013 12:15 PM
4	Ease of acess and use.Commerce etc.	Mar 18, 2013 2:15 AM
5	cant use current system for what we need. cant do business at Snowshoe.	Mar 17, 2013 1:16 PM
6	Geez.. something faster than a rotary dial phone	Mar 15, 2013 11:42 PM
7	Currently Frontier only supplies 1 Mbps or less in this area. Many calls to the company regarding poor service, I.e., sometimes not accessible, have not resulted in improved service. Enhanced service would mean improved ability to conduct personal business and employer business.	Mar 15, 2013 9:05 PM
8	One to get internet to more customers, and two to provide better internet service to the current customers	Mar 15, 2013 12:16 PM
9	0	Mar 15, 2013 11:49 AM
10	Please review my prior answer to previous same question. Same as above	Mar 15, 2013 10:09 AM
11	the snowshoe area has very few internet options; my primary residence has great internet options	Mar 14, 2013 8:58 PM
12	relability and speed	Mar 14, 2013 6:45 PM
13	There are many residential area such as where I live that does not have access to broadband that cannot connect to their communities and find out information and/or communicate. For example during the Dericho Storm on June 30, 2012 many residents did not have power and the local governments were using social media as a way to communicate and with the limited broadband access many residents were not aware of assistance available nor of services that were being offered.	Mar 14, 2013 12:07 PM
14	IT HAS BECOME A NECESSITY WHETHER WE WANT IT TO OR NOT. THIS IS THE WAY THINGS ARE DONE AND WE MUST MOVE FORWARD	Mar 14, 2013 9:12 AM
15	Speed	Mar 14, 2013 8:26 AM
16	Hopefully dependable access	Mar 13, 2013 8:03 PM
17	So I can connect to work and complete work in a reasonable time. Very very slow? Many things won't even load.	Mar 13, 2013 6:59 PM
18	Residing in a rural area of West Virginia lacks coverage via internet and cell service. Communication is necessary in today's world.	Mar 13, 2013 2:21 PM

Page 56, Q86. Why would it be beneficial to you if the broadband environment in your area was enhanced?

19	NA	Mar 13, 2013 1:42 PM
20	I would spend less time waiting for things to load	Mar 13, 2013 12:29 PM
21	streaming video capability	Mar 13, 2013 11:27 AM
22	same reason	Mar 13, 2013 9:57 AM
23	Improve access to everything, include better work environment	Mar 13, 2013 9:19 AM
24	Faster more reliable speeds would allow me to do my job quick, more efficient and possibly work from home.	Mar 13, 2013 12:03 AM
25	save time	Mar 12, 2013 9:48 PM
26	Yes	Mar 12, 2013 8:20 PM
27	To be part of the rest of the world. We see commercials about wireless this and wireless that and we just shake our heads. Frontier PROMISED us SEVEN years ago that we were just a few weeks/months away from their version of broadband which I have heard is almost as bad as dial-up. Also, the stress on my husband with his job would be lifted...	Mar 12, 2013 7:27 PM
28	Because it is not up to industry standards.	Mar 12, 2013 5:02 PM
29	Instead of near dial-up speed, I could enjoy the speed which I am currently charged for.	Mar 12, 2013 4:26 PM
30	drop my isp	Mar 12, 2013 4:12 PM
31	FOR OUR USE IN WEST VIRGINIA	Mar 12, 2013 2:14 PM
32	Because the crap we have now is a JOKE... very unreliable, ridiculously slow speeds, I have filed several FCC complaints about the lousy service we get from Frontier to no avail... Frontier has told me numerous times "we do not guarantee a minimum level of service" !!!	Mar 12, 2013 2:10 PM
33	Currently Frontier limits our connectivity too much. Their circuits don't measure up to the speed they say and circuits are up and down all the time. Their customer service is horrible. If there were a respectable provider in the area Frontier would not do any business here.	Mar 12, 2013 1:11 PM
34	Better connectivity! At 5 pm and8 am the Internet is so sluggish from everyone being online at the same time... I pay for the same Internet service and bandwidth my neighbors get as well!! We all share the same Internet on the same block..	Mar 12, 2013 11:32 AM
35	I could get connected to the outside world.	Mar 12, 2013 11:20 AM
36	I could get work done quicker and with less stress	Mar 11, 2013 9:11 PM
37	Efficiency	Mar 11, 2013 3:08 PM
38	Pocahontas County is a beautiful place to live, but to attract or retain talented,	Mar 8, 2013 12:06 PM

	educated people, certain services are critical, and that includes fast (I mean like 5 Mb/s or better) Internet. Our county and other rural areas will decline unless we have certain basic quality services. As it is, our county is losing population every census. I say that obtaining fast broadband is the most important issue for our county's future economic and social vitality.	
39	I work from home and I need higher speed for uploading files.	Mar 8, 2013 11:37 AM
40	Currently I am able to do basic things such as surf the internet and access websites, however most entertainment is mediocre at best. Slow speeds make it inconvenient to download/stream movies, games, music or any kind of media. It's also not possible to attend an online university that requires the ability to stream content for educational purposes, it's also detrimental to the ability to stream content for business. Add in multiple other users of the internet which slows down speeds and it is sometimes difficult to even do basic things such as surf the web.	Mar 7, 2013 11:29 PM
41	It would be nice if I had access to faster service, but this is not a necessity. I think cable is available where I live, but they make you bundle services and I don't need a landline or TV.	Mar 5, 2013 2:55 PM
42	The faster the Internet service, the more options that are available. Ex. 1.5 mbps is a minimum requirement for watching streaming video. Some virtual jobs require a minimum download and upload speed. Satellite internet has daily download allowances that once exceeded make the Internet very slow.	Mar 5, 2013 1:09 PM
43	more availability	Mar 5, 2013 12:15 PM
44	ease of access and more reliable.	Mar 5, 2013 11:08 AM
45	Would make my work easier and faster to complete.	Mar 5, 2013 10:50 AM
46	To assist students and business people in this area.	Mar 5, 2013 10:49 AM
47	could attract entrepreneurs who need legitimate high speed internet not what we get around here. use for marketing purposes as well.	Mar 4, 2013 5:41 PM
48	Les Time To Do Tasks That Don't Involve Making Money	Mar 1, 2013 11:27 AM
49	END INTERRUPTION OF WORK DURING THE DAY.	Feb 27, 2013 3:19 PM
50	since we do not have acess to cell phones. dial up is a dinasour in this day and time. Everyone should be able to have internet service.	Feb 27, 2013 10:57 AM
51	To make all applications and programs faster	Feb 19, 2013 12:01 PM
52	Should bring cost down and speed up	Feb 13, 2013 8:45 PM
53	We would be able to do more things with the kids education, do more with the computers but are limited to what we can do because of the speed now provided.	Feb 13, 2013 5:18 PM
54	Yes, it would allow us to have better quality and service speeds available.	Feb 6, 2013 5:57 PM

Page 56, Q86. Why would it be beneficial to you if the broadband environment in your area was enhanced?		
55	Better productivity	Feb 5, 2013 5:02 PM
56	Could telecommute from home; could access web for borwsing, ordering items, using Skype and other avail service	Feb 5, 2013 12:41 PM
57	Better connectivity would mean better and faster access to on-line communication for shopping, social networking and other personal uses.	Feb 5, 2013 12:10 PM
58	better speeds at lower rates.	Jan 30, 2013 3:32 PM
59	Would be easier to work from home.	Jan 30, 2013 11:32 AM
60	Speed	Jan 15, 2013 5:11 PM
61	absolutely time is essential for everyone including me	Jan 8, 2013 3:59 PM
62	Student/teacher access is vital to success	Dec 28, 2012 11:41 AM
63	I like it fast.	Dec 20, 2012 10:51 AM

Page 57, Q88. What do you currently pay each month for this service? (If you have indicated several services above, indicate your total expense for these services.)		
1	bundled with phone bill approximately $39.99 per month	Mar 19, 2013 12:17 PM
2	we don't have broadband	Mar 12, 2013 7:28 PM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:

1	Frontier workers tell me that when we see the "pizza boxes" being installed at the local place just down the lane we can expect full and good internet access. Before I moved here I had DSL and could work from home.	Mar 24, 2013 4:18 PM
2	I recommend increasing competition.	Mar 19, 2013 12:18 PM
3	SMART SWITCHES, FIBRE OPTICS, Whatever it takes	Mar 17, 2013 6:16 PM
4	try to bid out, or use your own system for Snowshoe guests	Mar 17, 2013 1:19 PM
5	Enable more providers to provide services. Increase WiFi capability close to condo developments. All providers could offer a 'limited speed' service to elderly and/or lower income people so they can afford at least some level of service.	Mar 16, 2013 6:58 PM
6	This is what I pay you for... Fee should provide better service.	Mar 15, 2013 11:44 PM
7	Encouraging Frontier to improve the service in rural areas. They have claimed many times that the service will improve, but for the last several years nothing has changed. Encouraging other providers to come into area would force Frontier to improve service.	Mar 15, 2013 9:19 PM
8	This is a serious need. I have a friend who lives less than one mile from Oak Hill and he has no access to cable modem. His only option is satelite service, which is crappy.	Mar 15, 2013 3:07 PM
9	I think that since the NRAO effects the internet services the Federal goverment should split the bill with the providers in our area to help establish more connections and better connections to customers. I think more grants need to be giving and I think that before the people with DSL are upgraded to fiber, all residents should get DSL first. I also think that the bonuses that were given to the CEO of the internet provider for the state and county was rediculous and that money should have been spent on upgrades not given to one person to spend.	Mar 15, 2013 12:20 PM
10	0	Mar 15, 2013 11:50 AM
11	Make the option available.	Mar 15, 2013 10:10 AM
12	Bring it!	Mar 15, 2013 8:37 AM
13	Get more providers	Mar 14, 2013 7:58 PM
14	fiber optic cable	Mar 14, 2013 6:46 PM
15	Since cell phone data plans do not work well at snowshoe (greenbank). It is vitAl thT the internet works well here.	Mar 14, 2013 6:00 PM
16	It must be cost efficient or people on limited incomes won't be able to afford it.	Mar 14, 2013 5:39 PM
17	My current ISP is; unreliable, slow and/or intermittent. As far as I can tell they (Frontier) have no intentions of investing in the infrastructure to upgrade or even to maintain current levels of service. They have a monopoly.	Mar 14, 2013 2:03 PM
18	I have spoke to Frontier and they claim within the next three years that my	Mar 14, 2013 1:38 PM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:

	location will have broadband, however I have heard this same scenario for several years and would like to see broadband access actaully become availalbe to me at my home.	
19	This survey shows up in the paper one day prior to the deadline. I doubt many people read , let alone complete it. Fire and convict the state officials for corruption on purchasing equipment we do not need. Show how businesses need it to compete	Mar 14, 2013 12:24 PM
20	The local cable and phone providers need to update their equipment to be able to reach further out into the rural communities. For example in my situation I live about a mile to far for the local telephone company to provide broadband to my home and it is because of the location and age of their facilities.	Mar 14, 2013 12:11 PM
21	no idea	Mar 14, 2013 8:27 AM
22	Need to have better access. Surely Greenbank Observatory can use some kinds of sophisticated filters to obtain the info they need.	Mar 13, 2013 10:29 PM
23	that is not my area of expertise	Mar 13, 2013 8:03 PM
24	As previously stated. Communication tools are no longer a luxury but necessary.	Mar 13, 2013 2:22 PM
25	more than one provider or if a monopoly is aloud, price controls	Mar 13, 2013 12:33 PM
26	fiber optics into the home/office	Mar 13, 2013 11:28 AM
27	Get broadband service. We now have DSL. It is all but useless. I tried to download a printer driver and the time for the download was 1 hour and 35 min. Impossible	Mar 13, 2013 9:59 AM
28	We at Snowshoe need to have better broadband for work and personal use. What we have now is totally inadequate	Mar 13, 2013 9:20 AM
29	Allow all businesses and residents to connect to the high speed fiber optic cable currently being ran through our area and the State! Also upgrade the local Frontier switchboard to service more than 1mps especially since we are all paying for thr premium Plan of up to 6mps. This is a class action lawsuit editing to go off	Mar 13, 2013 12:07 AM
30	Make wire fi and cell service available at Snowshoe	Mar 12, 2013 9:49 PM
31	There needs to be an alternative to Frontier Communication in the State of West Virginia	Mar 12, 2013 8:22 PM
32	Update the infrastructure.	Mar 12, 2013 7:29 PM
33	Encourage competition among providers. Require Frontier to upgrade its services	Mar 12, 2013 6:07 PM
34	faster throughput and more providers.	Mar 12, 2013 5:03 PM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:		
35	Frontier currently charges for up to 8GB of service for this location. I actually receive less than 1MB. Make Frontier deliver the service for which they are charging.	Mar 12, 2013 4:28 PM
36	City wide free internet such as Charleston WV has	Mar 12, 2013 4:13 PM
37	reasonably priced reliably good service	Mar 12, 2013 2:10 PM
38	We could regulate Internet service as we do telephone service or we could support small businesses that could provide Internet services in our local markets. I thought SKSR would be an option in the future but they have outgrown their infrastructure and customer support capabilities and are now no different than Frontier.	Mar 12, 2013 1:13 PM
39	Finish running the fiber cable that you went right by my house. Because I live 1/4 mile off main highway, you won't give me enhanced broadband but yet charge me full price like everyone else.	Mar 12, 2013 11:21 AM
40	just do it	Mar 12, 2013 8:10 AM
41	I dont know enough about it to have any ideas	Mar 11, 2013 9:12 PM
42	would like to see fiber optics installed in the area...it is currently being installed down the road and this type of infrastructure might be more expensive but it is permanent solution to the broadband issue.	Mar 11, 2013 4:01 PM
43	At present, there is broadband available through the local cable company. However, the cost of connecting through the cable company is quite high, not to mention that the cable isn't always reliable. Offer broadband through other outlets at affordable prices.	Mar 9, 2013 10:40 AM
44	Increase the capacity frontier servers can handle during peak hours. I use the internet at home primarily during the evenings and on the weekends. Both of which are "peak times" and at times the internet is unusable. High ping, low download speeds, and outrageous prices for the services given are the biggest cause of frustration with Frontier's service. National averages per MB of download speed are $1- $5, so I get on average in peak times 1mb of download speed. So if prices were based on national averages I should only pay somewhere between $1-$5 not the $45 I am currently paying. Steaming videos via netflix or online don't require huge download speeds. If I use the internet during non peak hours I get around 2.5 - 3 mb download speeds with low ping and I can easily stream videos. Servers just need upgrades to be able to handle the volume during peak times.	Mar 8, 2013 8:29 PM
45	It appears that shady or inept West Virginia politics is keeping fast broadband from developing in our state. I cite the router scandal. Also, the federal money to libraries, schools, hospitals instead of to every home. And then, letting Frontier have monopolistic-type advantage at a time when they were cash-strapped from a buy-out, which they then have lagged in developing their customers. The upshot is shoddy WV politics and corporate irresponsibility.	Mar 8, 2013 12:10 PM
46	Only Frontier provides DSL and they are focused on getting internet access to	Mar 8, 2013 11:38 AM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:

	more people, not upgrading their service	
47	Improving/updating the internet lines and speeds should be the first priority. However this would come about quicker were there competition between companies in my region. Cheaper supplies and equipment would make it more feasible for other ISP's to venture into my region and compete for my business. This would force each company to try and improve more than the other company(s) and would increase the quality of broadband service.	Mar 7, 2013 11:32 PM
48	Fiber optics	Mar 7, 2013 5:09 PM
49	One company should not have a monopoly providing Internet service. Competition between providers will result in better service (and, perhaps, lower cost).	Mar 7, 2013 1:47 PM
50	I am in a pretty resident and open area, the service is better than in most places.	Mar 6, 2013 10:20 AM
51	Improve speed	Mar 6, 2013 9:15 AM
52	It's unbelievable to me that we live 15 minutes from town and cannot get a reasonable connection to the internet. we both work from home, for the most part, and are severely limited in what we can accomplish from here. additionally, the satellite providers have our backs against the wall with a extremely expensive yet poor quality connection, with unreasonable restrictions. and they keep getting away with it because we have no choice (i don't consider dial-up to be a choice). we are a progressive county, all this relative, but we are seriously lacking in access to this (now) basic utility. it is one reason, of several, that we regularly consider moving elsewhere.	Mar 5, 2013 6:49 PM
53	I would love to have access through DSL either through Frontier, Shentel or Suddenlink. None of these options are available after many phone calls and requests.	Mar 5, 2013 1:12 PM
54	have no ideal.	Mar 5, 2013 11:09 AM
55	keep political pressure on verizon and suddenlink on state level. allow last mile grants to be dispensed to competitors by broadband council.	Mar 4, 2013 5:43 PM
56	We Desperately Need And Deserve Wireless Service in Pocahontas Co. The Government Has Limited our Service Because Of The Quiet Zone. When The Funds Were Available From The Government They Should Have Provided Pocahontas A Solution First Since We Are The Ones Being Denied Because Of Their Quiet Zone Why Not Fund A Low Power County wide System With Federal Money Since It is The Federal Gov That Causes Our Problem. We Residents will never have service because of the feds why shouldn't federal money be spent here first	Mar 1, 2013 11:36 AM
57	Collect and map internet speed data and use to make better decisions on where to use public and private funds to extend broadband to unserved areas Engage the public and show them how true high speed internet can be used Work collaboratively with loca townshps, REgional planning councils, WV Broadband Council to make it happen for the people of WV	Feb 28, 2013 4:00 PM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:

58	It would be great to have internet acess where we live.	Feb 27, 2013 11:00 AM
59	We just need to get it to all the residents	Feb 16, 2013 10:16 PM
60	Internet speed and a high data capacity is critical to effective web browsing and general misc. usage as java scripting and intensive use of graphics by web page owners require it. The current overbooking of capacity directly impacts user experience and limits effective data transfer. Changes to delivery via upgrading of systems transfer rates are required, blanket broadband wireless coverage or other changes such as fiber optic networking is necessary to achieve maximum effeciancy in this particular location. No competition for services as well as overbooking copper transmission lines puts this area in a class with backward third world locations. Even in Africa and Asian rural areas their internet services are much superior.	Feb 15, 2013 6:28 PM
61	If the funding is available to bring it to our area, I know that the citizens will jump at the opportunity to get on it. We ave been promised this from Verizon and Frontier but they say now we will never get it. The satellite companies know this and therefore that allows them to not to have to do anything because there is no competition. It's pitiful.	Feb 13, 2013 5:21 PM
62	Please help us to get internet in my area. Hughes net is available but at such a excessive amount and It is not even capitable with high speed it is almost as slow as dial up. My business cannot compete with other ones because I am losing business because I do not have access like other companies. Do I have to move out of rural West Virginia to have access? And by rural I mean 15 minutes from a Main Highway?	Feb 13, 2013 3:02 PM
63	I believe that fios service into the business is the way to go. I would start by looking at extending service to the areas that are just out of DSL or equipvilant range then move back toward the population centers.	Feb 6, 2013 5:59 PM
64	Useing public funds to provide infrastructure to locatiosn that woudl not normally receive it from private businesses	Feb 5, 2013 12:42 PM
65	The area needs more ISPs to spur competion. Frontier seemingly has a monopoly.	Feb 5, 2013 12:13 PM
66	Our biggest issue for our business is price and reliability. We're glad we have it. And we're willing to pay for it because of the importance to us, but a lower price would be nice. Other issue is our employees: many of our owners and mgt live in areas that don't offer any high speed internet options other than satellite. Again, expense, quality and reliability are all issues with satellite. It would help all of us to have better ability to work from home. With most of the connectivity issue taking away from the work time it would help us all to be more productive in a shorter period of time.	Jan 30, 2013 4:10 PM
67	Make high speed access available for everyone, especially students and schools.	Jan 15, 2013 5:12 PM
68	time is very important for students between classes myself on a personnal level needing to finish projects bill paying on my way to work .. jobs that need to hurry	Jan 8, 2013 4:01 PM

Page 58, Q90. Please express your thoughts about how to go about enhancing broadband availability in your region:

	though and get all work completed .. yes its very very important and needed.	
69	Accuratel;y map the locations where BB is available, as well as the download and upload speeds to provide an basis fo making informed decisions	Jan 7, 2013 4:54 PM
70	only thing that would improve employment opportunities would benefit my area.	Dec 30, 2012 3:46 PM
71	Positive PR promotion to general public to stress importance	Dec 28, 2012 11:42 AM
72	Don't know	Dec 20, 2012 10:52 AM
73	higher internet speed...	Dec 12, 2012 3:16 PM

Page 59, Q91. Do you have any other comments about broadband service availability in your region?

1	Increased broadband for Snowshoe is a win win for the state, homeowners, and renters.	Apr 3, 2013 5:45 PM
2	It needs to be improved. It is especially important in my area because I am located in what is known as a quite zone and do not have access to cell phone communications.	Mar 19, 2013 12:20 PM
3	SOON PLEASE	Mar 17, 2013 6:16 PM
4	Snowshoe must serve its guests this service better, its embarrassing to all of us.	Mar 17, 2013 1:24 PM
5	Compared to other places I have lived (recently) the broadband service available in this region is the worst...by far. The technical skills necessary to service end user equipment and/or to diagnose technical problems are non-existent. The schooling/training for these types of workers does not exist within 100 or more miles of this ZIP code.	Mar 16, 2013 7:00 PM
6	Frontier provides only a minimal Internet service in this region. Some nights the service is so poor that one can't connect. I have contacted their customer support many times, have had technicians check my connections several times, only to be told that it is downstream problems and they "are working on it". I would use satellite service, but it is more expensive and doesn't provide any faster speeds. Just because we choose to live in a rural area, doesn't mean we should have to put up with substandard service.	Mar 15, 2013 9:32 PM
7	Do it already!	Mar 15, 2013 2:12 PM
8	It stinks, I cannot get connectivity I am 4000 feet from the cut off for the internet. I have asked if boosters could be put in and I have gotten no answers. Any time I have called about internet because of a brochure in the mail, they tell me that I cannot have it. Again not good customer service. I have even had a Frontier representive to call me at home and tell me that no matter how much I call I will never get DSL, this only made me madder, and have considered calling the better business bureau.	Mar 15, 2013 12:23 PM
9	0	Mar 15, 2013 11:50 AM
10	It is really hard to understand when the capability is just a short distance from your home, but you can't get it. It's a wonder our ancestors were able to get electricity and telephone service. I'm sure they were probably the last ones to receive, but thank God they did get it! What I can't understand is that even if there are only a few people in the area that might want the service at the present time, doesn't anyone realize others would move to the area if the capability were available.	Mar 15, 2013 10:41 AM
11	Verizon reps sneered at my request. Frontier installer said nit available to me.	Mar 15, 2013 8:37 AM
12	Frontier DSL service is my home is totally unacceptable. They do not have the bandwidth available to service their customers and the only other option I have at home is satellite service which was even slower until recently.	Mar 14, 2013 10:01 PM
13	no	Mar 14, 2013 6:46 PM

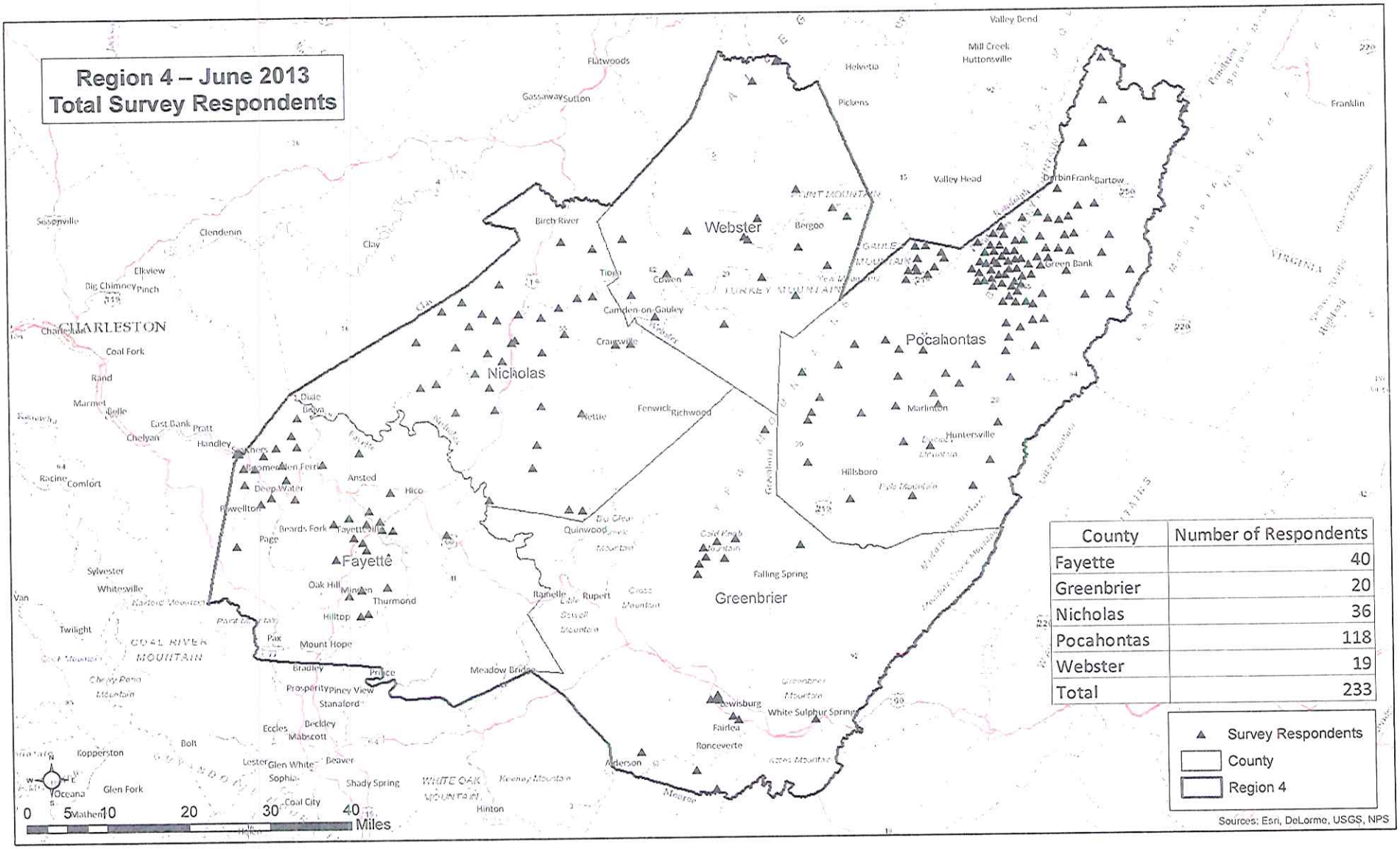
Page 59, Q91. Do you have any other comments about broadband service availability in your region?		
14	I think it would be a good thing for our community.	Mar 14, 2013 5:41 PM
15	It's a shame that broadband not available in all areas, however I do understand the obstacles that are faced with the radio observatory. I would like to see more access for residents in the state. I feel that broadband access would benefit all sectors of my community.	Mar 14, 2013 1:40 PM
16	We are at the mercy of the providers to expand. I guess they are waiting on federal money to expand.	Mar 14, 2013 12:25 PM
17	Currently service at my home is not acceptable and I would like to see infrastructure implemented so that I can have access to realiable high speed Internet.	Mar 14, 2013 10:19 AM
18	no	Mar 14, 2013 8:27 AM
19	It is incredible that there is absolutely NO phone service on Snowshoe Mountain. Really it is just not acceptable.	Mar 13, 2013 10:30 PM
20	It is very hard to find a provider with reliable service.	Mar 13, 2013 2:50 PM
21	None.	Mar 13, 2013 2:22 PM
22	I except what I have because of my remote location. It is only when I venture out into the main stream I realize how slow the service is. From a growth perspective, I live in a subdivision with 12 homes. I am the only permanent resident. If the internet was better more people would work from here and contribute to growth.	Mar 13, 2013 12:41 PM
23	I am paying for higher speeds than I am receiving, and if an alternative were available, I would take advantage.	Mar 13, 2013 11:29 AM
24	I've said it all. U may contact me for additional info if you choose. Allen Walker allenmail66@gmail.com Voice and text 540.521.9118	Mar 13, 2013 10:00 AM
25	Needs Improved. Unreliable & Slow.	Mar 13, 2013 6:22 AM
26	Improve quality. We pay for services we don't get already with very very poor cell coverage. Poor Internet speeds make it worst. Then consider with out tourism we would have nothing in our region and our visitors can't stand the poor communications on both fronts. It doesn't help our tourism when guests can't communicate!	Mar 13, 2013 12:09 AM
27	I feel like when I contact Frontier Communications that I am dealing With the Mafia. They are very dishonest and it is insulting.	Mar 12, 2013 8:25 PM
28	Due to the lack of access of broadband, we are contemplating a move out of the area. Pocahontas County is a wonderful place to live - if you can live in the 1990's information age...	Mar 12, 2013 7:32 PM
29	No	Mar 12, 2013 6:08 PM
30	There is a 1.2 MB server that provides service to a large area including the condos @ Snowshoe. Frontier charges (by default) high speed up to 8GBs of	Mar 12, 2013 4:33 PM

Page 59, Q91. Do you have any other comments about broadband service availability in your region?

