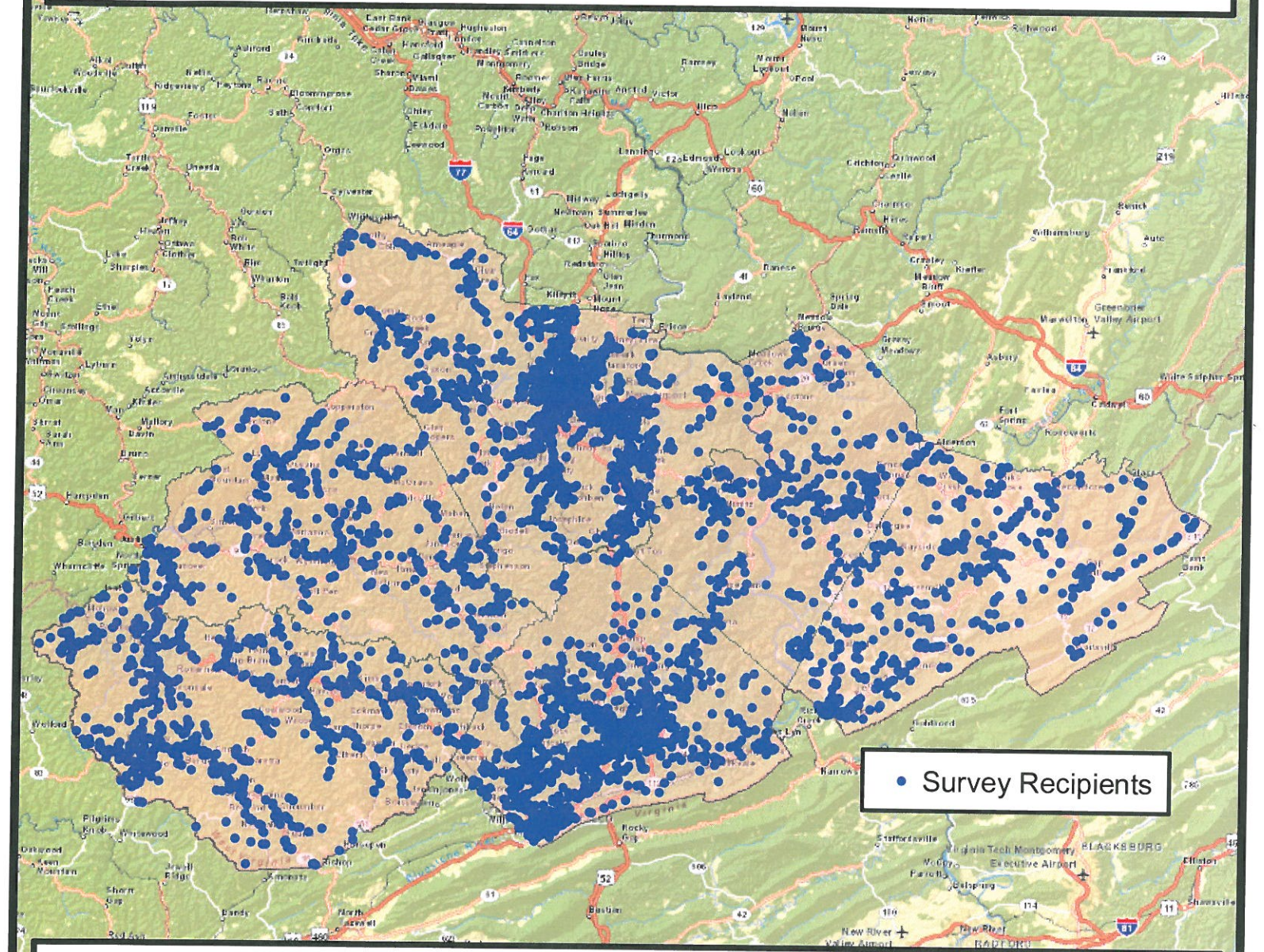
Region I Broadband Strategic Plan



Prepared By Region I Planning & Development Council

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Funded and Supported By:
The West Virginia Geologic and Economic Survey, the American Recovery and Reinvestment Act, and the West Virginia Office of GIS Coordination

REGION 1 BROADBAND STRATEGIC PLAN

Index

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 and, at the individual organization level, and perform a review of patterns of utilization, gaps, barriers and opportunities, resulting in customized information that will encourage organization 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 in conducting benchmarking surveys across the 11 regions of the State, the Broadband Mapping Program (BMP) 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 development effective and comprehensive regional strategic broadband initiatives and

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

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 1 Planning & Development Council was designated to serve McDowell, Mercer, Monroe, Raleigh, Summers and Wyoming counties and the municipalities contained within. Region 1 consists of 2,921 square miles and a population of 214,461 (2010 Census). After a series of organizational meetings with the local officials of those counties and the adoption of its bylaws, the Region 1 Planning & Development Council began operations in 1973.

Region 1 includes six (6) counties and twenty-seven (27) municipalities. According to the 2010 Census, the municipal governments range in size of population from 121 persons in Oakvale, Mercer County, to 17,614 persons in Beckley, Raleigh County. The municipalities range in age from Union, Monroe County, incorporated in 1800, to Bradshaw, McDowell County, incorporated in 1979. It should also be noted that the metropolitan area of Beckley recently received an "urbanized area" designation from the U.S. Census Bureau, triggering the formation of a two-county Metropolitan Planning Organization.

Region 1 Mission Statement – "It is the vision of the Region I Planning and Development Council to promote and develop economic prosperity for every person and family in the region, while simultaneously protecting and ensuring a safe, natural environment. The Region's goal is to provide developments that are indicative of our balanced land use strategy in an orderly, yet flexible, well managed and inclusive manner. The strategy behind this vision is to provide and encourage, where feasible, the following amenities and services in the shortest timeframe possible: adequate and safe water supplies; sanitary sewer and solid waste disposal; employment opportunities of a diversified range; support of local educational system and work force training programs; the development of effective transportation networks and health care systems; decent housing at affordable price ranges in a suitable environment of each family's choice; and to pass the region's natural beauty, clean air and pristine water to future generations."

The PDC'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.

The initial work of the Planning Teams occurred of 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 circumstances, technologies and the results of the previous implementation efforts.

The Broadband Planning Team of Region 1 Planning and Development Council are as follows:

- Shane Ashley – Monroe County Commission
- Janet Bailey – Mercer County Economic Development Authority
- Dr. William Boyd – Health Care Sector
- Chuck Elliott – Concord University
- Tim Ellison – Mayor, Town of Pineville
- Steve Lipscomb – Summers County Emergency Services
- Dr. Marshall Long – Health Care Sector
- Doug Maddy – Southern WV Convention and Visitor's Bureau
- Dr. Craig Mohler – Monroe Watchman Newspaper
- Rick Moorefield – West Virginia University Extension Agent
- Jodi Richmond – West Virginia University Extension Agent
- Deya Terrafranca – Summers County Public Library
- Myra Ziegler – Summers County Public Library
- Carol McKinney – Mercer County Economic Development Authority
- Dr. Steven Richman – Health Care Sector
- Tony Simental – WV GIS Coordinator

Regional Overview

The Region 1 Planning & Development Council serves the counties of McDowell, Mercer, Monroe, Raleigh, Summers and Wyoming and is located in the southern portion of West Virginia. The area is comprised of both the Ridge and Valley and Appalachian Plateau physiographic provinces. The entirety of Region 1 is located within a day's drive of the largest population centers of the U.S. east coast.

The region encompasses a total land area of 2921.32 square miles or 12% of the total land area of West Virginia. The area is heavily forested, has many mineral deposits and has many natural scenic sites. A large portion of the land is undeveloped, with several portions being owned by the State or Federal government.

Region 1 is known for its many tourist attractions such as white-water rafting, hunting, fishing, snow skiing, mountain biking, ATV trails, recreational boating, etc. The region is also blessed with various state parks as well as nationally recognized recreational areas.

Region 1 is rich in natural resources such as coal, natural gas, hydroelectric, timber, limestone, scenic beauty, wildlife, national rivers, national parks and recreational areas, whitewater rafting, snow skiing, etc. With the abundance of these resources, the Region 1 counties are becoming more of a tourism destination.

McDowell County

McDowell County was founded in 1858. The municipalities of McDowell County are Anawalt, Bradshaw, Davy, Gary, Iaeger, Keystone, Kimball, Northfork, War, and Welch. McDowell County is not part of a metropolitan planning area. The county's population in 2012 was estimated to be at 21,326.[1] It has 533.5 sq. miles in land area and a population density of 40.0 per square mile. On the most recent census form, 98.9% of the population reported only one race, with 9.5% of these reporting African-American. The population of this county is 0.4% Hispanic (of any race). The average household size is 2.40 persons compared to an average family size of 2.90 persons.

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

In 2012 Public administration was the largest of 20 major sectors. It had an average wage per job of $36,313. Per capita income grew by 31.1% between 2001 and 2011 (adjusted for inflation).

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)	21,326	1767	Covered Employment	6,259	1778
Growth (%) since 2010 Census	-3.6%	3061	Avg wage per job	$46,689	271
Households (2011)	8,292	1785	Manufacturing - % all jobs in County	0.5%	2758
Labor Force (persons) (2012)	7,761	2016	Avg wage per job	$38,775	1791
Unemployment Rate (2012)	9.7	645	Transportation & Warehousing - % all jobs in County	5.7%	389
Per Capita Personal Income (2011)	$27,360	2708	Avg wage per job	$45,498	957
Median Household Income (2011)	$23,751	3129	Health Care, Social Assist. - % all jobs in County	D	N/A
Poverty Rate (2011)	34.2	63	Avg wage per job	D	N/A
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	59.9	3,192	Finance and Insurance - % all jobs in County	1.9%	2049
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	6.3	3,211	Avg wage per job	$29,888	2601

In 2011 McDowell had a per capita personal income (PCPI) of $27,360. This PCPI ranked 37th in the state and was 82 percent of the state average, $33,403, and 66 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 8.6 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 McDowell was $16,435 and ranked 50th in the state. The 2001-2011 compound annual growth rate of PCPI was 5.2 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.

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McDowell County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	6,257	$292,071,412	$46,679	6,333	$296,238,147	$46,777
Total, Private Sector	4,155	218,327,372	52,546	4,246	224,039,453	52,765
Natural Resources and Mining	1,831	139,270,555	76,063	1,964	152,137,482	77,463
Construction	148	11,950,818	80,749	125	10,358,058	82,864
Manufacturing	33	1,289,267	39,069	28	1,161,543	41,484
Trade, Transportation, and Utilities	972	28,381,436	29,199	1,015	29,704,601	29,266
42 Wholesale trade*	23	618,377	26,886	26	586,058	22,541
44-45 Retail trade	647	13,303,001	20,561	663	13,428,041	20,253
48-49 Transportation and warehousing*	288	13,627,145	47,316	313	14,974,822	47,843
Information	59	2,338,948	39,643	59	2,331,395	39,515
Financial Activities	150	7,646,162	50,974	139	5,923,318	42,614
Professional and Business Services	246	12,229,367	49,713	195	7,209,964	36,974
Education and Health Services	444	10,632,387	23,947	453	10,458,495	23,087
Leisure and Hospitality	172	2,257,914	13,127	172	2,325,069	13,518
Other Services	100	2,301,943	23,019	96	2,429,528	25,308
Government	2,103	73,744,040	35,066	2,087	72,198,694	34,594
Federal Government	369	20,027,883	54,276	370	19,606,056	52,989
State Government	490	16,008,157	32,670	486	15,684,968	32,274
Local Government	1,244	37,708,000	30,312	1,232	36,907,670	29,958

Demographics (2010 Census)	
Total Population 2012	21,326
Total Population 2000	27,127
Total Population 1990	35,233
Total Population 1980	49,899
Total Population 1970	50,666
Sex and Age	
Male	10,937
Female	11,176
Ages 14 and below	3,599
Ages 15 to 19	1,319
Ages 20 to 24	1,206
Ages 25 to 34	2,546
Ages 35 to 44	2,783
Ages 45 to 54	3,500
Ages 55 to 64	3,502
Ages 65 and older	3,658
Median Age	43.8
Race	
White	19,710
Black or African American	2,107
American Indian and Alaska Native	34
Asian	15
Native Hawaiian and Other Pacific	0
Some other race	11
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	McDowell County Board of Education
2	Parsley Enterprises, Inc.
3	Welch Emergency Hospital
4	Department of Justice
5	XMV, Inc.
6	McDowell County Commission
7	Extra Energy, Inc.
8	Brooks Run Mining Company, LLC
9	Wal-Mart Associates, Inc.
10	McDowell Nursing & Rehabilitation Center, Inc.

Worker Commuting Patterns

	Total	*Male*	*Female*
Number	5,354	2,763	2,591
Worked in state of residence:	5,006	2,516	2,490
Worked in county of residence	4,224	1,993	2,231
Worked outside county of residence	782	523	259
Worked outside state of residence	348	247	101

2010 American Community Survey 5-Year Estimates

Income

Total Personal Income (000)	2011	$594,507
Percapita Personal Income	2011	$27,360

Household Income*	*Number*
Less than $10,000	2,036
$10,000 to $14,999	1,392
$15,000 to $24,999	1,999
$25,000 to $34,999	1,363
$35,000 to $49,999	1,284
$50,000 to $74,999	852
$75,000 to $99,999	314
$100,000 to $149,000	172
$150,000 or more	80
Median Household Income (2011)	$23,751

*US Census Bureau

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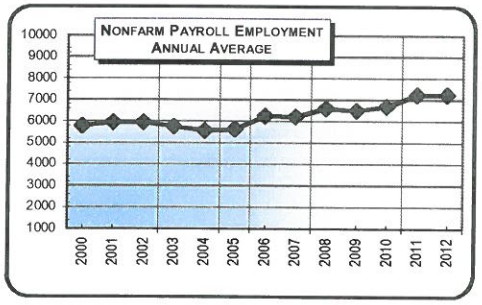
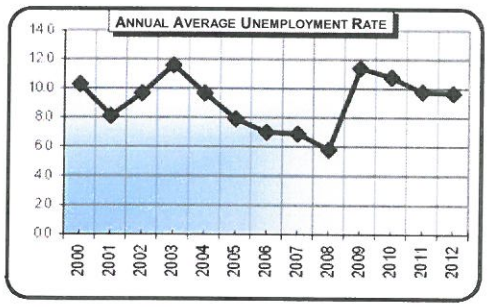
County:	McDowell												
County Seat:	Welch												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	7,090	6,970	6,980	6,830	6,440	6,470	7,000	6,910	7,110	7,390	7,410	7,770	7,760
Total Employment	6,360	6,410	6,310	6,030	5,820	5,960	6,500	6,430	6,700	6,550	6,610	7,000	7,010
Total Unemployment	730	560	680	790	630	510	490	480	410	840	800	760	750
Unemployment Rate	10.3	8.1	9.7	11.6	9.7	7.9	7.0	6.9	5.8	11.4	10.8	9.8	9.7
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	5,780	5,940	5,940	5,750	5,550	5,620	6,240	6,210	6,600	6,500	6,690	7,230	7,230
Total Private	3,700	3,930	3,940	3,800	3,650	3,770	4,330	4,330	4,710	4,570	4,630	5,040	5,010
Goods Producing	880	1,030	970	840	970	1,040	1,200	1,270	1,700	1,720	**	**	**
Mining and Logging	750	850	860	740	850	910	1,110	1,170	1,520	1,420	**	**	**
Construction	60	110	50	50	60	70	40	40	130	260	140	130	150
Manufacturing	60	70	60	50	60	60	60	60	60	40	20	30	30
Service Providing	4,900	4,900	4,970	4,900	4,580	4,590	5,040	4,940	4,900	4,780	**	**	**
Private Service Providing	2,830	2,900	2,970	2,960	2,680	2,740	3,130	3,060	3,010	2,850	**	**	**
Trade, Transportation and Util	990	960	930	970	860	920	1,240	1,210	1,130	980	1,050	1,080	1,030
Wholesale Trade	30	30	30	40	40	40	30	30	30	30	**	**	**
Retail Trade	730	710	670	670	580	610	920	900	800	650	660	660	640
Transport, Warehousing & Util	230	230	240	260	240	280	290	270	300	300	**	**	**
Information	60	60	60	60	50	60	70	90	90	70	**	**	**
Financial Activities	210	220	220	210	190	160	160	160	150	130	**	**	**
Profess and Business Serv	180	170	170	190	170	160	170	180	200	210	**	**	**
Education and Health Serv	470	540	620	560	450	470	520	480	450	470	**	**	**
Leisure and Hospitality	190	180	190	180	150	160	190	170	190	190	**	**	**
Other Services	720	780	790	800	800	800	790	790	790	800	**	**	**
Total Government	2,070	2,010	2,000	1,950	1,900	1,850	1,910	1,880	1,890	1,920	2,070	2,190	2,220
Federal	100	90	90	90	80	80	80	70	80	80	200	370	370
State	530	540	530	540	510	500	490	480	490	490	490	490	490
Local	1,440	1,390	1,380	1,320	1,310	1,270	1,340	1,320	1,330	1,350	1,370	1,340	1,350

Benchmark 2012 *** not available*





Mercer County

Mercer County was founded in 1837. The municipalities of Mercer County are Athens, Bluefield, Bramwell, Matoaka, Oakvale and Princeton. Mercer County is not part of a metropolitan planning area. The county's population in 2012 was estimated to be at 62,523.[2] It has 419 sq. miles in land area and a population density of 149.2 per square mile. On the most recent census form, 98.6% of the population reported only one race, with 6.1% of these reporting African-American. The population of this county is 0.8% Hispanic (of any race). The average household size is 2.30 persons compared to an average family size of 2.80 persons.

In 2012 health care and social assistance was the largest of 20 major sectors. It had an average wage per job of $36,343. Per capita income grew by 10.0% between 2001 and 2011 (adjusted for inflation).[3]

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)	62,523	836	Covered Employment	20,857	843
Growth (%) since 2010 Census	0.4%	1231	Avg wage per job	$33,873	1644
Households (2011)	25,611	795	Manufacturing - % all jobs in County	5.7%	2051
Labor Force (persons) (2012)	24,099	985	Avg wage per job	$43,598	1340
Unemployment Rate (2012)	7.4	1600	Transportation & Warehousing - % all jobs in County	1.8%	1718
Per Capita Personal Income (2011)	$32,656	1768	Avg wage per job	$45,552	943
Median Household Income (2011)	$33,500	2687	Health Care, Social Assist. - % all jobs in County	16.9%	396
Poverty Rate (2011)	21.5	686	Avg wage per job	$36,343	1032
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	80.6	2,194	Finance and Insurance - % all jobs in County	2.2%	1691
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	16.8	1,659	Avg wage per job	$40,601	1573

In 2011 Mercer had a per capita personal income (PCPI) of $32,656. This PCPI ranked 14th in the state and was 98 percent of the state average, $33,403, and 79 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 4.2 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 Mercer was $23,374 and ranked 16th 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.

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

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

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Mercer County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	20,859	$706,541,529	$33,872	21,152	$698,791,036	$33,037
Total, Private Sector	15,987	520,713,878	32,571	16,281	516,743,627	31,739
Natural Resources and Mining	238	14,781,478	62,107	284	17,769,234	62,568
Construction	644	27,072,924	42,039	678	26,257,142	38,727
Manufacturing	1,192	51,988,616	43,615	1,243	54,252,422	43,646
Trade, Transportation, and Utilities	4,275	133,215,182	31,161	4,300	132,561,592	30,828
42 Wholesale trade	662	30,575,121	46,186	679	30,842,999	45,424
44-45 Retail trade	3,266	85,454,060	26,165	3,221	82,884,968	25,733
48-49 Transportation and warehousing	239	9,357,888	39,154	292	11,275,205	38,614
Information	329	12,496,649	37,984	337	12,509,483	37,120
Financial Activities	624	24,371,251	39,056	665	24,617,630	37,019
Professional and Business Services	1,817	65,388,095	35,987	1,918	64,565,255	33,663
Education and Health Services	3,579	129,126,801	36,079	3,553	123,031,097	34,627
Leisure and Hospitality	2,402	33,681,029	14,022	2,422	32,717,642	13,509
Other Services	880	28,176,443	32,019	881	28,462,130	32,307
Government	4,872	185,827,651	38,142	4,871	182,047,409	37,374
Federal Government	197	11,838,602	60,094	207	12,705,634	61,380
State Government	1,315	51,298,251	39,010	1,303	49,545,672	38,024
Local Government	3,360	122,690,798	36,515	3,361	119,796,103	35,643

Demographics (2010 Census)	
Total Population 2012	62,523
Total Population 2000	62,926
Total Population 1990	64,980
Total Population 1980	73,942
Total Population 1970	63,206
Sex and Age	
Male	29,754
Female	32,510
Ages 14 and below	10,565
Ages 15 to 19	3,944
Ages 20 to 24	3,928
Ages 25 to 34	7,031
Ages 35 to 44	7,526
Ages 45 to 54	8,615
Ages 55 to 64	9,442
Ages 65 and older	11,213
Median Age	42.5
Race	
White	57,009
Black or African American	3,791
American Indian and Alaska Native	141
Asian	325
Native Hawaiian and Other Pacific	2
Some other race	107
Two or more races	889

Top 10 Employers	
March 2012	
1	Mercer County Board of Education
2	Princeton Community Hospital Association
3	Echosphere LLC
4	Bluefield Regional Medical Center, Inc.
5	Concord University
6	Wal-Mart Associates, Inc.
7	Southern Highlands Community Mental
8	RSCR West Virginia, Inc. (Community Alternatives West Virginia)
9	Conn-Weld Industries, Inc.
10	Bluefield State College

Worker Commuting Patterns	*Total*	*Male*	*Female*
Number	21,996	11,189	10,807
Worked in state of residence:	18,574	8,996	9,578
Worked in county of residence	16,959	8,057	8,902
Worked outside county of residence	1,615	939	676
Worked outside state of residence	3,422	2,193	1,229

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$2,039,854
Percapita Personal Income	2011	$32,656
Household Income*		*Number*
Less than $10,000		3,677
$10,000 to $14,999		2,540
$15,000 to $24,999		4,421
$25,000 to $34,999		3,384
$35,000 to $49,999		4,193
$50,000 to $74,999		3,833
$75,000 to $99,999		1,870
$100,000 to $149,000		1,250
$150,000 or more		464
Median Household Income (2011)		$33,500

*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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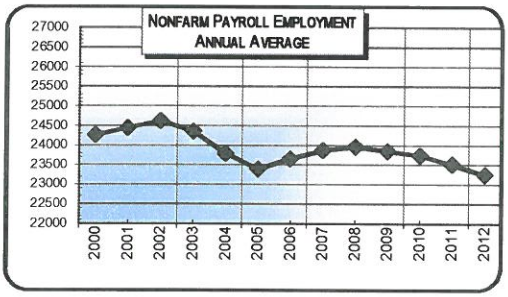
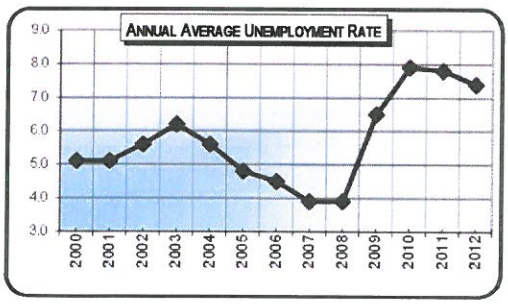
County:	Mercer												
County Seat:	Princeton												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	25,660	25,460	25,390	24,890	24,080	24,120	24,560	24,750	24,840	25,120	24,500	24,370	24,100
Total Employment	24,360	24,170	23,980	23,340	22,740	22,960	23,450	23,790	23,860	23,500	22,570	22,480	22,310
Total Unemployment	1,300	1,290	1,410	1,550	1,340	1,160	1,110	960	980	1,620	1,930	1,890	1,790
Unemployment Rate	5.1	5.1	5.6	6.2	5.6	4.8	4.5	3.9	3.9	6.5	7.9	7.8	7.4
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	24,260	24,440	24,620	24,350	23,790	23,390	23,650	23,870	23,960	23,850	23,740	23,510	23,240
Total Private	19,540	19,420	19,560	19,200	18,680	18,440	18,690	18,800	18,790	18,590	18,390	18,390	17,900
Goods Producing	2,730	2,610	2,470	2,270	2,170	2,310	2,340	2,380	2,410	2,230	2,200	2,200	2,090
Mining and Logging	60	50	50	60	70	80	120	190	280	250	**	**	**
Construction	1,000	920	850	820	850	810	810	820	780	700	680	680	650
Manufacturing	1,670	1,640	1,580	1,390	1,260	1,430	1,410	1,370	1,360	1,280	**	**	**
Service Providing	21,530	21,820	22,150	22,080	21,620	21,070	21,310	21,490	21,540	21,610	21,540	21,540	21,150
Private Service Providing	16,810	16,810	17,090	16,930	16,500	16,130	16,350	16,420	16,370	16,360	16,190	16,190	15,810
Trade, Transportation and Util	5,450	5,150	5,020	4,980	4,920	4,790	4,960	5,050	4,950	4,850	4,740	4,740	4,750
Wholesale Trade	720	620	630	610	600	620	710	680	670	640	**	**	**
Retail Trade	3,820	3,680	3,610	3,550	3,520	3,400	3,420	3,490	3,360	3,270	3,180	3,180	3,240
Transport, Warehousing & Util	910	850	790	820	800	780	830	880	930	940	**	**	**
Information	940	940	760	450	400	390	370	360	340	320	**	**	**
Financial Activities	780	810	840	820	820	840	800	730	720	720	700	700	630
Profess and Business Serv	1,460	1,360	1,590	1,930	1,950	1,880	1,900	1,960	2,000	2,090	1,970	1,970	1,830
Education and Health Serv	3,410	3,530	3,780	3,820	3,680	3,560	3,540	3,530	3,500	3,550	3,610	3,610	3,590
Leisure and Hospitality	2,270	2,340	2,330	2,330	2,380	2,350	2,530	2,580	2,610	2,600	2,540	2,540	2,420
Other Services	2,500	2,690	2,770	2,600	2,360	2,320	2,260	2,220	2,240	2,230	**	**	**
Total Government	4,720	5,020	5,060	5,150	5,120	4,950	4,960	5,070	5,170	5,260	5,350	5,350	5,340
Federal	330	300	300	280	260	270	270	260	250	250	260	260	200
State	1,150	1,560	1,530	1,550	1,590	1,500	1,420	1,530	1,540	1,590	1,650	1,650	1,710
Local	3,230	3,150	3,240	3,310	3,270	3,180	3,270	3,280	3,380	3,420	3,450	3,450	3,440

Benchmark 2012 *** not available*





Monroe County

Monroe County was founded in 1799. The municipalities of Monroe County are Alderson, Peterstown, and Union. Monroe County is not part of a metropolitan planning area. The county's population in 2012 was estimated to be at 13,463.[4] It has 472.8 sq. miles in land area and a population density of 28.5 per square mile. On the most recent census form, 98.7% of the population reported only one race, with 0.7% of these reporting African-American. The population of this county is 0.6% Hispanic (of any race). The average household size is 2.40 persons compared to an average family size of 2.80 persons.

