



# Montana Broadband Regional Planning



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Montana Broadband Program  
Department of Administration  
Information Technology  
Services Division  
<http://www.broadband.mt.gov>



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# PART 1: BACKGROUND

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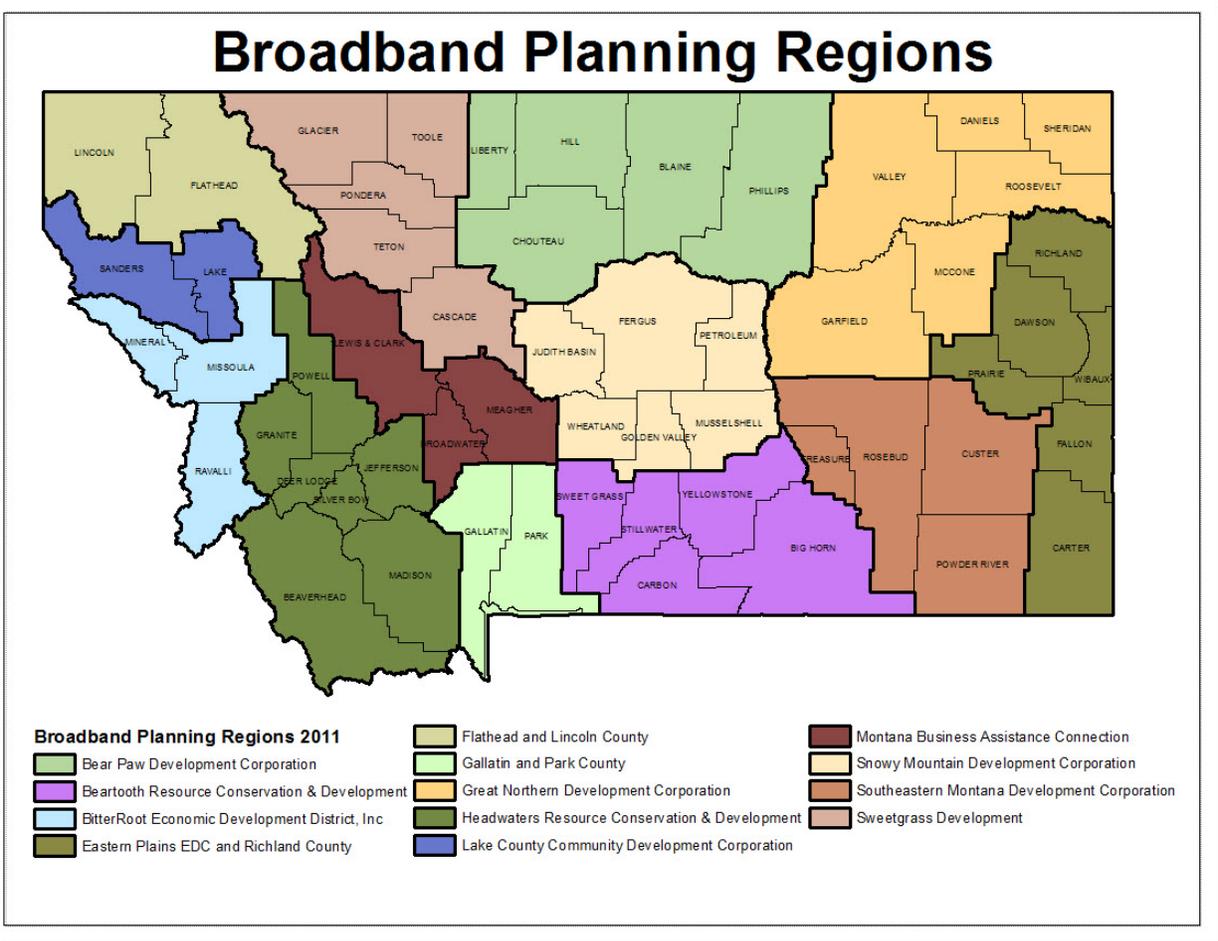


## B. Regional Meetings

The purpose of the regional meetings is to assist in identifying Montana’s specific needs as they relate to the development of a Montana Broadband Plan. Meetings were conducted in each of 13 regions throughout the months of September to November, 2011. Each of the regional meetings contributed information unique to that region. The meetings were attended by stakeholders from Montana communities that have an interest in the development of broadband use and access as it relates to such areas as public safety, healthcare, education, emergency services, business development, maintaining and establishing jobs in Montana, community development, civic engagement, and any other way that broadband may enhance lives in Montana.

Outcomes from the meetings included increased broadband awareness, identification of key strategic applications, and the building of a foundation for a steering committee in each region to continue to conduct broadband efforts. The Broadband Program will work closely with the contractor to interpret the information gathered and use the data to determine the ways in which it will be used to the benefit the state's needs.