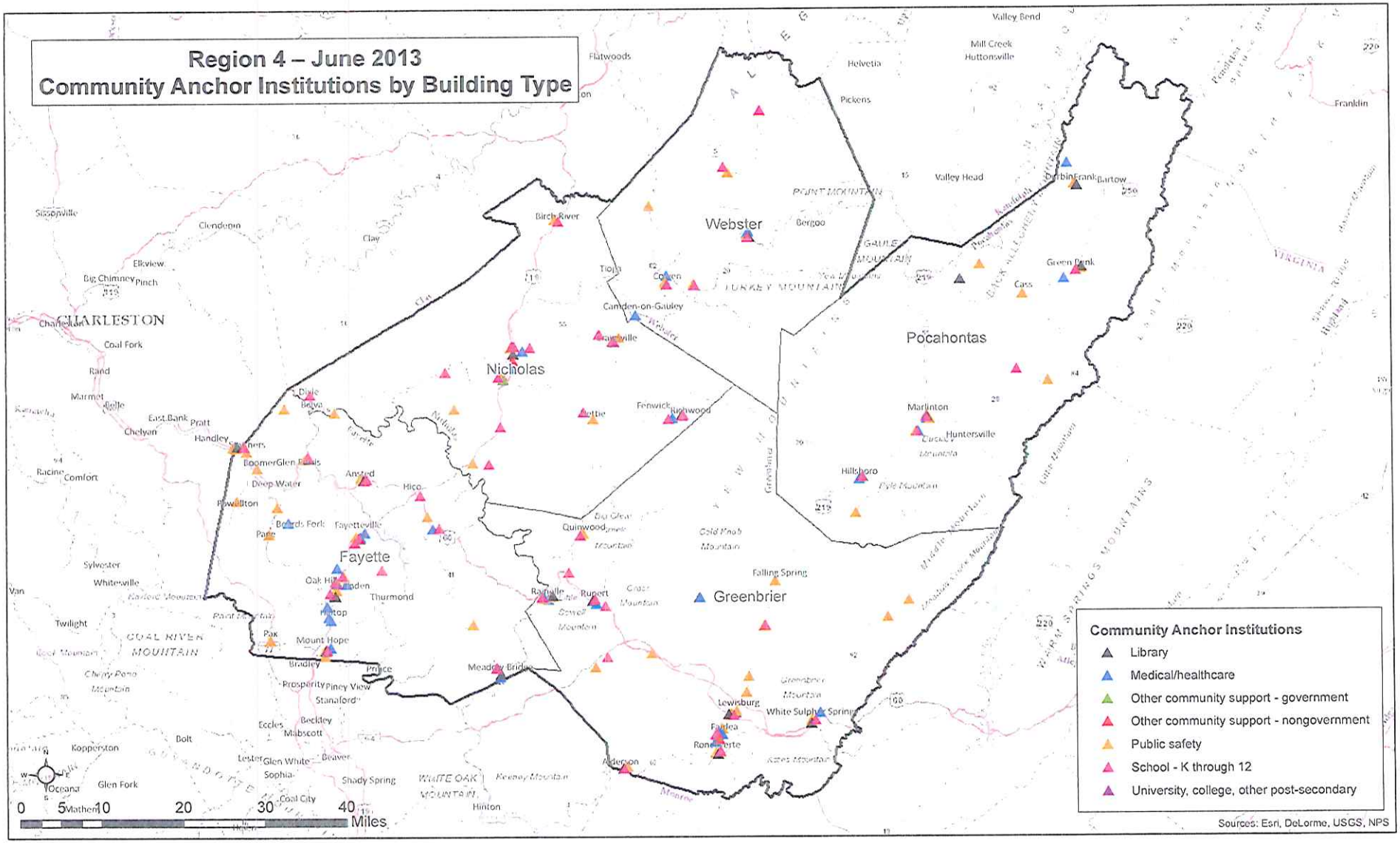
	service but is unable to provide the speed due to the bottleneck in the server located just north of the Rt 66/US 219 intersection. Frontier has been promising since August 2011 to replace this server, but have not. This location is served by fiber and delivery of the speed for which they charge is possible by replacing the outdated equipment. Please help put pressure on Frontier to fulfil the empty promise of replacing this server. Thank you.	
31	need more providers or a maximum cappped rate	Mar 12, 2013 4:13 PM
32	IT IS CRITICAL TO HAVE THIS IN OR SNOWSHOE, WV, LOCATION.	Mar 12, 2013 2:15 PM
33	Get someone in here besides Frontier !	Mar 12, 2013 2:10 PM
34	Broadband service by my standards is nonexistent. Unfortunately most people in this area don't know what it's like outside of this area and they seem willing to accept the substandard performance of the local provider.	Mar 12, 2013 1:15 PM
35	Broadband service needs enhanced in my community. More and more people are getting Internet, too many users, not enough broadband but we pay same rates.	Mar 12, 2013 11:22 AM
36	I hope it comes soon	Mar 11, 2013 9:13 PM
37	I am satisfied with the availability but it is dependent on the status of electricity in the area and the electrical grid seems to be failing much more frequently than it has in the past. Availability is dependent on electricity and since electricity is iffy....broadband is iffy.	Mar 11, 2013 4:03 PM
38	no	Mar 11, 2013 3:08 PM
39	It is terrible and unacceptable. As I have explained during "peak hours" the internet is, at times, unusable. For working people peak hours are the only time we can use the internet. It is unacceptable to be paying outrageous prices for a product that is, quite frankly, terrible. Frontier Communications has the worst internet product, customer service, and tech support I have ever encountered when it comes to internet. If servers could be upgraded to handle the load during peak hours it wouldn't be as bad.	Mar 8, 2013 8:33 PM
40	Again, it is of utmost importance that high speed broadband be available to every resident in West Virginia. By resident, I mean those who have accessibility to electricity and telephone. By high speed, I mean fiber cable that can deliver speeds of at least 5 Mb/s and designed to be in the 20 Mb/s range if needed. Rural electrification in the 1930's was necessary because the power companies could not otherwise capture the costs of installation in low-density populations. Just as urban areas need government help in mass transportation, rural areas need government help in getting broadband speeds in reasonable parity to urban areas. Our service provider, Frontier, has made it clear that they intend to stick with copper in our broadband transmission. Furthermore, they oversubscribe, which means speeds really bog down in the evenings and other busy times. Third, Frontier makes every effort to thwart any competition.	Mar 8, 2013 12:16 PM
41	I look forward to improvements to the quality of broadband service available to me. I am sure that these improvements will come, it would just be nice if they	Mar 7, 2013 11:34 PM

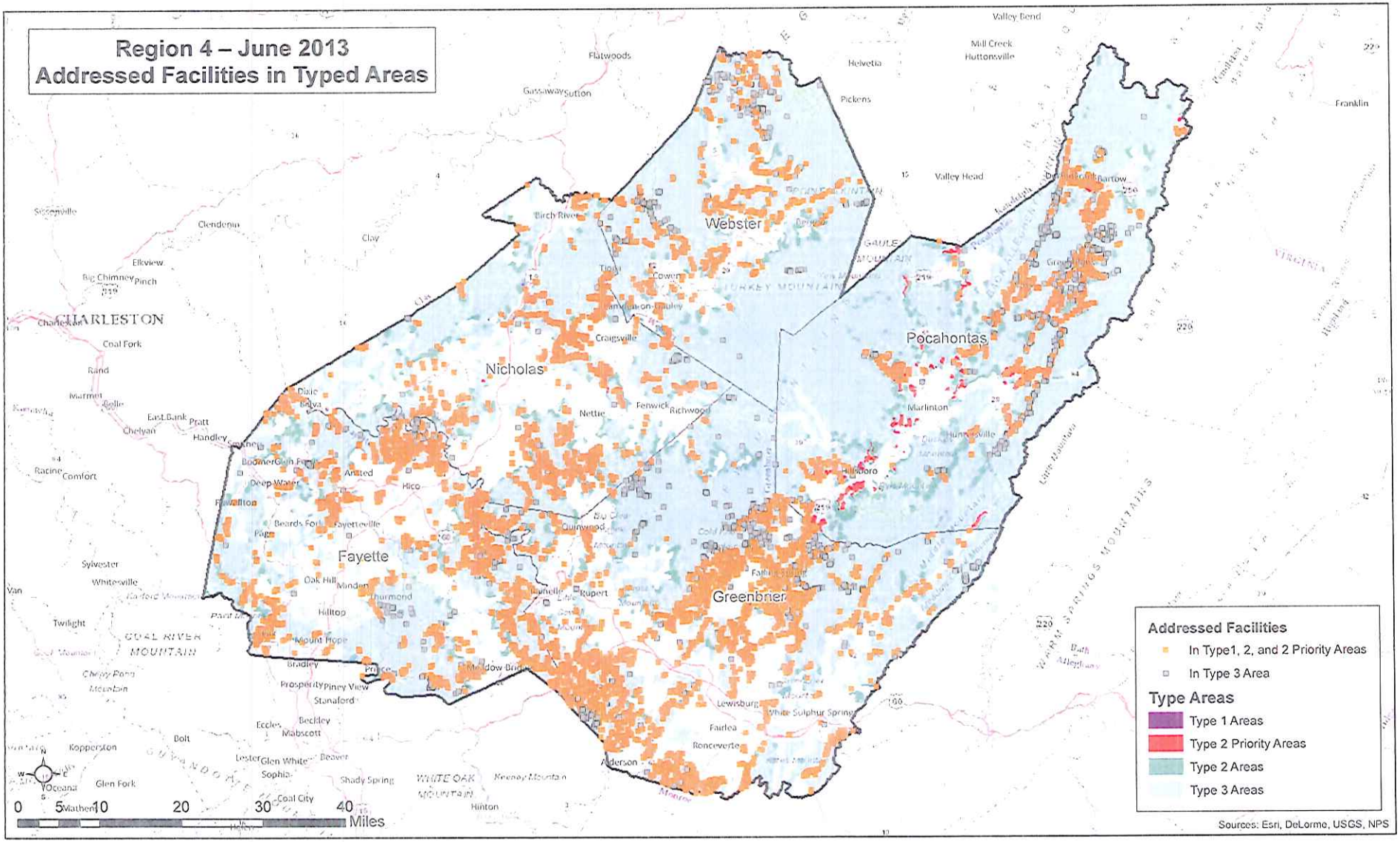
Page 59, Q91. Do you have any other comments about broadband service availability in your region?

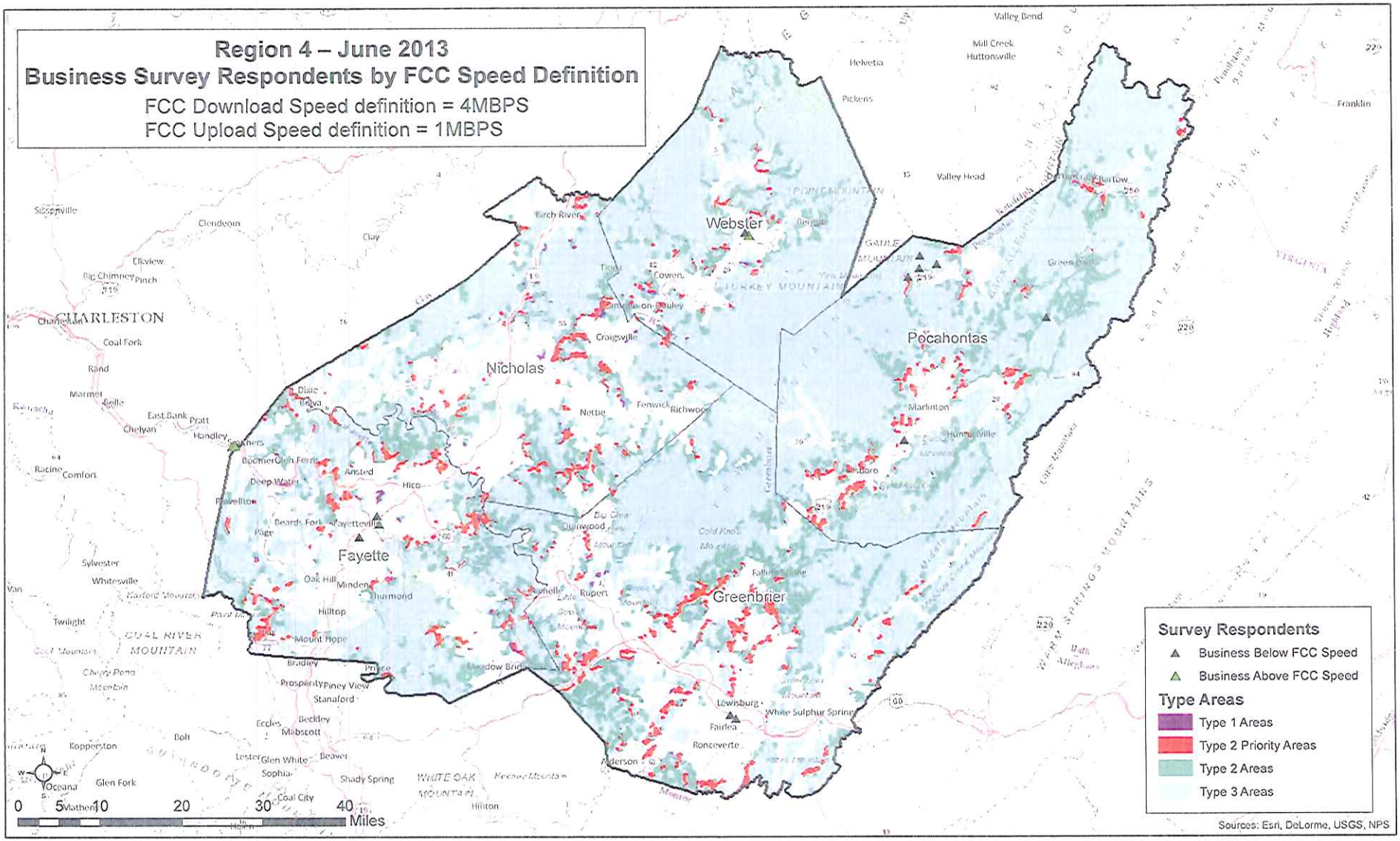
	would come quicker. It is just a matter of effort on the ISP's part to improve the quality of service in my region.	
42	no	Mar 7, 2013 5:09 PM
43	The lack of broadband is VERY noticeable here. It is obvious that, when school is not in session and more folks are using the Internet, my speed goes wayyyyyyyyyyyyyy down (often far enough down to give me zero access to some websites)!	Mar 7, 2013 1:50 PM
44	It is slow. Sometime it works, Sometime it does not work. Only one broadband provider.	Mar 7, 2013 10:44 AM
45	Even though satellite is better than dial-up, it is expensive and the daily usage is limited. Not everyone can afford these prices.	Mar 5, 2013 1:13 PM
46	just wish that it could be upgraded.	Mar 5, 2013 11:09 AM
47	it will never really be available and cost competitive while frontier and suddenlink are allowed to call all their shots. they cherry pick on behalf of their stockholders not the communities they operate within.	Mar 4, 2013 5:45 PM
48	We have none in our area even though people have requested it from current providers for years. People who do have access have slow and unreliable service (1.2 / 0.15 Mpbs) which is nearly useless Current providers often use existing rules for grants and related to supress proposals that would provide enhanced and competitve service. Neighbors in the area are very displeased with the lack of or current level of service in the area, but generally feel powerless to do anything about it	Feb 28, 2013 4:05 PM
49	Already stated but I will reiterate that that it is very poor and Frontier remains at the bottom of surveys related to customer satisfaction.	Feb 15, 2013 6:30 PM
50	We would love to have it.	Feb 13, 2013 5:22 PM
51	Help us get the access that everyone takes for granted.	Feb 13, 2013 3:02 PM
52	Need faster service and redundancy to prevent outages.	Feb 5, 2013 5:03 PM
53	There is none and the DSL that is available in some locatsions is very slow and unreliable	Feb 5, 2013 12:43 PM
54	I believe there is a real opportunity here. EVERYONE wants to be online, if afforable service is there people will buy it. But if cost prohibitive (like satellite or t1) then most home users will pass or use cellular service but on a limited basis. If broadband could just expand a bit outside (5 miles or so) the primary populations they will pick up a large number of customers.	Jan 30, 2013 4:13 PM
55	No	Jan 15, 2013 5:12 PM
56	This survey was way too long. I only completed it because I understand the importance of technology to our future. General public won't take the time.	Dec 28, 2012 11:44 AM
57	No	Dec 20, 2012 10:52 AM

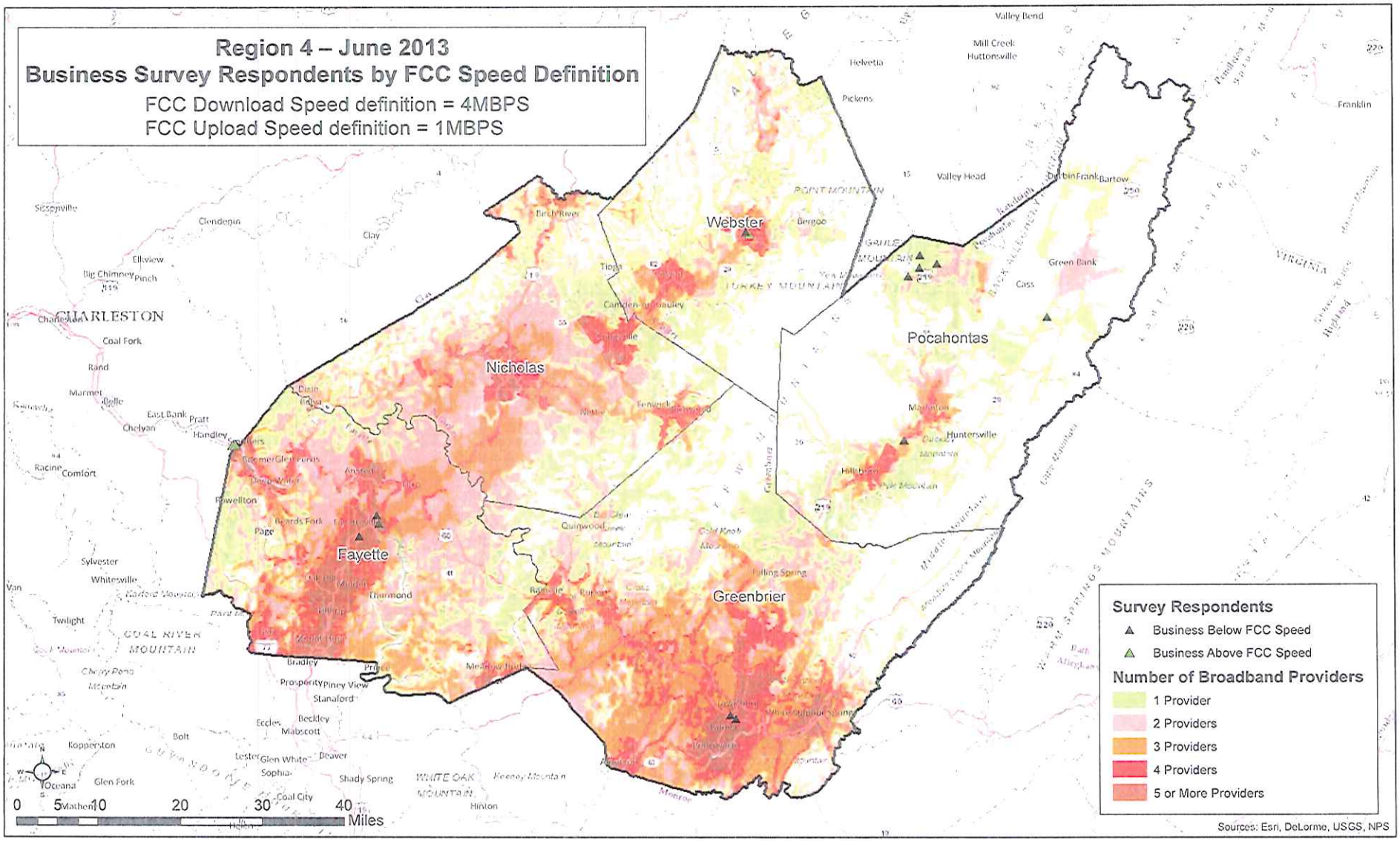


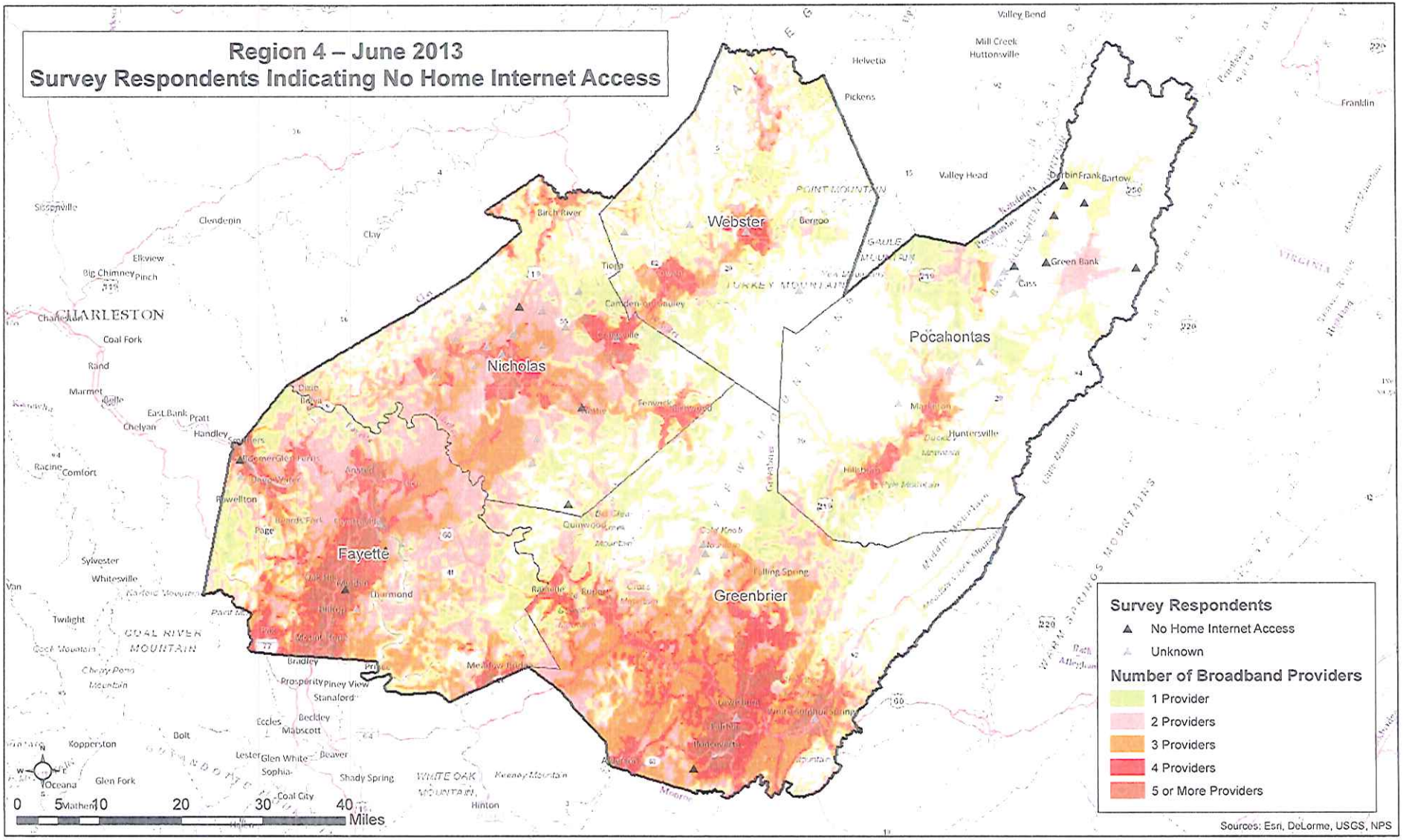
County	Number of Respondents
Fayette	40
Greenbrier	20
Nicholas	36
Pocahontas	118
Webster	19
Total	233

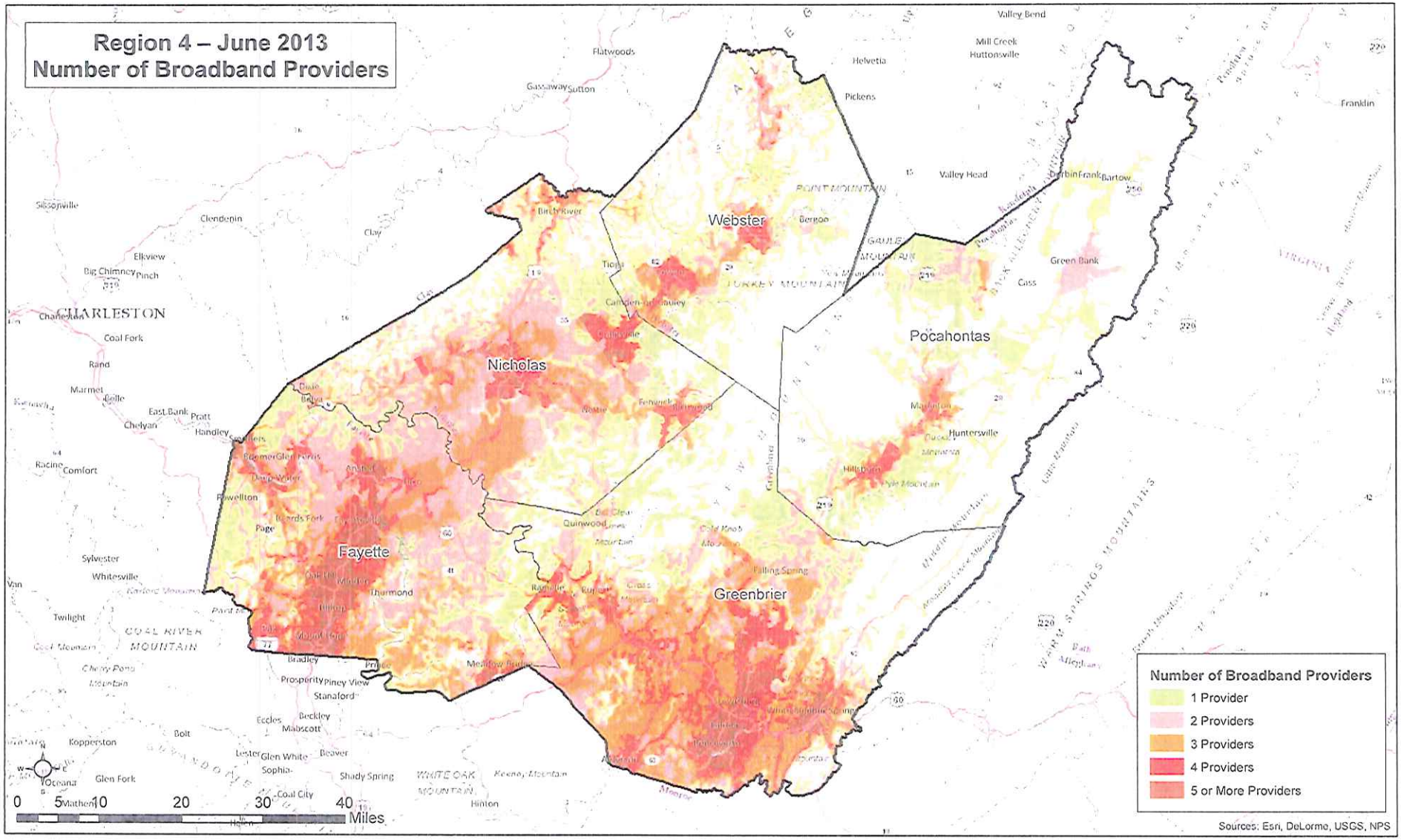

Region 4 – June 2013
Community Anchor Institutions by Building Type
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
Community Anchor Institutions
Library
Medical/healthcare
Other community support - government
Other community support - nongovernment
Public safety
School - K through 12
University, college, other post-secondary
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS

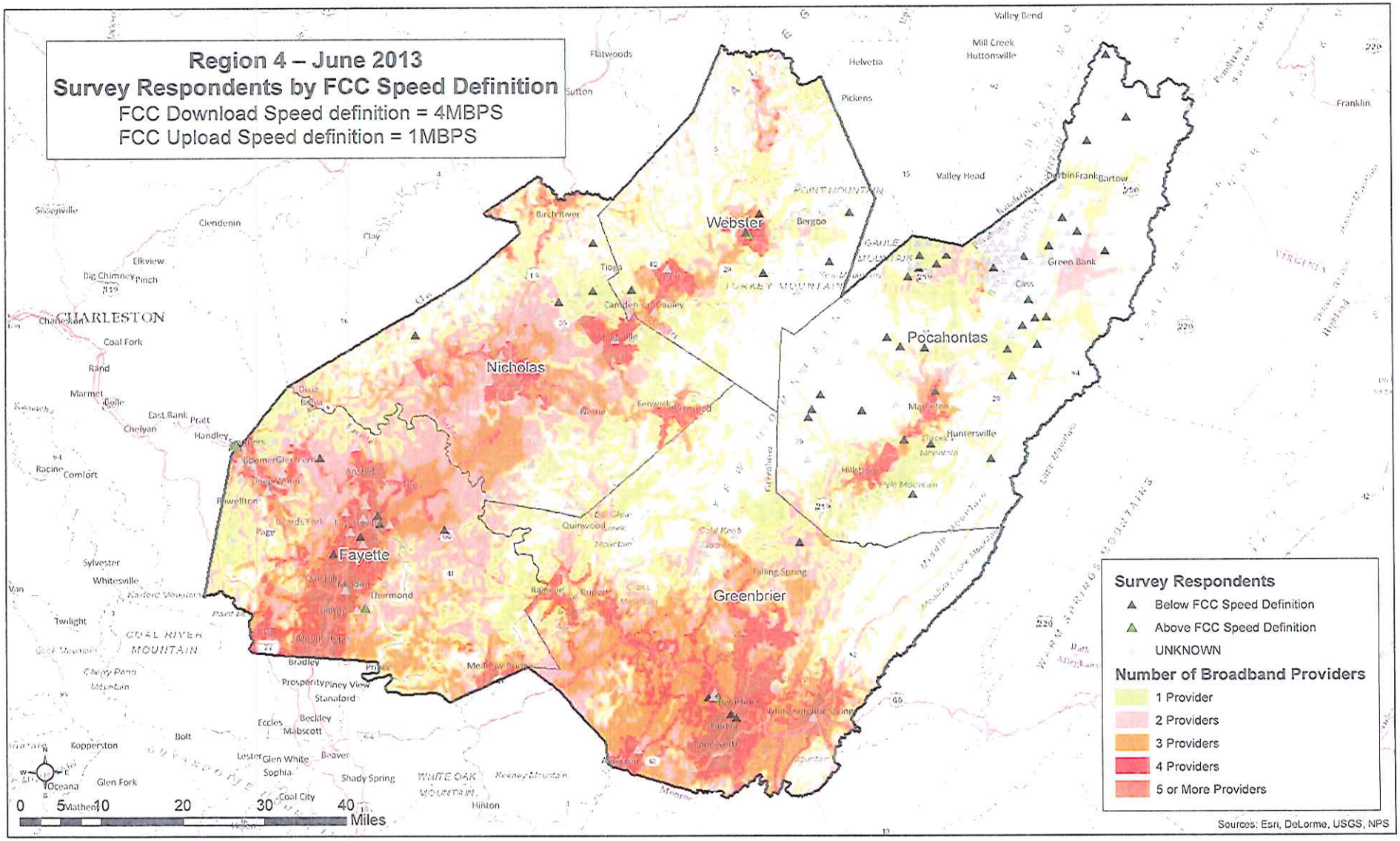

Region 4 – June 2013
Addressed Facilities in Typed Areas
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
Addressed Facilities
In Type1, 2, and 2 Priority Areas
In Type 3 Area
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS

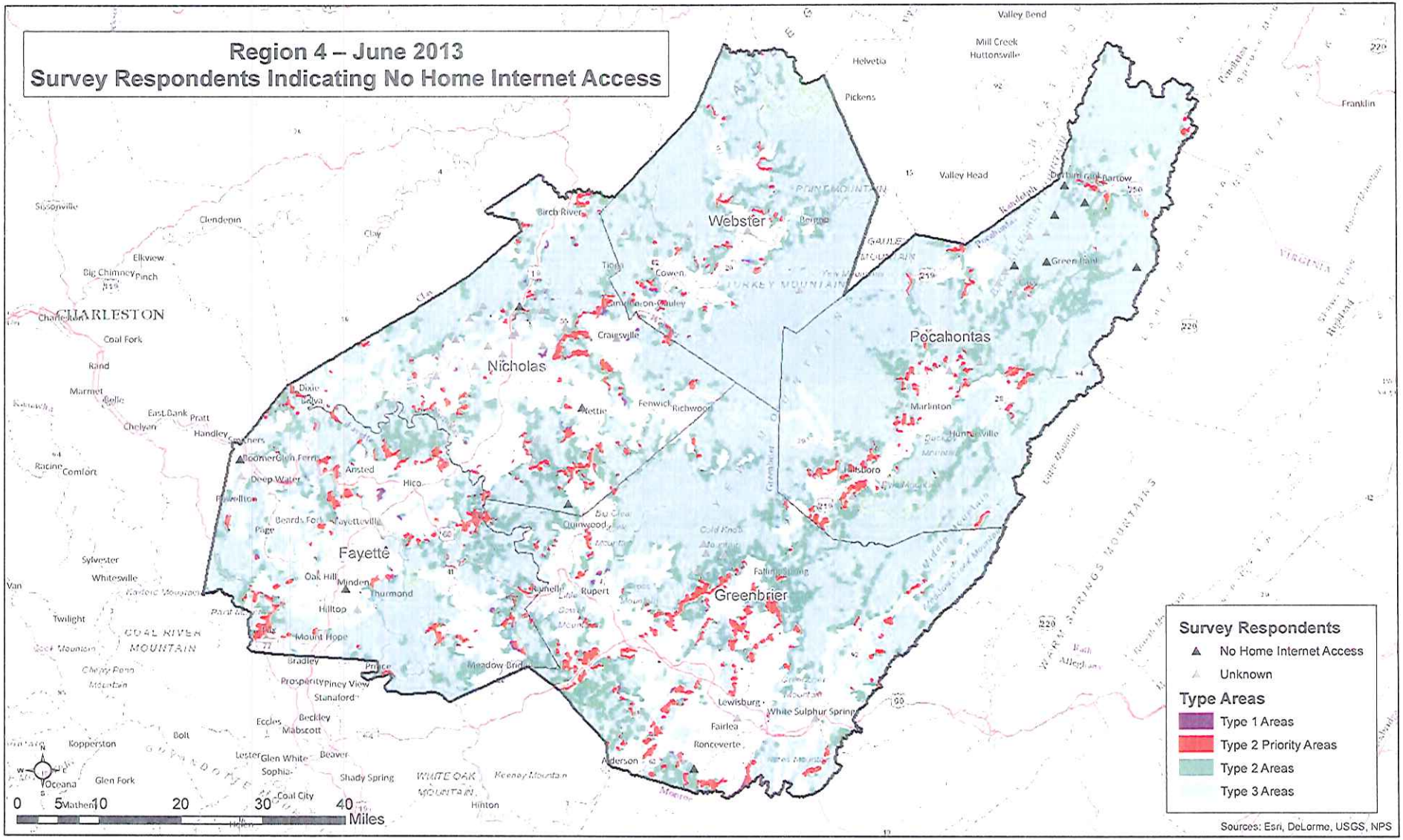

Region 4 – June 2013
Business Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
CHARLESTON
Survey Respondents
Business Below FCC Speed
Business Above FCC Speed
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS

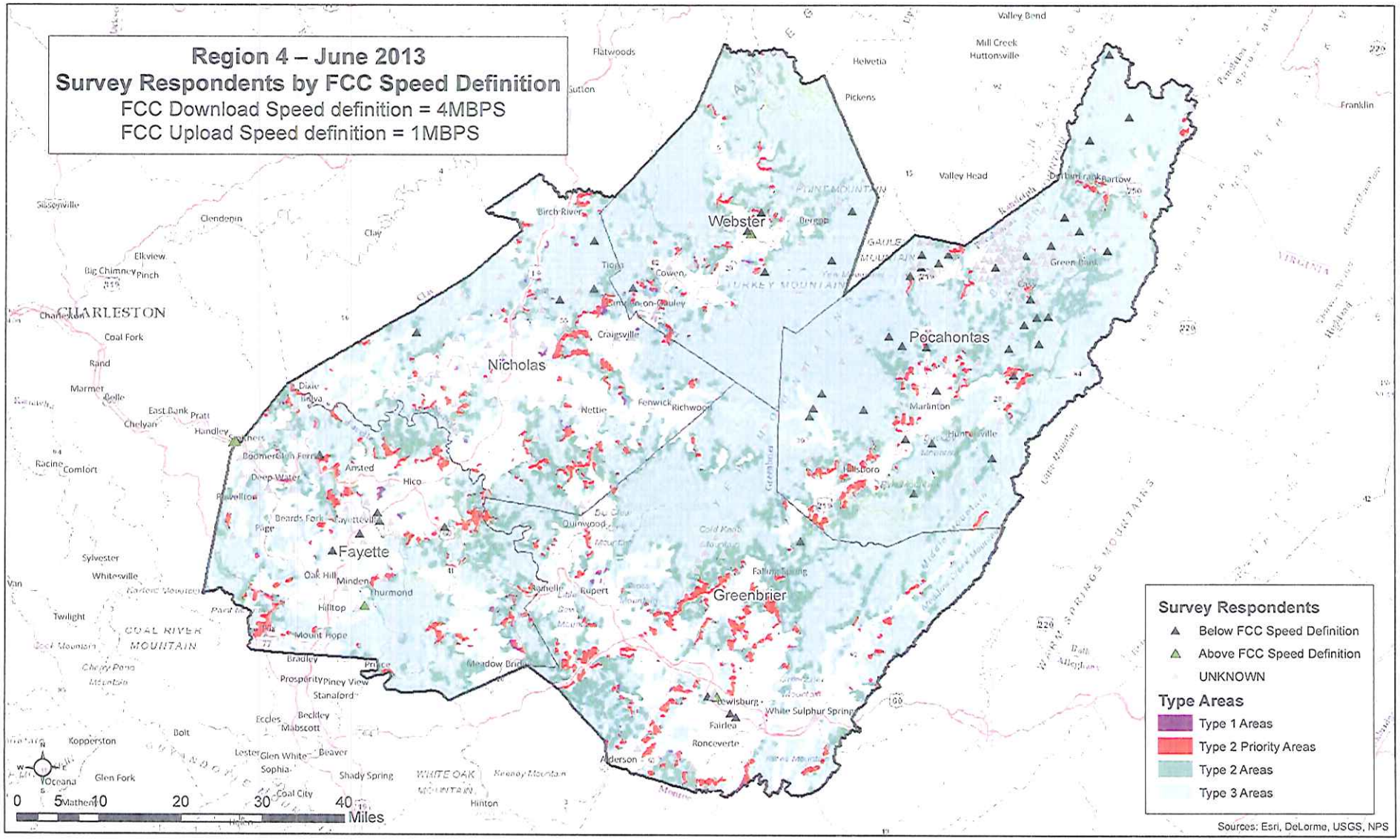

Region 4 – June 2013
Business Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
Survey Respondents
Business Below FCC Speed
Business Above FCC Speed
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS

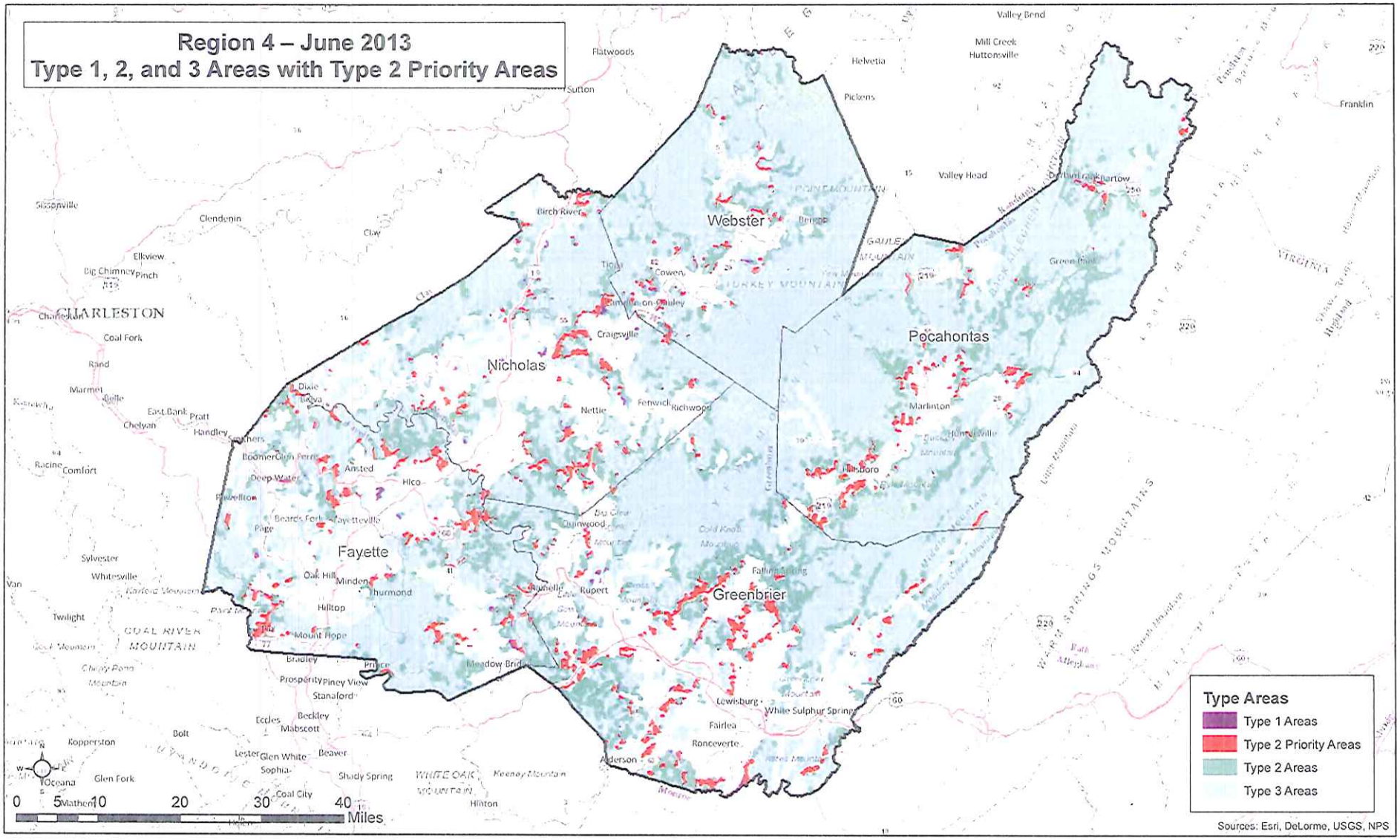

Region 4 – June 2013
Survey Respondents Indicating No Home Internet Access
Webster
Nicholas
Fayette
Greenbrier
Pocahontas
Survey Respondents
No Home Internet Access
Unknown
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – June 2013
Number of Broadband Providers
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
CHARLESTON
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – June 2013
Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
Survey Respondents
Below FCC Speed Definition
Above FCC Speed Definition
UNKNOWN
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – June 2013
Survey Respondents Indicating No Home Internet Access
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
Survey Respondents
No Home Internet Access
Unknown
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – June 2013
Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
Survey Respondents
Below FCC Speed Definition
Above FCC Speed Definition
UNKNOWN
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – June 2013
Type 1, 2, and 3 Areas with Type 2 Priority Areas
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS

Appendix B

21. If you indicated you **DO NOT** have Broadband (high-speed) Internet service (e.g., none or dial-up), please mark all reasons for not having Internet service. (Mark all that apply.)

- ○ I don't own a computer
- ○ Cost/Too expensive
- ○ Broadband service not available
- ○ Do not need Broadband services
- ○ Security reasons
- ○ Do not know how to use Internet
- ○ Other (please specify): _____

22. If concerns in question 21 were addressed, would you utilize Broadband (high-speed) Internet service?

○ Yes ○ No

23. How much would you be willing to pay monthly for this service?

$ _____

Thank you for responding to this survey.

We know your time is valuable. Your response will remain anonymous. If you have any questions, please contact the Region 4 Planning & Development Council at cstump@reg4wv.org or by phone at (304) 872-4970 ext. 300.

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DO NOT WRITE IN THIS AREA

784112

REGIONAL BROADBAND PLANNING TEAMS PROJECT

BROADBAND/HIGH-SPEED INTERNET SURVEY

MARKING INSTRUCTIONS

- Use a No. 2 pencil or blue or black ink pen only.
- Do not use pens with ink that soaks through the paper.
- Make solid marks that fill the oval completely.
- Make no stray marks on this form.
- Do not fold, tear, or mutilate this form.

CORRECT ● INCORRECT ✓ ✗ ◒ ◶

To the Resident/Business of:
34 GRAYWOLF LN
FAYETTEVILLE WV 25840

Dear West Virginia Resident/Business:

The West Virginia Office of GIS Coordination, a division of the office of the West Virginia Geologic and Economic Survey, has partnered with the state's 11 regional planning & development councils to analyze and map West Virginia's broadband infrastructure. As a result, our regional planning and development council is working to better understand your 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 and businesses 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. Please have a person in your household who is 18 years or older (or the employee responsible for technology decisions if this location is a business) complete this survey. Please complete and return this survey by August 9, 2013. Your responses will remain anonymous and will only be reported as part of a larger statistical analysis to determine where the state could use federal grant funding to enhance Internet speed and availability. We particularly urge you to TAKE THE INTERNET SPEED TEST (instructions in Question #19).

If you have any questions, please feel free to contact the Region 4 Planning and Development Council by e-mail at cstump@reg4wv.org or by phone at (304) 872-4970 ext. 300.

Thank you for your assistance!

If this location is a residence, please complete questions 1–8, and then questions 14–23. If this location is a business, please complete questions 9–23 only.

Residential Questions

1. How old were you on your last birthday? _____
2. Male ○ Female ○
3. Number of household occupants: _____
4. What is your annual household income?

$ _____

DO NOT WRITE IN THIS AREA

784112

5. **Who uses the Internet at your home? (Mark all that apply.)**

○ I do ○ Spouse/Partner ○ Children ○ Friend ○ Grandparent ○ Parent

○ Housemate or Roommate ○ Other (please specify):

6. **Does your employer allow employees to telecommute (work from home)?** ○ Yes ○ No ○ N/A

Do you telecommute? ○ Yes ○ No

7. **Are you self-employed?** ○ Yes ○ No **If so, do you work from home?** ○ Yes ○ No

8. **If you do use the Internet anywhere else other than your home, please indicate other places where you use the Internet. (Mark all that apply.)**

○ Work ○ School ○ Public Library ○ A relative or friend's house

○ A retail shop with wireless Internet service ○ Cell phone

○ Other (please specify):

Business Questions

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

○ 1–4 ○ 5–25 ○ 26–100 ○ 101–250 ○ 251–500 ○ 501 or more

10. **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
○ Healthcare and Social Assistance
○ Management of Companies and Enterprises
○ Mining, Quarrying, and Oil and Gas Extraction
○ Public Administration
○ Retail Trade
○ Utilities
○ Wholesale Trade
○ Other (please specify):

11. **Does your business allow employees to telecommute (work from home)?** ○ Yes ○ No

If yes, what percentage?:

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

○ Very important ○ Important ○ Somewhat important ○ Not at all important

13. **Would it be beneficial to your customers/clients if the Broadband environment in your area was enhanced?**

○ Yes ○ No

Please explain:

Both Residential and Business Questions

14. **Does this location have Internet access?** ○ Yes ○ No ***(If "No," please go to question 21 of this survey.)***

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

○ Access High Speed
○ AT&T Mobility LLC
○ City Net
○ Comcast
○ Earthlink
○ Frontier Communications Corporation
○ HughesNet
○ NTELOS
○ NETSCOPE
○ Shentel
○ Suddenlink Communications
○ Verizon Wireless
○ WildBlue Communications, Inc.
○ Other (please specify):

16. **What type of connection does this location use to access the Internet? (Mark all that apply.)**

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

○ Other (please specify):

17. **Why did you choose this connection type? (Mark all that apply.)**

○ Cost ○ Speed ○ Only available service ○ Best reliability

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

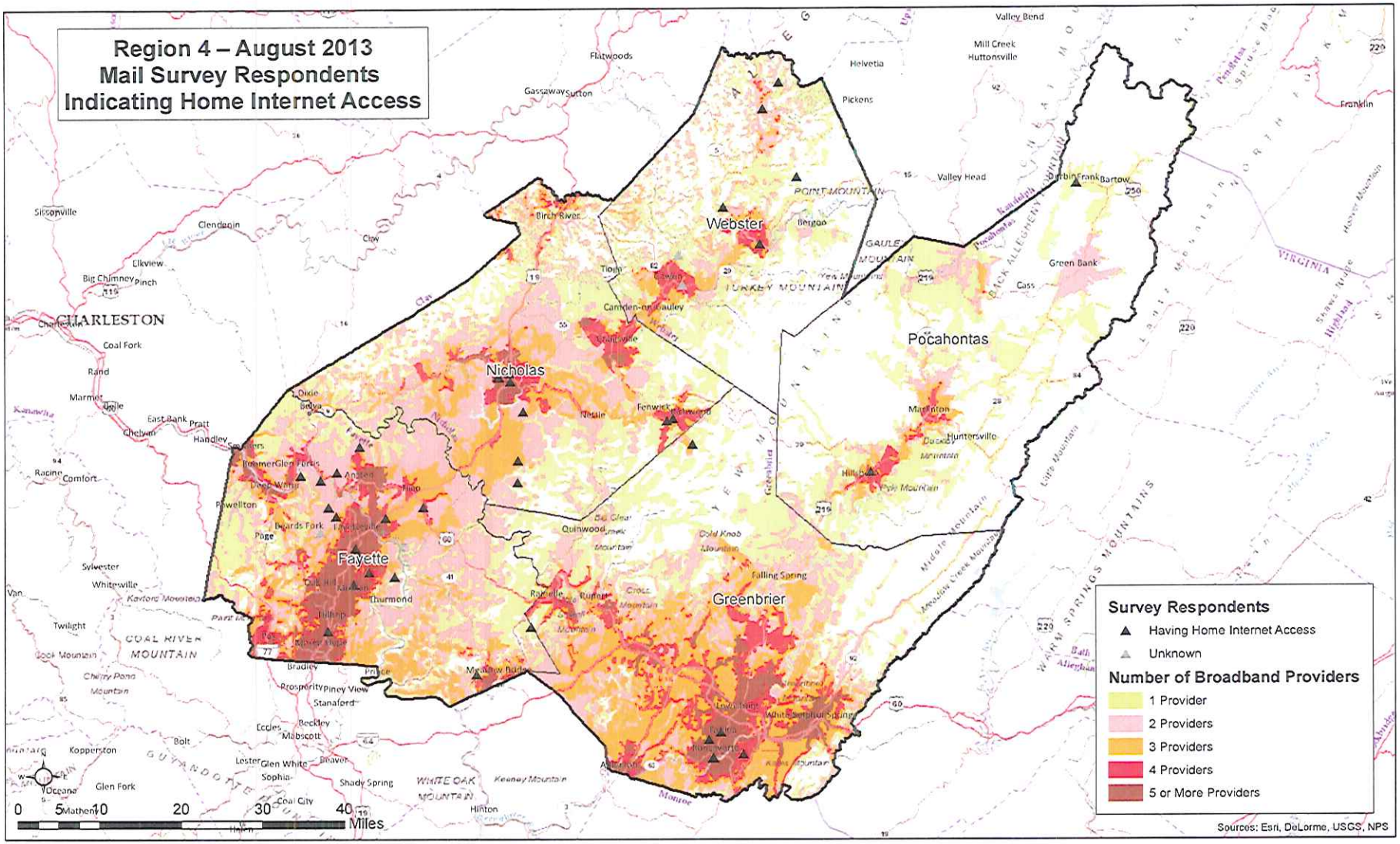
$

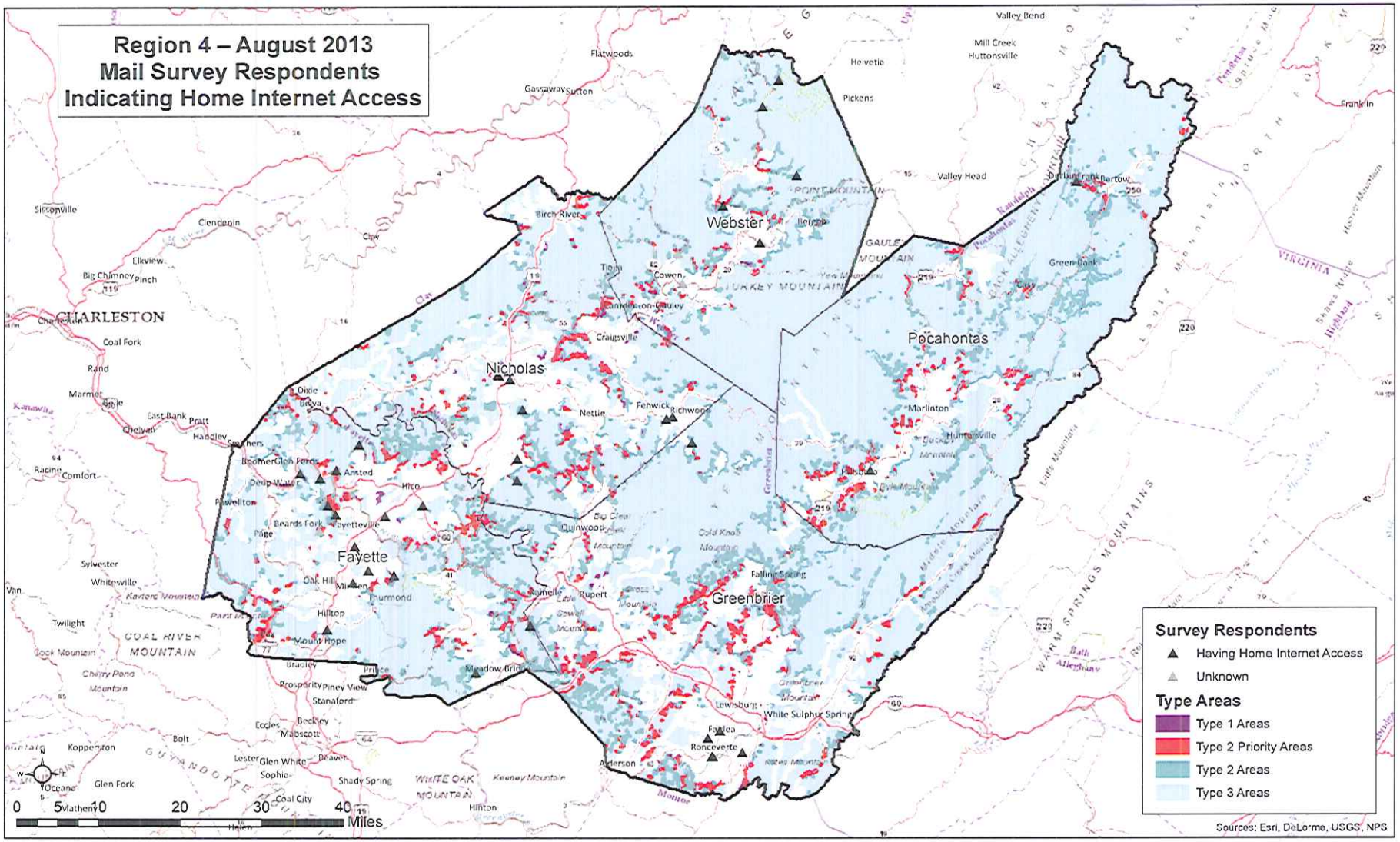
19. **For all the types of connections you have, indicate the speed of your connection(s). Please check your speed at this website http://gis2.kimballdata.com/wvspeedtest/. The speed test link is located on the "Other" page and takes approximately 30 seconds.**