In 2012 manufacturing was the largest of 20 major sectors. It had an average wage per job of $43,929. Per capita income grew by 8.1% 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)	13,463	2215	Covered Employment	1,984	2643
Growth (%) since 2010 Census	-0.3%	1692	Avg wage per job	$33,849	1650
Households (2011)	5,615	2202	Manufacturing - % all jobs in County	22.5%	419
Labor Force (persons) (2012)	5,688	2278	Avg wage per job	$43,929	1309
Unemployment Rate (2012)	6.4	2090	Transportation & Warehousing - % all jobs in County	2.6%	1335
Per Capita Personal Income (2011)	$27,200	2739	Avg wage per job	$38,478	2073
Median Household Income (2011)	$37,066	2292	Health Care, Social Assist. - % all jobs in County	10.7%	1311
Poverty Rate (2011)	17.6	1329	Avg wage per job	$22,216	2082
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	78.3	2,432	Finance and Insurance - % all jobs in County	2.4%	1455
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	13.6	2,355	Avg wage per job	$34,747	2280

In 2011 Monroe had a per capita personal income (PCPI) of $27,200. This PCPI ranked 38th in the state and was 81 percent of the state average, $33,403, and 65 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 6.3 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 Monroe was $19,804 and ranked 36th in the state. The 2001-2011

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

compound annual growth rate of PCPI was 3.2 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent. [6]

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

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Monroe County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	1,986	$67,179,012	$33,826	2,001	$67,885,486	$33,926
Total, Private Sector	1,243	37,295,972	30,005	1,253	37,411,953	29,858
Natural Resources and Mining	44	1,050,878	23,884	39	903,718	23,172
Construction	119	3,417,082	28,715	134	4,345,597	32,430
Trade, Transportation, and Utilities	166	3,539,502	21,322	191	3,953,515	20,699
42 Wholesale trade	13	238,210	18,324	13	205,889	15,838
44-45 Retail trade	130	2,451,212	18,855	153	2,851,588	18,638
48-49 Transportation and warehousing	23	850,080	36,960	25	896,038	35,842
Financial Activities	54	1,709,361	31,655	54	1,686,794	31,237
Professional and Business Services	68	1,411,696	20,760	61	1,329,677	21,798
Education and Health Services	212	4,713,518	22,234	221	4,342,841	19,651
Leisure and Hospitality	66	804,159	12,184	77	790,322	10,264
Other Services	60	799,151	13,319	60	731,204	12,187
Government	744	29,883,040	40,165	749	30,473,533	40,686
Federal Government	205	12,182,993	59,429	209	12,566,305	60,126
State Government	67	2,031,819	30,326	66	2,018,969	30,590
Local Government	472	15,668,228	33,195	474	15,888,259	33,520

Demographics (2010 Census)	
Total Population 2012	13,463
Total Population 2000	13,200
Total Population 1990	12,406
Total Population 1980	12,873
Total Population 1970	11,272
Sex and Age	
Male	6,680
Female	6,822
Ages 14 and below	2,328
Ages 15 to 19	782
Ages 20 to 24	633
Ages 25 to 34	1,348
Ages 35 to 44	1,661
Ages 45 to 54	2,029
Ages 55 to 64	2,070
Ages 65 and older	2,651
Median Age	45.0
Race	
White	13,162
Black or African American	91
American Indian and Alaska Native	27
Asian	15
Native Hawaiian and Other Pacific	3
Some other race	22
Two or more races	182

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	Goodrich Corporation
2	Monroe County Board of Education
3	U.S. Department of Justice Federal Prison System
4	Springfield Center, LLC
5	Monroe County Health Center
6	Monroe County Commission
7	Monroe County Council on Aging, Inc.
8	West Virginia Department of Highways
9	Countryview Assisted Living, Inc.
10	US Postal Service

Worker Commuting Patterns

	Total	*Male*	*Female*
Number	5,395	3,204	2,191
Worked in state of residence:	3,906	2,135	1,771
Worked in county of residence	2,094	1,062	1,032
Worked outside county of residence	1,812	1,073	739
Worked outside state of residence	1,489	1,069	420

2010 American Community Survey 5-Year Estimates

Income

Total Personal Income (000)	2011	$368,119
Percapita Personal Income	2011	$27,200
Household Income*		*Number*
Less than $10,000		352
$10,000 to $14,999		522
$15,000 to $24,999		959
$25,000 to $34,999		641
$35,000 to $49,999		1,035
$50,000 to $74,999		1,091
$75,000 to $99,999		491
$100,000 to $149,000		283
$150,000 or more		160
Median Household Income (2011)		$37,066

*US Census Bureau

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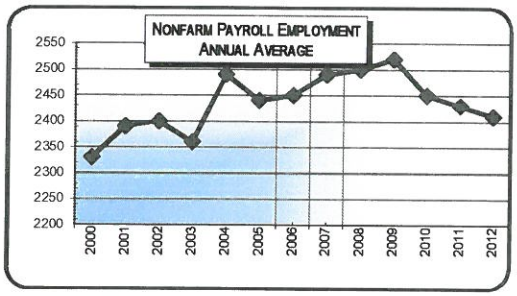
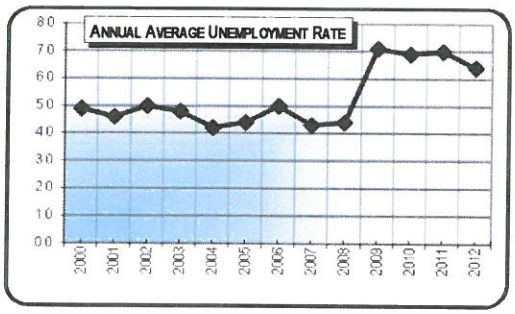
County:	Monroe												
County Seat:	Union												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	5,830	5,780	5,820	5,780	5,800	5,810	6,000	5,940	5,800	5,780	5,680	5,690	5,690
Total Employment	5,540	5,510	5,530	5,500	5,550	5,550	5,700	5,680	5,550	5,360	5,290	5,290	5,330
Total Unemployment	290	270	290	280	240	260	300	260	250	410	390	400	360
Unemployment Rate	4.9	4.6	5.0	4.8	4.2	4.4	5.0	4.3	4.4	7.1	6.9	7.0	6.4
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	2,330	2,390	2,400	2,360	2,490	2,440	2,450	2,490	2,500	2,520	2,450	2,430	2,410
Total Private	1,540	1,580	1,580	1,550	1,660	1,670	1,670	1,700	1,710	1,710	1,660	1,640	1,640
Goods Producing	480	470	460	460	560	590	590	610	630	630	**	**	**
Mining and Logging	30	20	20	20	20	30	30	30	20	60	**	**	**
Construction	100	100	120	140	180	190	190	190	160	150	140	130	120
Manufacturing	**	**	**	**	**	**	**	**	**	**	**	**	**
Service Providing	1,860	1,910	1,940	1,900	1,930	1,850	1,860	1,880	1,870	1,890	**	**	**
Private Service Providing	1,060	1,100	1,130	1,090	1,100	1,080	1,090	1,090	1,090	1,080	**	**	**
Trade, Transportation and Util	280	260	240	220	220	220	230	220	220	200	**	**	**
Wholesale Trade	30	30	30	30	30	30	30	20	20	10	10	10	10
Retail Trade	170	170	150	150	150	150	160	160	160	150	**	**	**
Transport, Warehousing & Util	80	70	60	40	40	40	40	40	40	40	40	40	40
Information	10	10	**	**	**	**	**	**	**	**	**	**	**
Financial Activities	60	70	70	60	50	50	50	60	60	60	50	50	50
Profess and Business Serv	60	50	60	70	80	70	70	60	60	60	60	60	70
Education and Health Serv	160	180	190	160	170	180	190	200	210	210	**	**	**
Leisure and Hospitality	100	100	110	130	130	110	90	90	80	80	**	**	**
Other Services	390	430	440	440	440	440	450	450	450	460	**	**	**
Total Government	790	810	820	810	830	770	780	790	790	810	790	790	770
Federal	230	230	230	220	220	210	210	220	210	220	220	210	210
State	60	60	60	60	60	60	60	60	60	60	60	70	70
Local	500	520	530	530	550	510	510	510	510	530	510	520	500

Benchmark 2012 *** not available*





Raleigh County

Raleigh County was founded in 1850. The municipalities of Raleigh County are Beckley, Lester, Mabscott, Rhodell, and Sophia. Raleigh County is part of the newly-created Fayette/Raleigh Metropolitan Planning Organization. The county's population in 2012 was estimated to be at 79,021.[7] It has 605.4 sq. miles in land area and a population density of 130.5 per square mile. On the most recent census form, 98.3% of the population reported only one race, with 8.2% of these reporting African-American. The population of this county is 1.3% Hispanic (of any race). The average household size is 2.40 persons compared to an average family size of 2.90 persons.

In 2012 health care and social assistance was the largest of 20 major sectors. It had an average wage per job of $40,184. Per capita income grew by 22.5% 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)	79,021	697	Covered Employment	33,851	629
Growth (%) since 2010 Census	0.2%	1348	Avg wage per job	$39,614	704
Households (2011)	31,211	681	Manufacturing - % all jobs in County	3.1%	2430
Labor Force (persons) (2012)	33,969	763	Avg wage per job	$46,941	1027
Unemployment Rate (2012)	6.9	1860	Transportation & Warehousing - % all jobs in County	1.7%	1766
Per Capita Personal Income (2011)	$36,852	1095	Avg wage per job	$39,321	1949
Median Household Income (2011)	$38,156	2148	Health Care, Social Assist. - % all jobs in County	22.3%	83
Poverty Rate (2011)	17.0	1462	Avg wage per job	$40,184	763
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	78.9	2,377	Finance and Insurance - % all jobs in County	1.7%	2247
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	16.3	1,780	Avg wage per job	$45,335	998

In 2011 Raleigh had a per capita personal income (PCPI) of $36,852. This PCPI ranked 7th in the state and was 110 percent of the state average, $33,403, and 89 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 6.5 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 Raleigh was $23,687 and ranked 14th in the state. The 2001-2011

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

compound annual growth rate of PCPI was 4.5 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[9]

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

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Raleigh County

Employment and Wages Annual Averages	2012			2011		
	Emp	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	33,891	$1,340,390,473	$39,550	33,240	$1,312,263,645	$39,478
Total, Private Sector	28,308	1,080,209,017	38,159	27,645	1,055,745,807	38,189
Natural Resources and Mining	2,689	215,390,437	80,101	2,574	209,959,437	81,569
Construction	1,221	50,652,901	41,485	1,268	53,156,893	41,922
Manufacturing	1,045	49,041,075	46,929	1,112	54,614,429	49,114
Trade, Transportation, and Utilities	7,016	227,905,142	32,484	6,992	227,206,621	32,495
42 Wholesale trade	1,353	67,055,957	49,561	1,459	72,493,792	49,687
44-45 Retail trade	5,066	134,510,581	26,552	4,896	126,773,707	25,893
48-49 Transportation and warehousing	450	16,401,470	36,448	488	18,265,539	37,429
Information	486	22,118,334	45,511	482	20,394,871	42,313
Financial Activities	894	36,068,873	40,345	916	35,821,157	39,106
Professional and Business Services	3,049	139,751,223	45,835	2,917	128,541,497	44,066
Education and Health Services	7,095	255,340,532	35,989	6,683	246,015,243	36,812
Leisure and Hospitality	3,811	57,679,242	15,135	3,747	55,086,338	14,701
Other Services	995	25,998,656	26,129	947	24,452,648	25,821
Government	5,583	260,181,456	46,602	5,595	256,517,838	45,848
Federal Government	1,803	120,258,437	66,699	1,834	119,911,025	65,382
State Government	1,066	36,131,562	33,895	1,059	35,244,330	33,281
Local Government	2,714	103,791,457	38,243	2,702	101,362,483	37,514

Demographics (2010 Census)	
Total Population 2012	79,021
Total Population 2000	79,046
Total Population 1990	76,819
Total Population 1980	86,821
Total Population 1970	70,080
Sex and Age	
Male	39,387
Female	39,472
Ages 14 and below	13,685
Ages 15 to 19	4,481
Ages 20 to 24	4,511
Ages 25 to 34	10,082
Ages 35 to 44	10,357
Ages 45 to 54	11,210
Ages 55 to 64	11,872
Ages 65 and older	12,661
Median Age	41.1
Race	
White	69,800
Black or African American	6,468
American Indian and Alaska Native	194
Asian	718
Native Hawaiian and Other Pacific	23
Some other race	288
Two or more races	1,368

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	Raleigh County Board of Education
2	Raleigh General Hospital
3	Marfork Coal Company, Inc.
4	Wal-Mart Associates, Inc.
5	Department of Veterans Affairs, Beckley Vet Center
6	Appalachian Regional Healthcare
7	Mountain State University, Inc.
8	New Winterplace Ski Resort
9	Pocahontas Coal Company
10	Cramer Security & Investigations

Worker Commuting Patterns	*Total*	*Male*	*Female*
Number	29,582	15,867	13,715
Worked in state of residence:	29,077	15,503	13,574
Worked in county of residence	24,477	12,215	12,262
Worked outside county of residence	4,600	3,288	1,312
Worked outside state of residence	505	364	141

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$2,915,958
Percapita Personal Income	2011	$36,852
Household Income*		*Number*
Less than $10,000		3,477
$10,000 to $14,999		3,105
$15,000 to $24,999		5,087
$25,000 to $34,999		3,815
$35,000 to $49,999		4,901
$50,000 to $74,999		5,899
$75,000 to $99,999		3,249
$100,000 to $149,000		1,832
$150,000 or more		856
Median Household Income (2011)		$38,156

*US Census Bureau

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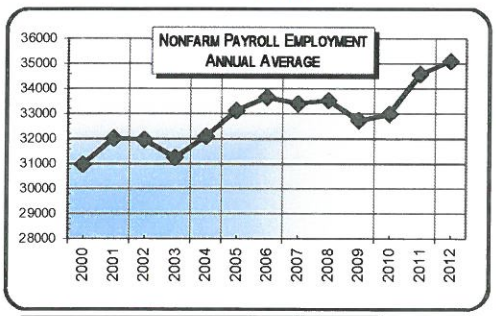
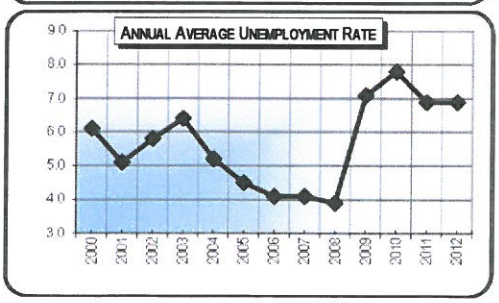
County:	Raleigh												
County Seat:	Beckley												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	32,710	32,720	32,230	31,290	31,590	32,650	33,110	32,650	32,430	32,560	32,610	33,530	33,970
Total Employment	30,710	31,040	30,360	29,290	29,940	31,180	31,740	31,310	31,170	30,250	30,060	31,200	31,620
Total Unemployment	2,000	1,680	1,870	2,000	1,650	1,470	1,370	1,340	1,260	2,320	2,550	2,330	2,350
Unemployment Rate	6.1	5.1	5.8	6.4	5.2	4.5	4.1	4.1	3.9	7.1	7.8	6.9	6.9
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	30,980	32,030	31,970	31,250	32,100	33,130	33,650	33,400	33,530	32,730	32,990	34,590	35,100
Total Private	25,670	26,760	26,660	25,970	26,780	27,830	28,380	28,090	28,080	27,190	27,320	28,920	29,430
Goods Producing	4,090	4,280	4,070	3,810	4,210	4,650	4,820	4,500	4,580	4,250	4,280	4,930	5,010
Mining and Logging	1,450	1,590	1,490	1,280	1,470	1,760	1,760	1,700	1,990	1,970	**	**	**
Construction	1,810	1,780	1,670	1,590	1,700	1,770	1,820	1,590	1,480	1,270	1,250	1,280	1,230
Manufacturing	840	910	910	930	1,040	1,120	1,250	1,220	1,100	1,000	**	**	**
Service Providing	26,890	27,740	27,910	27,440	27,880	28,480	28,830	28,900	28,960	28,480	28,710	29,660	30,090
Private Service Providing	21,570	22,480	22,600	22,160	22,560	23,180	23,560	23,590	23,510	22,940	23,040	23,990	24,410
Trade, Transportation and Util	7,240	7,170	7,170	6,930	7,070	7,400	7,550	7,530	7,430	7,200	7,010	7,070	7,060
Wholesale Trade	1,250	1,370	1,510	1,330	1,370	1,470	1,570	1,520	1,560	1,500	**	**	**
Retail Trade	5,290	5,090	4,990	5,010	5,060	5,220	5,270	5,270	5,140	5,040	4,930	4,920	5,040
Transport, Warehousing & Util	710	710	670	590	640	720	710	740	730	670	**	**	**
Information	670	700	680	660	630	620	590	550	520	470	**	**	**
Financial Activities	950	1,440	1,560	1,220	1,020	1,050	1,040	1,160	1,220	1,060	920	920	900
Profess and Business Serv	2,540	2,730	2,550	2,560	2,680	2,860	2,770	2,650	2,430	2,310	2,530	2,920	3,010
Education and Health Serv	4,640	4,790	4,910	5,060	5,480	5,630	5,900	5,920	6,120	6,160	6,380	6,800	7,030
Leisure and Hospitality	3,340	3,310	3,360	3,420	3,460	3,420	3,540	3,610	3,620	3,580	3,580	3,700	3,790
Other Services	2,200	2,340	2,390	2,320	2,230	2,200	2,160	2,170	2,160	2,160	**	**	**
Total Government	5,310	5,270	5,310	5,280	5,320	5,300	5,280	5,310	5,450	5,540	5,670	5,670	5,680
Federal	1,600	1,620	1,650	1,630	1,630	1,630	1,640	1,690	1,730	1,770	1,880	1,830	1,800
State	1,030	1,000	950	940	970	950	940	920	940	960	1,010	1,060	1,050
Local	2,690	2,640	2,710	2,700	2,720	2,720	2,700	2,710	2,790	2,810	2,780	2,780	2,820

Benchmark 2012 *** not available*





Summers County

Summers County was founded in 1871. The only municipality in Summers County is the City of Hinton. Summers County is not part of a metropolitan planning area. The county's population in 2012 was estimated to be at 13,737.[10] It has 360.5 sq. miles in land area and a population density of 38.1 per square mile. On the most recent census form, 98.7% of the population reported only one race, with 4.8% of these reporting African-American. The population of this county is 1.4% Hispanic (of any race). The average household size is 2.30 persons compared to an average family size of 2.80 persons.