Map 1: Broadband Planning Regions



## II. Broadband Benefits & Opportunities

The regional meetings were attended by stakeholders from all sectors of the community. These stakeholders described dramatic ways that broadband was changing the way they do business. Technologies allow them do business more cost effectively, reach new markets, engage constituents and provider a wider arrange of services. Just within the last few years, applications such as social networking and Skype have become widespread and are changing the way we interact with family and community. Mobile applications are introducing new ways to do business while consumers are expecting wireless access everywhere. Broadband applications have become a critical component of all activities whether they involve work, play, learning, family or community. Stakeholders at the regional meetings identified numerous benefits of broadband technologies. A sampling of these benefits and opportunities follow.

Table 1: Broadband Benefits

Stakeholder Group	Benefits & Opportunities
<b>Economic Development &amp; Business</b>	<ul style="list-style-type: none"> <li>• Expands markets for Montana businesses – through e-commerce apps</li> <li>• Employees can complete training &amp; maintain certifications on-line</li> <li>• Creates jobs through telework opportunities</li> <li>• On-line banking, on-line bill paying, on-line purchasing, ....</li> <li>• File sharing for large data files allows collaboration on projects</li> <li>• Save real estate costs by allowing workers to telecommute</li> <li>• Automated production and remote monitoring is more cost effective</li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>• Streaming video for lectures on-demand – virtual labs</li> <li>• Student portals to access grades, assignments, content</li> <li>• Teachers have more access to content over the Internet</li> <li>• E-readers are more cost effective way to distribute text books</li> <li>• Distant learning allows rural schools to have access to wider range of classes and non-traditional students to pursue degrees off-campus</li> <li>• Virtual desktops allow students to access software</li> <li>• Individualized on-line tutoring for students</li> </ul>
<b>Health Care</b>	<ul style="list-style-type: none"> <li>• Small towns have access to services through teleradiology, telepharmacy, telepsychiatry, ...</li> <li>• Home health care applications that monitor vital signs and consultation over Internet allow seniors to stay in home longer</li> <li>• Mobile stroke units let doctors remotely treat patients in the field</li> <li>• While at their homes, doctors can communicate with patients in the hospital and provider better service</li> <li>• Electronic medical records &amp; Health Information Exchange</li> <li>• Out-source tasks such as medical transcription to tele-workers</li> <li>• Patients can access health information at home for better rehab and reduce visits to doctors office</li> <li>• Patient portals allow patients to complete forms and medical questionnaires at home and better prepare for doctor visits</li> </ul>

<b>Government</b>	<ul style="list-style-type: none"> <li>• On-line permitting, on-line documents</li> <li>• Citizens can participate in meetings via video-conferencing</li> <li>• Civic engagement through surveys, social networking</li> <li>• Access to maps and other data for planning purposes</li> <li>• Remote monitoring of water and sewer treatment facilities</li> <li>• On-line ticketing to events</li> </ul>
<b>Public Safety</b>	<ul style="list-style-type: none"> <li>• Improved communication between first responders and emergency rooms</li> <li>• Access to police records from patrol vehicles</li> <li>• Wireless access in fire trucks allow firefighters to access info regarding potential hazardous materials, building plans ... and improves safety</li> <li>• Social networking and texting have potential for early warning system</li> <li>• Use of social networking to coordinate response in disaster situations</li> <li>• Remote monitoring of sites for safety concerns (i.e. oil &amp; gas fields ...)</li> </ul>
<b>Citizens</b>	<ul style="list-style-type: none"> <li>• Wider range of entertainment options</li> <li>• Stay in touch with family members thru social networking, Skype, ...</li> <li>• Better access to employment information and job services</li> <li>• Rural areas have access to on-line shopping to get items not available at local merchants</li> <li>• Access to on-line services for filing taxes and Medicare enrollment</li> <li>• On-line work-force development</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Control irrigation systems with mobile apps and conserve water</li> <li>• Real-time access to soil and climate conditions to make automatic adjustments in planting and fertilizing that saves money</li> <li>• Automated steering of tractors for more efficient plantings</li> <li>• Remote sensors that track livestock and provider real-time data on weight, feed, ....</li> <li>• Instant access to commodity price and other market info while in the field</li> <li>• Business applications and ability to market products on the web</li> </ul>
<b>General</b>	<ul style="list-style-type: none"> <li>• Cloud computing offers cost efficiencies</li> <li>• Webinars and video-conferencing allow virtual meetings and saves on travel costs</li> <li>• Use of Skype for interviewing employees &amp; communicating with family</li> <li>• Use of VOIP to save costs</li> <li>• Remote tech support allows IT staff virtual access to computers and eliminates need for site visit</li> <li>• Smart Grid technologies save on energy costs</li> <li>• On-Line professional training</li> </ul>

## II. Mapping Overview

### A. Background

The Montana Broadband Mapping Project was started in early 2010 as the first element of the Montana State Broadband Data and Development program. The mapping program is a five year effort with goals that include: documenting the availability of broadband across the State of Montana, documenting the technology of transmission used to deliver broadband, documenting the presence of competitive providers of broadband service, and documenting the availability to and use of broadband by Anchor Institutions.