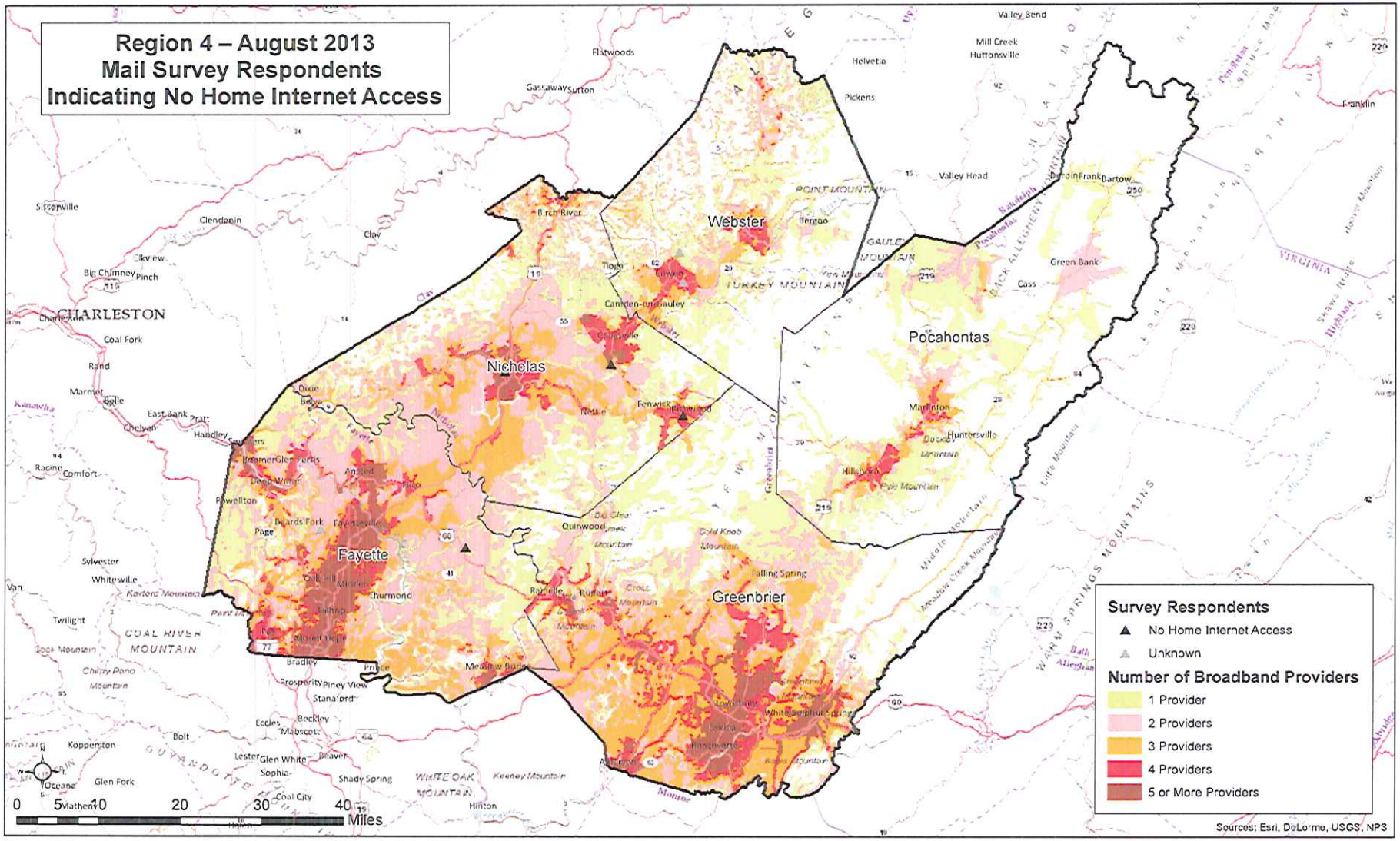
TYPE OF CONNECTION	SPEED	
	Download	*Upload*

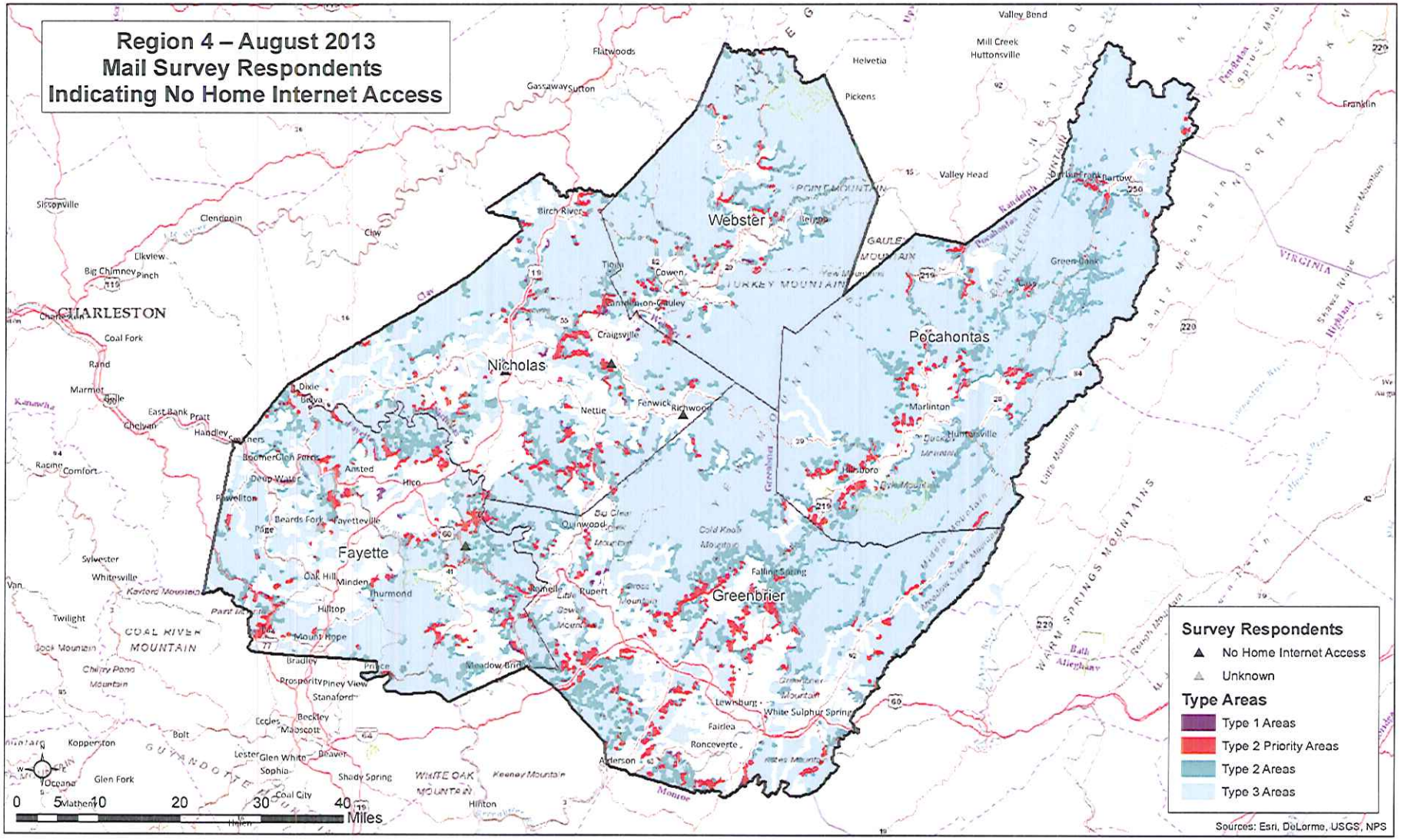
20. **The following is a list of characteristics about your Internet service. Please indicate whether you are "very satisfied," "satisfied," "dissatisfied," or "very dissatisfied" with that aspect of your Internet service.**

SERVICE ISSUE	VERY SATISFIED	SATISFIED	DISSATISFIED	VERY DISSATISFIED	DON'T KNOW/NA
Speed of connection	○	○	○	○	○
Cost of Internet	○	○	○	○	○
Technical support	○	○	○	○	○
Reliability of access	○	○	○	○	○
Customer service	○	○	○	○	○
Number of providers	○	○	○	○	○


Region 4 – August 2013
Mail Survey Respondents
Indicating Home Internet Access
Webster
Nicholas
Fayette
Greenbrier
Pocahontas
CHARLESTON
Survey Respondents
Having Home Internet Access
Unknown
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – August 2013
Mail Survey Respondents
Indicating Home Internet Access
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
CHARLESTON
Survey Respondents
Having Home Internet Access
Unknown
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – August 2013
Mail Survey Respondents
Indicating No Home Internet Access
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
CHARLESTON
Survey Respondents
No Home Internet Access
Unknown
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – August 2013
Mail Survey Respondents
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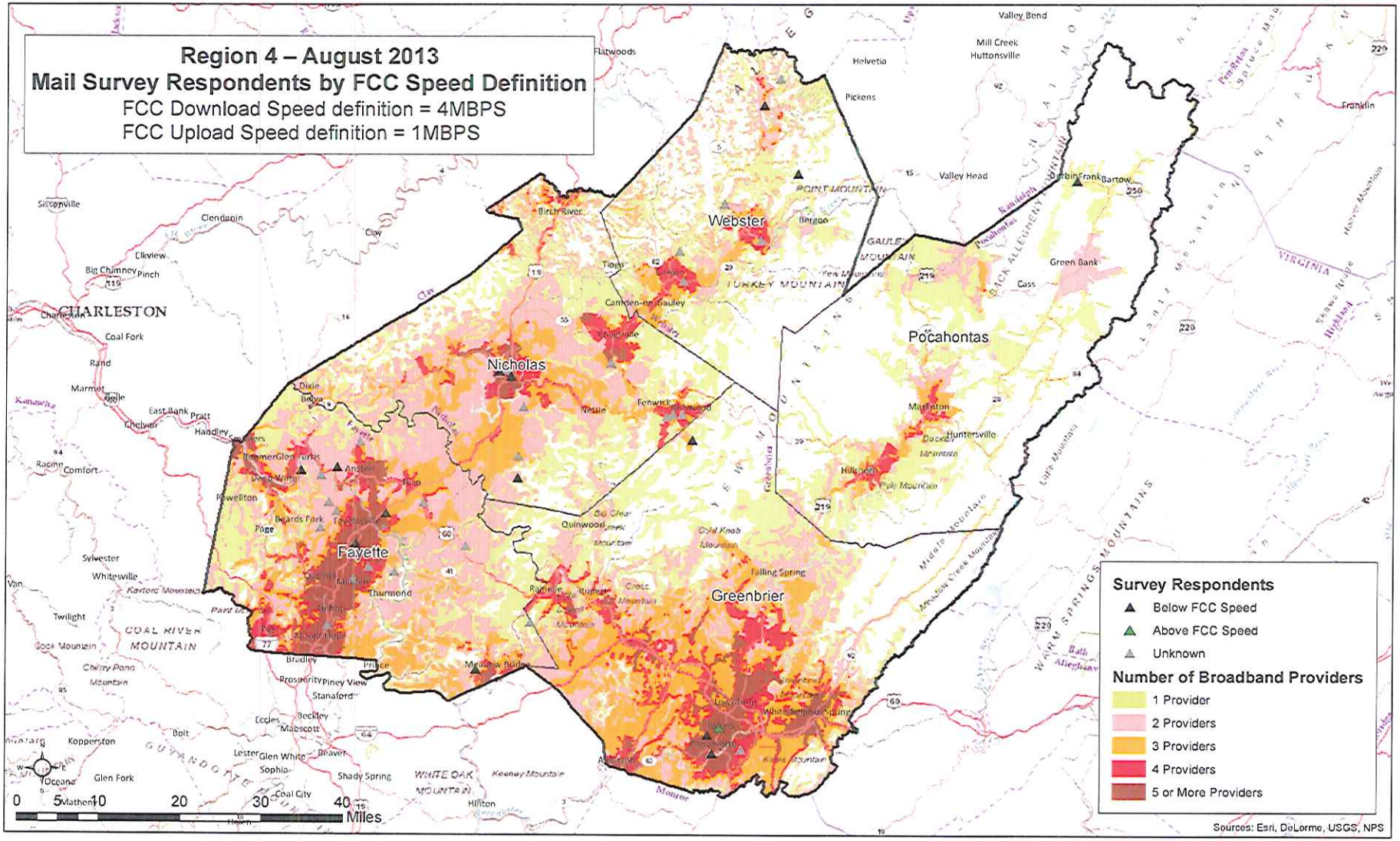
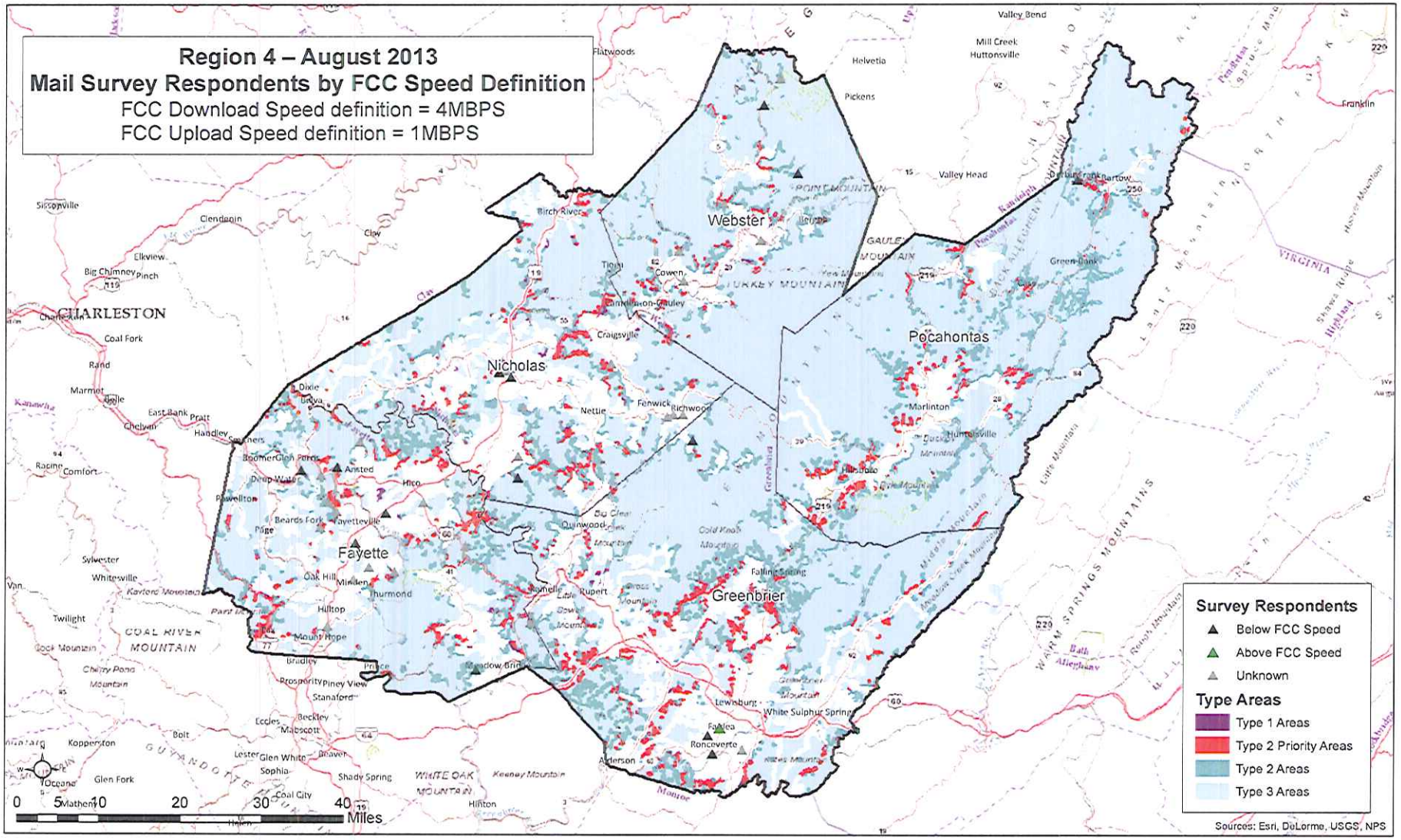
CHARLESTON
Survey Respondents
No Home Internet Access
Unknown
Type Areas
Type 1 Areas
Type 2 Priority Areas
Type 2 Areas
Type 3 Areas
0 5 10 20 30 40 Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – August 2013
Mail Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Nicholas
Pocahontas
Fayette
Greenbrier
CHARLESTON
Survey Respondents
Below FCC Speed
Above FCC Speed
Unknown
Number of Broadband Providers
1 Provider
2 Providers
3 Providers
4 Providers
5 or More Providers
0 5 10 20 30 40
Miles
Sources: Esri, DeLorme, USGS, NPS


Region 4 – August 2013
Mail Survey Respondents by FCC Speed Definition
FCC Download Speed definition = 4MBPS
FCC Upload Speed definition = 1MBPS
Webster
Pocahontas
Nicholas
Fayette
Greenbrier
CHARLESTON
Survey Respondents
Below FCC Speed
Above FCC Speed
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Type 1 Areas
Type 2 Priority Areas
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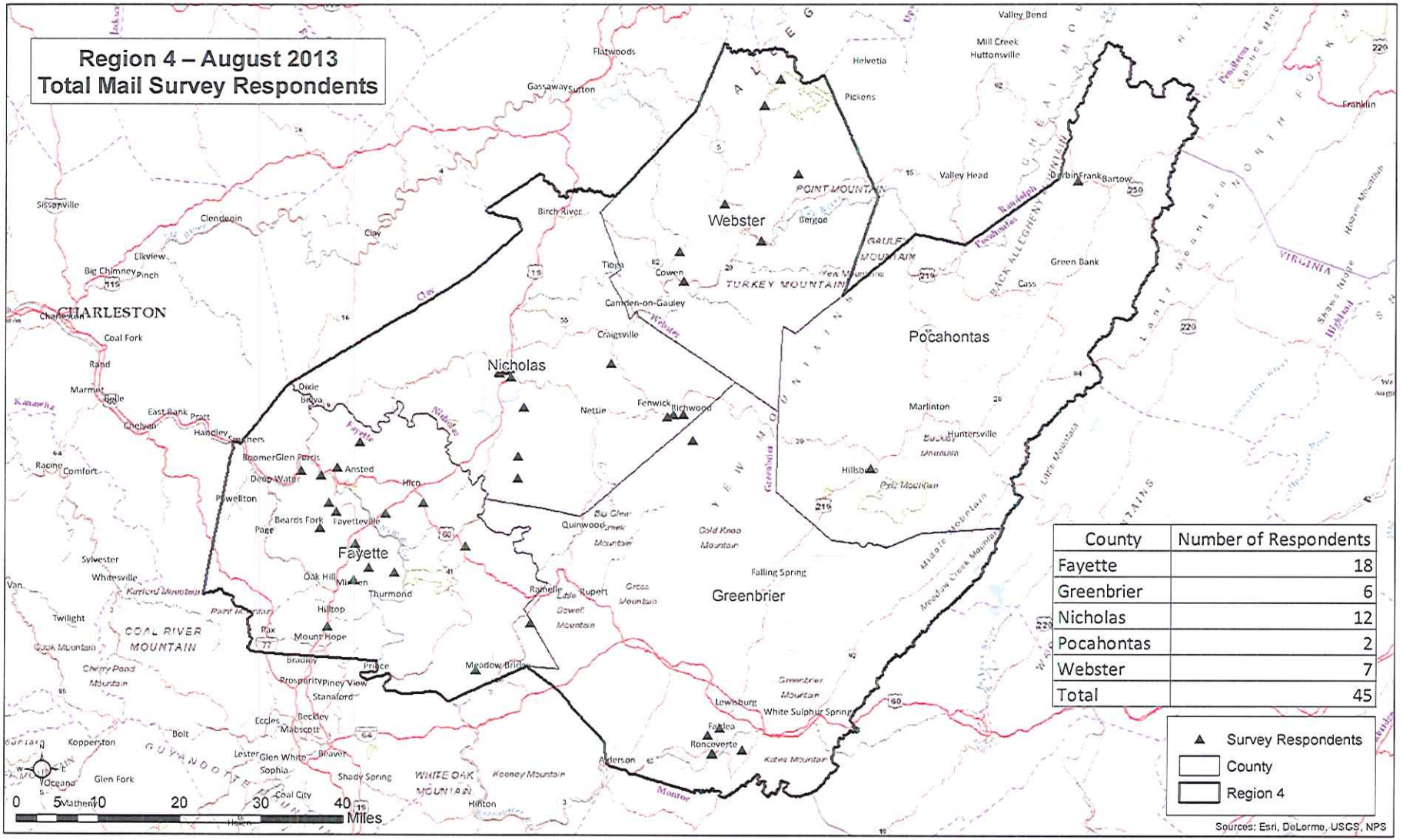


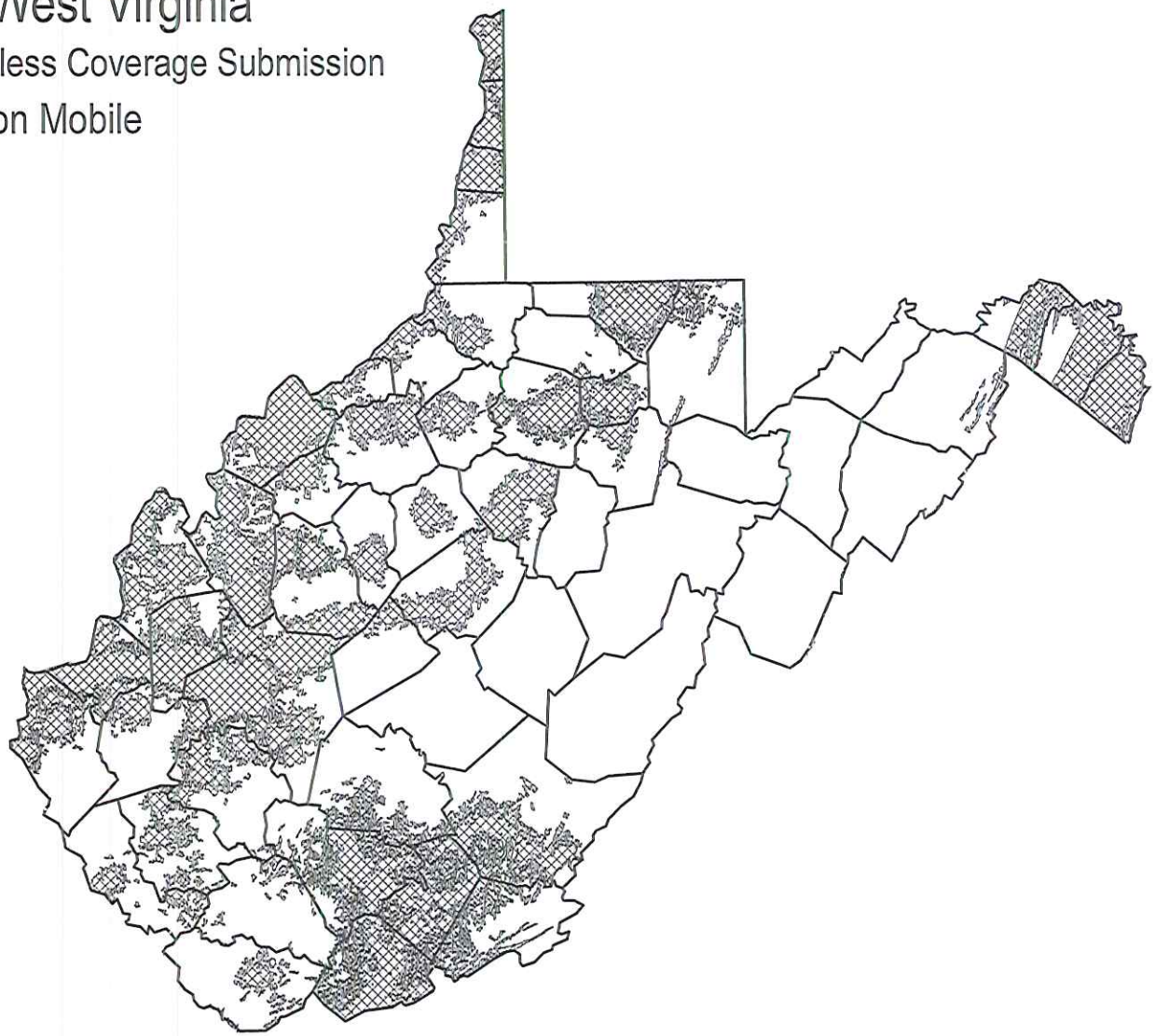
County	Number of Respondents
Fayette	18
Greenbrier	6
Nicholas	12
Pocahontas	2
Webster	7
Total	45

Appendix C

State of West Virginia

Round 7 NTIA Wireless Coverage Submission

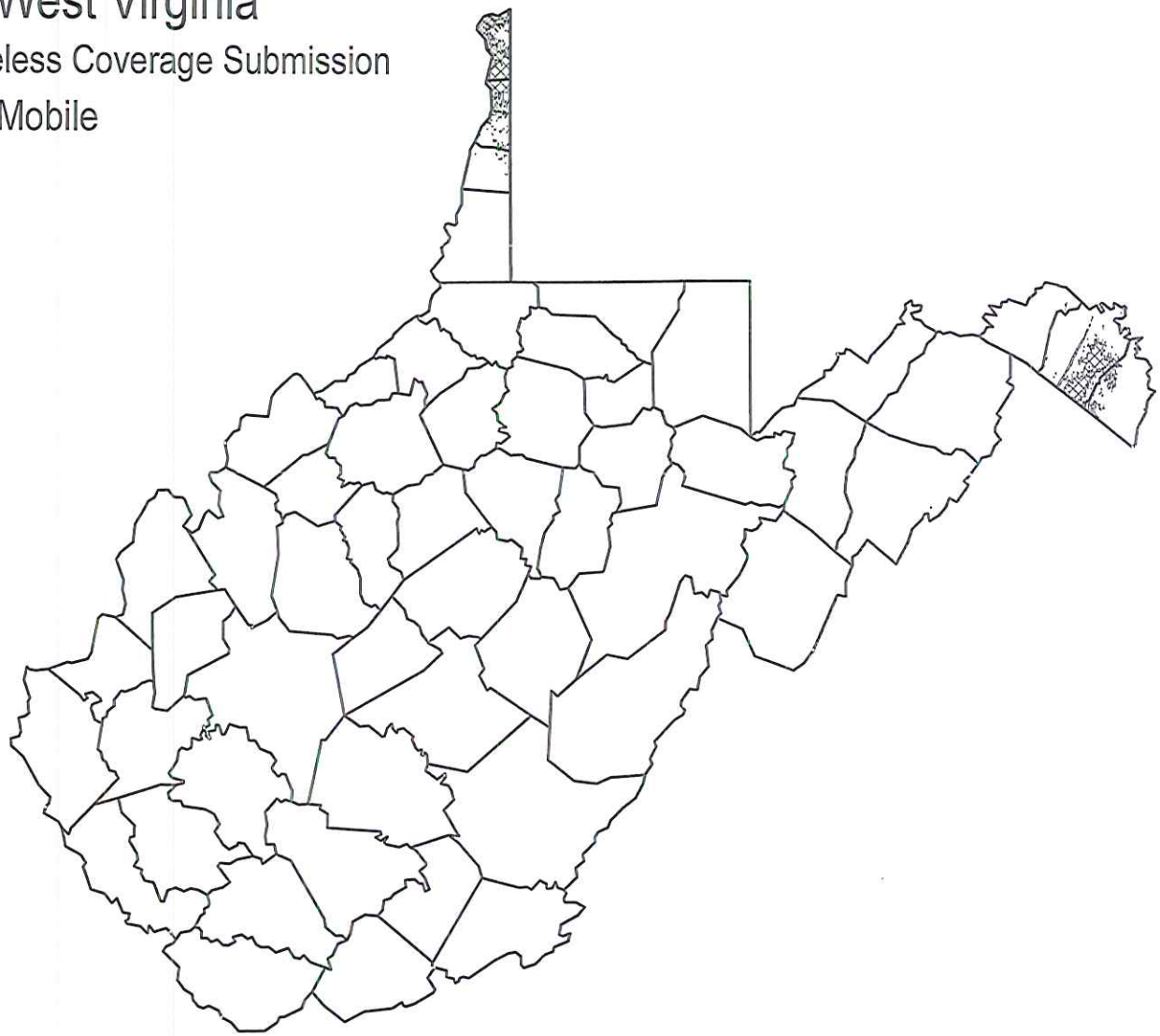
Verizon Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