In 2012 health care and social assistance was the largest of 20 major sectors. It had an average wage per job of $33,039. Per capita income grew by 19.3% between 2001 and 2011 (adjusted for inflation). [11]

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)	13,737	2194	Covered Employment	2,179	2592
Growth (%) since 2010 Census	-1.4%	2522	Avg wage per job	$27,389	2910
Households (2011)	5,108	2278	Manufacturing - % all jobs in County	D	N/A
Labor Force (persons) (2012)	4,610	2448	Avg wage per job	D	N/A
Unemployment Rate (2012)	9.0	882	Transportation & Warehousing - % all jobs in County	0.8%	2367
Per Capita Personal Income (2011)	$24,629	2995	Avg wage per job	$37,666	2205
Median Household Income (2011)	$30,751	2934	Health Care, Social Assist. - % all jobs in County	15.0%	624
Poverty Rate (2011)	24.4	407	Avg wage per job	$33,039	1311
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	77.5	2,509	Finance and Insurance - % all jobs in County	2.1%	1812
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	12.0	2,685	Avg wage per job	$32,874	2437

In 2011 Summers had a per capita personal income (PCPI) of $24,629. This PCPI ranked 50th in the state and was 74 percent of the state average, $33,403, and 59 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 4.9 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 Summers was $16,253 and ranked 53rd in the state. The 2001-2011 compound annual growth rate of PCPI was 4.2 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2.9 percent.[12]

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[10] http://www.bea.gov/regional/bearfacts/action.cfm
[11] http://www.statsamerica.org/profiles/us_profile_frame.html
[12] http://www.bea.gov/regional/bearfacts/action.cfm

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Summers County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	2,178	$59,673,116	$27,398	2,206	$60,600,115	$27,471
Total, Private Sector	1,390	38,547,377	27,732	1,431	40,000,877	27,953
Natural Resources and Mining	32	584,502	18,266	29	555,612	19,159
Construction	77	2,439,880	31,687	76	2,080,701	27,378
Manufacturing	24	515,160	21,465	30	639,184	21,306
Trade, Transportation, and Utilities	377	11,462,735	30,405	381	11,428,455	29,996
42 Wholesale trade	103	4,467,107	43,370	101	4,169,423	41,281
44-45 Retail trade	242	5,385,377	22,254	239	5,414,005	22,653
48-49 Transportation and warehousing	17	431,144	25,361	20	512,486	25,624
Financial Activities	75	2,200,398	29,339	95	2,302,637	24,238
Professional and Business Services	172	6,012,703	34,958	200	7,510,239	37,551
Education and Health Services	328	10,820,283	32,989	326	10,774,897	33,052
Leisure and Hospitality	234	2,341,283	10,005	232	2,378,288	10,251
Other Services	59	949,377	16,091	47	948,613	20,183
Government	788	21,125,739	26,809	775	20,599,238	26,580
Federal Government	41	1,942,707	47,383	44	2,087,552	47,444
State Government	265	6,079,557	22,942	261	5,813,937	22,276
Local Government	482	13,103,475	27,186	469	12,697,749	27,074

Demographics (2010 Census)	
Total Population 2012	13,737
Total Population 2000	14,323
Total Population 1990	14,204
Total Population 1980	15,875
Total Population 1970	13,213
Sex and Age	
Male	6,250
Female	7,677
Ages 14 and below	1,996
Ages 15 to 19	810
Ages 20 to 24	563
Ages 25 to 34	1,653
Ages 35 to 44	1,799
Ages 45 to 54	2,213
Ages 55 to 64	2,211
Ages 65 and older	2,682
Median Age	45.7
Race	
White	12,957
Black or African American	664
American Indian and Alaska Native	40
Asian	31
Native Hawaiian and Other Pacific	0
Some other race	49
Two or more races	186

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	Summers County Board of Education
2	West Virginia Division of Natural Resources
3	Appalachian Regional Healthcare
4	Summers Nursing and Rehabilitation Center
5	Summers County Council on Aging
6	Relational Management Services, LLC
7	The Kroger Company
8	R.T. Rogers Oil Co., Inc.
9	Summers County Commission
10	Resort Foodservice, Inc. (Bluestone Dining Room)

Worker Commuting Patterns

	Total	*Male*	*Female*
Number	4,075	2,183	1,892
Worked in state of residence:	3,891	2,012	1,879
Worked in county of residence	2,254	1,186	1,068
Worked outside county of residence	1,637	826	811
Worked outside state of residence	184	171	13

2010 American Community Survey 5-Year Estimates

Income

Total Personal Income (000)	2011	$341,534
Percapita Personal Income	2011	$24,629

Household Income*	*Number*
Less than $10,000	844
$10,000 to $14,999	580
$15,000 to $24,999	998
$25,000 to $34,999	675
$35,000 to $49,999	830
$50,000 to $74,999	689
$75,000 to $99,999	331
$100,000 to $149,000	235
$150,000 or more	19
Median Household Income (2011)	$30,751

*US Census Bureau

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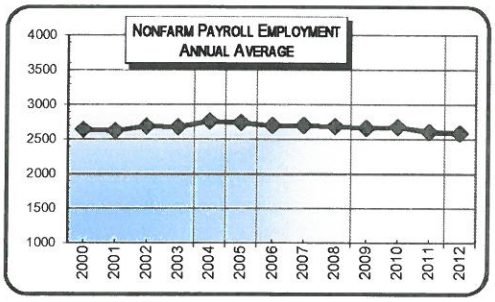
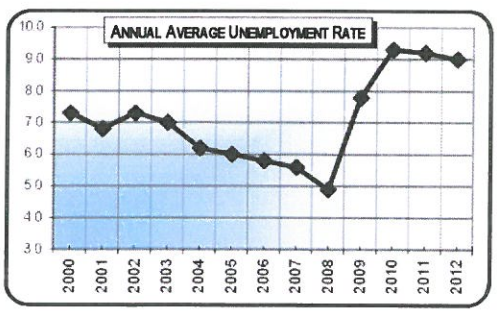
County:	Summers												
County Seat:	Hinton												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	4,830	4,710	4,770	4,710	4,730	4,750	4,780	4,730	4,600	4,610	4,690	4,630	4,610
Total Employment	4,470	4,390	4,420	4,380	4,430	4,470	4,500	4,470	4,370	4,250	4,260	4,210	4,200
Total Unemployment	350	320	350	330	290	280	280	260	220	360	440	430	410
Unemployment Rate	7.3	6.8	7.3	7.0	6.2	6.0	5.8	5.6	4.9	7.8	9.3	9.2	9.0
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	2,640	2,620	2,690	2,680	2,760	2,740	2,700	2,700	2,690	2,660	2,680	2,610	2,590
Total Private	1,820	1,810	1,860	1,870	1,960	1,940	1,910	1,890	1,860	1,850	1,880	1,800	1,760
Goods Producing	150	150	160	210	320	280	230	180	140	120	120	110	110
Mining and Logging	10	10	10	10	10	10	10	10	10	10	10	10	10
Construction	70	90	110	110	100	100	70	70	70	80	80	80	80
Manufacturing	60	50	40	90	200	180	160	100	60	40	40	30	20
Service Providing	2,490	2,480	2,530	2,470	2,440	2,450	2,470	2,520	2,560	2,540	2,560	2,500	2,470
Private Service Providing	1,670	1,660	1,700	1,660	1,640	1,660	1,680	1,710	1,730	1,730	1,760	1,690	1,640
Trade, Transportation and Util	600	570	550	510	520	500	510	520	530	520	530	510	500
Wholesale Trade	120	110	90	60	70	70	70	70	80	80	**	**	**
Retail Trade	310	300	290	280	290	290	290	280	270	270	260	240	240
Transport, Warehousing & Util	170	160	180	170	160	150	150	180	180	180	**	**	**
Information	10	10	**	**	10	30	50	40	60	50	40	**	**
Financial Activities	70	60	60	70	60	70	90	80	70	70	**	**	**
Profess and Business Serv	70	80	110	120	120	120	130	160	190	200	**	**	**
Education and Health Serv	330	320	360	360	350	360	350	350	350	350	**	**	**
Leisure and Hospitality	290	300	300	280	270	260	260	260	230	230	**	**	**
Other Services	290	310	320	310	320	310	300	300	310	310	**	**	**
Total Government	820	820	820	810	800	800	790	810	830	810	800	810	830
Federal	50	40	40	40	40	40	40	40	40	50	50	40	40
State	290	290	280	270	260	260	250	260	270	270	270	260	270
Local	490	490	500	500	500	500	500	520	520	500	490	510	520

Benchmark 2012 *** not available*





Wyoming County

Wyoming County was founded in 1850. The municipalities of Wyoming County are Mullens, Oceana and Pineville. Wyoming County is not part of a metropolitan planning area. The county's population in 2012 was estimated to be at 23,273.[13] It has 499.5 sq. miles in land area and a population density of 46.6 per square mile. On the most recent census form, 98.9% of the population reported only one race, with 0.5% of these reporting African-American. The population of this county is 0.4% Hispanic (of any race). The average household size is 2.40 persons compared to an average family size of 2.90 persons.

In 2012 mining was the largest of 20 major sectors. It had an average wage per job of $86,130. Per capita income grew by 23.8% 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)	23,273	1677	Covered Employment	5,173	1934
Growth (%) since 2010 Census	-2.2%	2863	Avg wage per job	$44,041	390
Households (2011)	8,965	1710	Manufacturing - % all jobs in County	2.4%	2522
Labor Force (persons) (2012)	8,230	1958	Avg wage per job	$31,346	2420
Unemployment Rate (2012)	9.0	882	Transportation & Warehousing - % all jobs in County	4.4%	620
Per Capita Personal Income (2011)	$29,106	2438	Avg wage per job	$51,128	439
Median Household Income (2011)	$32,851	2761	Health Care, Social Assist. - % all jobs in County	D	N/A
Poverty Rate (2011)	25.6	318	Avg wage per job	D	N/A
H.S. Diploma or More - % of Adults 25+ (2011 ACS 5yr)	73.7	2,841	Finance and Insurance - % all jobs in County	1.6%	2355
Bachelor's Deg. or More - % of Adults 25+ (2011 ACS 5yr)	9.9	3,005	Avg wage per job	$24,445	2685

In 2011 Wyoming had a per capita personal income (PCPI) of $29,106. This PCPI ranked 33rd in the state and was 87 percent of the state average, $33,403, and 70 percent of the national average, $41,560. The 2011 PCPI reflected an increase of 7.7 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 Wyoming was $18,512 and ranked 41st in the state. The 2001-2011 compound annual growth rate of PCPI was 4.6 percent. The compound annual growth rate for the state was 3.5 percent and for the nation was 2. 9 percent.

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

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

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Wyoming County

Employment and Wages Annual Averages	2012			2011		
	Emp.	Total Wages	Avg Annual Wage	Emp	Total Wages	Avg Annual Wage
Total, All Industries	5,173	$227,811,022	$44,038	5,141	$214,299,252	$41,684
Total, Private Sector	3,963	184,922,914	46,662	3,950	173,803,645	44,001
Natural Resources and Mining	1,374	117,121,680	85,241	1,306	102,539,657	78,514
Construction	140	4,950,293	35,359	149	4,809,603	32,279
Manufacturing	125	3,931,287	31,450	133	4,332,323	32,574
Trade, Transportation, and Utilities	950	28,574,938	30,079	948	29,140,322	30,739
42 Wholesale trade	88	4,257,768	48,384	103	5,215,211	50,633
44-45 Retail trade	669	13,325,041	19,918	650	13,392,502	20,604
48-49 Transportation and warehousing	175	9,837,862	56,216	177	9,472,147	53,515
Information	24	431,755	17,990	23	420,303	18,274
Financial Activities	100	2,438,658	24,387	120	2,944,582	24,538
Professional and Business Services	175	4,782,483	27,328	188	7,147,873	38,021
Education and Health Services	730	17,972,286	24,620	720	17,614,983	24,465
Leisure and Hospitality	292	3,822,777	13,092	299	3,806,203	12,730
Other Services	55	888,507	16,155	63	1,045,572	16,596
Government	1,210	42,888,108	35,445	1,191	40,495,607	34,001
Federal Government	106	5,510,035	51,981	81	3,648,292	45,041
State Government	193	5,574,228	28,882	185	5,229,697	28,269
Local Government	910	31,803,845	34,949	925	31,617,618	34,181

Demographics (2010 Census)	
Total Population 2012	23,273
Total Population 2000	25,582
Total Population 1990	28,990
Total Population 1980	35,993
Total Population 1970	30,095
Sex and Age	
Male	11,810
Female	11,986
Ages 14 and below	4,248
Ages 15 to 19	1,425
Ages 20 to 24	1,235
Ages 25 to 34	2,646
Ages 35 to 44	3,072
Ages 45 to 54	3,667
Ages 55 to 64	3,914
Ages 65 and older	3,589
Median Age	42.6
Race	
White	23,356
Black or African American	117
American Indian and Alaska Native	35
Asian	25
Native Hawaiian and Other Pacific	2
Some other race	12
Two or more races	249

Top 10 Employers	
March 2012	
1	Wyoming County Board of Education
2	Pinnacle Mining Company, LLC
3	Mountainheart Community Services, Inc.
4	Dynamic Energy, Inc.
5	Brooks Run Mining Company, LLC
6	Spartan Mining Company
7	Integrated Resources, Inc.
8	Council on Aging, Inc.
9	Wyoming County Commission
10	Simmons Fork Mining, Inc.

Worker Commuting Patterns	*Total*	*Male*	*Female*
Number	7,559	4,387	3,172
Worked in state of residence:	7,517	4,363	3,154
Worked in county of residence	4,747	2,381	2,366
Worked outside county of residence	2,770	1,982	788
Worked outside state of residence	42	24	18

2010 American Community Survey 5-Year Estimates

Income		
Total Personal Income (000)	2011	$681,643
Percapita Personal Income	2011	$29,106
Household Income*		*Number*
Less than $10,000		1,449
$10,000 to $14,999		613
$15,000 to $24,999		1,769
$25,000 to $34,999		1,452
$35,000 to $49,999		1,519
$50,000 to $74,999		1,636
$75,000 to $99,999		911
$100,000 to $149,000		464
$150,000 or more		69
Median Household Income (2011)		$32,851

*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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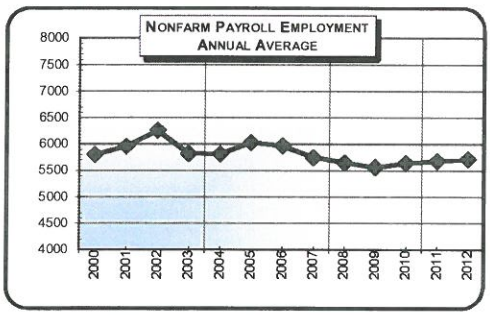
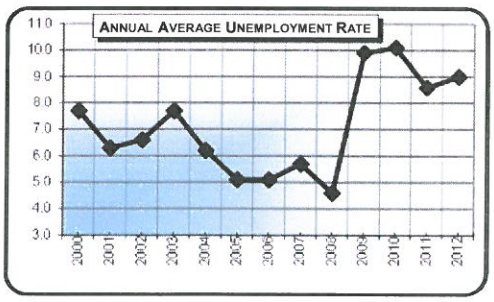
County:	Wyoming												
County Seat:	Pineville												
Labor Force Statistics	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Civilian Labor Force	8,610	8,520	8,720	8,240	8,030	8,270	8,390	8,170	7,940	8,140	8,190	8,150	8,230
Total Employment	7,950	7,990	8,140	7,610	7,540	7,850	7,960	7,700	7,570	7,340	7,360	7,450	7,490
Total Unemployment	660	540	580	630	500	420	430	460	360	800	830	700	740
Unemployment Rate	7.7	6.3	6.6	7.7	6.2	5.1	5.1	5.7	4.6	9.9	10.1	8.6	9.0
Total Nonfarm Payroll Employment by Industry	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total Nonfarm Payroll Employment	5,800	5,960	6,260	5,820	5,810	6,030	5,970	5,750	5,650	5,560	5,640	5,680	5,710
Total Private	4,480	4,700	4,980	4,570	4,570	4,770	4,700	4,480	4,390	4,290	4,380	4,430	4,450
Goods Producing	1,450	1,550	1,670	1,480	1,500	1,750	1,730	1,620	1,510	1,400	**	**	**
Mining and Logging	1,000	1,080	1,150	990	1,010	1,280	1,290	1,220	1,130	1,090	**	**	**
Construction	290	310	340	330	310	280	260	250	250	190	140	150	140
Manufacturing	170	160	180	170	180	190	180	150	130	120	**	**	**
Service Providing	4,350	4,410	4,590	4,340	4,300	4,280	4,240	4,130	4,150	4,160	**	**	**
Private Service Providing	3,020	3,160	3,310	3,090	3,070	3,020	2,970	2,860	2,890	2,890	**	**	**
Trade, Transportation and Util	1,220	1,180	1,170	1,130	1,080	1,030	1,060	1,050	1,060	1,050	1,050	1,030	1,050
Wholesale Trade	50	60	60	50	60	70	70	70	80	80	**	**	**
Retail Trade	750	720	750	720	690	640	660	650	650	630	630	650	680
Transport, Warehousing & Util	420	400	360	360	330	330	340	330	340	340	**	**	**
Information	40	40	20	30	30	30	20	20	20	20	**	**	**
Financial Activities	130	120	120	110	110	110	110	110	130	140	**	**	**
Profess and Business Serv	310	310	290	200	170	170	170	140	150	150	**	**	**
Education and Health Serv	660	810	990	920	940	890	790	740	740	770	**	**	**
Leisure and Hospitality	230	230	240	240	270	330	370	350	340	300	**	**	**
Other Services	440	470	470	470	470	470	460	450	450	460	460	460	460
Total Government	1,320	1,260	1,280	1,250	1,240	1,260	1,270	1,270	1,260	1,270	1,260	1,250	1,260
Federal	100	90	90	90	80	80	80	90	90	90	90	80	110
State	210	210	220	220	210	210	210	200	200	200	190	190	190
Local	1,010	950	980	950	950	970	980	990	970	980	980	980	960

Benchmark 2012 *** not available*





Key Assessment Findings
Survey Initiatives

Region 1 Planning and Development Council executed several 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. A single stage cluster sample random mailing and community outreach efforts were utilized for the mapping effort. Separate, yet complementary, initiatives included in 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.

Single Stage Cluster Sample Random Mailing

In order to determine the availability, use, and need for broadband Internet use in Region 1, a quantitative survey research methodology was utilized. Region 1, in coordination with Region 4, 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 geo-referencing, ultimately enabling the ability to map responses to individual structures. It should be noted that the SAMB dataset was attributed with community (city) name for each zip code using the United States Postal Service zip-code lookup tool. SAMB points missing street information or zip code were removed from the dataset. Also, any point that had any derivative of "unknown" or "unnamed" in any part of the attribute table was removed and not used in the final address listing for mailing consideration. It should also be noted that those points for the Town of Alderson were not considered in the Region 1 project, as Alderson traditionally utilizes the services of Region 4 PDC.

The project target population included the six counties of Region 1, composed of 176 Census Block Groups (CBGs) and 155,529 SAMB structures. *[This number represents the totality of SAMB points within the region, and was utilized for the statistical calculations determining survey size. The actual number of viable points was considerably less, thus providing an additional level of insurance with regards to survey outreach since the survey methodology was based on a larger population base.]* 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 176 CBGs were listed sequentially and a random sample

from each (selected by using an online random sample generator) was used to compose the total sample.

Survey methodology dictated sending a minimum of thirty (30) randomly-selected addresses be mailed per census block group, for a total of 5,280 surveys for the Region 1 coverage area. However, to provide additional insurance against low response rates, it was decided to mail forty (40) surveys per block group, for a total mailing of 7,040 surveys.

County	# of CBGs	# of SAMBs	Sample size
McDowell	27	20,541	810
Mercer	49	45,921	1,470
Monroe	12	6,437	360
Raleigh	57	46,630	1,710
Summers	12	16,544	360
Wyoming	19	19,456	570
Total	**176**	**155,529**	**5,280**

Scantron Corporation was procured to execute the mailing of the surveys and to tabulate the responses for the completed surveys received. The surveys were mailed out April 16, 2013 and had a requested deadline for survey return of May 17, 2013. Of the 7,040 surveys mailed, 4,368 were returned undeliverable, leaving only 2,672 to theoretically reach their designated locations. The return as undeliverable of such a large number of surveys is expected to result from the fact that the U.S. Postal Service has yet to completely migrate to the use of the SAMB address format and that many locations have no physical mail receptacle at their location.

After the initial mailing results, Region 1 contracted with Scantron to process the undeliverable addresses through the National Change of Address database. This analysis yielded approximately 330 corrections to the database, so Scantron reprinted and re-mailed surveys to these locations, requesting their completion and return no later than July 8, 2013. The two separate mailing efforts resulted in 145 responses received for processing.

Community Outreach

Region 1 conducted a community outreach effort by publishing articles in local newspapers just prior to the mailing of the surveys in order to increase public awareness. Additionally, Region 1 Executive Director David Cole provided an interview to local television station WVVA that was aired on two sequential days.

Local radio host Craig Hammond (WHIS NewsTalk, 1440 AM) also directed listeners to the take the internet connection speed test and support the local mapping effort.

Team members were provided with flyers to distribute throughout the community directing residents to the State's speed test site. Additionally, the Region 1 website has a link to the speed test as well.

Lastly, Region 1 inquired about the possibility of community-wide telephone notifications via County emergency services offices. Unfortunately, this was not a viable option as mass-calling is reserved for safety notifications only.

Reception to the project was well-received within the community. Region 1 received multiple calls from community members who were aware of the mapping effort and wished to receive surveys for completion. These community members were directed to take the speed test to supplement data collection within the region. Additionally, a local radiologist living in Monroe County noted unsatisfactory internet service from Frontier Communications, citing misleading media announcements in local papers touting broadband expansion within the county (a transcript of a response letter and the offending publications are included as attachments).

Broadband Field Testing

L.R. Kimball's broadband filed testing consisted of drive-testing the six 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 forw wireless broadband coverage that five providers, AT&T, nTelos, Sprint Mobile, 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.[1]

[1] L.R. Kimball, Region 1 Field Testing Findings Report

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 will be kept confidential.

The project will also help 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 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.[2]

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

Results

Responses to the Broadband/High Speed Internet Survey in Region One PDC were obtained from 145 addressable structures including 37 businesses and 108 residences. Respondents ranged in age from 24 to 87 years, with an average age of 54. Fifty-three percent of the respondents were male, while 47% were female.
Eighty-eight percent of respondents indicated internet access at their location. The service providers most frequently cited were Suddenlink Communications (45%) and Frontier Communications (32%). The types of connections included Cable (37%), DSL (32%), Satellite (7%), Cellular/Air card (7%), Dial-up (4%), Fiber (3%), and other (3%). When asked why they choose this connection type, 38% cited speed, 32% cited cost, 17% cited reliability, and the remaining 24% responded that this was the only service available. Average cost for Internet service was $50.00 per month. The following table illustrates respondents' satisfaction with their current internet service.

Table One. Satisfaction with current internet service
n=145

SERVICE ISSUE	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know/NA
Speed of connection	16%	51%	16%	15%	2%
Cost of Internet	6%	49%	31%	12%	3%
Technical support	13%	54%	17%	8%	8%
Reliability of access	11%	60%	19%	9%	2%
Customer service	12%	61%	16%	6%	6%
Number of Providers	7%	29%	30%	22%	13%

+/- 10% at p=0.5

Of the 12% of respondents who indicated they had no high-speed service, 89% indicated that access was too expensive. Other reasons cited included not owning a computer (10%), lack of broadband availability (6%), lack of internet skills (4%), security reasons (3%), no need for broadband services (3%), and other (1%). Seventy-eight percent indicated that if those concerns were resolved, they would utilize Broadband (high-speed) internet service.

Residences

Information provided by the 108 residences revealed that the average number of people occupying each residence was 2, and the median annual household income was $45,000. Only 32% of respondents indicated their employers allow them to work from home, while only 21% actually do telecommute or work from home. Of the

respondents who were self-employed (18%), only 31% work from home. The following table indicates who uses the internet in the home.

Table Two. Users of internet in the home
n=108

Respondent	79%
Spouse/Partner	46%
Children	28%
Friend	6%
Grandparent	1%
Parent	6%
Housemate or Roommate	1%
Other	8%

+/- 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=108

Work	32%
School	10%
Public Library	16%
Relative or friend's house	21%
Retail shop with wireless access	10%
Cell phone	32%
Other	7%

+/- 10% at p=0.5

Businesses

Responses were obtained from 37 businesses in the Region One PDC. The businesses were fairly evenly distributed among the National Business classifications with the largest percentages being Educational Services (14%) and Retail Trade (14%). Twenty-nine percent of businesses indicated they allow employees to telecommute (work from home). Eighty-six percent of the businesses indicated that broadband enhancement would be beneficial to their customers/clients, and 83% indicated that high-speed internet access is important or very important to the day-to-day operations of their businesses.

SWOC Analysis

Strengths, Weaknesses, Opportunities, and Challenges

As part of the planning initiative, a strengths, weaknesses, opportunities, and challenges (SWOC) analysis was performed. This SWOC procedure allowed community members to outline strengths and weaknesses of the region and how they relate to the state's broadband initiatives. This also identified opportunities available for broadband implementation, as well as the challenges expected to be encountered.