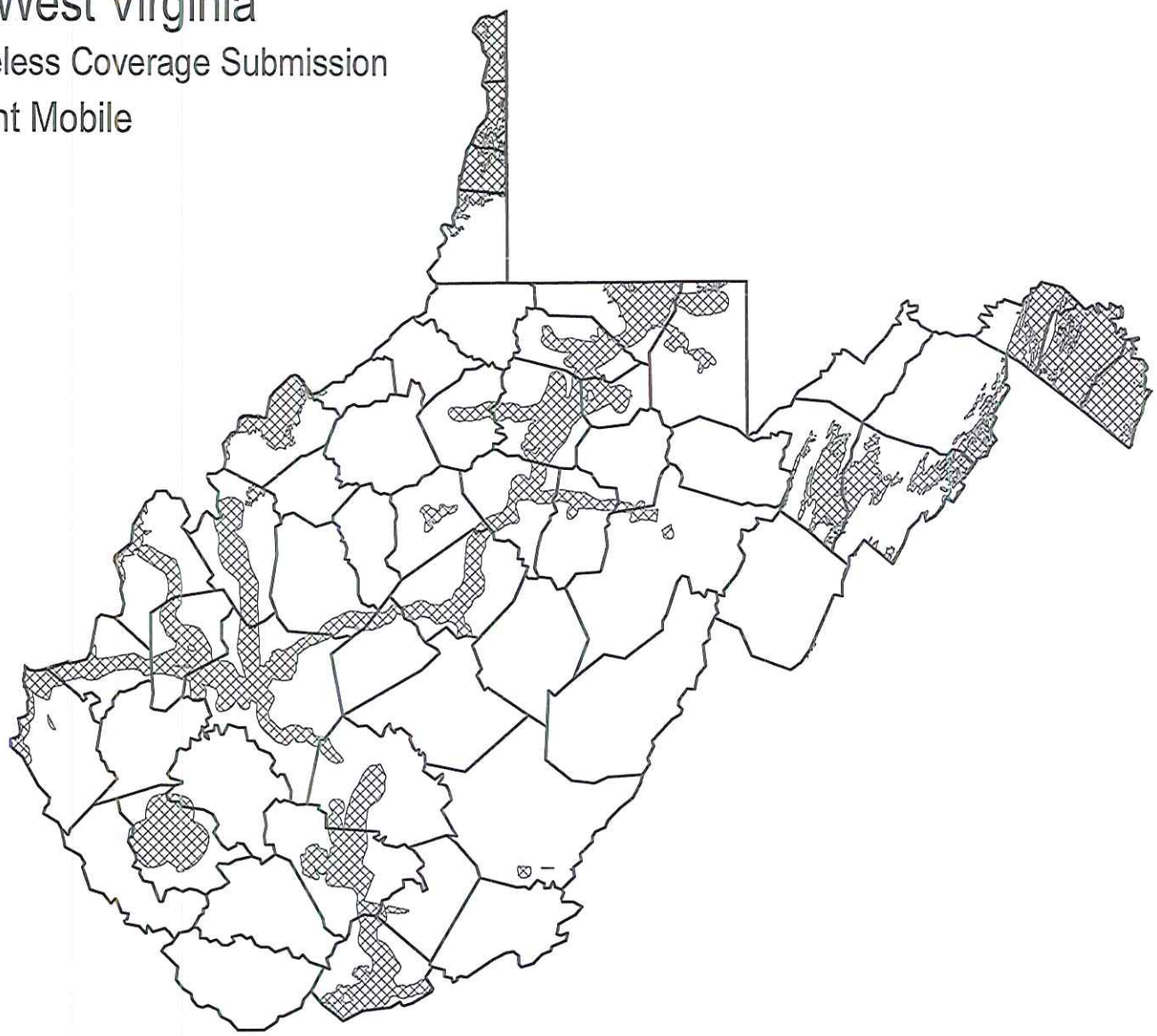
T Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

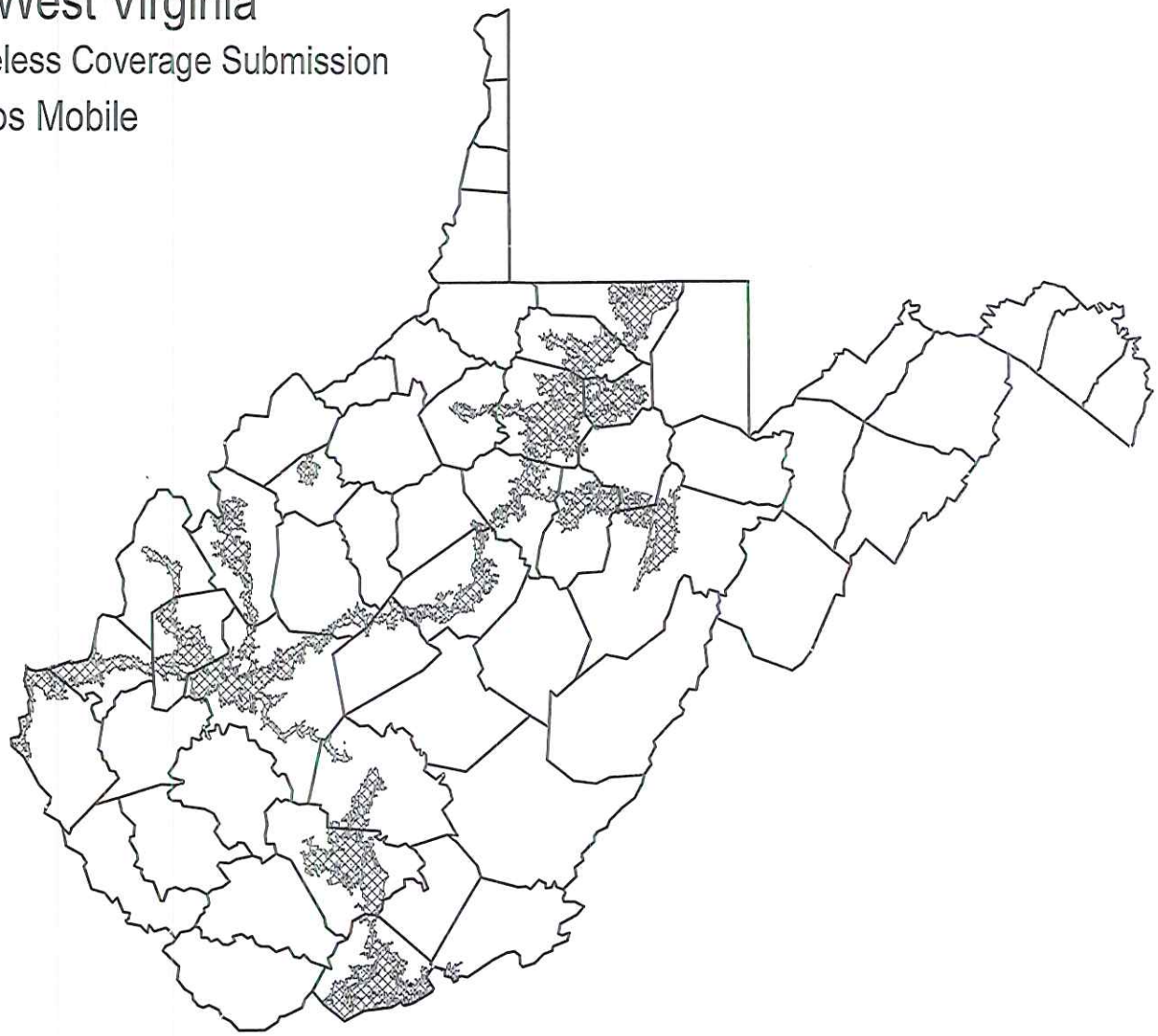
Sprint Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

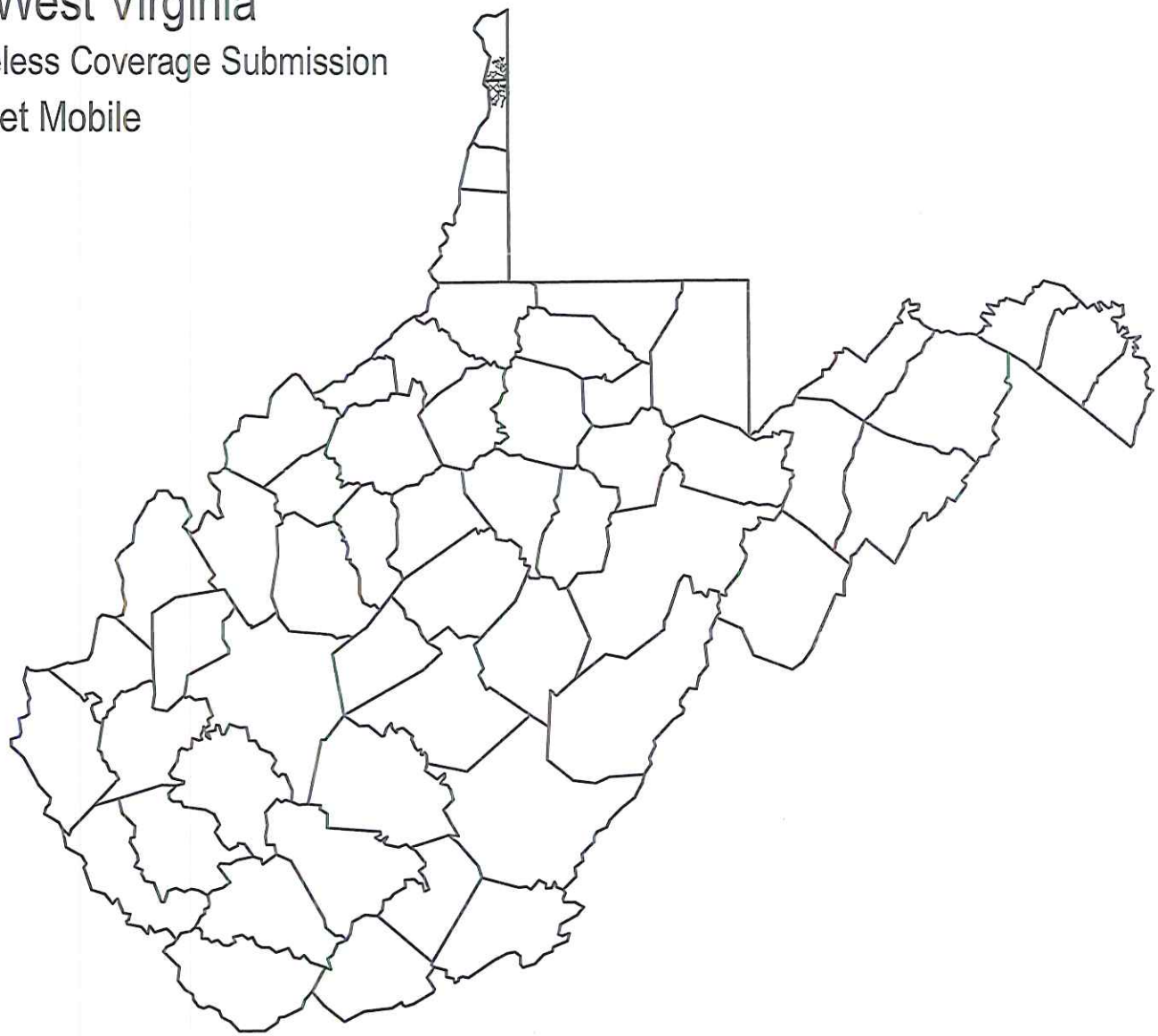
nTelos Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

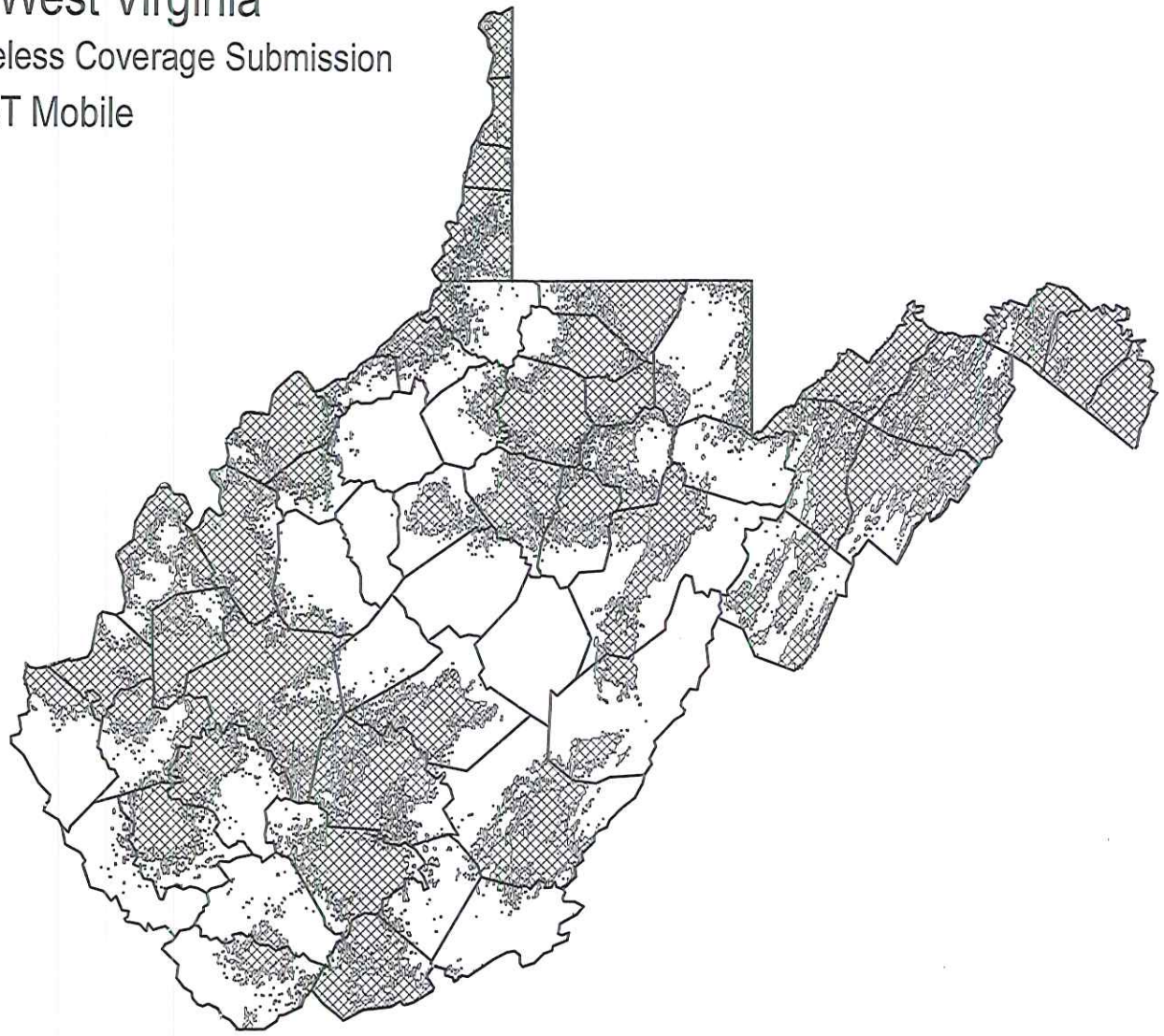
Cricket Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

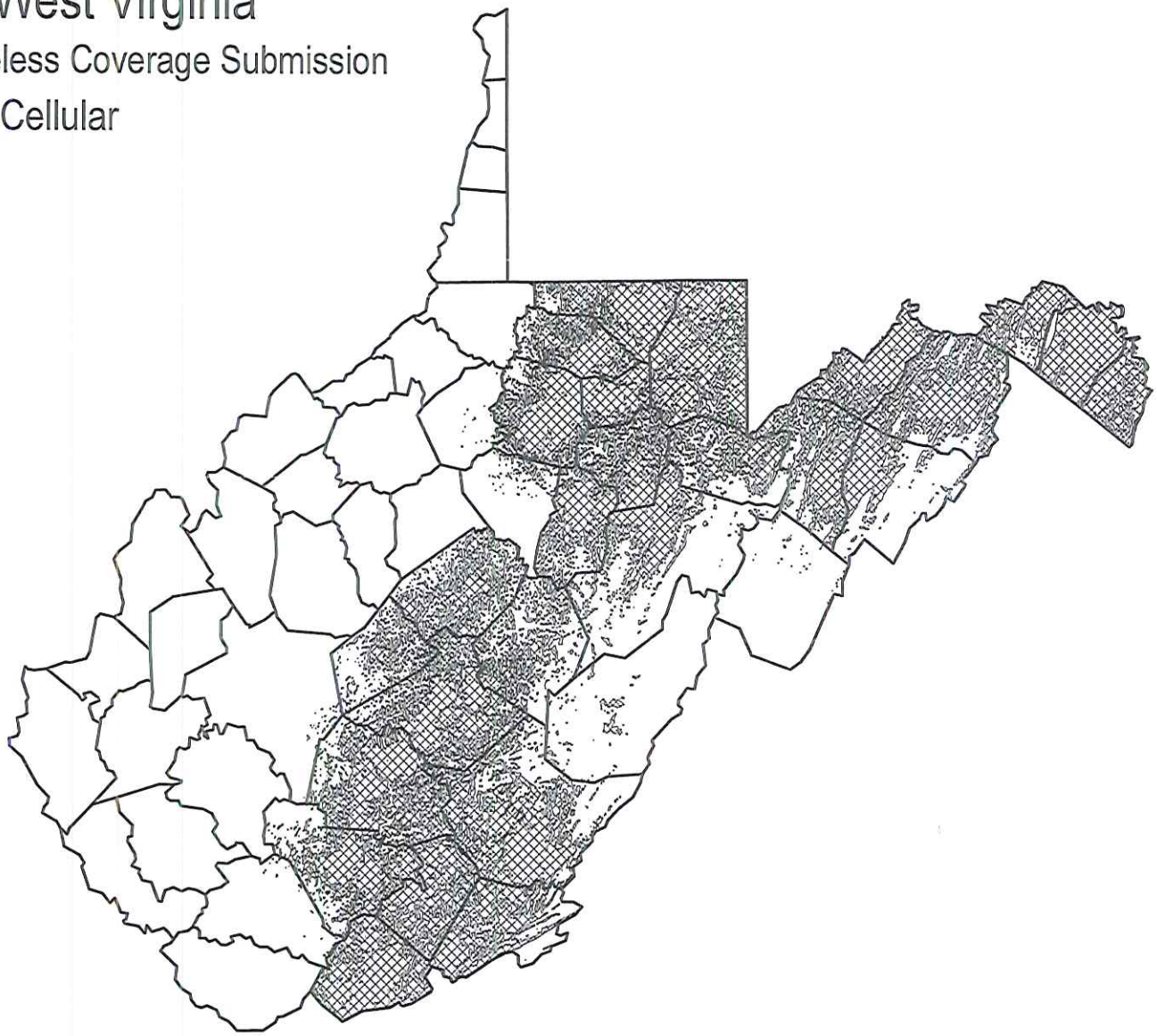
AT&T Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

US Cellular



Appendix D

Report for

State of West Virginia Broadband Field Testing Region 4

Prepared for

State of West Virginia Geological and Economic Survey And Office of GIS Coordination

September 2013 ©

L.R. Kimball®

TARGETED RESULTS. EXPERTLY MANAGED.
WE STAKE OUR REPUTATION ON IT.

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EXECUTIVE SUMMARY

L.R. Kimball respectfully submits this Findings Report for Broadband Field Testing (Findings Report) to the State of West Virginia Geological and Economic Survey and the Office of GIS Coordination (State). The State contracted with L.R. Kimball to provide broadband data verification tasks including statewide wireless broadband field testing. In July 2013, L.R. Kimball performed testing in the Region 4 Planning and Development Council area consisting of Fayette, Greenbrier, Nicholas, Pocahontas and Webster Counties, West Virginia.

The broadband field testing consisted of drive-testing the five county area while using specific app-enabled smartphones provided by the State. The purpose of this testing was to assess the spatial and attribute accuracy of the service area polygons that four providers, AT&T, nTelos, US Cellular and Verizon, submitted to West Virginia in March 2013 as part of the National Telecommunications Information Agency (NTIA) State Broadband Data and Development Program (SBDD). Comparisons between the field data collected and the provider-supplied service area polygons facilitated the identification of possible coverage and speed inaccuracies reported to the State by the providers. This findings report will discuss the methodology associated with the field collection and the results of said field collection.

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1. METHODOLOGY

The drive-testing phase of this project was initiated July 22, 2013 in Summersville, West Virginia. It continued through July 31, 2013, with 6 days of field data collection, where L.R. Kimball field specialists spent a minimum of 10 hours each day driving through Fayette, Greenbrier, Nicholas, Pocahontas and Webster Counties. L.R. Kimball field specialists consisted of one two-person team, where one member served as the driver and the other as the navigator and data collector.

1.1 Initial Data Collection

Prior to drive-testing, L.R. Kimball prepared geographic information system (GIS) data layers to make the drive-testing more efficient and improve the quality of the data collected. These layers include the following:

- West Virginia Statewide Addressing and Mapping Board (WVSAMB) 2011 Centerlines, with pre-determined "Drive Centerlines" chosen prior to field work
- West Virginia Statewide Addressing and Mapping Board 2011 Structures
- West Virginia Statewide Addressing and Mapping Board 2011 Imagery
- NTIA Round 7 Wireless Data Coverage Submission
- Speed Test Point Locations

In addition, the State provided four smartphones for use during the drive-testing:

- AT&T Samsung Galaxy S III
- West Virginia PCS Alliance (nTelos) Samsung Galaxy S
- US Cellular Samsung Galaxy S III
- Verizon Samsung Galaxy S III

All of these phones were updated with the QoS Solutions Android Applications that measure carrier connectivity, also provided by the State.

The State asked L.R. Kimball to visit each planning and development council regional office during the initial stages of the fieldwork collection to discuss the objectives of the project and gain feedback from the region regarding specific areas of broadband concern within the region. L.R. Kimball field team met with Mr. WD Smith, Region 4 Executive Director, and Ms. Cassandra Hughart, on July 22, 2013. Ms. Hughart expressed some concern regarding the recent broadband surveys Region 4 sent to its residents and expressed interest in learning the results of the West Virginia Broadband Mapping "Broadband Survey" program for her region.

1.1.1 West Virginia Statewide Addressing and Mapping Board 2011 Centerlines

The WVSAMB 2011 Centerlines were downloaded from the West Virginia GIS Technical Center Website. The centerlines were then evaluated for potential use. Removed from the dataset were named driveways and dead-end streets. The centerlines were further reviewed and potential "Drive Centerlines" for the region were chosen. These potential "Drive Centerlines" were chosen based on several factors. They are a good representation within the submitted coverage areas. Also, they have residents living on them and did not appear to be "fade-away" roads (dirt roads that ultimately lead to nothing). In general, interstates were not included in the potential "Drive Centerlines"

coverage because it is anticipated that they will be traveled/measured during normal travel to various locations and did not need to be formally routed.

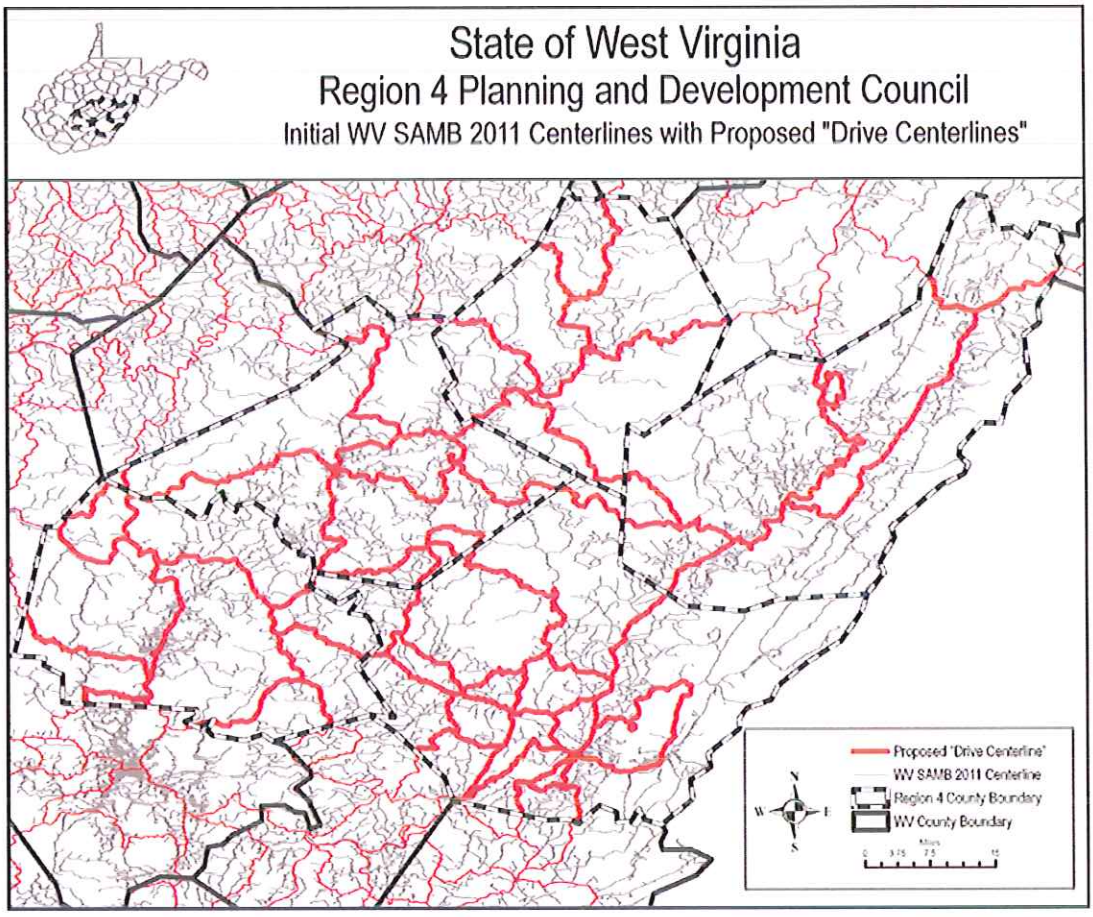

Figure 1—Initial WV SAMB 2011 Centerlines with Proposed "Drive Centerlines"

1.1.2 West Virginia Statewide Addressing and Mapping Board 2011 Structures

The WVSAMB 2011 Structures were downloaded from the West Virginia GIS Technical Center Website to use as reference only. There were no changes made to this layer prior to or during drive-testing.

1.1.3 Speed Test Points

The QoS applications allow for a carrier broadband speed test to occur every five minutes, or at user-selected points. As the application requires remaining in the same location until the test completes, and does not produce accurate results if traveling above 25 mph, QoS recommended selecting random test point locations to run the application throughout the region. L.R. Kimball chose random points in populated areas as a test of the broadband speeds in submitted coverage areas. The initial speed test point layer contained 29 speed test locations in Region 4.

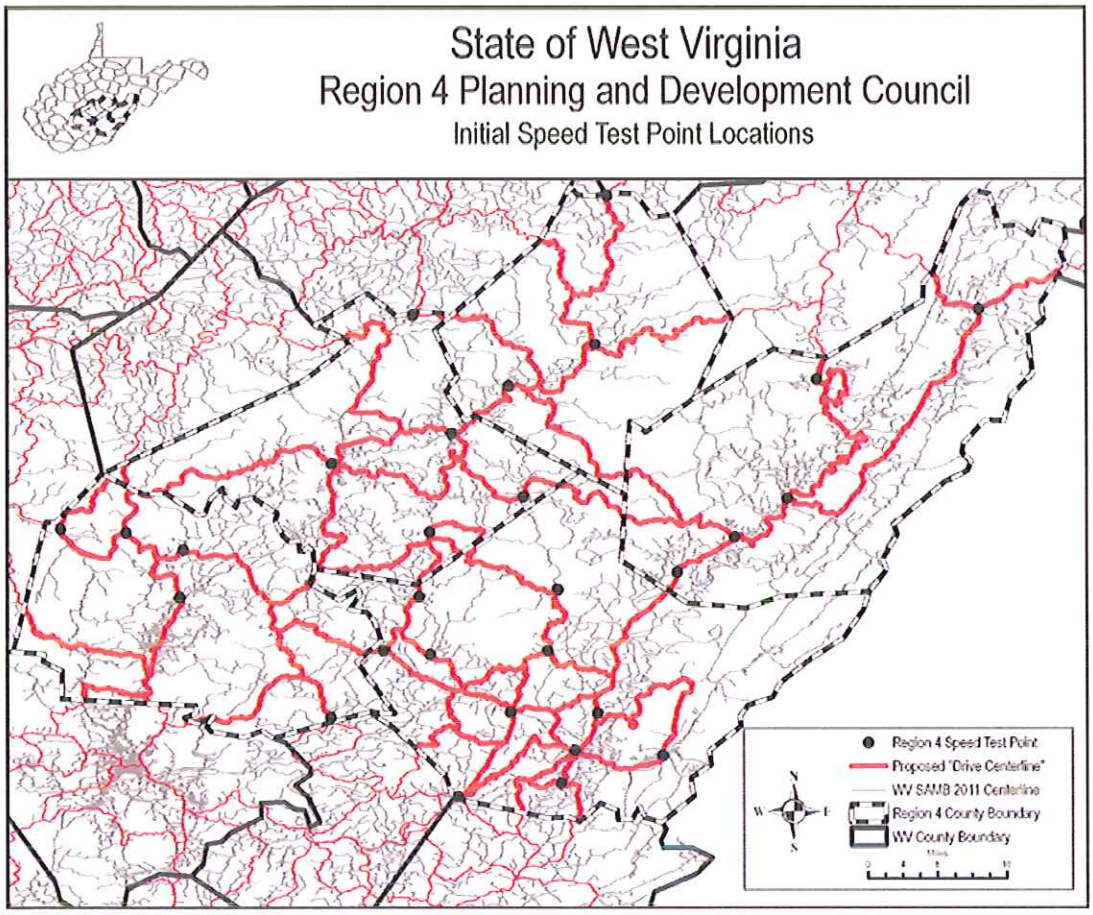

Figure 2—Initial Speed Test Point Locations

1.1.4 West Virginia Statewide Addressing and Mapping Board 2011 Imagery

The WVSAMB 2011 Imagery was downloaded from the West Virginia GIS Technical Center Website for Region 4 counties to use as reference only. There were no changes made to these layers prior to or during drive-testing.

1.1.5 QoS Solutions Android Applications

The QoS Solutions software that was provided by the State consisted of four Android Applications for use with smartphones. QCarrier measures carrier signal strength while driving with collected data stored directly on the phone. Rate of vehicle speed is not a factor in measuring signal strength. QWiFi locates and records Wi-Fi services with collected data stored directly on the phone. Rate of vehicle speed is not a factor in measuring Wi-Fi services. QPerf measures carrier connectivity at specific locations or during specific intervals with collected data stored on the QoS Website. Rate of vehicle speed is a factor in measuring signal strength. QMapper is a mapping device used in urban areas where you want a more accurate reading of your location. It does not store any data, and is to be used as a physical location reference tool. Please see Appendix A; QoS Applications.

1.1.6 AT&T Samsung Galaxy S III Phone

The State provided a Samsung Galaxy S III smartphone for L.R. Kimball field technicians to use with the AT&T network.

1.1.7 nTelos Samsung Galaxy S Phone

The State provided a Samsung Galaxy S smartphone for L.R. Kimball field technicians to use with the West Virginia PCS Alliance (nTelos) network.

1.1.8 US Cellular Samsung Galaxy S III Phone

The State provided a Samsung Galaxy S III smartphone for L.R. Kimball field technicians to use with the US Cellular network.

1.1.9 Verizon Samsung Galaxy S III Phone

The State provided a Samsung Galaxy S III smartphone for L.R. Kimball field technicians to use with the Verizon network.

1.2 Field Data Collection

L.R. Kimball field technicians spent six days drive-testing in Fayette, Greenbrier, Nicholas, Pocahontas and Webster Counties for the State. Equipment included a laptop computer pre-loaded with Environmental System Research Institute's (ESRI) ArcMap 10.1 software and the WV SAMB 2011 centerline, drive centerline, speed test point, and orthophotography layers, a GPS to use for reference and four smartphones provided by the State. In addition, a power inverter was used in the vehicle to keep all of the equipment charged while testing.

The L.R. Kimball field technician team consisted of a driver and a navigator. The navigator was responsible for mapping the route taken, as well as keeping track of the roads that were traveled and the points where speed tests were taken.

1.2.1 Roads Traveled

Approximately 855 miles of roads were tested in Region 4 for carrier connectivity. The goal was to drive-test the carrier submitted NTIA wireless polygons using a good representation of roads without "back-tracking" a great deal. The terrain was what was expected for this section of Appalachia, with numerous mountainous and valley areas. In some instances, anticipated road and/or weather conditions prevented the driver from traveling certain roadways and the initial drive centerlines and speed test locations in those areas were adjusted accordingly.

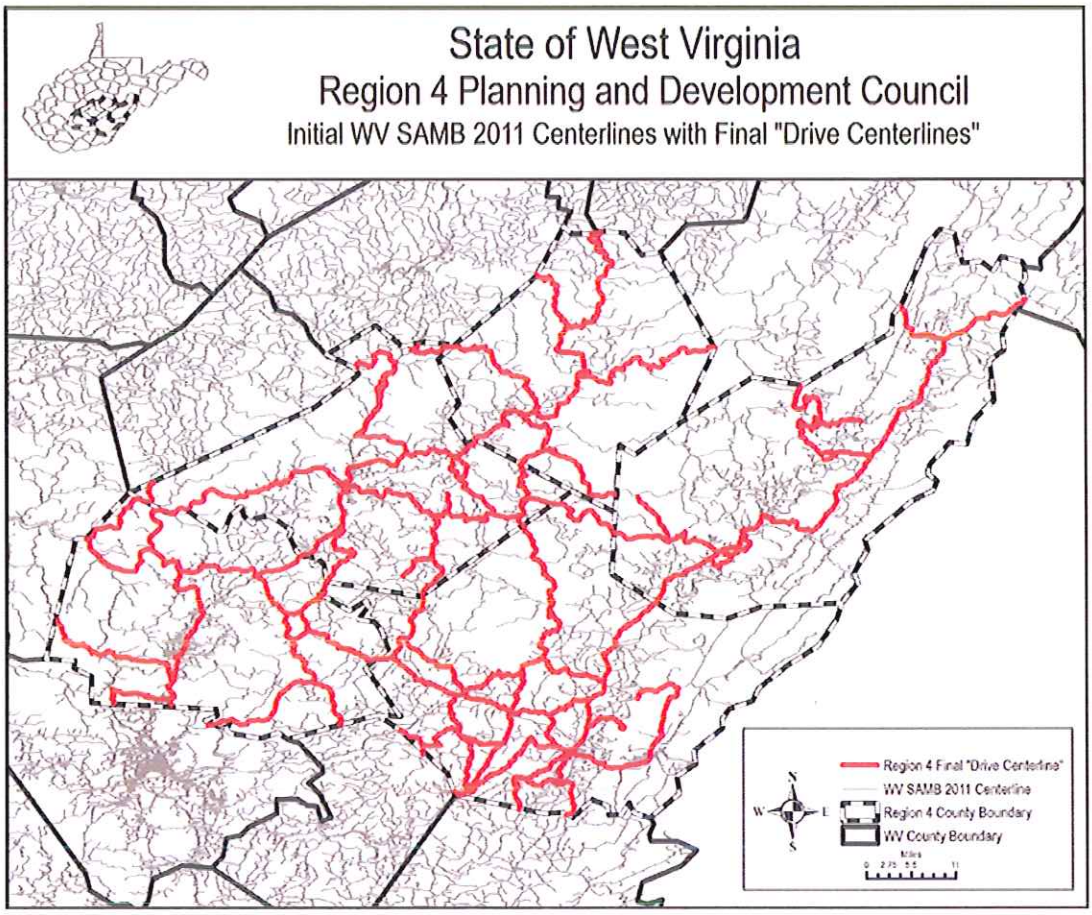

Figure 3—Roads Traveled During Drive-Testing

1.2.2 Speed Test Point Validation

There were a total of 29 speed test locations verified within Region 4.

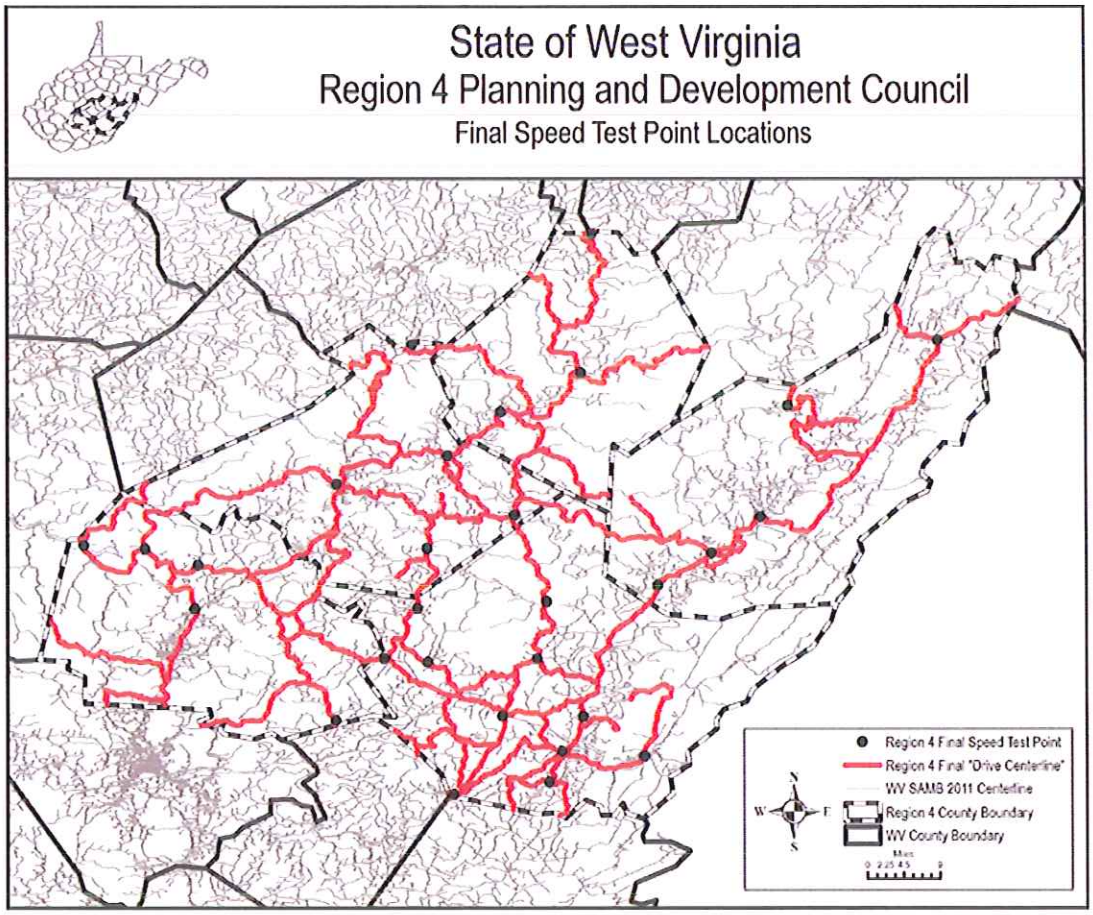

Figure 4—Final Speed Test Point Locations

2. TEST RESULTS

The drive-testing in Region 4 using smartphones was expected to show that good service exists in the urban areas and poor service in the rural areas of the region. In addition, it was expected that each of the providers being tested would have the service advertised in their NTIA submitted round 7 wireless coverage boundaries within the region. The QoS Software applications were user-friendly. It was easy to install the apps on the smartphones, and touching their icons on the screen opened them as expected. Analysis of the QoS Software application results involved the converting of .xml and .csv files into geodatabases and then making the appropriate comparisons.

2.1 QPerf Test Results

The QPerf application is a measure of carrier connectivity at specific locations, or speed test points. Data was uploaded to the QoS Website during the test. The data from the Website was downloaded as .csv files and converted into a geodatabase. The downstream and upstream speeds were then converted to the appropriate NTIA tier to match the Round 7 Wireless Coverage Polygons submitted by wireless providers as part of NTIA's Round 7 data collection effort. Analysis consisted of a location comparison, whereby the plotted locations of the test points were compared against their respective R7 coverage layer, as well as a comparison of the downstream and upstream speeds of the test points against the maximum speeds reported to the NTIA.

Reference Chart #2: Speed Tiers	
Code	Speed Tiers
1	Less than or equal to 200kbps
2	Greater than 200kbps and less than 768 kbps
3	Greater than or equal to 768kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Figure 5—NTIA Speed Tiers

2.1.1 AT&T QPerf Results

Of the 29 speed test point locations within Region 4, 13 were located within the Round 7 wireless coverage polygon submitted by AT&T and should have obtained QPerf speed test results. However, only two test points obtained results using the AT&T mobile network within Region 4, and both were within the AT&T submitted coverage polygon. Maximum advertised downstream values for the entire area are a value of four on the NTIA Speed Tier and maximum advertised upstream values for the entire area are a value of three on the NTIA Speed Tier. Only one of

the two test points obtaining results met or exceeded the maximum advertised values for downstream coverage. Both test points met the maximum advertised values for upstream coverage.

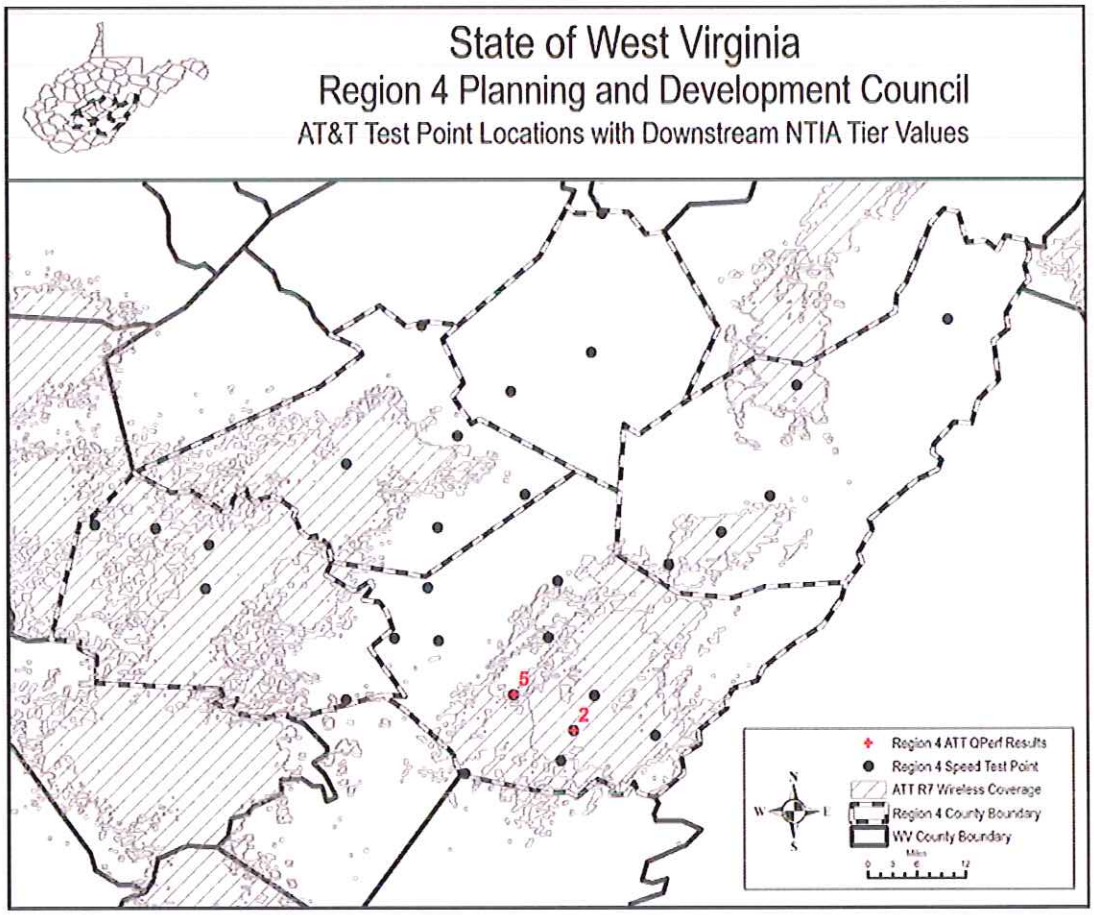

Figure 6—AT&T Downstream Speed Values

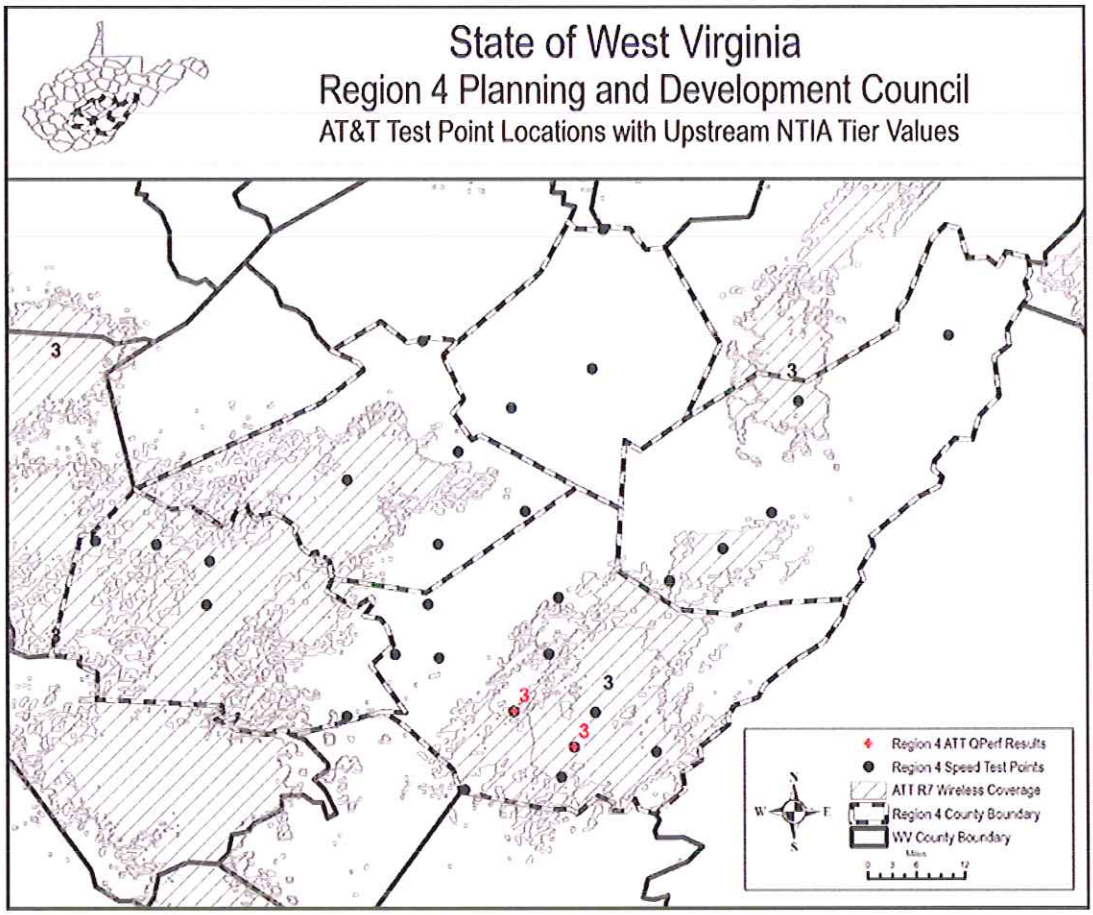

Figure 7—AT&T Upstream Speed Values

2.1.2 nTelos QPerf Results

Of the 29 speed test point locations within Region 4, two were located within the Round 7 wireless coverage polygon submitted by nTelos and should have obtained QPerf speed test results. However, only two test points obtained results using the nTelos mobile network within Region 4. Of these two points, neither was within the nTelos submitted coverage polygon. Maximum advertised downstream values for the entire area are a value of three on the NTIA Speed Tier and maximum advertised upstream values for the entire area are a value of two on the NTIA Speed Tier.

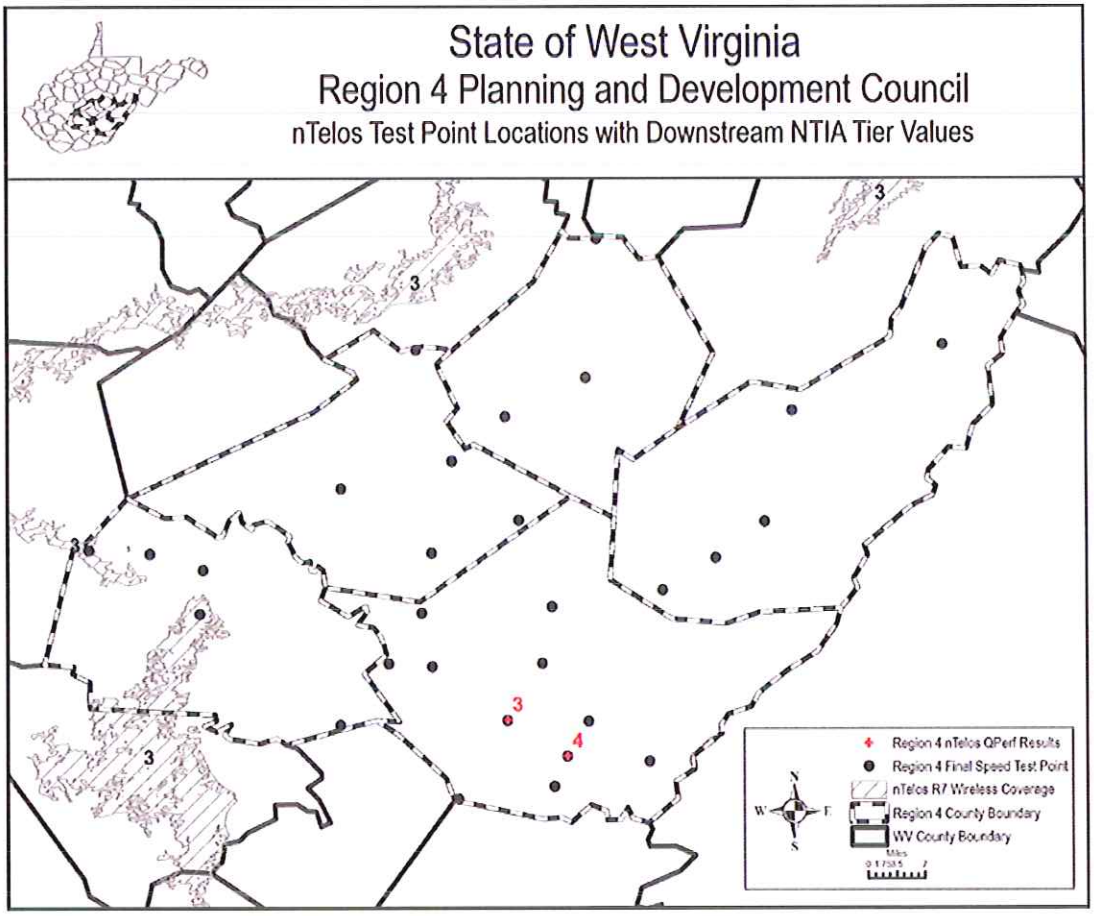

Figure 8—nTelos Downstream Speed Values

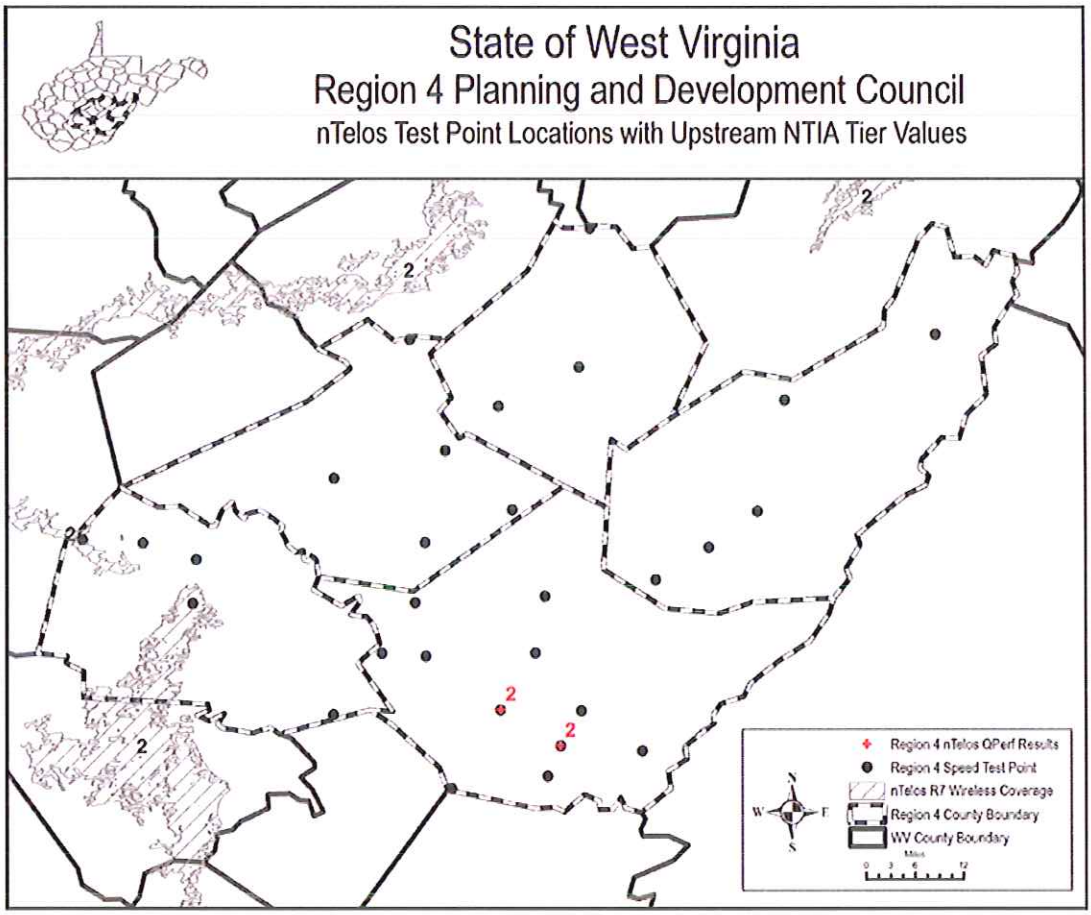

Figure 9—nTelos Upstream Speed Values

2.1.3 US Cellular QPerf Results

Of the 29 speed test point locations within Region 4, 22 were located within the Round 7 wireless coverage polygon submitted by US Cellular and should have obtained QPerf speed test results. However, only three test points obtained results using the US Cellular mobile network within Region 4, and all were within the US Cellular submitted coverage polygon. Maximum advertised downstream values for the entire area are a value of five on the NTIA Speed Tier and maximum advertised upstream values for the entire area are a value of four on the NTIA Speed Tier. Of the three test points obtaining results within the submitted coverage polygon, one met or exceeded the maximum advertised value for downstream coverage and one met or exceeded the maximum advertised value for upstream coverage.