The SWOC comments from Region 4's planning team were used as a baseline for Region 1, with specific feedback from Region 1's team being requested to supplement the findings of Region 4. The SWOC results are as follows:

Strengths	**Weaknesses**
More bandwidth being provided at an affordable cost	Older populations and less educated individuals show less interest in broadband or do not know how to utilize service
Prices becoming more competitive as market grows	Lagging economy in Region 1
Fiber backbone** is growing and is providing opportunities to create new commerce via broadband hubs and hot spots	While competition is growing in number of service providers, the pace is slow
Educated workforce ready to take advantage of broadband and thus increasing demand	Reliability in service
Demand for distance education is increasing in use and demand	Price of service
FCC reallocating monies for broadband expansion	Weak workforce
	Weak customer retention of service providers
	Areas rural in nature with small populations often unable to receive services
	Cost burden on educational system to provide broadband to students

Opportunities	**Challenges**
FCC will be reallocating funds for further broadband deployment	Data limitations
Much of WV will be eligible for funding under new FCC plans	Customer satisfaction
Planning for broadband development and/or expansion via comprehensive plans	Changes in state code need addressed
	Region's terrain

***A backbone is a robust central transmission line (or a collection of transmission lines) that links many smaller local networks via connections known network access points It can be a local backbone for a group of office buildings or local area, linking smaller networks to create a wide area network (WAN); or the internet backbone itself, which is made up of superfast, high bandwidth lines (which may be commercial or governmental) that link smaller networks to the internet. [The Broadband Glossary: www.broadbandglossary.wordpress.com]*

Strategic Direction

Education and Outreach, Economic Development & Infrastructure

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 1? Data provided via the online survey and random survey mailing conveys a population ready to or already utilizing broadband. However, with the relatively low rate of return produced by the random survey mailing, it can readily be determined that further study of the area's residents and businesses is needed.

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 up, 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 1's survey indicates that cost was a major consideration for each respondent that currently does not have broadband service.

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

Answer Options	Percent - no current Service	Percent - all respondents	Response Count*
Don't own a computer	88%	10%	14
Cost/Too expensive	100%	11%	16
Broadband service not available	50%	6%	8
Do not need Broadband services	31%	3%	5
Security reasons	31%	3%	5
Do not know how to use internet	40%	4%	6
Other	13%	11%	2

If concerns in question 21 (above) were addressed, would you utilize Broadband Internet service?			
Answer Options	Percent - no current Service	Percent - all respondents	Response Count
Yes	194%	21%	31
No	56%	6%	9

Results from the random mailing indicate that 40% of respondents with no current broadband cite lack of internet skills, while 100% cited cost as their reason for not having broadband service. Although sixteen (16) respondents indicated they currently have no service, thirty-one (31) stated that if certain concerns were resolved they would utilize broadband internet service.

While the results of the survey shows evidence that both cost and education limit broadband use,

In addition to the 40% who do not know how to use the internet, 31% fear internet use for security reasons. Therefore, it can 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, college students and those determined not to 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.

- ***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.

- ***Goal S.O.1.4: Market existing capacity to attract new businesses requiring increased capacity***

Of those who do not have broadband because they feel they do not need the service, it may be found that these individuals and businesses are unaware of the advantages provided by the existing broadband speeds. Successful marketing of current internet capability, coupled with education regarding increased capacity's potential, will in turn generate increased demand for and use of high-speed internet.

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 needs determined in order to conduct a follow up study to measure the effectiveness of the outreach program in reaching the goals.

Economic Development

Broadband services are essential for the future development and sustainability of Region 1'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 1.

Broadband speed connections are crucial especially to modern employment. The following excerpts are from Region 1's RBPT's survey, indicating the number of respondents whose employers permit telecommuting.

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

Answer Options	Response Percent	Response Count
Yes	15%	22
No	27%	39

Do you telecommute (work from home)?

Answer Options	Response Percent	Response Count
Yes	14%	21
No	54%	78

How important is a robust Broadband connection to the day-to-day operations of your business?

Answer Options	Response Percent*	Response Count
Very important	72%	26
Important	11%	4
Somewhat important	6%	2
Not at all important	11%	4

**Of the 36 responses answering this question*

The random survey mailing data shows that 15% of respondents are allowed to work from home, while only 14% actually do telecommute or work from home. Of the respondents who were self-employed (16%), 8% work from home. The survey also indicates the importance of high-speed internet for all forms of business. Thirty-six respondents answered the question regarding broadband's benefit in day-to-day operations of business. Of those responses, 72% indicated that broadband is very important to their business success, while only 11% indicated that this service is not important to success.

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, 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.

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, education 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 universities 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 the 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.2.1: Utilization of broadband to facilitate economic development

- ***Goal S.O.2.1: 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.2.2: 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 and 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.2.3: Partner with local governments and economic development organizations to advance public funding requests***

In the meetings described by S.O.2.2, 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.2.4: 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 Region 1's six-county area should be explored as a means to foster growth in the telecommuting and home enterprise sector.

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.

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

- ***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.2.3 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.3.3: 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 may otherwise fall through the cracks.

Appendix A

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 ∅ ⊗ ⊖ ⊙

004744

To the Resident/Business of:
223 MAPLE AVE
PINEVILLE WV 24874

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 May 17, 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 particularty urge you to TAKE THE INTERNET SPEED TEST (instructions in Question #19).**

If you have any questions, please feel free to contact the Region I Planning and Development Council by e-mail at regionone@regiononepdc.org or by phone at (304) 431-7225.

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?** ☐☐ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨
2. **Male** ○ **Female** ○
3. **Number of household occupants:** ☐☐ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨
4. **What is your annual household income?**

$ ☐☐☐,☐☐☐ ⓪①②③④⑤⑥⑦⑧⑨ (×6)

DO NOT WRITE IN THIS AREA

1372957

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?: ☐☐☐ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨ ⓪①②③④⑤⑥⑦⑧⑨

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
- ○ Comcast
- ○ Earthlink
- ○ Frontier Communications Corporation
- ○ HughesNet
- ○ NTELOS
- ○ NETSCOPE
- ○ Shentel
- ○ Suddenlink Communications
- ○ Sunlit Surf
- ○ 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://regiononepdc.org.
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	○	○	○	○	○

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?**

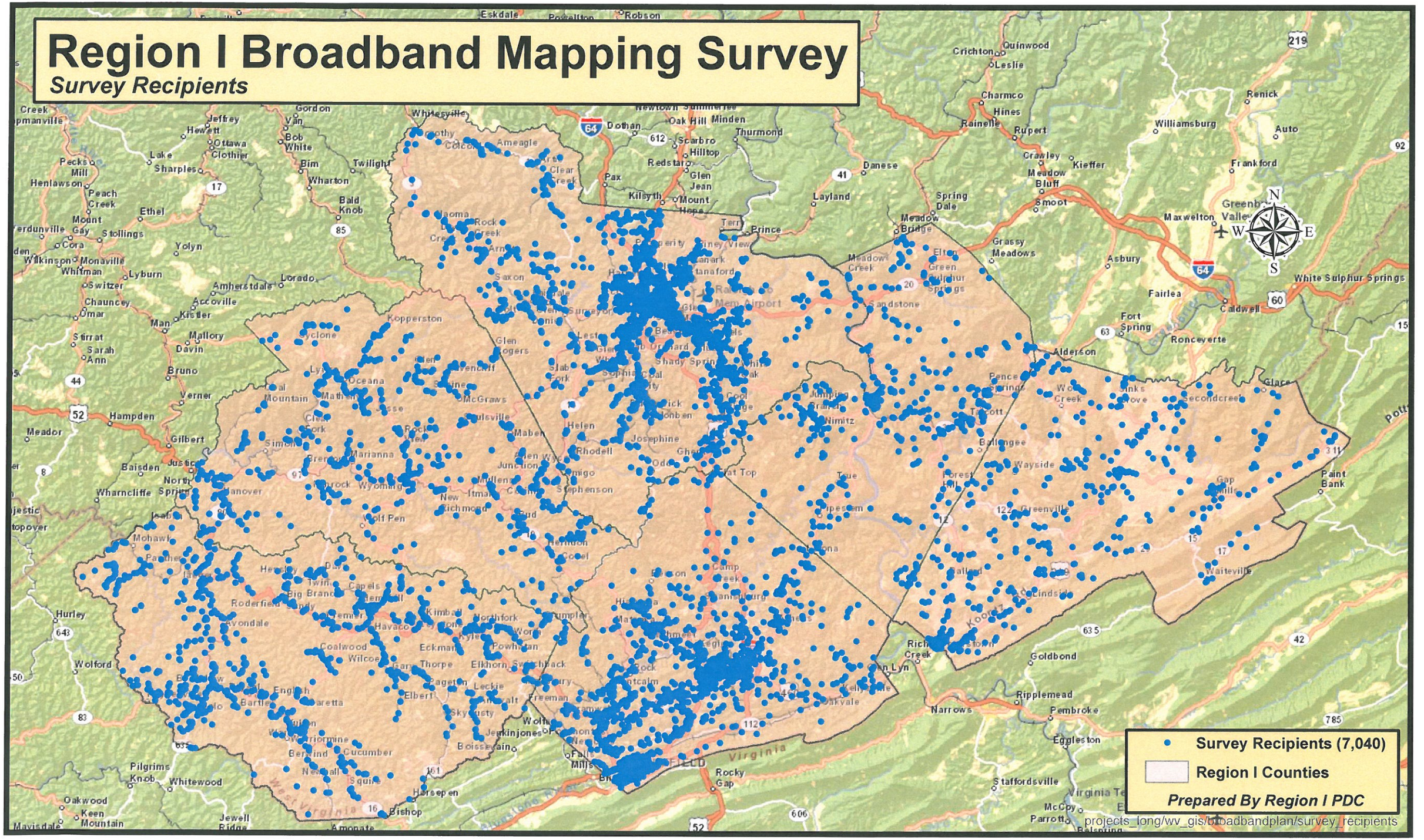
$ _____.__

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 I Planning & Development Council at regionone@regiononepdc.org or by phone at (304) 431-7225.

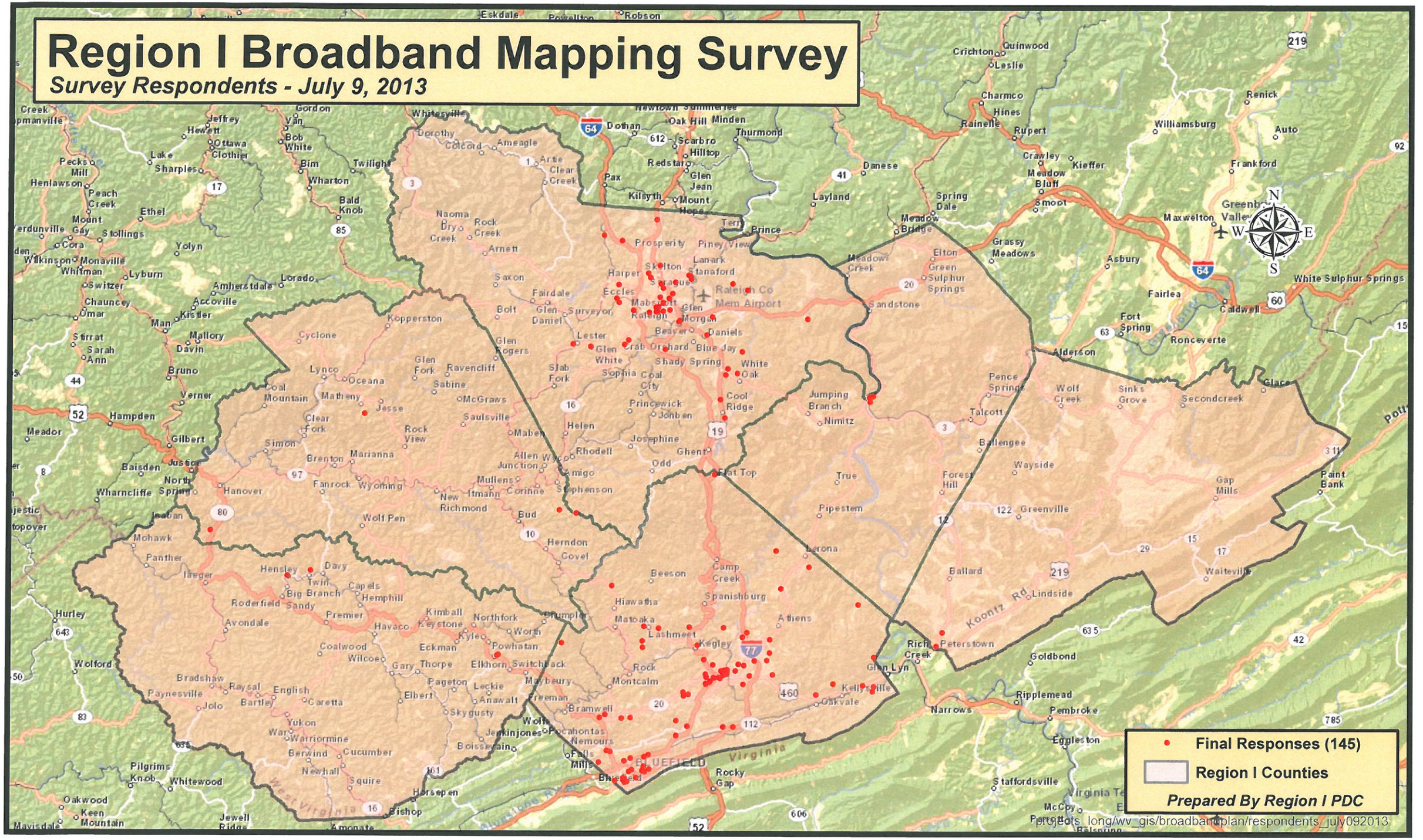
Region I Broadband Mapping Survey

Survey Recipients



Region I Broadband Mapping Survey

Survey Respondents - July 9, 2013

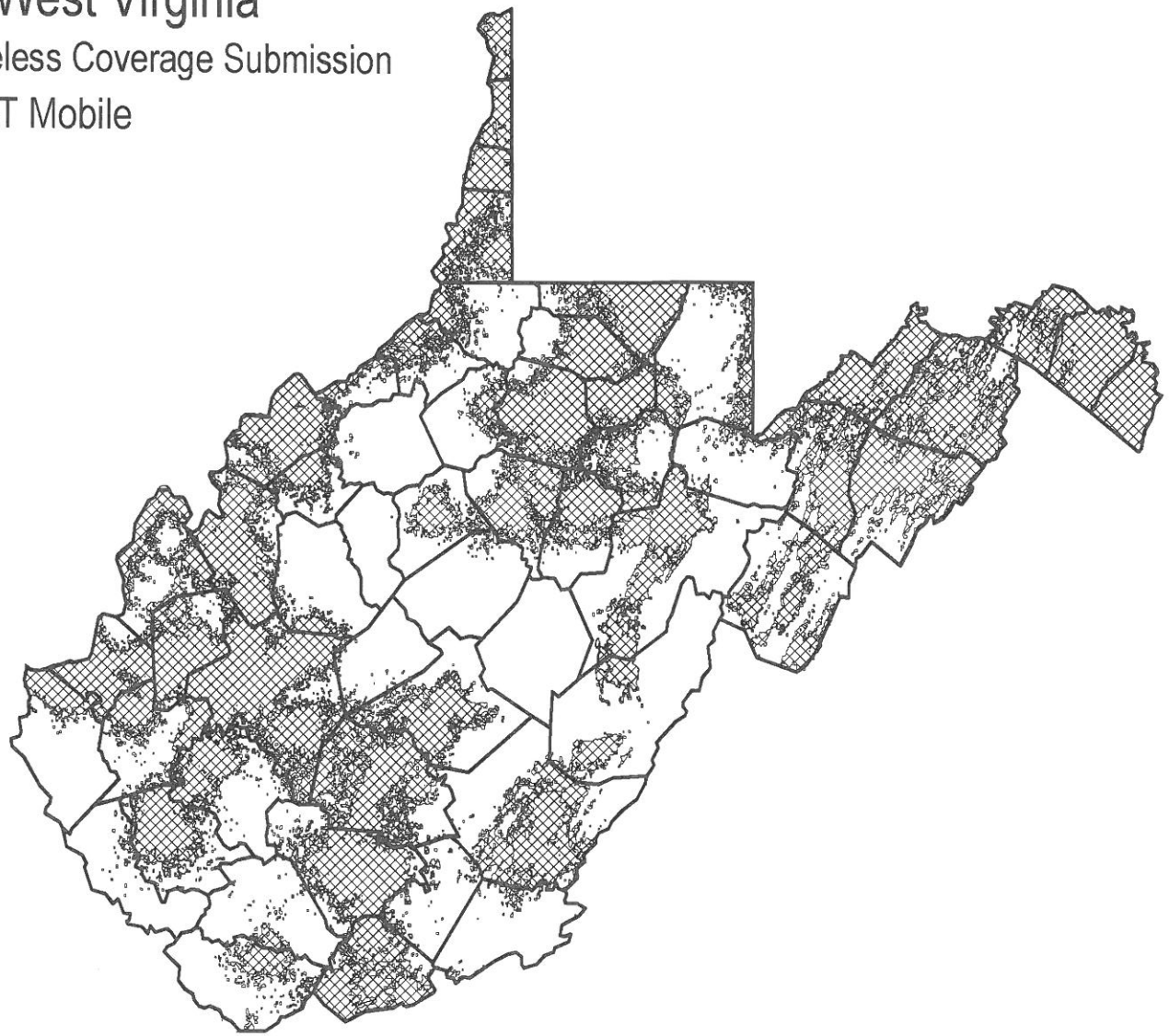


Appendix B

State of West Virginia

Round 7 NTIA Wireless Coverage Submission

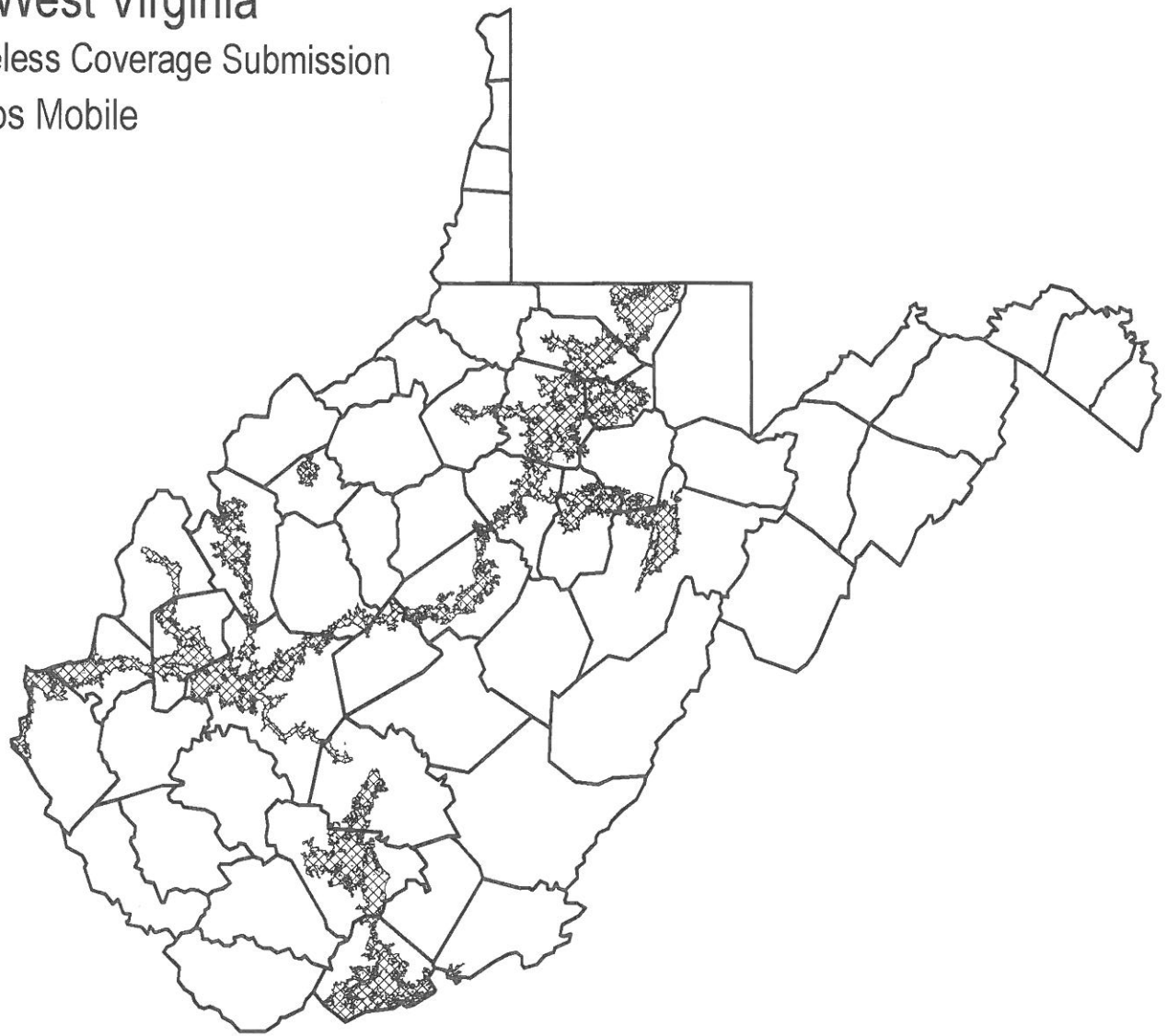
AT&T Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

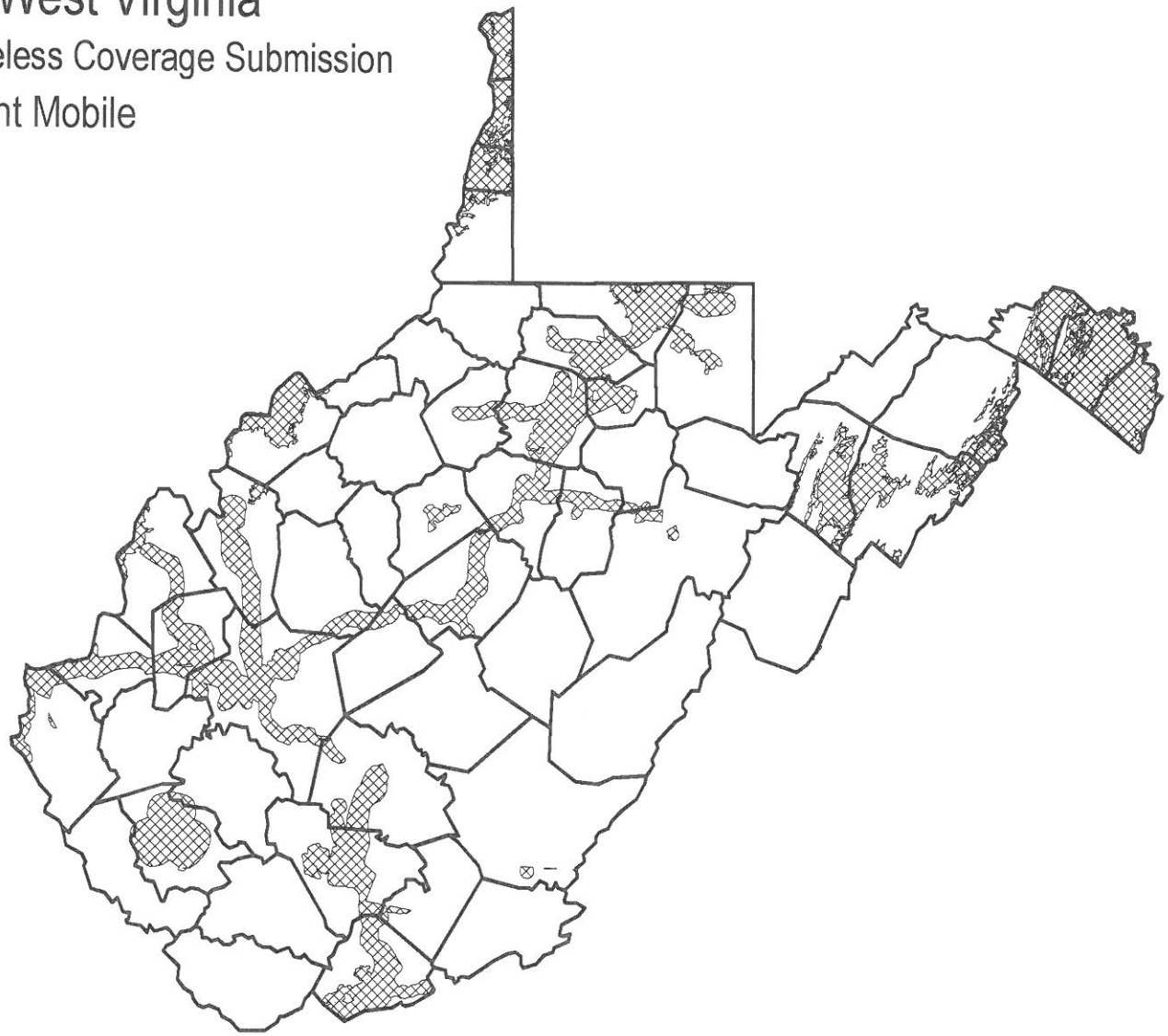
nTelos Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

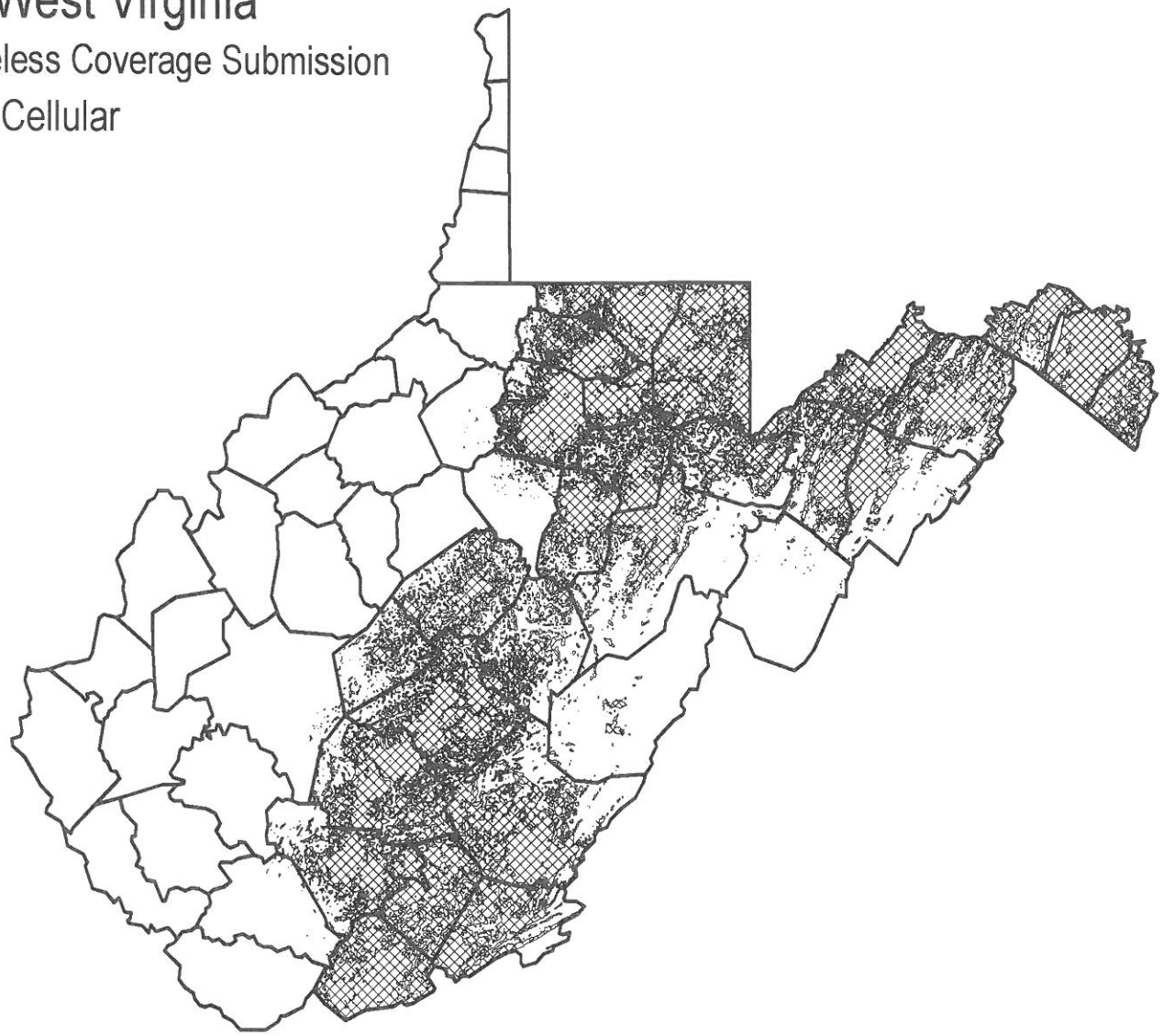
Sprint Mobile



State of West Virginia

Round 7 NTIA Wireless Coverage Submission

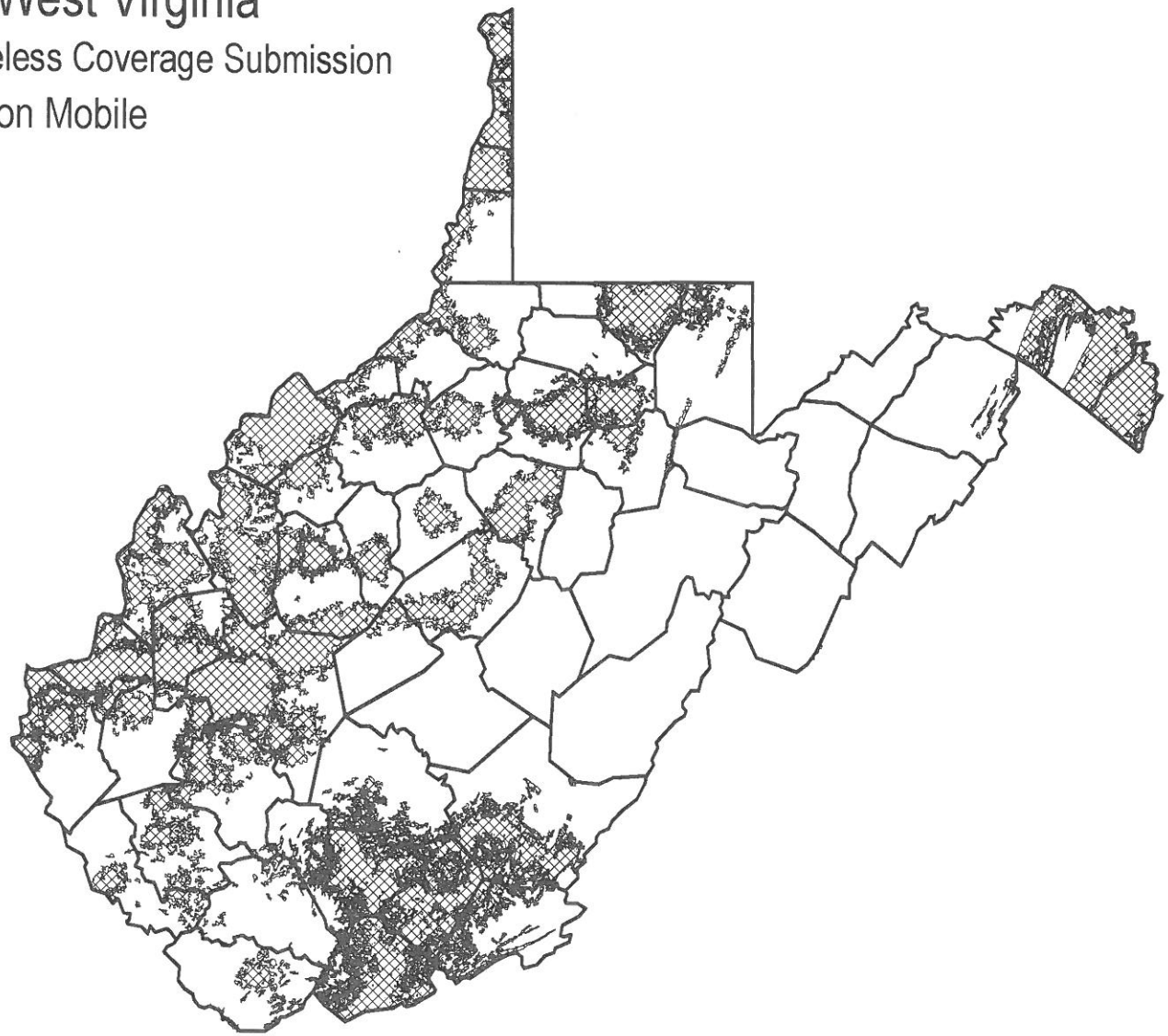
US Cellular



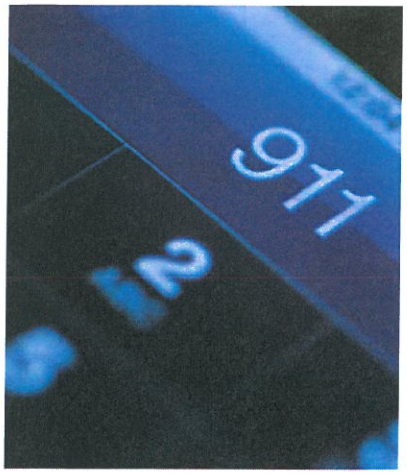
State of West Virginia

Round 7 NTIA Wireless Coverage Submission

Verizon Mobile



Appendix C



Report for

State of West Virginia Broadband Field Testing Region 1

Prepared for

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

September 2013 ©

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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 May 2013, L.R. Kimball performed testing in the Region 1 Planning and Development Council area consisting of McDowell, Mercer, Monroe, Raleigh, Summers and Wyoming Counties, West Virginia.

The broadband field testing consisted of drive-testing the six 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 May 20, 2013 in Princeton, West Virginia. It continued through May 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 McDowell, Mercer, Monroe, Raleigh, Summers and Wyoming 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. Jason Roberts, Region 1 GIS Director, on May 21, 2013. Mr. Roberts did not have any additional areas of concern for the field crew to focus on, but expressed interest in learning the results of the West Virginia Broadband Mapping "Broadband Survey" program for his 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.

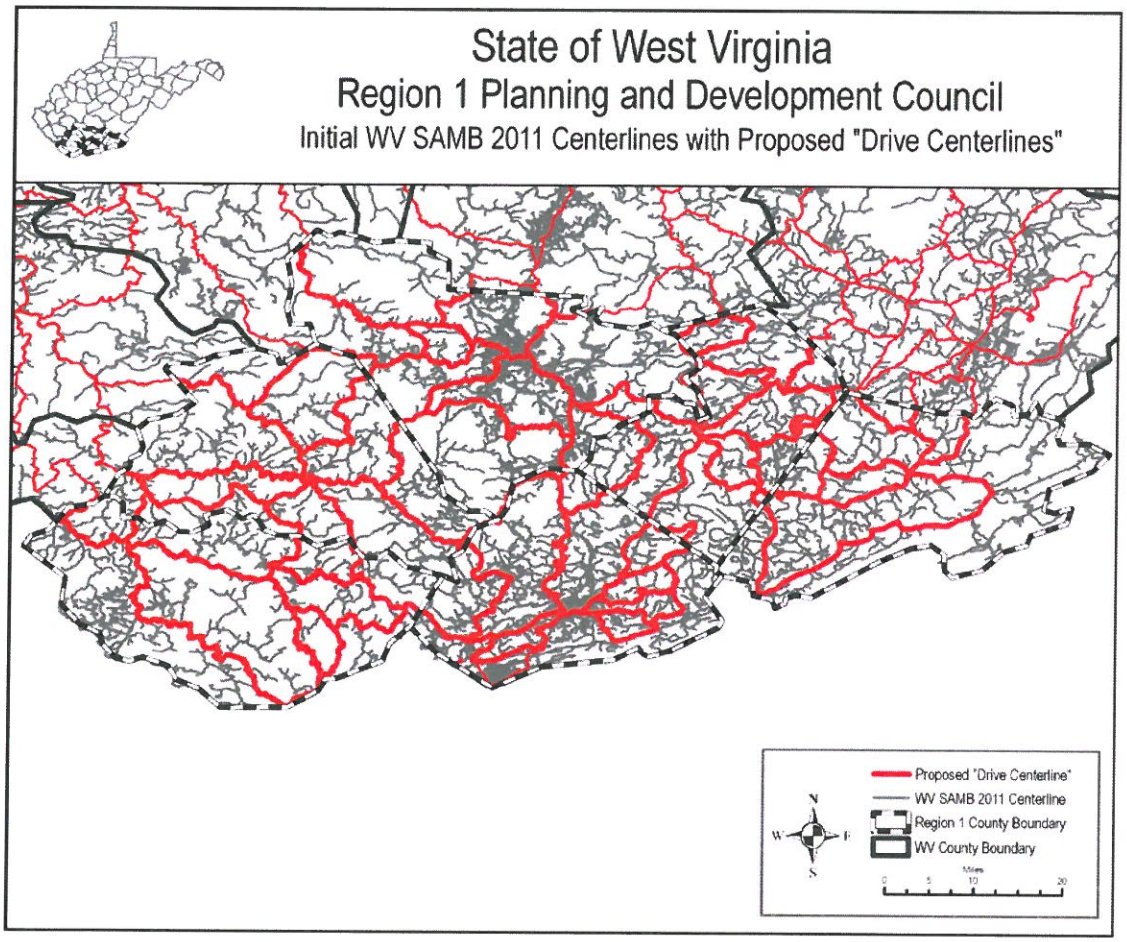

Figure 1—Initial WV SAMB 2011 Centerlines with Proposed "Drive Centerlines"

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 36 speed test locations in Region 1.

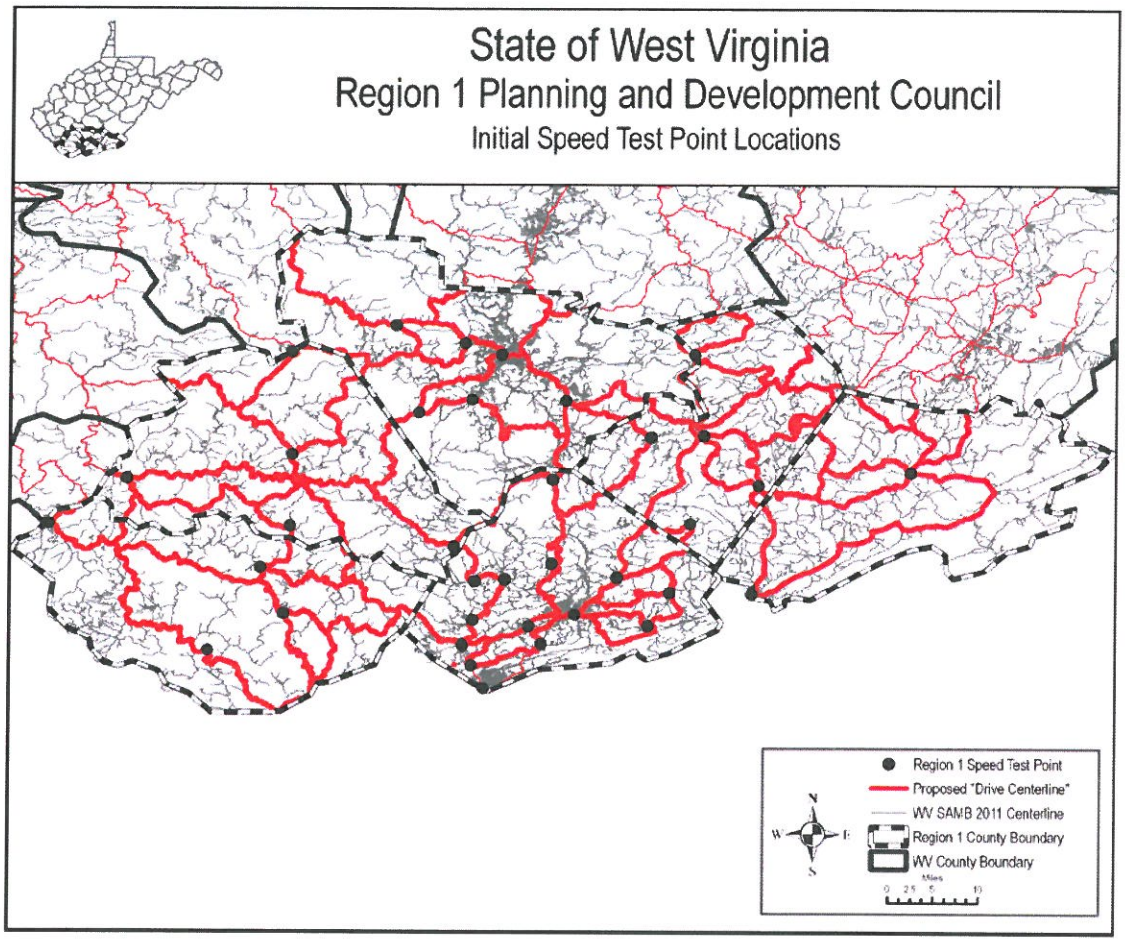

Figure 2—Initial Speed Test Point Locations

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 1 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 McDowell, Mercer, Monroe, Raleigh, Summers and Wyoming 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 953 miles of roads were tested in Region 1 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.

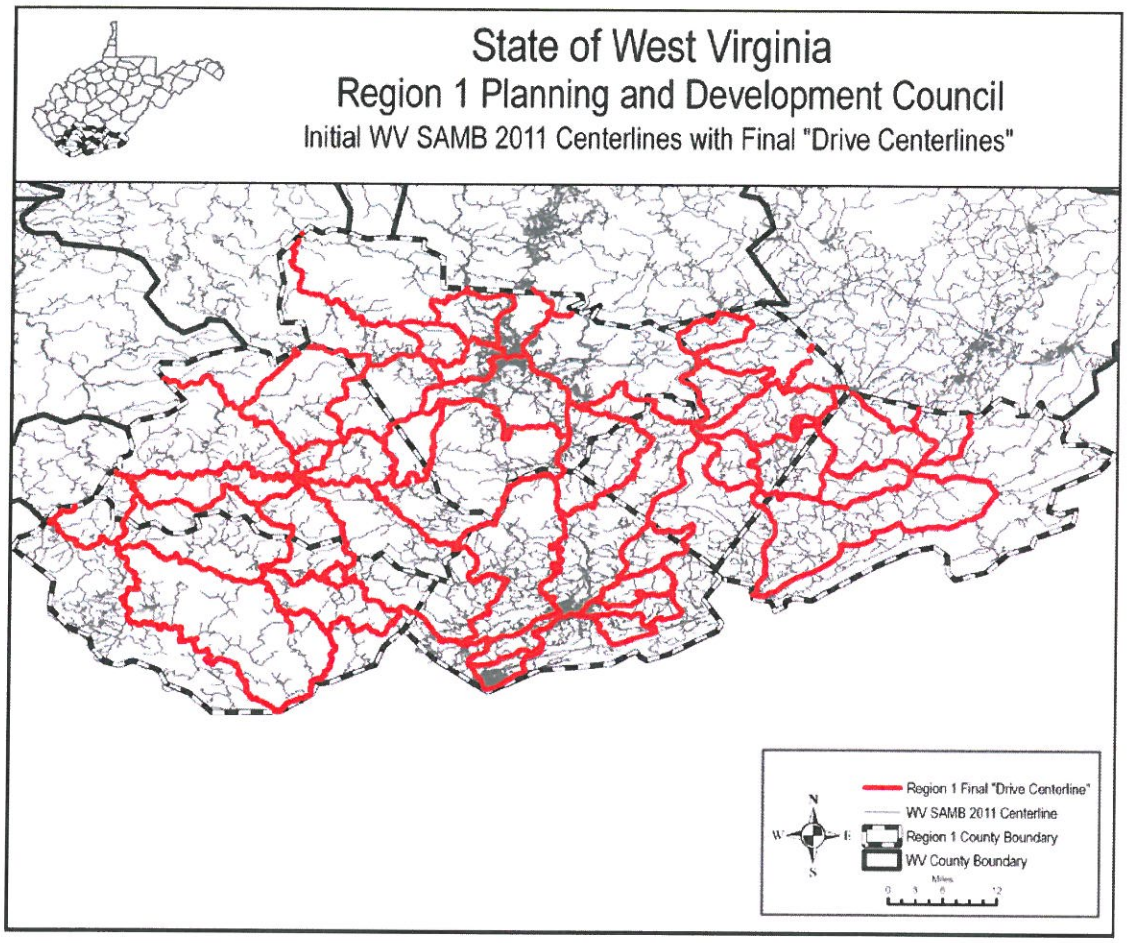

Figure 3—Roads Traveled During Drive-Testing

1.2.2 Speed Test Point Validation

There were a total of 36 speed test locations verified within Region 1.

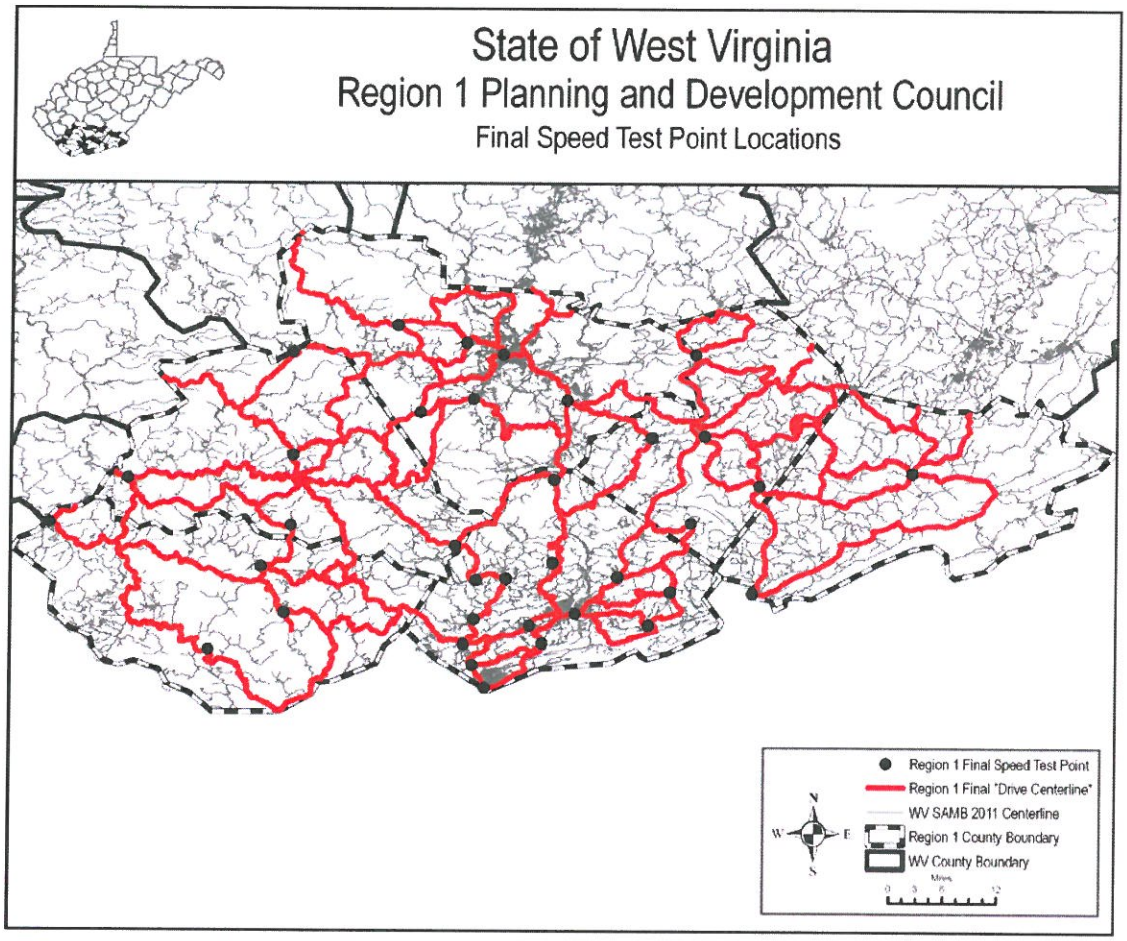

Figure 4—Final Speed Test Point Locations

2. TEST RESULTS

The drive-testing in Region 1 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 36 speed test point locations within Region 1, 24 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 1, and both were within the AT&T submitted coverage polygon. Maximum advertised downstream and upstream values for the entire area are a value of five on the NTIA Speed

Tier. Only one of the two test points obtaining results met or exceeded the maximum advertised values for downstream and upstream coverage.