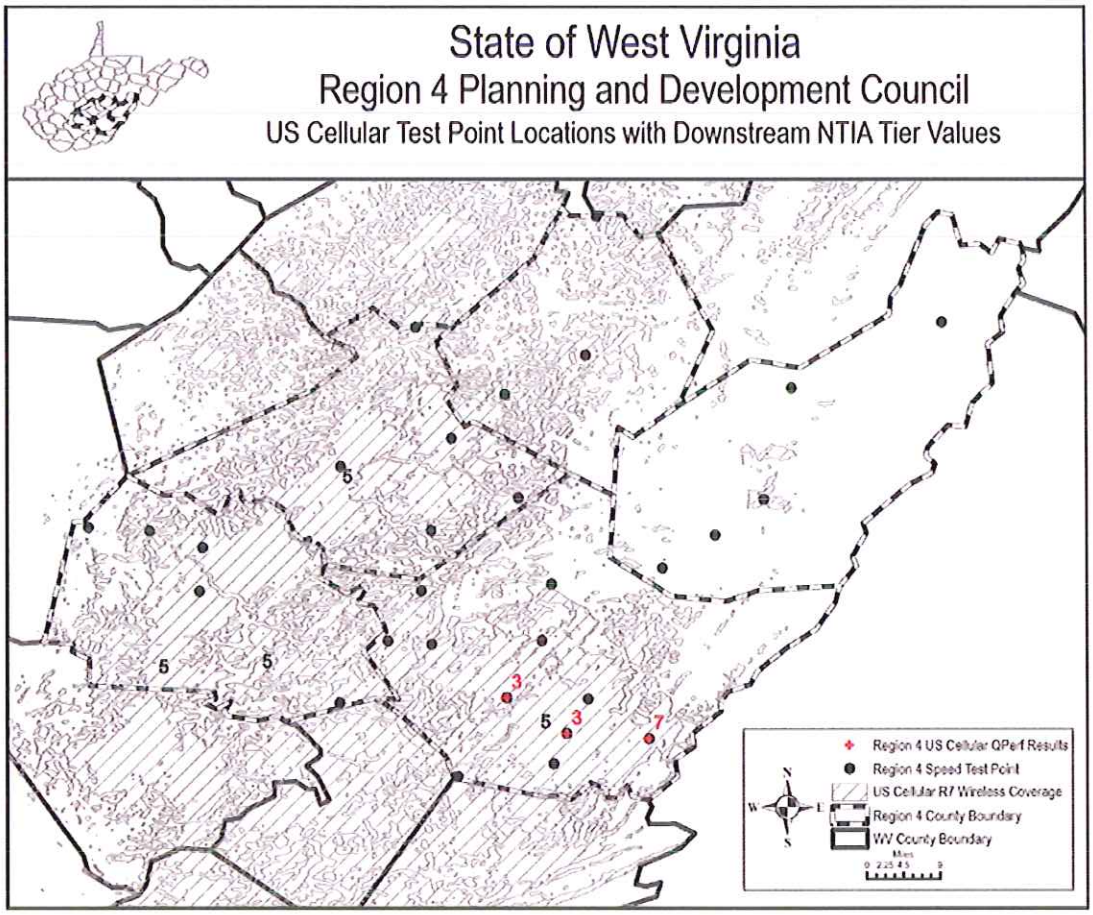

Figure 10—US Cellular Downstream Speed Values

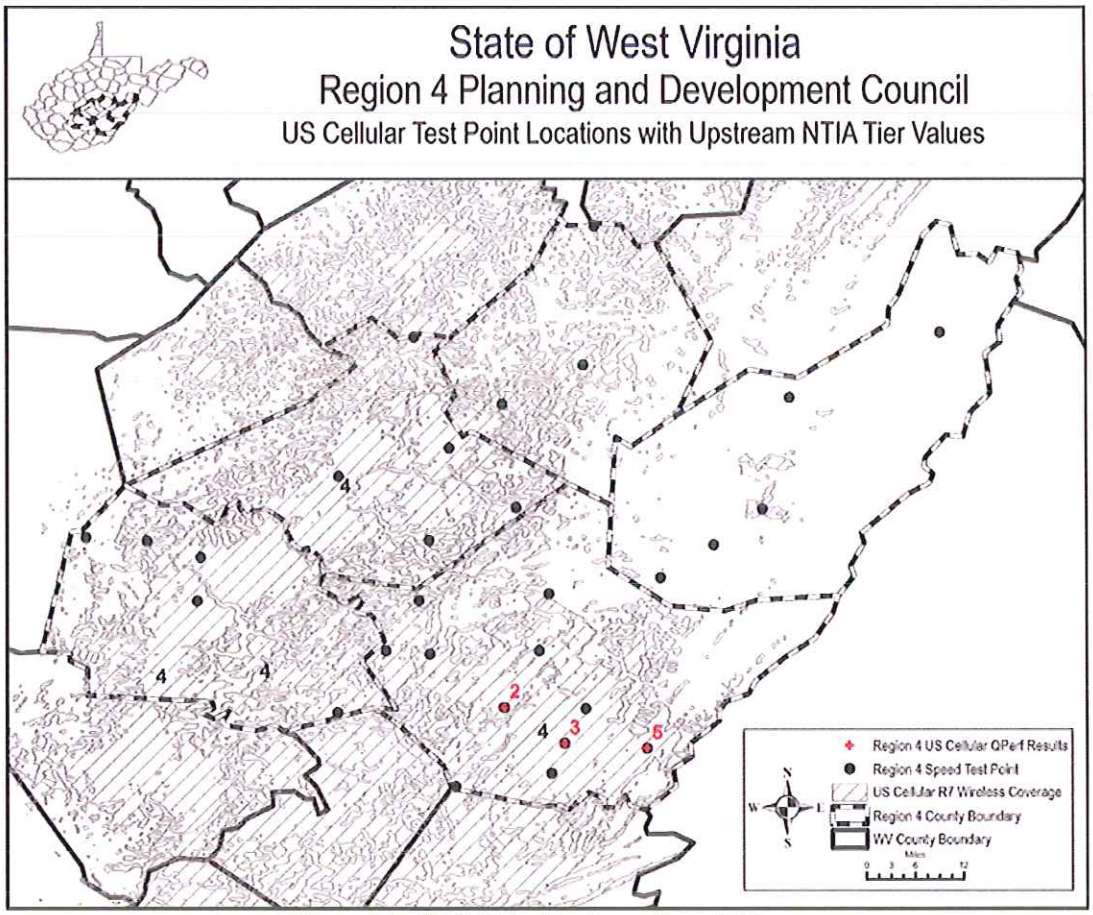

Figure 11—US Cellular Upstream Speed Values

2.1.4 Verizon QPerf Results

Of the 29 speed test point locations within Region 4, five were located within the Round 7 wireless coverage polygon submitted by Verizon and should have obtained QPerf speed test results. However, only three test points obtained results using the Verizon mobile network within Region 4 and all were located within the Verizon submitted coverage polygon. Maximum advertised downstream values for the entire area are a value of three on the NTIA Speed Tier and maximum advertised upstream values for the entire area are a value of two on the NTIA Speed Tier. Of the three test points obtaining results within the submitted coverage polygon, two met or exceeded the maximum advertised value for downstream coverage and three met or exceeded the maximum advertised value for upstream coverage.

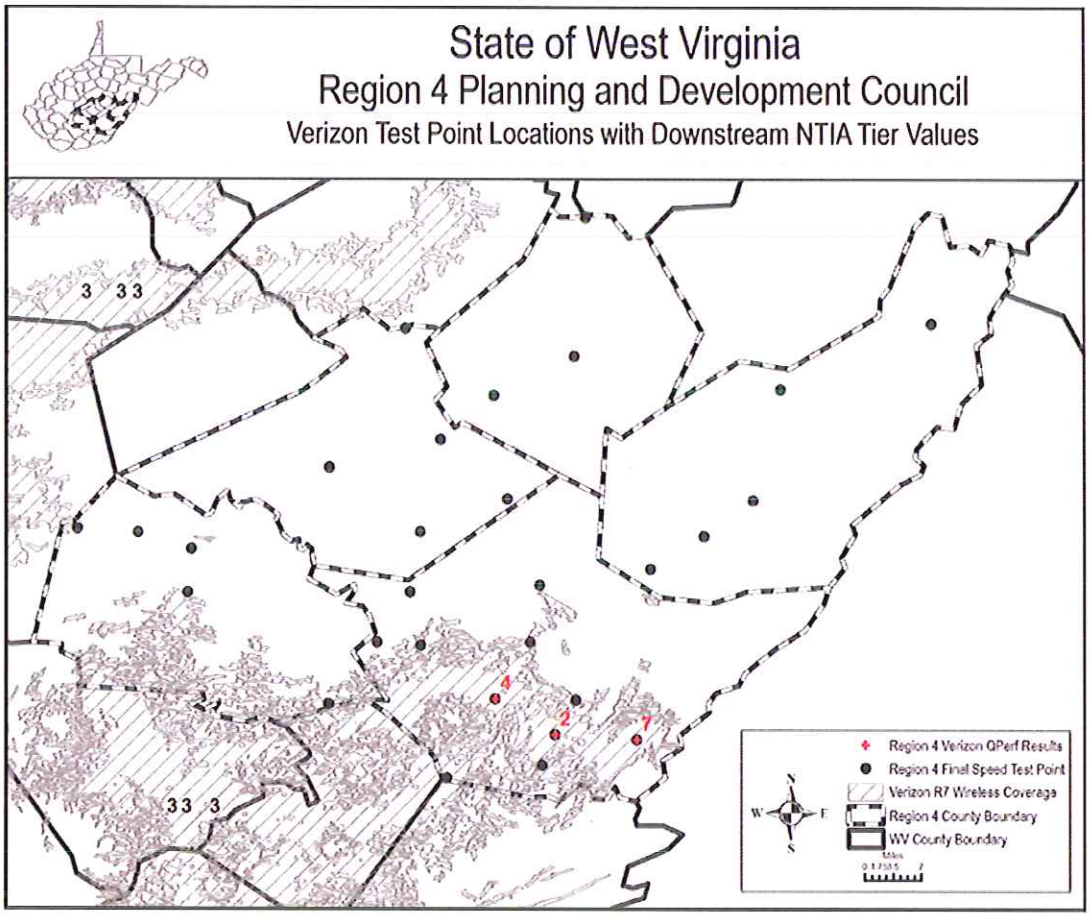

Figure 12—Verizon Downstream Speed Values

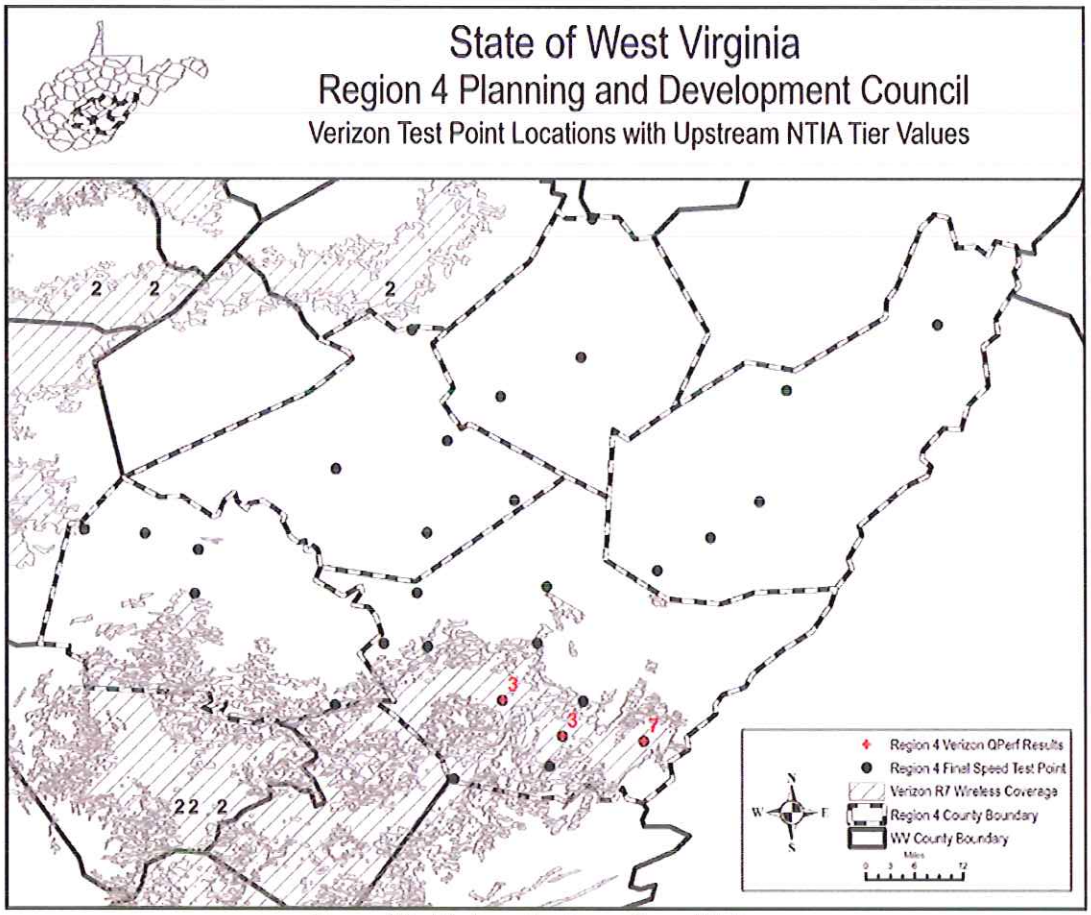

Figure 13—Verizon Upstream Speed Values

2.2 QCarrier Test Results

The QCarrier application is a measure of signal strength along the roads that were traveled during drive-testing. A record is created every 10 seconds or whenever the signal strength changes, and is stored in an .xml file directly on each phone. In general, it was found that there is acceptable coverage within the urban areas of the region and very limited coverage in the rural parts of the region for all carriers. Attributes used for analysis include the RSSI_DM field which is Received Signal Strength Indication, measured in DBm, and the EC/IO field, which is the signal strength relative to interference, measured in dB*10.

2.2.1 AT&T QCarrier Results

There were 25,228 points plotted within the AT&T network in Region 4. There were 6075 points that obtained no data, indicating no signal strength. The signal strength ranged from -55 to -113 DBm. There was no EC/IO data

collected for these points, as AT&T uses a Global System for Mobile Communication (GSM), which does not measure this value. The final drive centerlines shown with no phone data overlaid indicate areas where the phone was not able to connect to a GPS satellite, had no cellular service, and was not able to track the location of the phone.

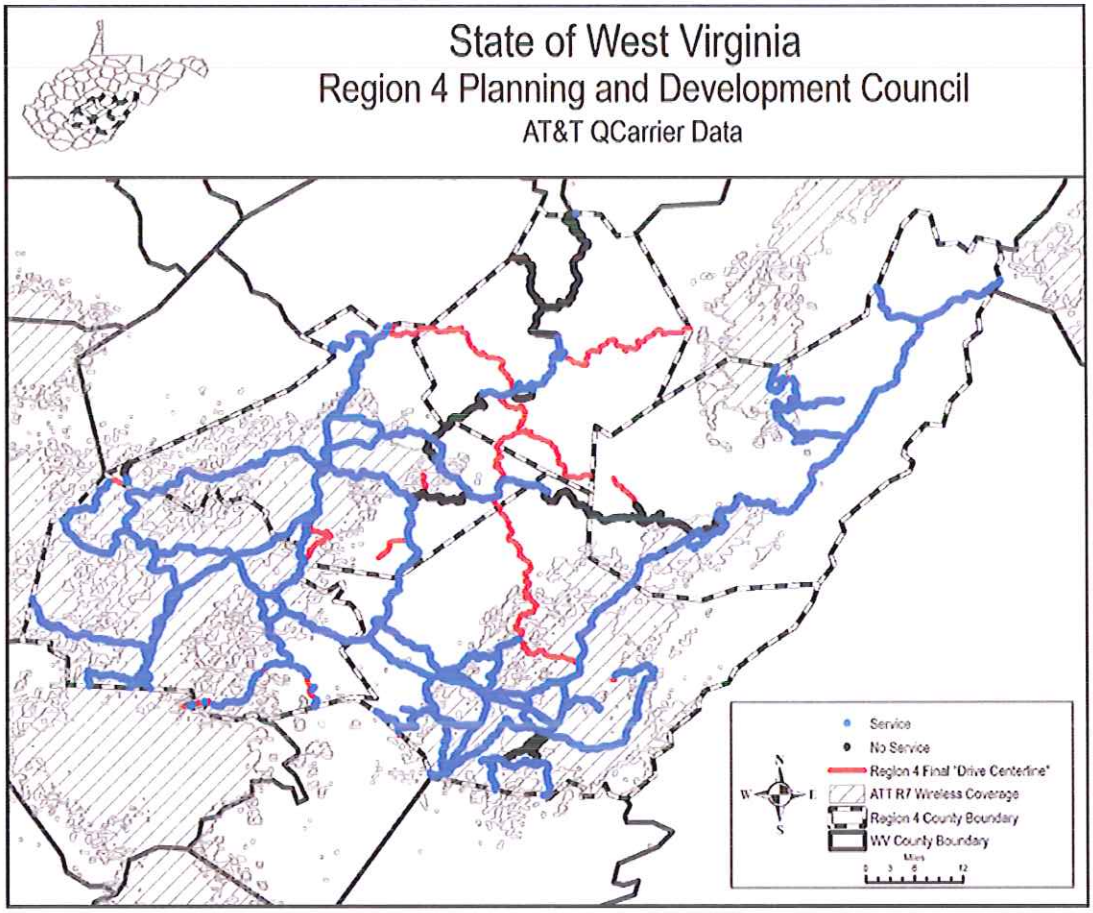

Figure 14—AT&T QCarrier Results, Based on RSSI_DM

2.2.2 nTelos QCarrier Results

There were 32,538 points plotted within the nTelos network in Region 4. The signal strength ranged from -51 to -105 DBm. The EC/IO data ranged from -90 to -160, with the majority of points falling at -160. This indicates areas where calls cannot connect, or calls are dropped constantly.[1] The final drive centerlines shown with no phone data overlaid

[1] http://www.telecomhall.com/what-is-ecio-and-ebno.aspx

indicate areas where the phone was not able to connect to a GPS satellite, had no cellular service, and was not able to track the location of the phone.

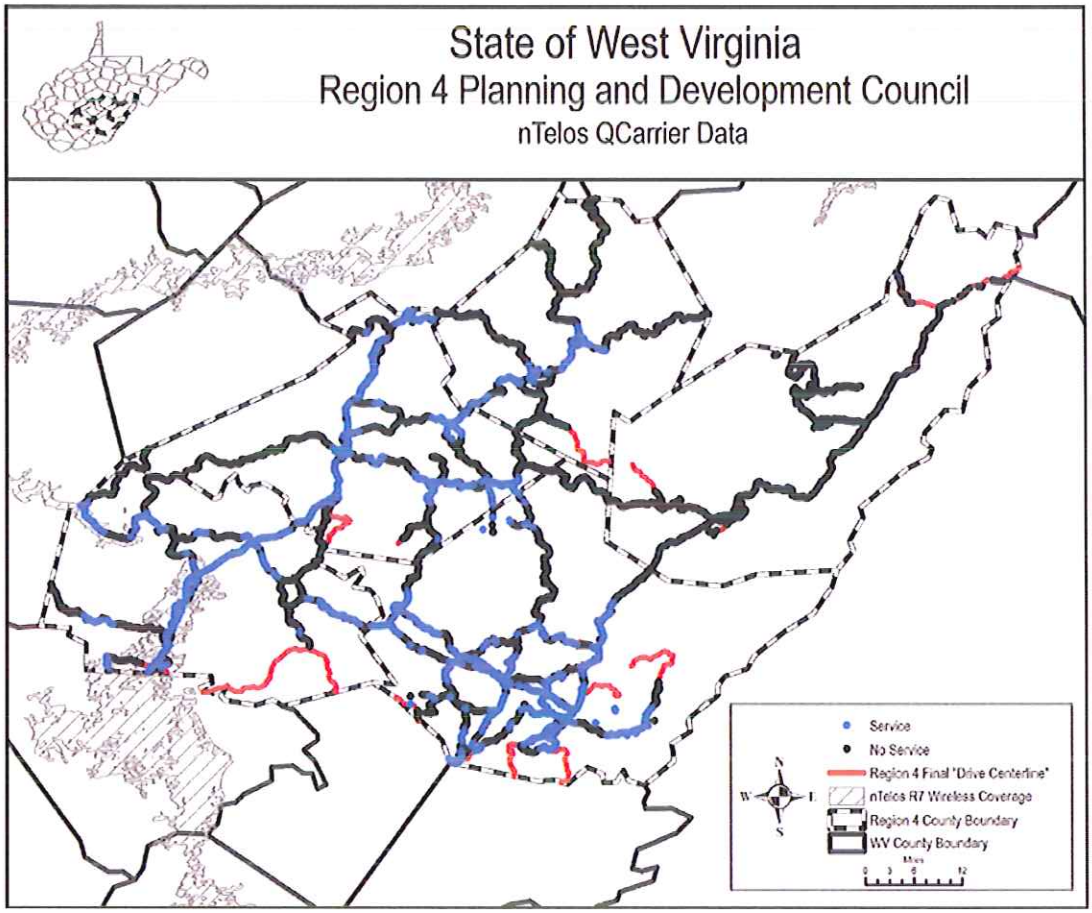

Figure 15—nTelos QCarrier Results, Based on EC/IO

2.2.3 US Cellular QCarrier Results

There were 18,532 points plotted within the US Cellular network in Region 4. The signal strength ranged from -58 to -125 DBm. The EC/IO data ranged from -5 to -160. EC/IO data of -160 indicates areas where calls cannot connect, or calls are dropped constantly.[2] The final drive centerlines shown with no phone data overlaid indicate areas where

[2] http://www.telecomhall.com/what-is-ecio-and-ebno.aspx

the phone was not able to connect to a GPS satellite, had no cellular service, and was not able to track the location of the phone.

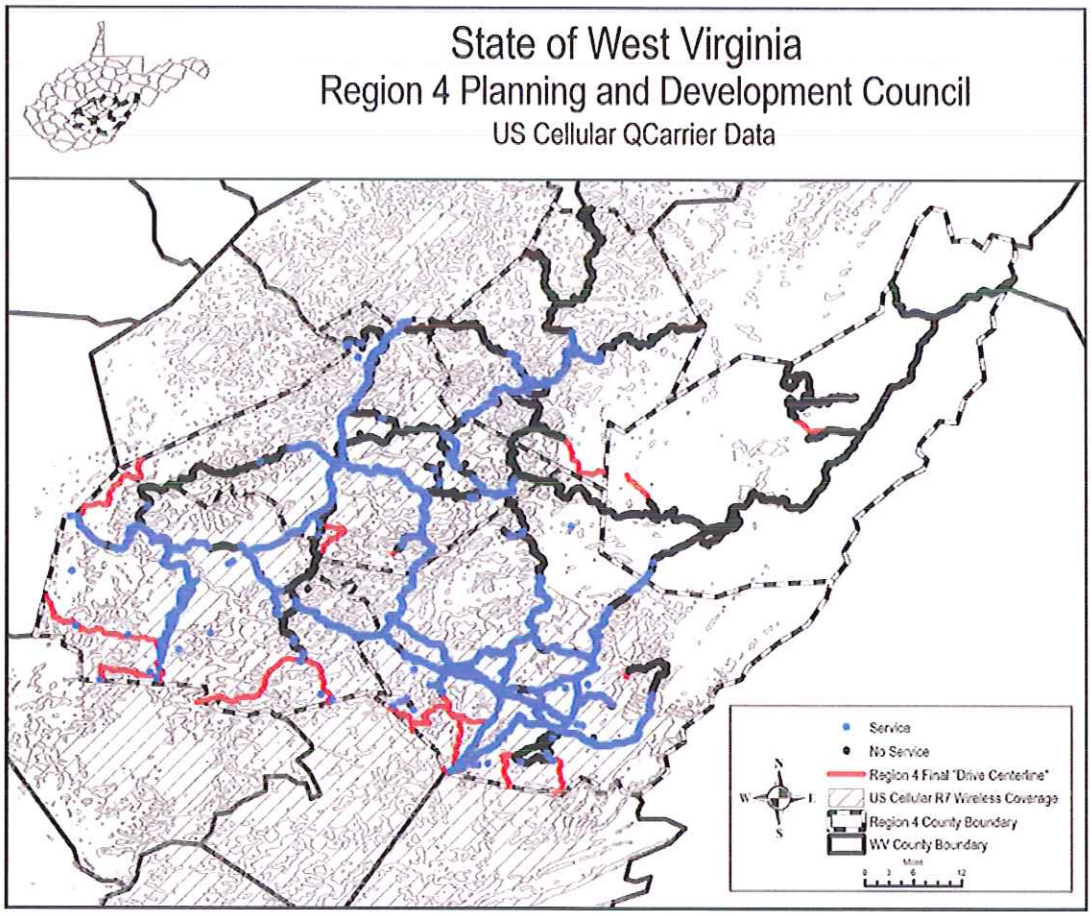

Figure 16—US Cellular QCarrier Results, Based on EC/IO

2.2.4 Verizon QCarrier Results

There were 21,432 points plotted within the Verizon network in Region 4. The signal strength ranged from -55 to -125 DBm. The EC/IO data ranged from -5 to -160. EC/IO data of -160 indicates areas where calls cannot connect, or calls are dropped constantly.[3] The final drive centerlines shown with no phone data overlaid indicate areas where the phone was not able to connect to a GPS satellite, had no cellular service, and was not able to track the location of the phone.

[3] http://www.telecomhall.com/what-is-ecio-and-ebno.aspx

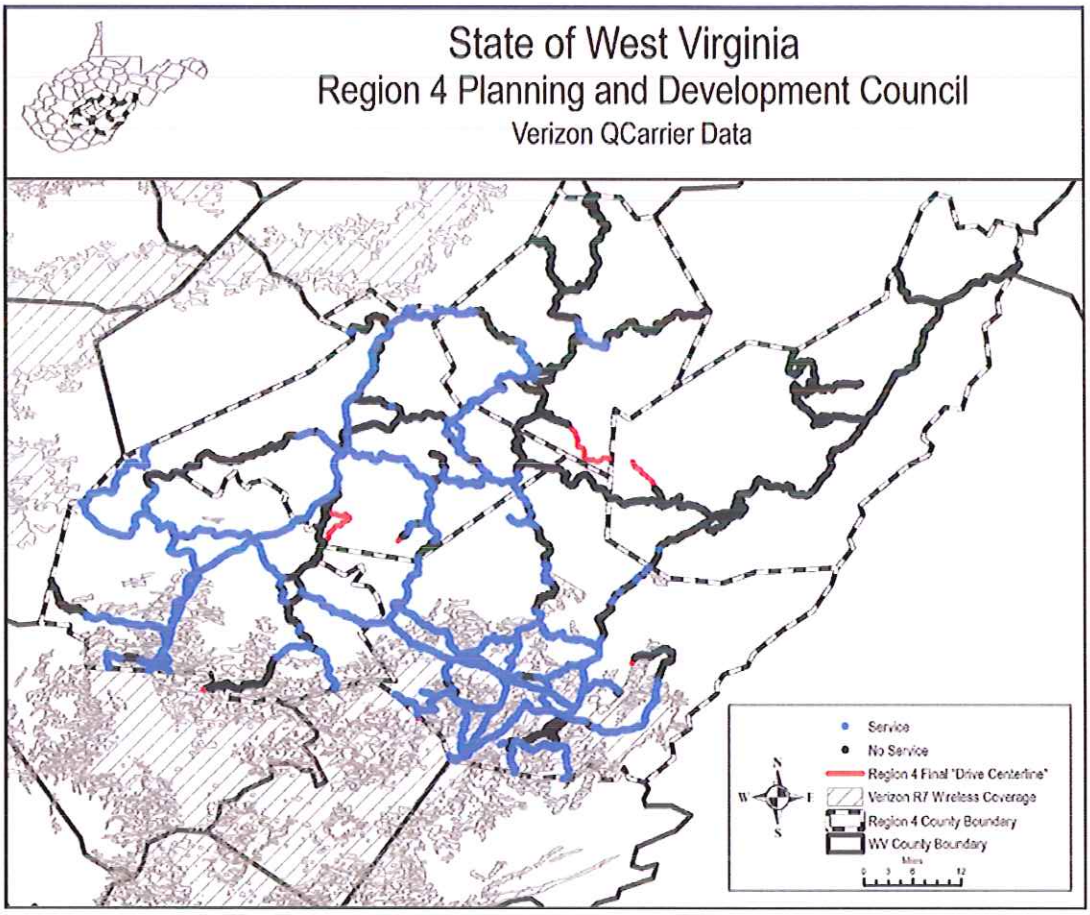

Figure 17—Verizon QCarrier Results, Based on EC/IO

2.3 West Virginia Broadband Mapping Survey Results

As requested by the Region, LR Kimball is providing a summary of participation results for the West Virginia Broadband Mapping Program's Broadband Survey program. Residents of West Virginia have been asked to provide feedback to the State regarding their broadband access. There are two surveys available. One is for broadband feedback, and one is to measure broadband speed at a specific location. The surveys are located at http://gis2.kimballdata.com/westvirginiaonline/WVBroadbandSurvey and http://gis2.kimballdata.com/westvirginiaonline/wvspeedtest. As of June 1, 2013, 272 residents participated in the survey by taking the broadband survey, 283 residents participated by taking the speed test and 142 residents provided user feedback through the broadband survey website. These results are on a statewide basis.

Region 4 had a total of 43 participants: 22 provided user feedback, 16 took the broadband survey and five took the speed test. Of the 22 residents providing user feedback, 9 indicated that the map shows that broadband is available, but in reality it is not available at their residence. The remaining 13 participants indicated "other." Providers listed for the broadband survey and speed test include Frontier, Hughsnet, Shentel and Suddenlink. The majority of residents indicated that they had poor broadband service at their residence/business. Comments include the following:

- This is satellite, we need broadband.
- Frontier's underground phone wires are so bad they break in their technicians hands, and they are out of pairs. So the quality of their service is not good. Many times their connection fails and they lose packets in transmission.
- Would like information about wireless.
- The only solution seems to be aggressive installation of fiber cable throughout rural areas.
- Need faster broadband for economic development!
- Broadband service is not available in my area. In spite of all the money that has been allocated for high speed internet service only very slow dial up is available. The web site listed in the local paper as to the map for this service will not come up.
- No providers are available for my area. Only very slow dial up which is unusable for many things on modern computers. Facility for Broadband is 20 miles from my home, however Frontier Tel co provides DSL 1/8 th mile from my address but will not extend here.
- I do not have internet at my home at all. I have only access to dial up which I have used multiple companies for and they are simply too slow and often pages don't load at all. I want and would use the internet frequently at home if I had broadband.
- The West Virginia School of Osteopathic Medicine currently has contracts with Lumos and Suddenlink for internet service. We have 95 MB capacity, but wish to link into Broadband for I2 capabilities.
- We need DSL for our children's homework requirements and educational needs, especially video training opportunities. Overpriced satellite internet is our only option at this time. Fiber optic cable is currently available within 1.7 miles of our telephone.

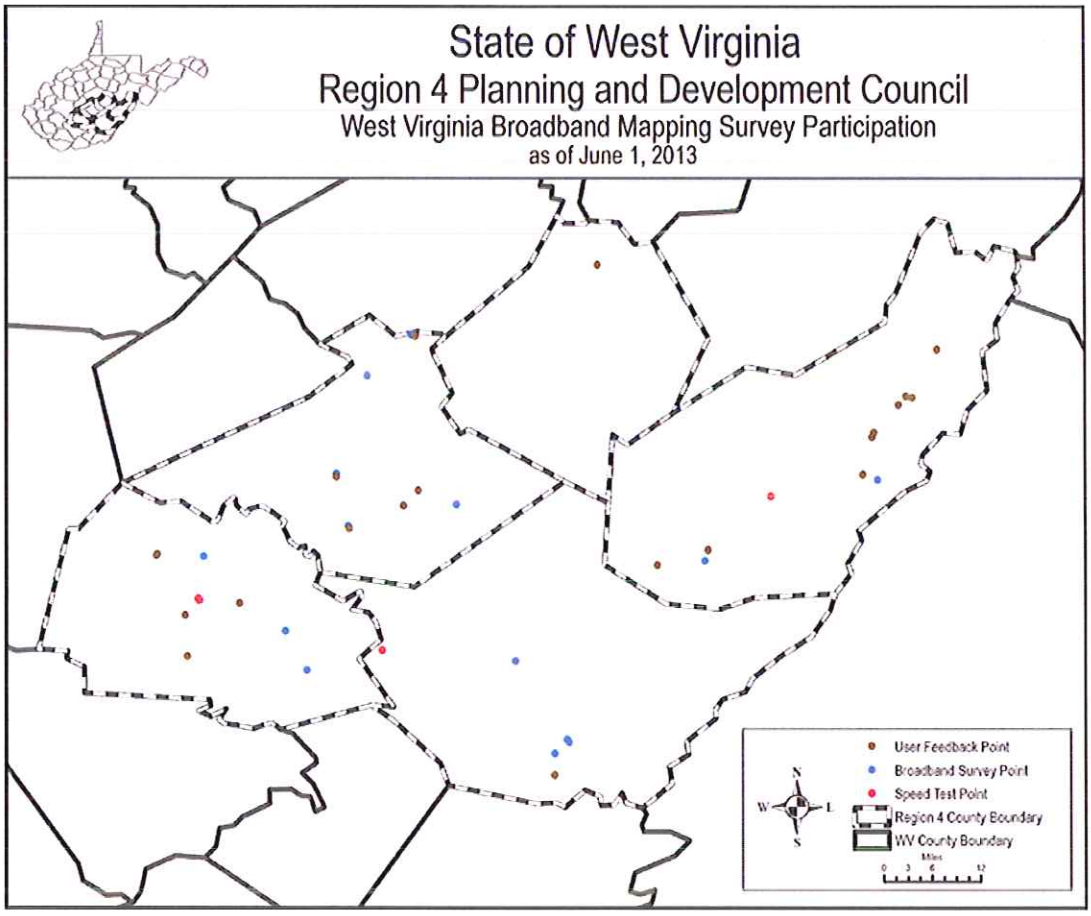

Figure 18—Broadband Survey Participant Locations

3. CONCLUSION

3.1 Carrier Connectivity

Carrier connectivity for the AT&T and US Cellular networks proved to exist as anticipated with good coverage in the urban areas and poor to non-existent coverage in the rural areas of Region 4. Both carriers submitted acceptable designations of their coverage areas to the NTIA. Carrier connectivity for the nTelos and Verizon networks proved to be better than expected and showed discrepancies in reported coverage boundaries for both the urban and rural areas of Region 4.

3.2 Recommendations

There are several areas within Region 4 having very limited cell carrier connectivity. Unfortunately, the topography and demographics of this area of West Virginia is not conducive to the efficient construction of additional cell towers, as it would be difficult to reach a large number of potential customers with one tower. However, it is recommended that the region continue to look at other possible broadband technologies to build out last mile capabilities for residents within the region. Broadband technologies are described in more detail in the following section.

One of the most noted comments by L.R. Kimball field technicians throughout their drive-testing within the State is the lack of appropriate road name signage. It is highly recommended that the regional councils encourage their participating counties to erect street signs at each intersection according to addressing standards once county SAMB addressing data has been verified and approved by the United States Postal Service. The "West Virginia E9-1-1 Addressing Reference Guide, Version 2.1" contains guidelines regarding road signage, and should be used for reference.[4]

It should also be noted that several of the roads traveled during the drive-testing were found to not be suitable for non-four-wheel-drive vehicle use. Some SAMB road classification may need to be reviewed in some areas over time to assure road classifications meet the road types for dispatching vehicles as it may be difficult for emergency vehicles to travel some of these rural roads. Travelers unfamiliar with some of these areas following GPS-given directions could find themselves in a challenging, potentially dangerous road situation if assuming a road is a certain road classification.

3.3 Broadband Technologies

This section will give a high level overview of the different types of bandwidth transport mediums and types of service providers available in the industry today.

3.3.1 Cable

The Cable TV providers throughout the country have migrated and grown to be much more than simply video programming providers. The cable providers are now providing cable internet speeds much faster than DSL, satellite

[4] http://www.dhsem.wv.gov/gis/Documents/reference%20guide.pdf

and dial-up. Another advantage is in discounts that can be realized by the end user through bundled service offerings. These bundled services usually offer TV, high speed internet access and phone services.

The transport method to the end user is typically using fiber optic cables from the head end office at the cable company to a common fiber node in the field which is then converted to coaxial cable to the end user's location. This technology, in conjunction with other elements in the network, allows for high speed internet access to be a reality. With this technology the bandwidth speeds realized can be up to 50 Mbps.

The cable providers are improving as time goes by but consumers are more likely to lose cable service before traditional telephone service. One reason for this may be due to the standards followed by cable providers when installing the outside plant facilities. Poor weather conditions can cause outages.

In areas such as West Virginia, high amounts of rock and granite tend to make the installation of such outside plant facilities expensive to construct, making the offering non cost-effective for the provider.

3.3.2 Fiber Optics

Fiber Optic technology is used by nearly all providers to deliver the voice, video, and data included with high speed internet access. A very high level description of fiber optic technology is an electronic signal (traditional) that is converted to an optical signal through an optical transmitter. This optical signal will transmit through the optical fiber to an end point. In some areas of the country, a few of the local exchange carriers such as Verizon and AT&T have optical service to their residents. Optical gear is expensive to purchase for large networks and the cost of construction, like all outside plants, tends to be expensive to deploy.

The following table and scenario is provided by http://www.lageman.com/bandwidth.htm.[5] Using a file size of **1,000,000,000.00** bytes (1,000.00 Megabytes) the following download speeds are projected using standard calculations and demonstrating bandwidth use with a T1 (1.5Mbps) as the standard. Notice the faster OC speeds are ideal for voice, video, applications mirroring, and disaster recovery hot sites because the speeds of mirroring systems are relatively instantaneous.

128 K	128,000 bps	17:21:40	91% slower
256 K	256,000 bps	8:40:50	83% slower
512K	512,000 bps	4:20:25	66% slower
768 K	768,000 bps	2:53:37	50% slower
T1, DS-1	1.544 Mbps	1:26:21	BASELINE
T3, DS-3	44.736 Mbps	2:59	2,748% faster
OC-3	115.520 Mbps	51	9,973% faster
OC-12	622.080 Mbps	13	40,191% faster
OC-48	2.488 Gbps	3	161,040% faster
OC-192	10 Gbps	1	647,569% faster

Figure 19—Typical Download Speeds Using Standard Mediums

[5] http://www.lageman.com/bandwidth.htm

3.3.3 Digital Subscriber Line

Where typically delivered by the Local Exchange Carriers (LEC), which provide very reliable services, there is normally very little downtime using Digital Subscriber Line (DSL). The DSL services provided by the LECs are competitive in price to other service providers in the same market segment. DSL can be purchased at different speeds up to a maximum speed. DSL can use a medium transport for data over the existing twisted pair cabling.

Advertised bandwidth speeds for DSL are good and much better than dial-up services. DSL is typically delivered by the LECs over twisted pair facilities which may limit the through-put speeds desired. Extremely fast speed may require other types of services such as Asymmetrical Digital Subscriber Line (ADSL) and Symmetrical Digital Subscriber Line (SDSL), T-1, T-3 etc.

3.3.4 Wireless

Wireless technology uses radio waves as a medium of communication.

With consideration to the remote locations attempting to be serviced http://www.broadband.gov describes wireless broadband in the following five bullets:[6]

- Wireless broadband connects a home or business to the Internet using a radio link between the customer's location and the service provider's facility. Wireless broadband can be mobile or fixed.

- Wireless technologies using longer-range directional equipment provide broadband service in remote or sparsely populated areas where DSL or cable modem service would be costly to provide. Speeds are generally comparable to DSL and cable modem. An external antenna is usually required.

- Wireless broadband Internet access services offered over fixed networks allow consumers to access the Internet from a fixed point while stationary and often require a direct line-of-sight between the wireless transmitter and receiver. These services have been offered using both licensed spectrum and unlicensed devices. For example, thousands of small Wireless Internet Services Providers (WISPs) provide such wireless broadband at speeds of around one Mbps using unlicensed devices, often in rural areas not served by cable or wireline broadband networks.

- Wireless Local Area Networks (WLANs) provide wireless broadband access over shorter distances and are often used to extend the reach of a "last-mile" wireline or fixed wireless broadband connection within a home, building, or campus environment. Wi-Fi networks use unlicensed devices and can be designed for private access within a home or business, or be used for public Internet access at "hot spots" such as restaurants, coffee shops, hotels, airports, convention centers, and city parks.

- Mobile wireless broadband services are also becoming available from mobile telephone service providers and others. These services are generally appropriate for highly-mobile customers and require a special PC

[6] http://www.broadband.gov/broadband_types.html#wireless

card with a built in antenna that plugs into a user's laptop computer. Generally, they provide lower speeds, in the range of several hundred Kbps.

3.3.4.1 Cellular

Cellular Internet service is based on a cellular architecture that consists of a backbone network with fixed base stations interconnected through the wired public switched telephone network (PSTN).

3.3.4.2 Satellite

Satellite access is another type of wireless transport.

One should consider that satellite communications can be highly affected by atmospheric conditions as well as severe weather. Intermittent and sporadic interruptions are very possible.

Lower orbiting satellites are used today to provide many services to our population such as (but not limited to) communications and video transmission. Satellite broadband is also a key element in providing necessary links for delivering access to the end user. Although faster than dial-up one could realize speeds of 500 Kbps downstream and 80 to 100 Kbps upstream.

3.3.4.3 WiMAX

The network WiMAX is known as Worldwide Interoperability for Microwave Access and known to the technical community as IEEE, 802.16 (WiMAX). WiMAX is thought by many to be the technology that will deliver access to the majority of the population in the near future. WiMAX is an option when considering the last mile connection to the end user.

The data rates are 30 to 70 Mbps. A 30 mile radius for access is possible. WiMAX provides qua broadband access and has a very high penetrability, in that the microwaves it emits can be accessed by nearly every point in its coverage area. Access is from fixed or mobile devices, desktops at home or work, smart phones etc. VoIP is possible as well.

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APPENDIX A—QOS SOLUTIONS ANDROID APPLICATIONS

The QoS Solutions Android Applications can be found on the following pages.

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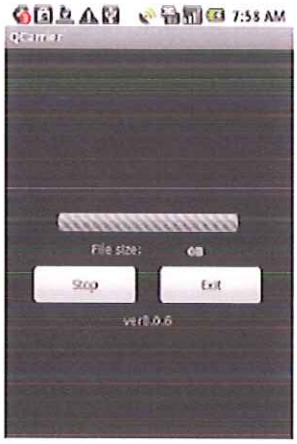
Instructions for Running QoS Solutions Android Applications

The applications will be sent to you as attachments in an email from qos-solutions.com or from your account administrator.

Please review the Download and Installations Document for further information.

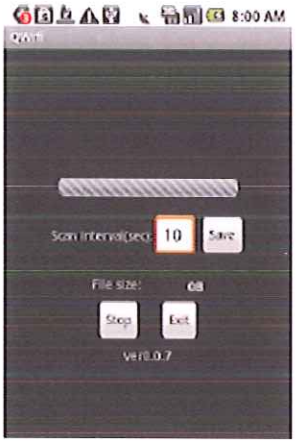
QCarrier

QCarrier will automatically create a file each time it starts on the SD Card of your phone. The app will automatically create records every 10 seconds or whenever the signal changes. The file size will not show up until the file exceeds 1MB.



QWiFi

QWiFi is designed for locating and recording WiFi services. It also creates a file on the SD card each time it starts.



QPerf

QPerf is designed to measure the carriers connectivity. It is recommended that you hit the Menu Button and turn off WiFi so that you measure the carrier's performance and not WiFi. You should remain in the same location until it completes.

QPerf will run every 5 minutes until you stop or exit the program. QPerf does not record any data locally. All data is sent to the QoS website for downloading.

QMapper

QMapper is designed for those locations such as downtown locations where GPS is unreliable. The application will download a map so that you can pinpoint your exact location and run any or all of the tests such as QCarrier, QWiFi and QPerf.

Q Carrier	
Field	Description
accuracy	accuracy of the fix in meters
carrier_cid	cell id in GSM, UNKNOWN_CID if in UMTS or CDMA
carrier_lac	Location Area Code in GSM, UNKNOWN_CID if in UMTS or CMDA
date_stamp_date	They calendar day of the measurement..
date_stamp_hours	The hour of the measurement.
date_stamp_minutes	The minutes into the hour of the measurement.
date_stamp_month	The numeric month of the measurement.
date_stamp_seconds	The seconds into the minute of the measurement.
date_stamp_time_zone	The time zone (hours +/- GMT) of the measurement.
date_stamp_year	The year of the measurement.
latitude	Phone latitude
longitude	Phone longitude
newtwork_type	The carrier type of network
phone_type	CDMA or GSM
remote_id	The IMEI of the phone
signal_level	The strength of the signal, measured in either RSSI (for GSM phones) or dbm (for CDMA and EVDO) phones
sim_operator_name	Provider name
Phone_Name	MBI Calculated field

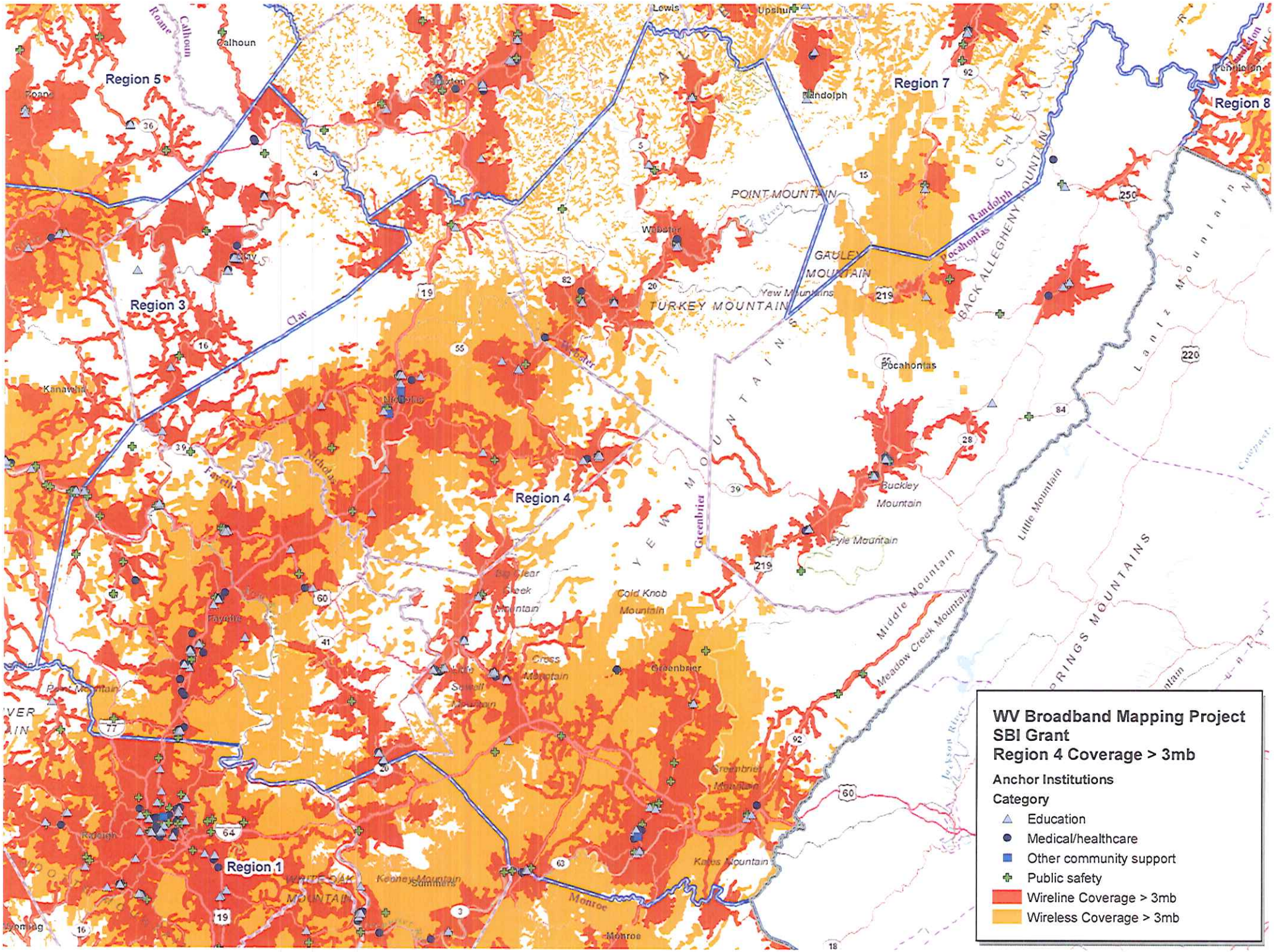
Route	MBI Calculated field

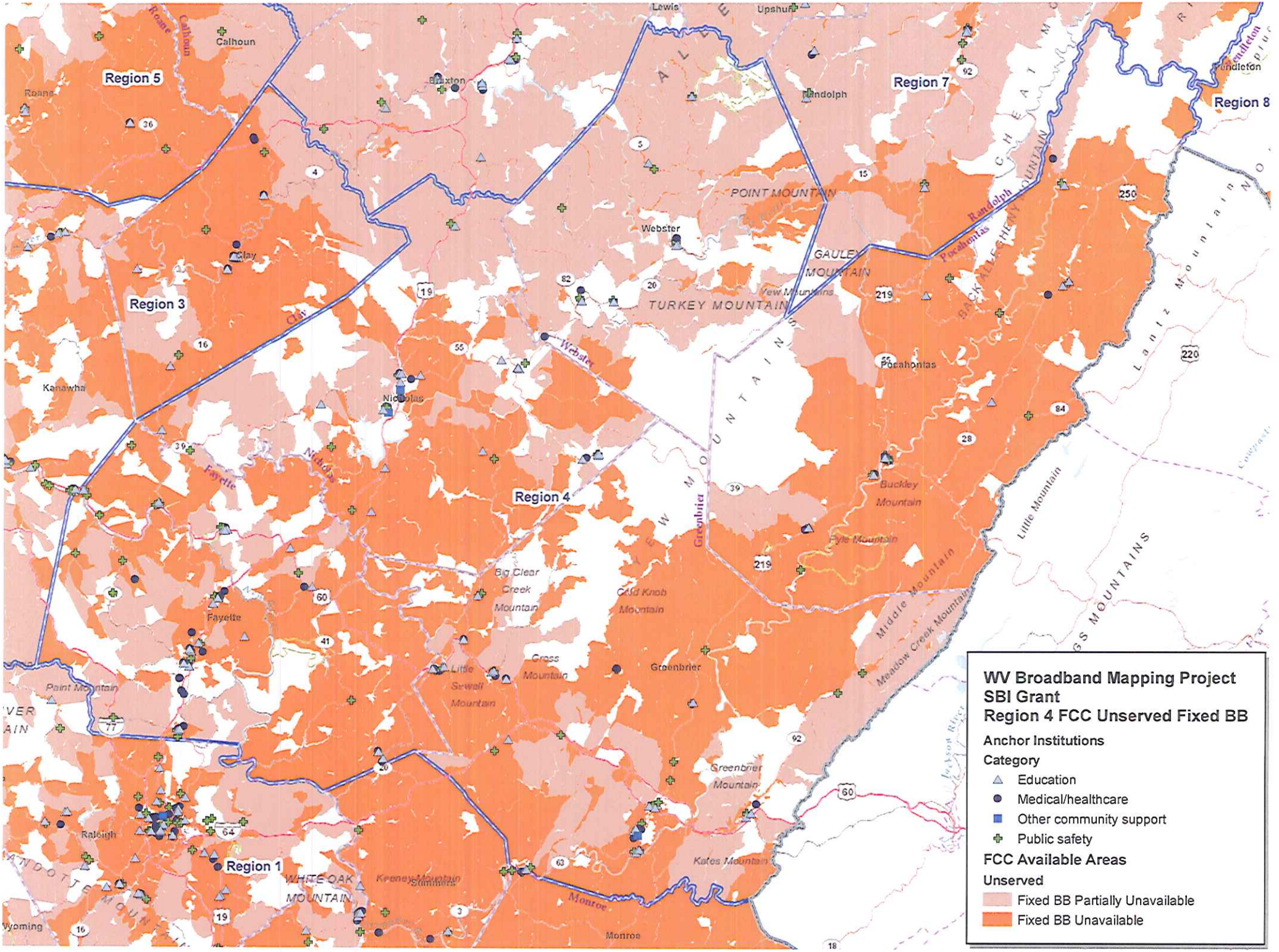
Q Perf	
Field	Description
Timestamp	Date and Time from QPerf.
_Location	The phone that data was gathered from.
_Internal_IP	In a NAT environment, this is the IP address of the device which would be different from the External IP
_External_IP	This is the IP address of the device as seen from the internet
_Latitude	Phone Latitude
_Longitude	Phone Longitude
_Inbound_Jitter__msecs	This is a measure of the variance in interarrival packet delays calculated according to RFC 1889
_Inbound_Dropped___	Packets dropped from server to phone.
_Inbound_Out_of_Order___	Packets which arrived at phone not in the order sent from server
_Outbound_Latency__msecs	This is calculated as the average round trip time of a set of UDP packets sent to the server and returned to the device.
_Outbound_Jitter_msecs	This is a measure of the variance in interarrival packet delays calculated according to RFC 1889
_Outbound_Dropped___	Packets dropped from phone to server.
_Outbound_Out_of_Order___	Packets which arrived at server in not in the order sent from phone
_Inbound_Bandwidth_kbps_	This is calculated using the total number of data bytes received * 8 / time to completion
_Outbound_Bandwidth_kbps_	See above
_Target	Qperf.net
_UDP_TOS_	These settings are available in the NetQualtiy Analyzer to enable testing based on TOS Values typically used in carrier MPLS networks for prioritizing traffic
_TCP_TOS	See above
Provider	MBI Calculated field

Route	MBI Calculated field
YEAR	MBI Calculated field
MONTH	MBI Calculated field
DAY	MBI Calculated field
MINUTES	MBI Calculated field
HOUR	MBI Calculated field
Upstream_Req_Met	MBI Calculated field. Value is 1 if the [_Outbound_Bandwidth_kbps_] value greater than 200
Downstream_Req_Met	MBI Calculated field. Value is 1 if the [_Inbound_Bandwidth_kbps_] value greater than 786

Q Wifi	
Field	Description
hours	Timestamp Hours
minutes	Timestamp Minutes
Seconds	Timestamp Seconds
time_zone	Time Zone of Phone
Remote_iD	Phone IMEI
latitude	Latitude in Degrees
longitude	Lontitude in Degrees
accuracy	Accuracy of GPS fix in meters
ssid_name	SSID Name
ssid_id	Numeric ID of SSID
ssid_capabilities	SSID Capabilities
ssid_frequency	SSID Frequency
ssid_level	The detected signal level in dBm

Appendix E


Region 1
Region 3
Region 4
Region 5
Region 7
Region 8
Calhoun
Lewis
Upshur
Randolph
Webster
Pocahontas
Kanawha
Fayette
Greenbrier
Monroe
POINT MOUNTAIN
GAULEY MOUNTAIN
TURKEY MOUNTAIN
YEW MOUNTAINS
BACK ALLEGHENY MOUNTAIN
Buckley Mountain
Middle Mountain
Meadow Creek Mountain
Little Mountain
Cold Knob Mountain
Kates Mountain
Keeney Mountain
WHITE OAK MOUNTAIN
WV Broadband Mapping Project
SBI Grant
Region 4 Coverage > 3mb
Anchor Institutions
Category
Education
Medical/healthcare
Other community support
Public safety
Wireline Coverage > 3mb
Wireless Coverage > 3mb


WV Broadband Mapping Project
SBI Grant
Region 4 FCC Unserved Fixed BB
Anchor Institutions
Category
Education
Medical/healthcare
Other community support
Public safety
FCC Available Areas
Unserved
Fixed BB Partially Unavailable
Fixed BB Unavailable
Region 1
Region 3
Region 4
Region 5
Region 7
Region 8
Calhoun
Roane
Clay
Kanawha
Fayette
Nicholas
Webster
Randolph
Pocahontas
Greenbrier
Monroe
Raleigh
Wyoming
Summers
Lewis
Upshur
Pendleton
POINT MOUNTAIN
GAULEY MOUNTAIN
TURKEY MOUNTAIN
Yew Mountains
Buckley Mountain
Pyle Mountain
Big Clear Creek Mountain
Cold Knob Mountain
Little Sewell Mountain
Cross Mountain
Greenbrier Mountain
Kates Mountain
Middle Mountain
Meadow Creek Mountain
Little Mountain
Paint Mountain
WHITE OAK MOUNTAIN
Keeney Mountain
Lantz Mountain
Jackson River