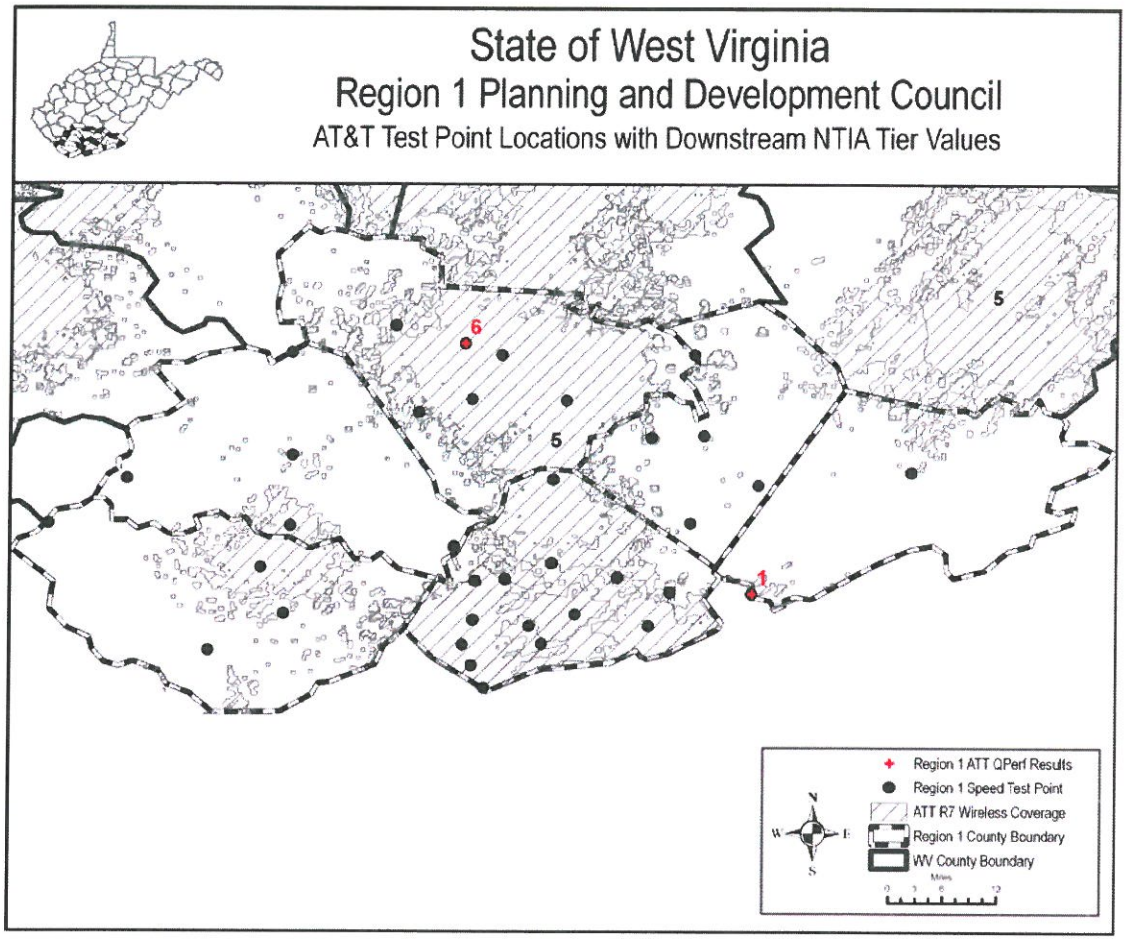

Figure 6—AT&T Downstream Speed Values

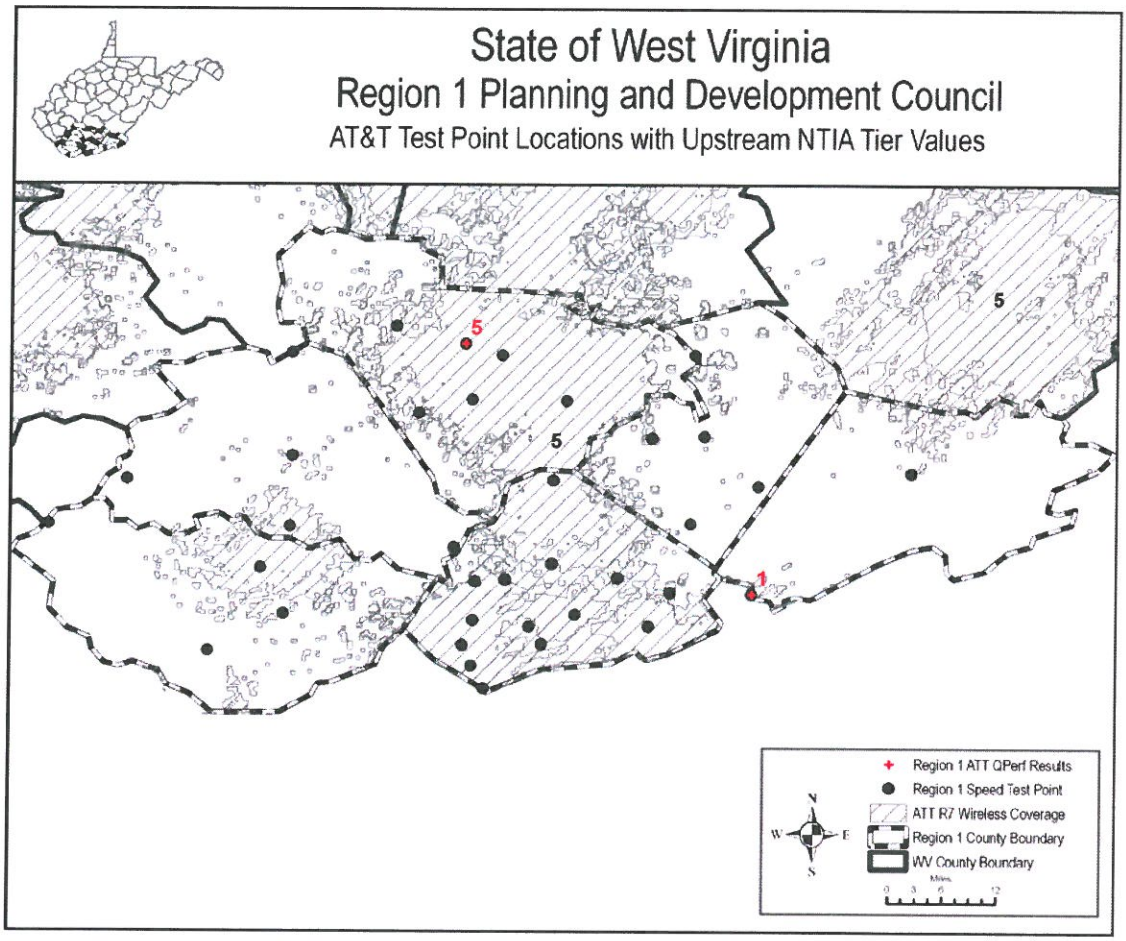

Figure 7—AT&T Upstream Speed Values

2.1.2 nTelos QPerf Results

Of the 36 speed test point locations within Region 1, 17 were located within the Round 7 wireless coverage polygon submitted by nTelos and should have obtained QPerf speed test results. However, only five test points obtained results using the nTelos mobile network within Region 1. Of these five points, two were within the nTelos submitted coverage polygon and three were not 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. Both of the test points obtaining results within the submitted coverage polygon met or exceeded the maximum advertised values for downstream and upstream coverage.

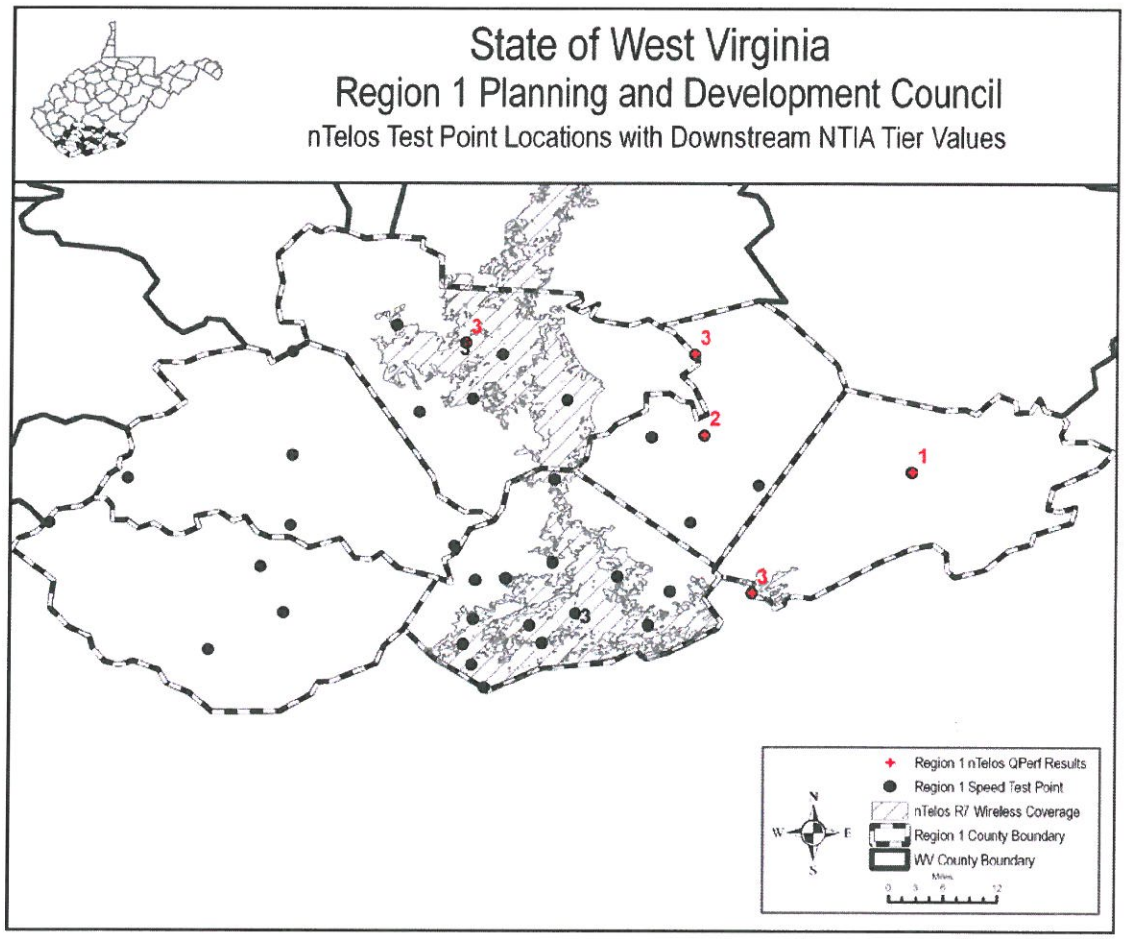

Figure 8—nTelos Downstream Speed Values

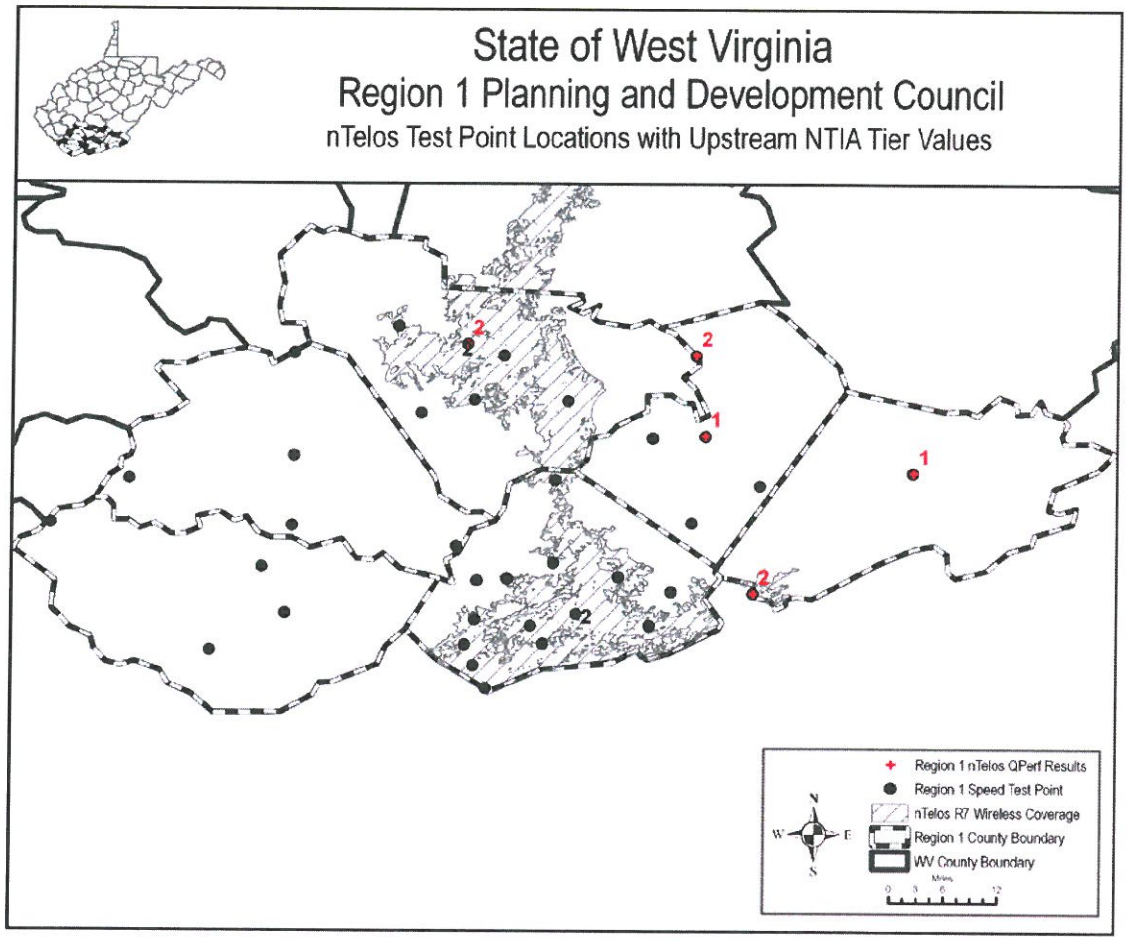

Figure 9—nTelos Upstream Speed Values

2.1.3 US Cellular QPerf Results

Of the 36 speed test point locations within Region 1, 24 were located within the Round 7 wireless coverage polygon submitted by US Cellular and should have obtained QPerf speed test results. However, only two test points obtained results using the US Cellular mobile network within Region 1, 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 five test points obtaining results within the submitted coverage polygon, four met or exceeded the maximum advertised value for downstream coverage and three met or exceeded the maximum advertised value for upstream coverage.

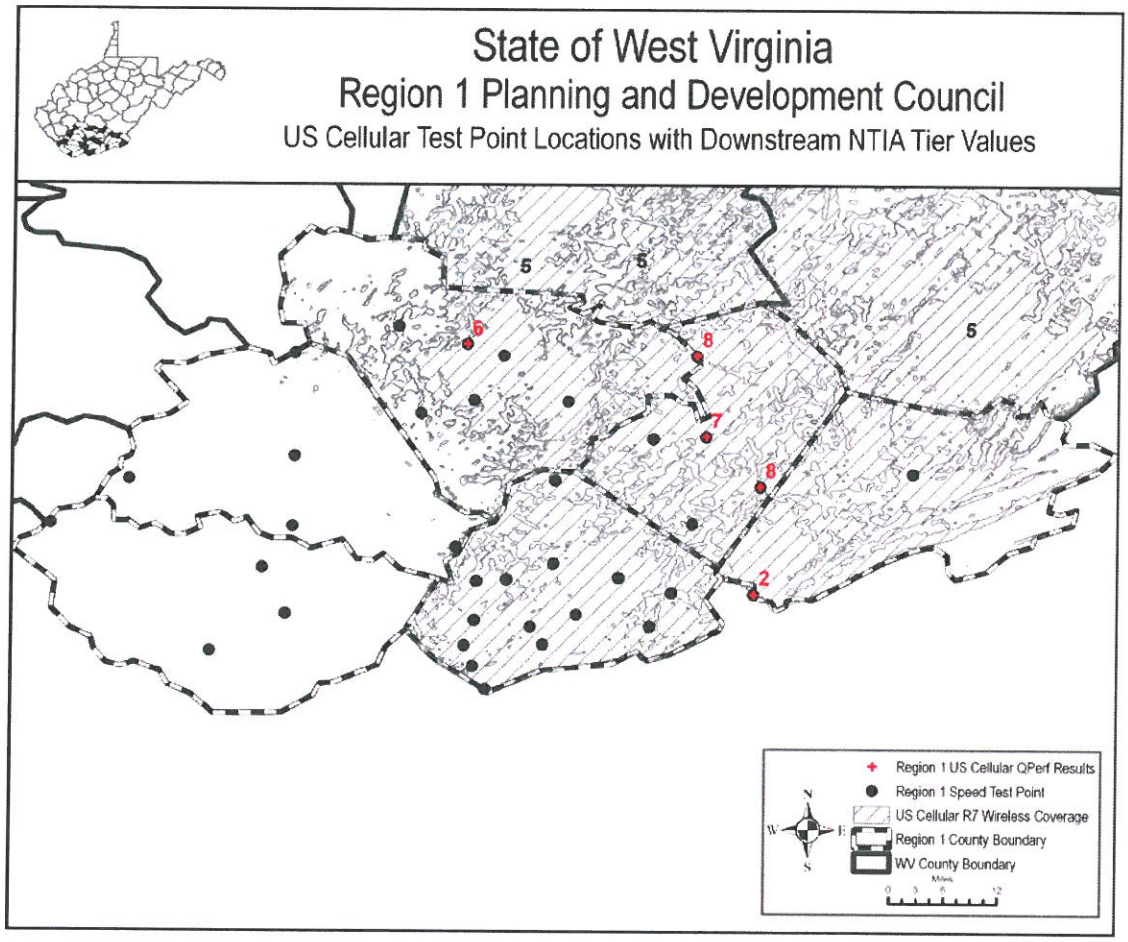

Figure 10—US Cellular Downstream Speed Values

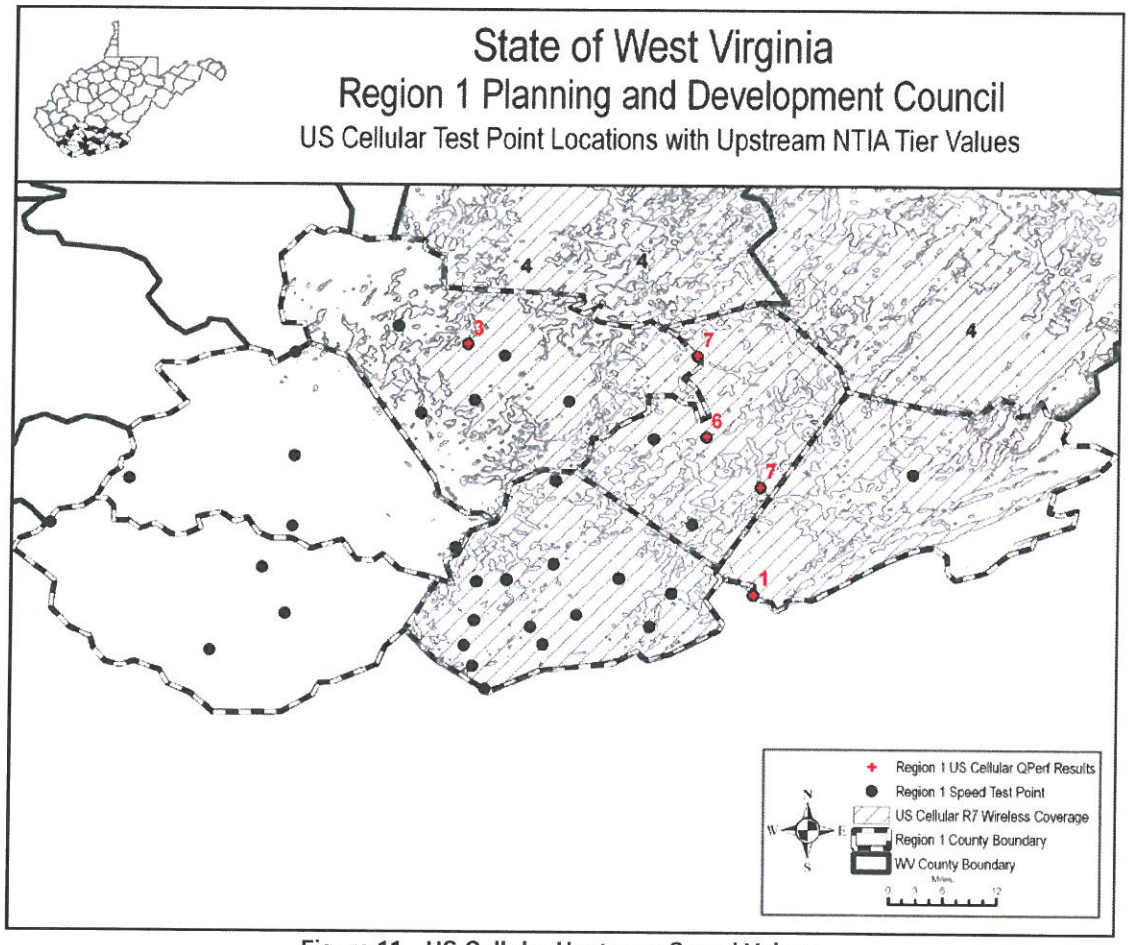

Figure 11—US Cellular Upstream Speed Values

2.1.4 Verizon QPerf Results

Of the 36 speed test point locations within Region 1, 22 were located within the Round 7 wireless coverage polygon submitted by Verizon and should have obtained QPerf speed test results. However, only five test points obtained results using the Verizon mobile network within Region 1. Of these five points, four were within the Verizon submitted coverage polygon and one was not 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 four test points obtaining results within the submitted coverage polygon, one met or exceeded the maximum advertised value for downstream coverage and two met or exceeded the maximum advertised value for upstream coverage.

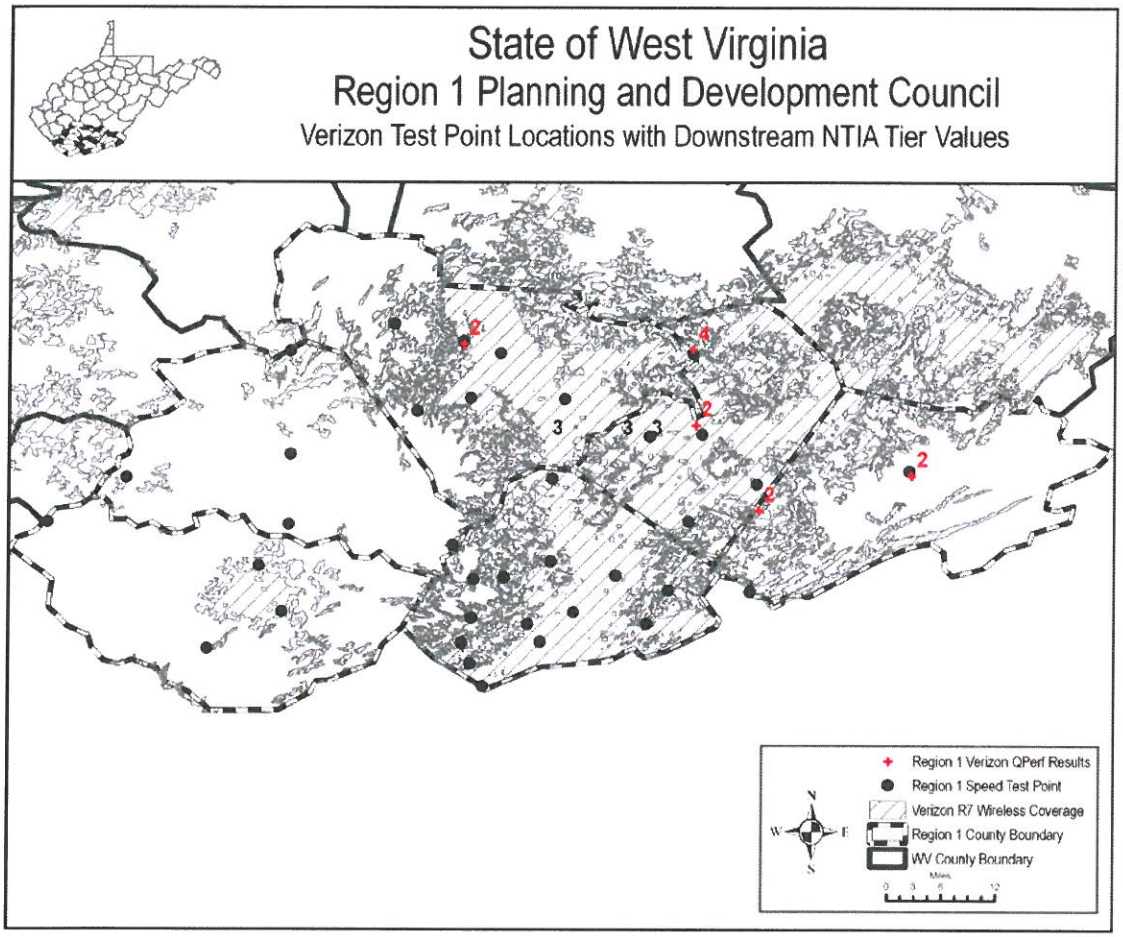

Figure 12—Verizon Downstream Speed Values

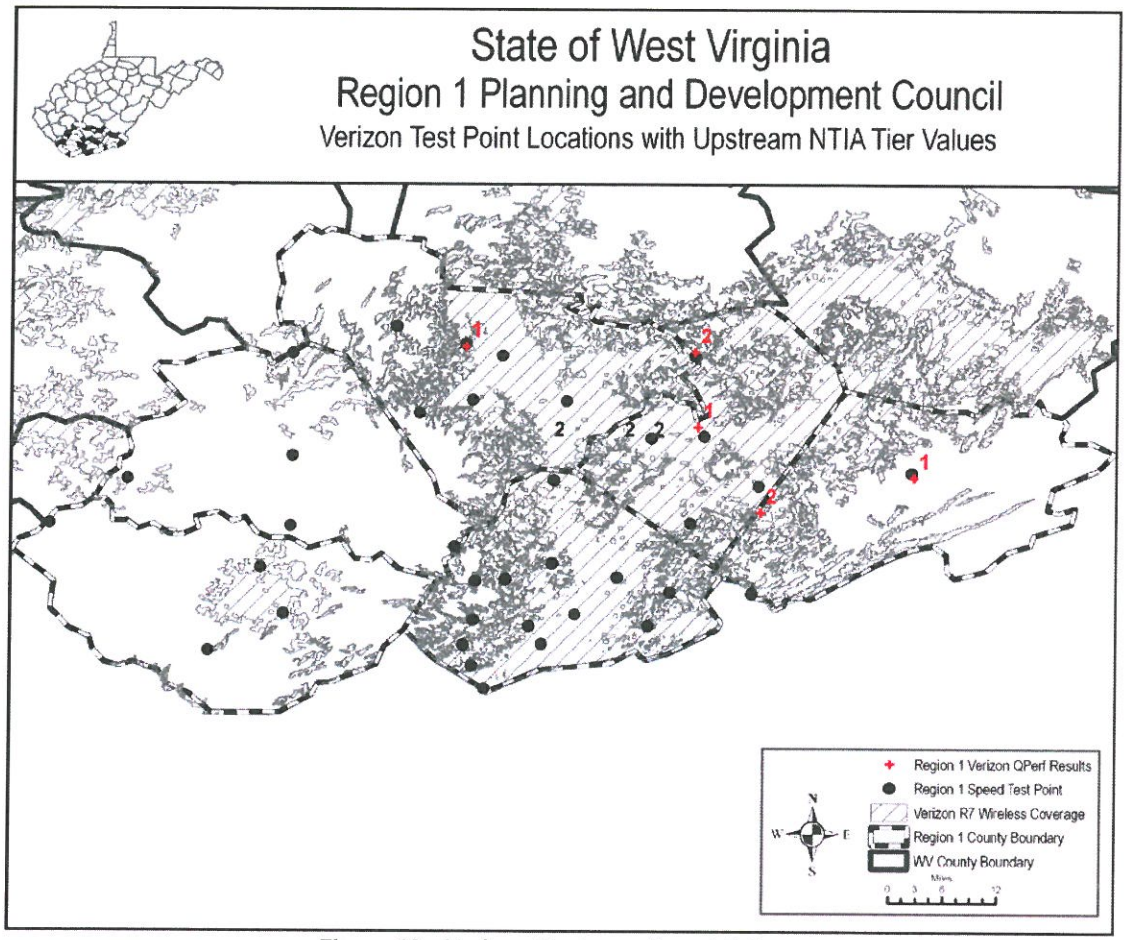

Figure 13—Verizon Upstream Speed Values

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 16,483 points plotted within the AT&T network in Region 1. There were 3036 points that obtained no data, indicating no signal strength. The signal strength ranged from -51 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.

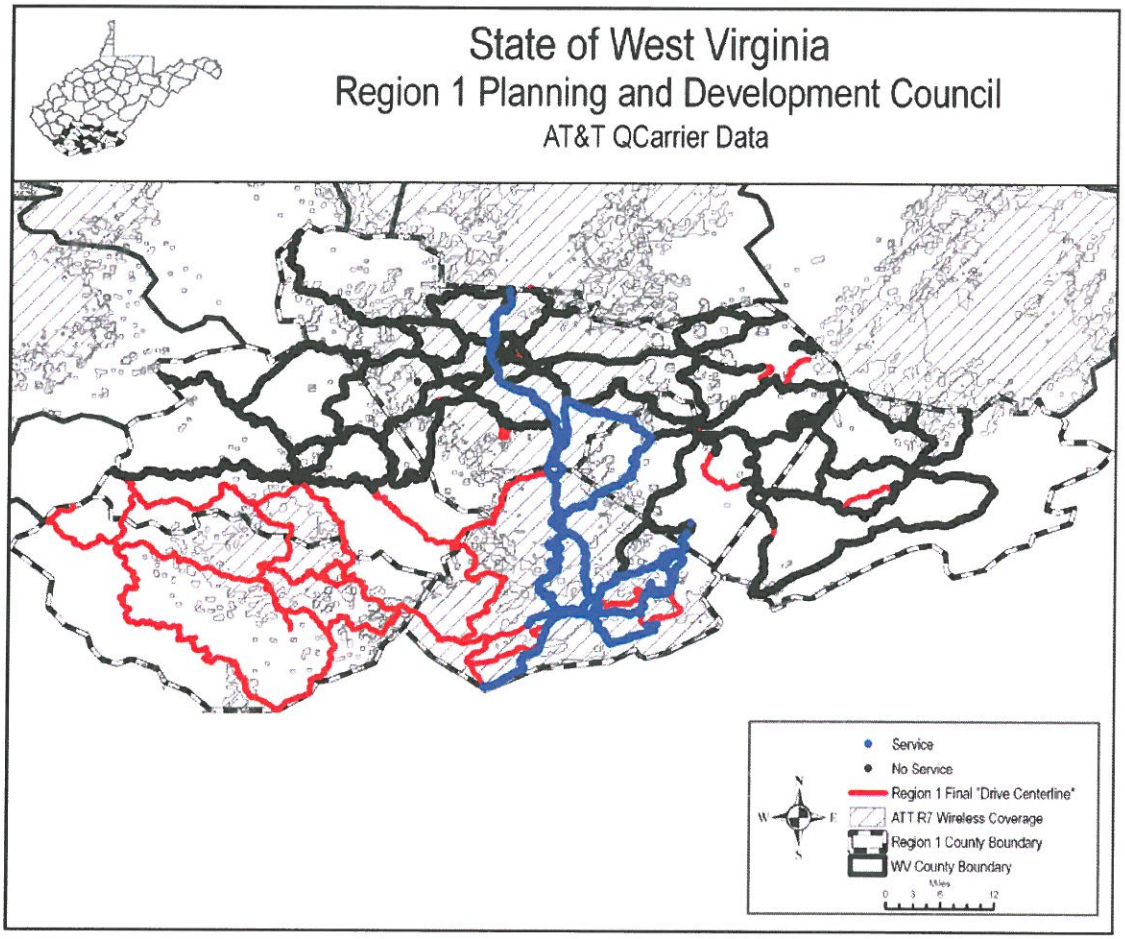

Figure 14—AT&T QCarrier Results, Based on RSSI_DM

2.2.2 nTelos QCarrier Results

There were 21,207 points plotted within the nTelos network in Region 1. The signal strength ranged from -52 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.

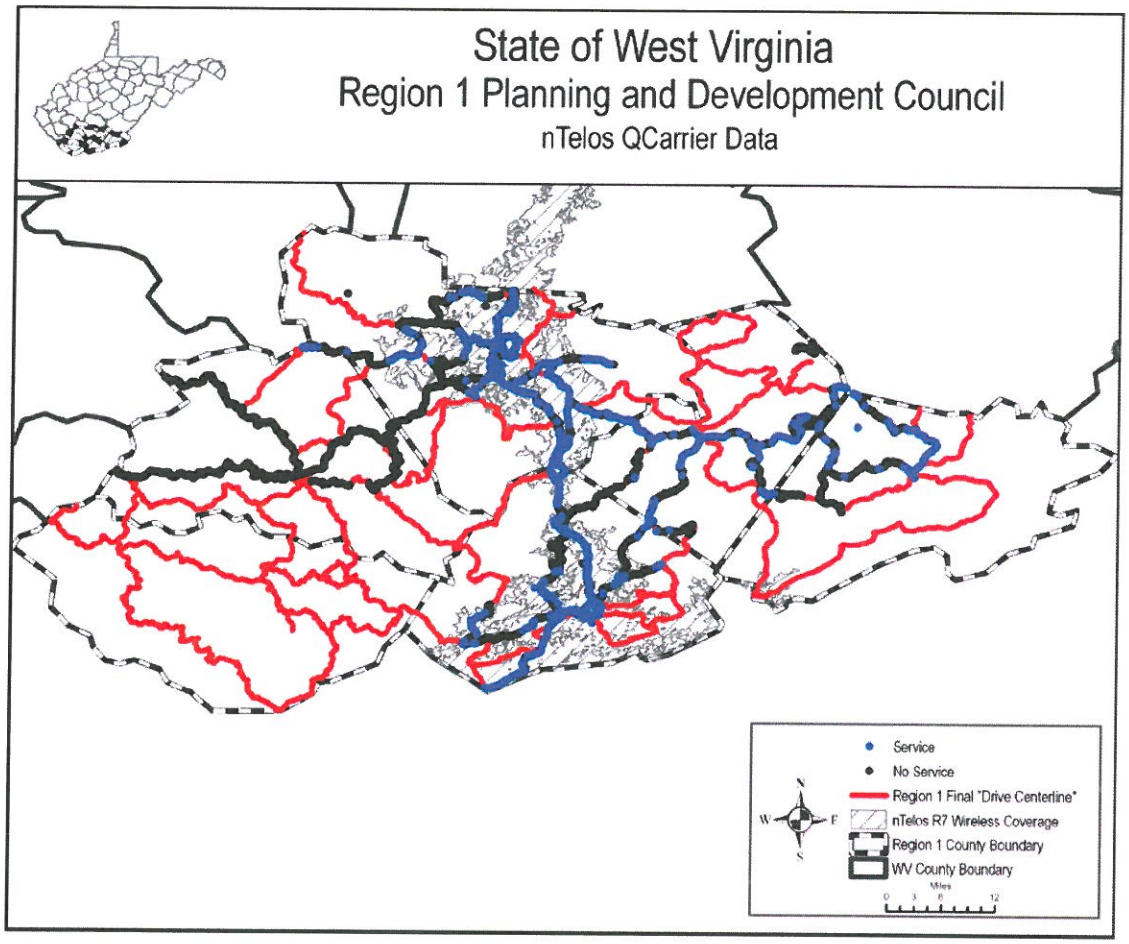

Figure 15—nTelos QCarrier Results, Based on EC/IO

2.2.3 US Cellular QCarrier Results

There were 6180 points plotted within the US Cellular network in Region 1. The signal strength ranged from -54 to -125 DBm. The EC/IO data ranged from -10 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.

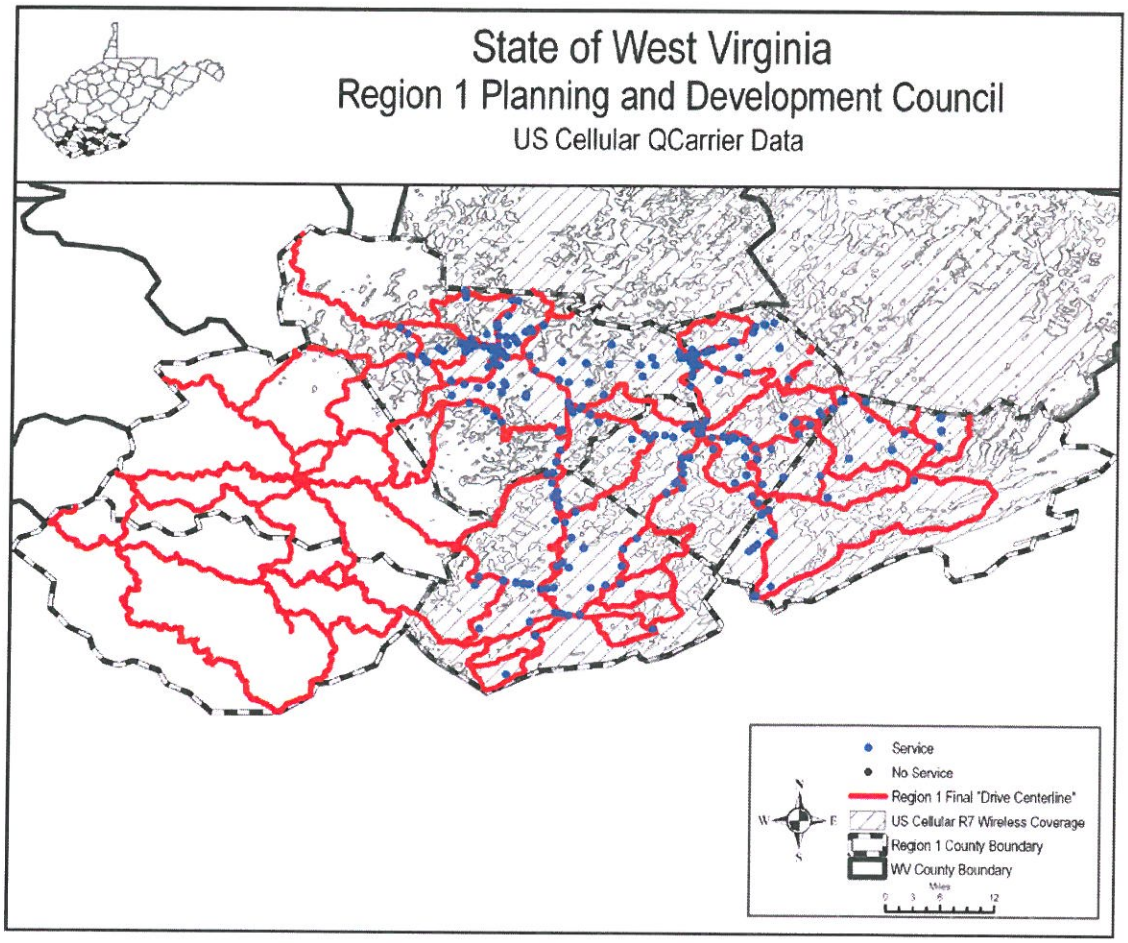

Figure 16—US Cellular QCarrier Results, Based on EC/IO

2.2.4 Verizon QCarrier Results

There were 27,859 points plotted within the Verizon network in Region 1. The signal strength ranged from -55 to -125 DBm. The EC/IO data ranged from -10 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

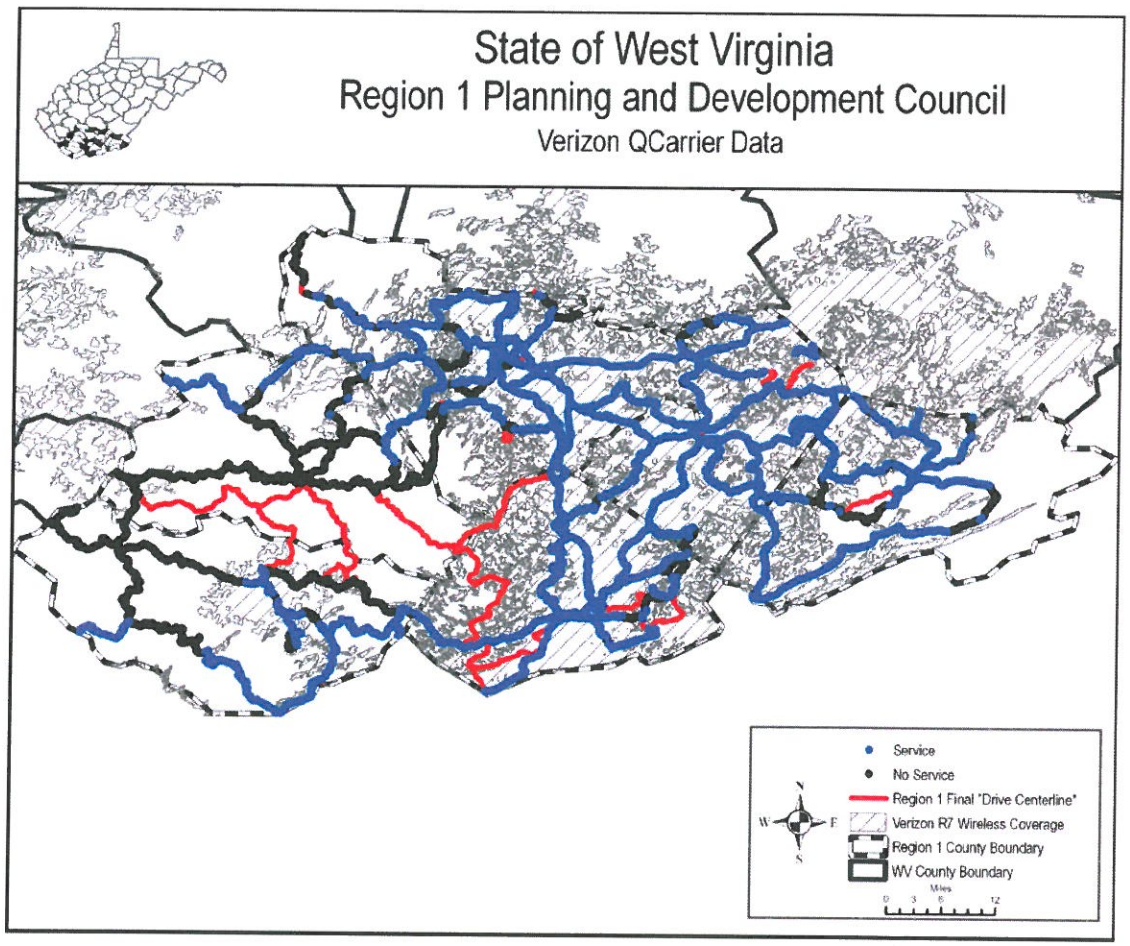

Figure 17—Verizon QCarrier Results, Based on EC/IO

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 1 had a total of 31 participants: nine provided user feedback, 14 took the broadband survey and eight took the speed test. Of the nine residents providing user feedback, seven indicated that the map shows that broadband is available, but in reality it is not available at their residence. The remaining two participants indicated "other." Providers listed for the broadband survey and speed test include Comcast, Frontier, Hughsnet, Lumos, Shentel, Suddenlink, USCC and Wild Blue. The majority of residents indicated that they had poor broadband service at their residence/business. Comments include the following:

- Tried Frontier DSL, but I'm at the 'end of their line' and barely got 2mb. Now have Wild Blue satellite. VERY spotty performance, MANY scheduled and unscheduled outages. VERY undependable.
- It's never as fast as it should be.
- My internet service provider stinks. My connection speed goes up and down like a yoyo. We have had numerous service calls. All of my neighbors have the same problem.
- Trying to watch videos or movies frustrate me. The constant buffering when I am on fullscreen is very aggravating. Especially for the price I pay every month.
- We would like very much to have broadband.
- Although suddenlinks fiber optic cable runs about 60 feet from my house, I am told that I would have to pay $2,000 for them to connect me and my neighbors (about 15 houses).
- I do have slow, frequently interrupted internet service at my home. I teach and I am often doing research for my classes rather than stay at school where I have the same problem.
- Although broadband is provided to both ends of my road, about 30 houses in the middle have no access. I was told that they (Suddenlink) would have to put a node in this area but won't.
- Its time for frontier to add broadband to our house.
- Had DSL from Frontier, but I'm at the 'end of the line' and barely got 2mb. Now I have Exede/Wild Blue. Service is expensive, very spotty and undependable. I have to re-boot all my equipment almost daily. They have constant unannounced 'scheduled outages'
- Frontier is awesome!

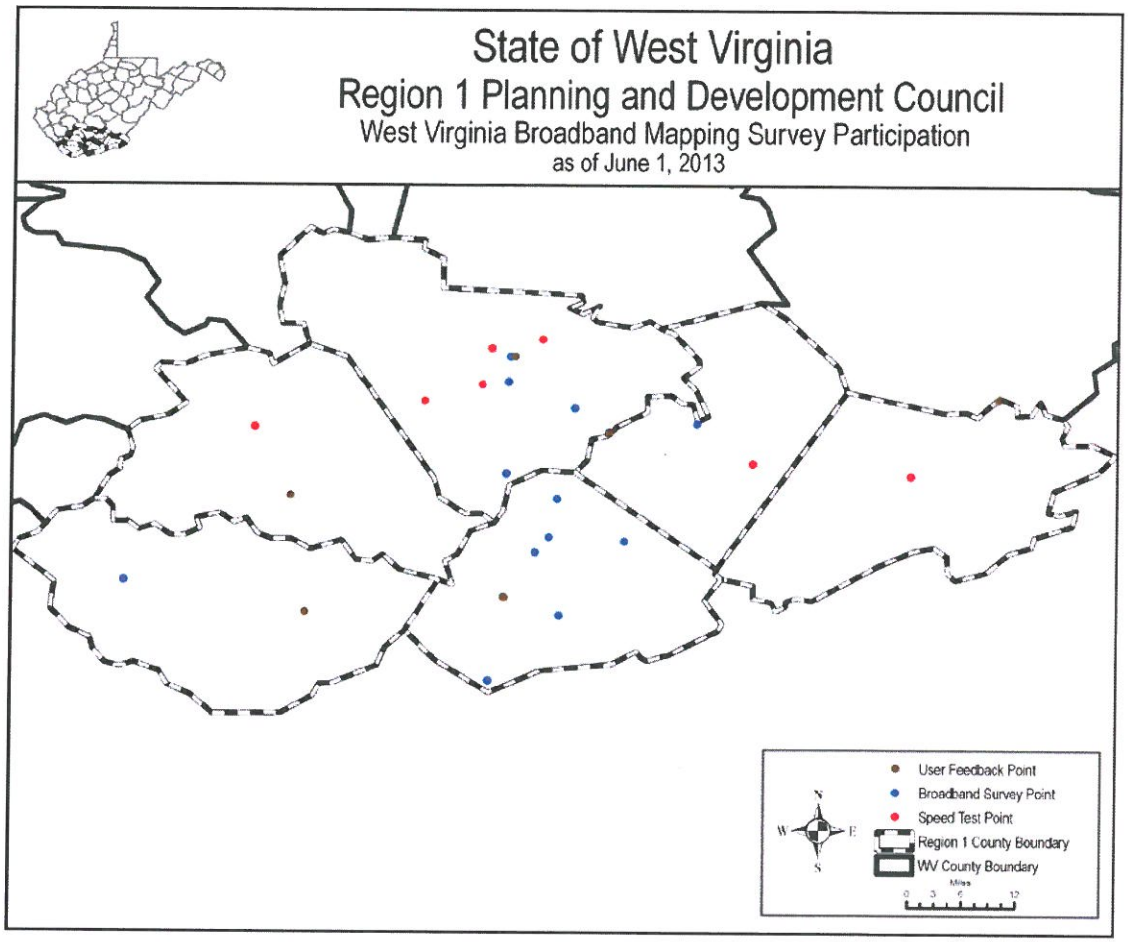

Figure 18—Broadband Survey Participant Locations

3. CONCLUSION

3.1 Carrier Connectivity

Carrier connectivity for the nTelos and Verizon 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 1. Both carriers submitted acceptable designations of their coverage areas to the NTIA. Carrier connectivity for the AT&T and US Cellular networks proved to be poor in general, and showed discrepancies in reported coverage boundaries for both the urban and rural areas of Region 1.

3.2 Recommendations

There are several areas within Region 1 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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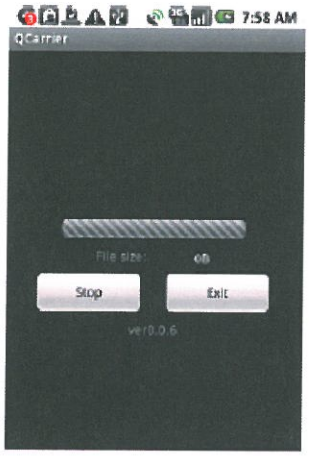
Instructions for Running QoS Solutions Android Applications

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.

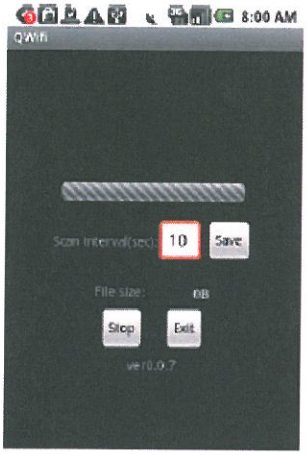
QCarrier

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.



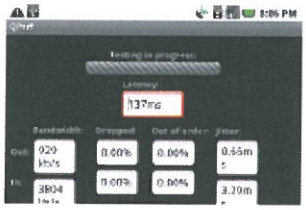
QWiFi

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



QPerf

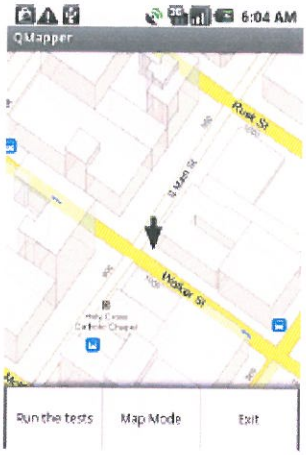
QPerf is designed to measure the carriers connectivity. It is recommended that you hit the Menu Button and turn off WiFi so that you measure the carrier's performance and not WiFi. You should remain in the same location until it completes.



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

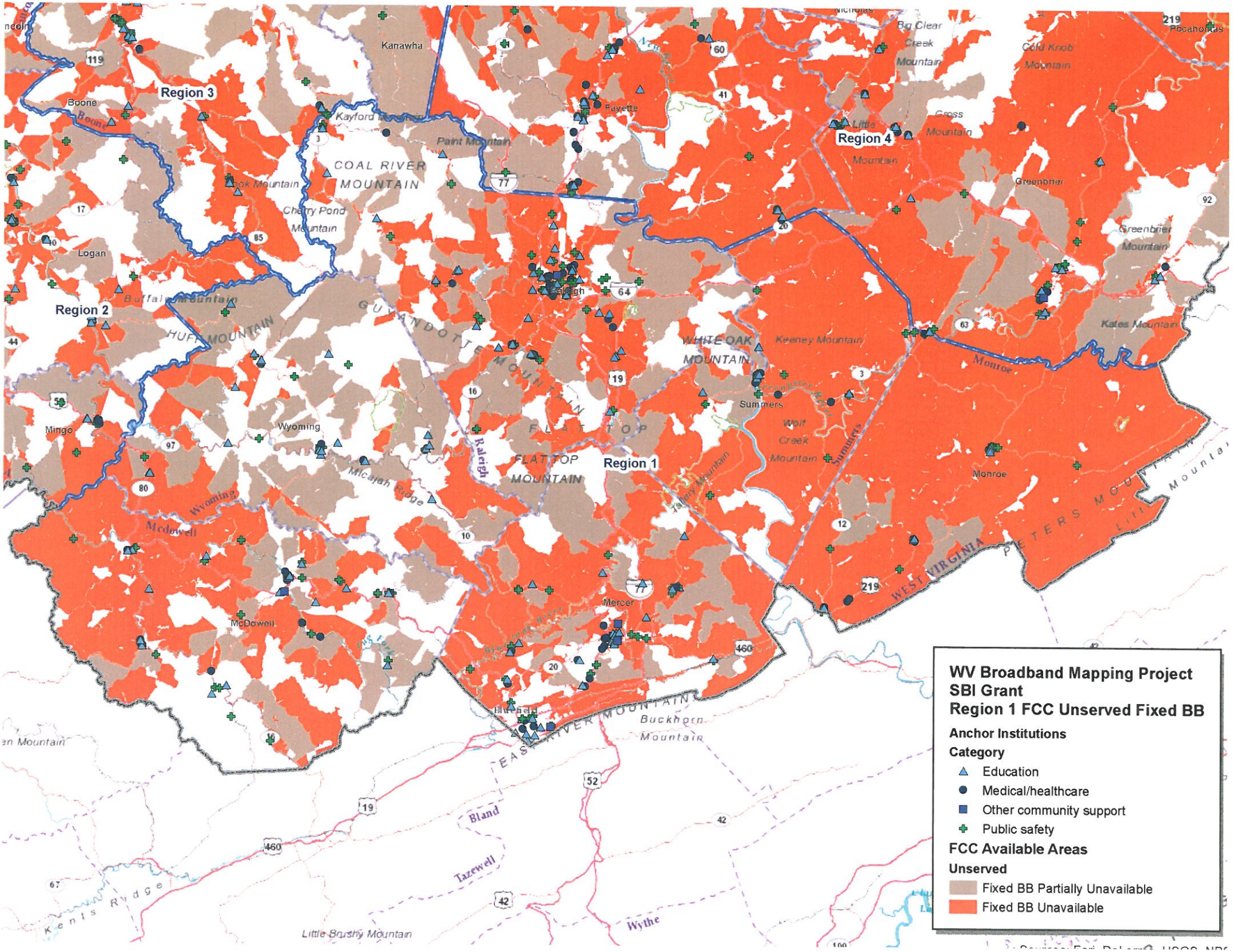
Route	MBI Calculated field

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

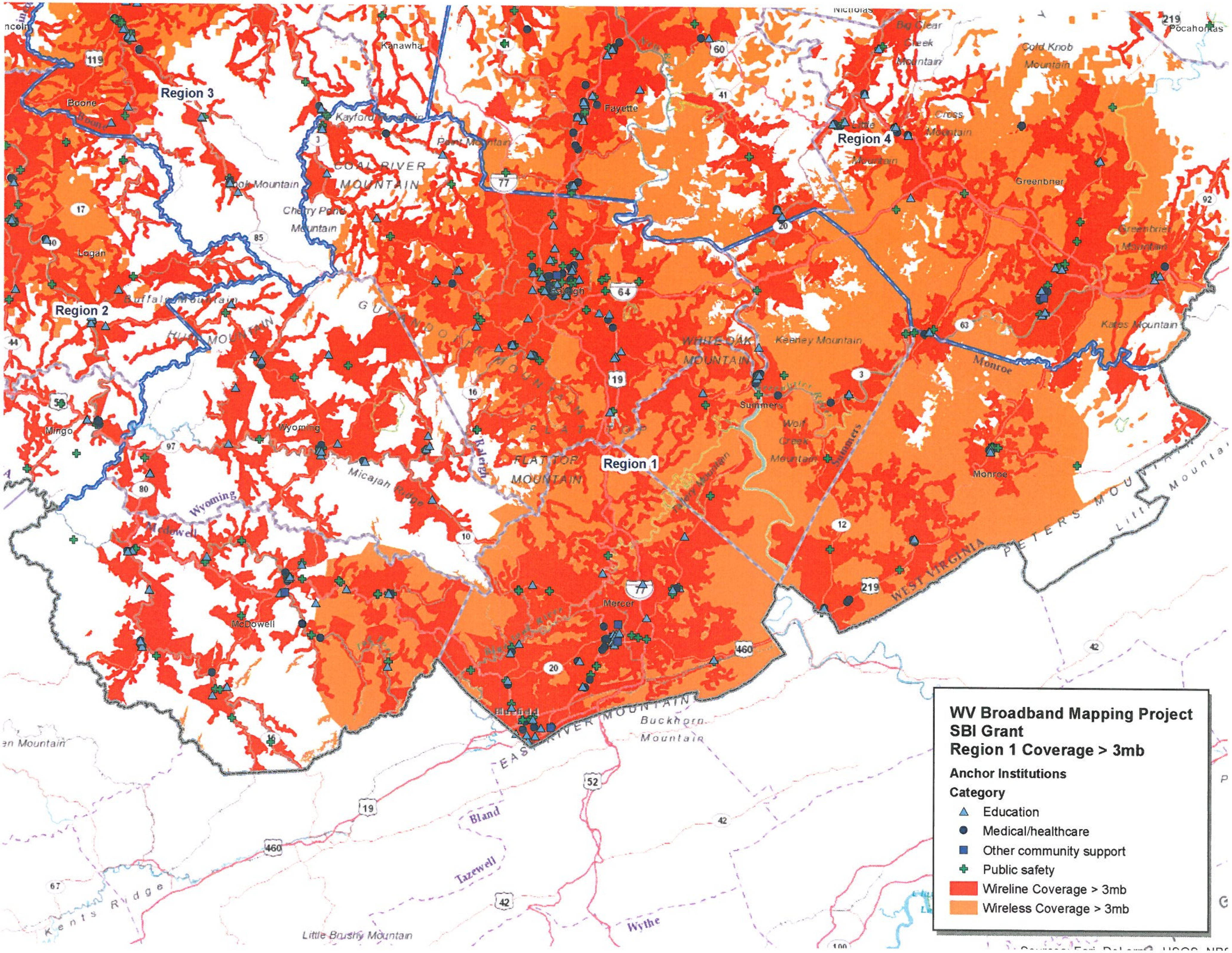
Route	MBI Calculated field
YEAR	MBI Calculated field
MONTH	MBI Calculated field
DAY	MBI Calculated field
MINUTES	MBI Calculated field
HOUR	MBI Calculated field
Upstream_Req_Met	MBI Calculated field. Value is 1 if the [_Outbound_Bandwidth_kbps_] value greater than 200
Downstream_Req_Met	MBI Calculated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


Region 1
Region 2
Region 3
Region 4
Kanawha
Boone
Logan
Wyoming
Mingo
McDowell
Mercer
Summers
Monroe
Greenbrier
Pocahontas
Fayette
COAL RIVER MOUNTAIN
HUFF MOUNTAIN
GUYANDOTTE MOUNTAIN
FLAT TOP MOUNTAIN
WHITE OAK MOUNTAIN
PETERS MOUNTAIN
EAST RIVER MOUNTAIN
Paint Mountain
Cherry Pond Mountain
Buffalo Mountain
Micajah Ridge
Tallery Mountain
Keeney Mountain
Wolf Creek Mountain
Big Clear Creek Mountain
Cold Knob Mountain
Cross Mountain
Little Mountain
Greenbrier Mountain
Kates Mountain
Buckhorn Mountain
Little Brushy Mountain
Kents Ridge
Bland
Tazewell
Wythe
Raleigh
Summers
Monroe
WV Broadband Mapping Project
SBI Grant
Region 1 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

Appendix E


WV Broadband Mapping Project
SBI Grant
Region 1 Coverage > 3mb
Anchor Institutions
Category
Education
Medical/healthcare
Other community support
Public safety
Wireline Coverage > 3mb
Wireless Coverage > 3mb
Region 1
Region 2
Region 3
Region 4
Boone
Logan
Mingo
Wyoming
McDowell
Mercer
Summers
Monroe
Greenbrier
Fayette
Raleigh
Kanawha
Nicholas
Pocahontas
Bluefield
Bland
Tazewell
Wythe
WEST VIRGINIA
COAL RIVER MOUNTAIN
FLAT TOP MOUNTAIN
WHITE OAK MOUNTAIN
Keeney Mountain
Kates Mountain
Cold Knob Mountain
Buckhorn Mountain
Little Brushy Mountain
Micajah Ridge
Kents Ridge

Appendix F

Dear Editor,

Satellite is not Broadband! In "Broadband Expansion in Monroe County", July 25 Watchman, it is stated that "satellite-delivered service – Frontier Broadband – that is ideal for many …". While satellite may be OK for social needs, (facebook, etc.), it is not adequate for a serious business that needs VPN (Virtual Private Network) to function. The problem with satellite is not the upload or download speeds. The problem is the "ping", which is the time for the signal to cycle through the network (handshaking, etc.). While the "ping" signal typically travels a few miles for land-based, in satellite it has to travel an "extra" 45,000 miles in a round trip to outer space and back, significantly increasing the "ping", eliminating serious business VPN applications and applications requiring rapid interactions. If it rains or snows, you are out of luck. I do hope the intent of Connect America will be honored. Rural businesses need REAL broadband, not satellite!

Dana Olson

One mile from a DSL service.

Notice of Public Meeting

Gap Mills Community Center will have a public meeting and open house on Thursday, August 1st at 7:00pm. All interested persons are urged to attend.

Family Movie Night

Family movie night at Alderson Alumni Park, Friday, July 26th at 8:00pm. Free admission, bring blankets or chairs, popcorn and drinks will be provided.

Gospel Convention

The 63rd Annual West Virginia Mountain State Gospel Singers Convention will be held July 21-28.

The Convention grounds are located 5 Miles South of Summersville, Nicholas county, off Rt 19, follow Rt 129 East

For more information or a schedule of events, visit the web site at www.wvgospelsing.com or call 304-872-1977.

Broadband Expansion in Monroe County

Frontier Communications has extended broadband service to residents and businesses in the Gap Mills and Sinks Grove areas of Monroe County, according to General Manager Mike Swatts, who added the project was made possible through subsidies from the federal Connect America Fund (CAF).

The Federal Communications Commission (FCC) has said broadband service is necessary for citizens to seek full participation in the nation's economy and society. To expand broadband service, the FCC transformed the telephone-focused Universal Service Fund (USF) into the CAF.

"Frontier has invested its own resources in developing broadband service in West Virginia and also is taking advantage of CAF to accelerate broadband build-out in rural areas that need access to robust broadband infrastructure," Swatts said. "These new broadband connections give more West Virginia families and businesses access to the myriad services available online."

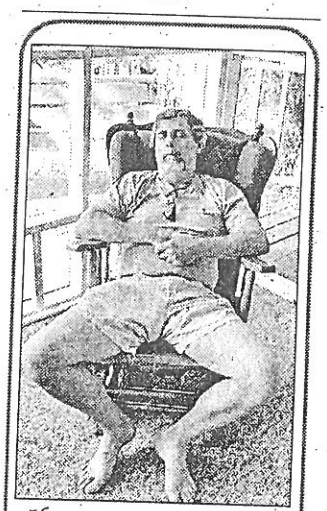
Monroe County Clerk Donald J. Evans said he and the County Commission appreciate Frontier's continued commitment to invest the necessary funds to bring broadband to the unserved areas of Monroe County. Evans went on to say that the County Commission has experienced a very positive relationship with Frontier and looks forward to continue to work with the company in bringing this vital service to the residents of Monroe County.

Swatts encouraged residents to call 1-800-921-8101 toll-free for information about their service options. Customers have an opportunity to bundle broadband service with telephone and television services and realize substantial savings. Swatts said residential customers ordering Frontier broadband for the first time can start at just $19.99 per month with a qualifying phone service. The no-contract offer provides a three-year price guarantee for broadband service.

Since acquiring Verizon properties in 14 states in July 2010, Frontier has invested more than $300 million to improve, strengthen and expand its communications network in West Virginia. Frontier has increased broadband access since July 2010 to 162,000 additional West Virginia households – from 62 percent of households in the acquired markets to 87 percent today.

Swatts said Frontier also offers a satellite-delivered service – Frontier Broadband – that is ideal for many households that do not have access to land-based broadband service. He added that Frontier Broadband residential service delivers an impressive array of speeds that allow customers to stream video and use other high bandwidth applications – up to 5 Mbps download/1 Mbps upload to 15 Mbps download/2 Mbps upload.

Make a Difference RECYCLE



If you see Seven at Zenith, don't wake him up. He is on vacation.

A Special Thanks

We would like to sincerely thank all our family and friends for the prayers, visits, calls, food, cards and support during the sudden loss of our loved one. A special thank you to Pastor Mark Shafer and his family for the beautiful service. Union Memorial Baptist Church for the food, Ann, Carol, Frances, Martha, Danny, Richard and Groves Funeral Home for their special help. Your continued prayers are appreciated.

The Family of Janie Martin

Card Of Thanks

My eternal gratitude to everyone for the prayers, visits, cards, food and money during the illness and death of my daughter, Darlene C. Bailey. To Debbie Boggs for her shoulder to cry on and arms to lean on during this time, and before, during and after the service. To Gary Winebrimmer, Kathy Helvey, Mark and Marva Smearman for the special music and words that brought a tear and a smile. To the ladies of Bruffey Methodist Church for the wonderful meal. To Bob and Carol Groves for their support and kindness. God bless each and everyone.

Doris C. Love

S.C. Boy Scouts build gazebo at historic McNutt House

By KATE COIL
Bluefield Daily Telegraph

PRINCETON — A troop of Boy Scouts from South Carolina received a warm welcome from local residents as they spent much of the day Monday working around downtown Princeton.

A troop from the Columbia, S.C., area found themselves working at the McNutt House in Princeton, cleaning up debris and building a new gazebo. Local residents driving by the scene honked their car horns and waved at the group as they passed by. Monday marked the fourth day of the 2013 Boys Scouts of America National Jamboree Day of Service Initiative.

Robert Farley, executive director of the Princeton-Mercer County Chamber of Commerce, said the troop had already accomplished a lot despite only being in Princeton for three hours.

"They are a good group of kids," he said. "They have been very friendly. They have great personalities and they all just jumped right in. We have 36 kids here, so when you put them to work they get a lot done quickly."

Patrick Westcott, a Scoutmaster with the group, said the Scouts took a five-hour bus drive up from South Carolina to participate in the jamboree.

"The weather is a lot similar to back home, though the temperature in the evenings is cooler," he said. "We've been staying busy the entire time we've been here. There is a lot to do at the Summit like ziplining, whitewater rafting and shooting bows and arrows. They are getting to meet kids from other states and there are some international scouts there from Canada, Puerto Rico and Korea. Trading council patches and stripes has been another big activity for the kids."

Westcott said the large scale of community service projects taking place throughout southern West Virginia is impressive.

"I think it's great and the guys were very excited to get to do a project," Westcott said. "We always try to do service projects at home and try to do as many as we can. This is probably the grandest scale these projects have been done on."

Zachary Jordan, 15, said the project had gone really smoothly for the troop.

"The project is going a lot quicker than I thought it would," he said. "The way it is set up, all the pieces fit together easily. Once we figured out how to put things together it went by very fast."

While he had fun working in Princeton, Jordan said he and his fellow Scouts have also been partaking in a lot of the activities offered at the Summit.

"I think my favorite thing we've done so far is climbing up to the actual Summit," he said. "You have to take one of four trails up to the top and the one we did was about 5 or 6 miles. There was a lot of stuff to do up there. I thought it was just going to be an observation deck, but they had highland games, an Indian Village and a pioneer village. They let people make their own hammers and tomahawks. That was a lot of fun."

Jacob Newiswonger, 14, said the jamboree more than met his expectations.

"This is my first jamboree and its even more than what I was expecting," he said. "It's making history. We've had fun doing the projects and I'm grateful we get to do them. There is a lot to do at the Summit, too. There are a lot of people doing ziplining and rock climbing. There is also Brown Sea Island, which shows what one of the first big Boy Scout campouts was like. I've met guys from Missouri, New Mexico, New York and Chicago. It's been a great meeting a lot of people from all over."

Scouts were also at work at the New River Community and Technical College in Princeton and other locations throughout Mercer County. Scout troops were also working at in Landgraff and Welch in McDowell County.

— Contact Kate Coil at kcoil@bdtonline.com

Broadband service expanding into Monroe

Staff reports

UNION — Broadband service will be expanded for Frontier Communications customers in Monroe County.

The company announced Monday it has recently completed expansions into the Gap Mills and Sinks Grove area of Monroe County through federal subsidies provide from the Connect American Fund. The fund is made possible through a Federal Communications Commission (FCC) project with the aim of bringing broadband to all citizens so they can better participate in the nation's economy and society, according to Frontier General Manager Mike Swatts.

"Frontier has invested its own resources in developing broadband service in West Virginia and also taking advantage of CAF to accelerate broadband build-out in rural areas that need access to robust broadband infrastructure," Swatts said. "These new broadband connections give more West Virginia families and businesses access to the myriad of services available online."

Monroe County Clerk Donald J. Evans said he and the county commission appreciate bringing the new services to the county.

"We appreciate Frontier's continued commitment to invest the necessary funds to bring broadband service to the unserved areas of Monroe County," Evans said. "The county commission has experienced a very positive relationship with Frontier and looks forward to continue to work with the company in bringing this vital service to residents of Monroe County."

Residents seeking more information about newly available services can contact Frontier at 1-800-921-8101.

WVa. schools to participate in digital math study

Appendix G