The map can have many different uses:

- Individuals can use the interactive mapping tool at [www.broadband.mt.gov](http://www.broadband.mt.gov) to determine which broadband providers are offering service in their census block.
- Economic development officials can use the map to help businesses identify industrial or commercial sites that have the requisite broadband service for their business.
- Telecommunication providers can use the map to identify gaps in service and help plan where they might invest in infrastructure to meet unserved or underserved areas.
- Communities can use the maps as part of the planning documents to help coordinate the deployment of broadband infrastructure with other infrastructure projects such as roads.

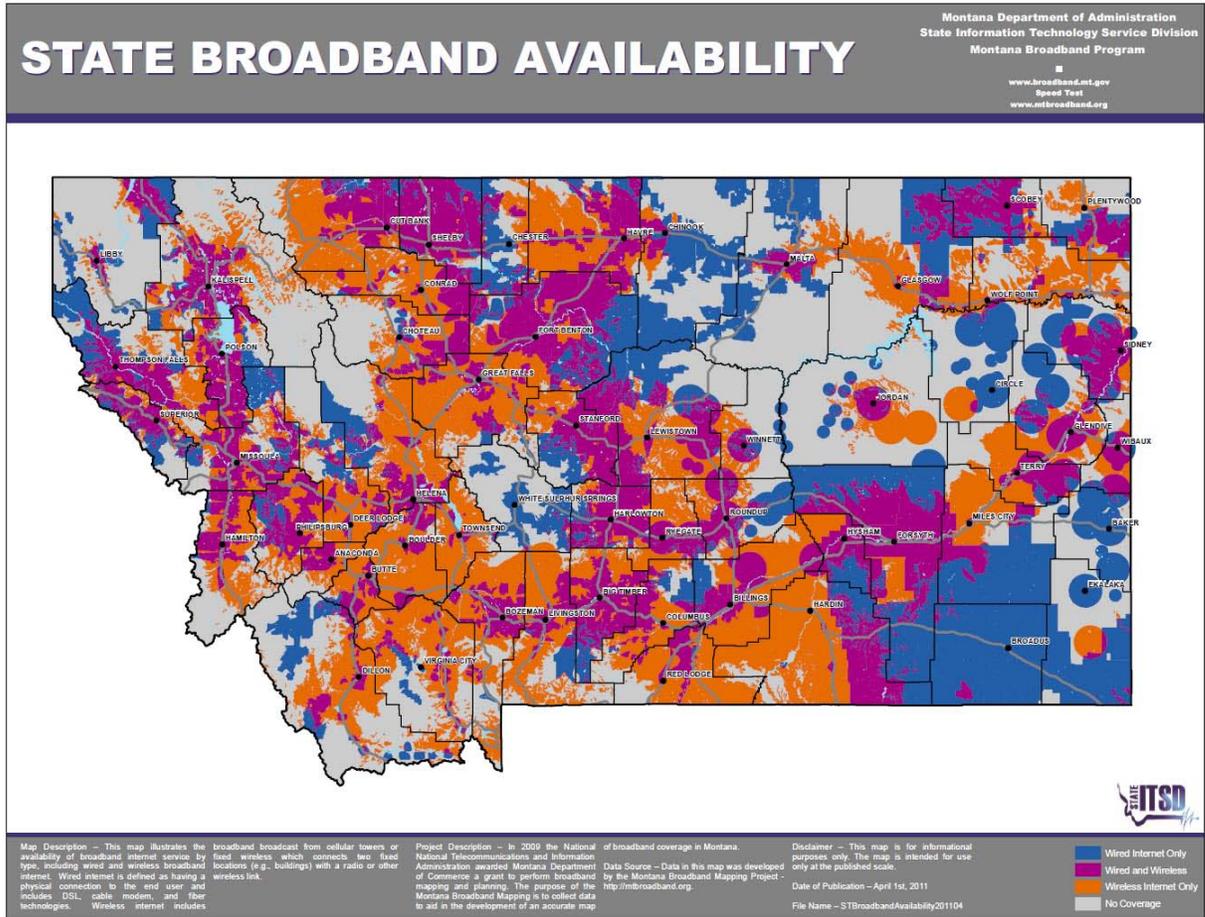
It should be noted that the State Broadband Mapping Project is an ongoing project. The mapping team will continue to solicit data from providers and improve the quality of the data represented by the State Broadband Map. In addition to seeking provider input, the team will also continue to use credible independent data sources like the speed test and documented user experiences to continually enhance the accuracy and usability of the map.

The State Broadband map was developed and is being maintained through a three step process: Data Collection, Data Analysis, and Maintenance. Details of the mapping process are included in the appendix.

### B. Statewide results

The State Broadband Availability map as of April 2011 is presented below. A quick review of this map indicates that roughly half of the State (by area) has access to broadband services. A further examination of this map shows the variability of the data received from providers or developed through independent means. Circular coverage areas indicate either wired or wireless coverage predictions based on the known range of the Technology of Transmission. Irregular coverage areas typically indicate a more rigorous analysis that incorporates the effect of terrain or of population distribution on coverage. This map also shows large areas without coverage, typically in the wilderness areas of western Montana or in the agricultural areas of eastern Montana.

Map 2: State Broadband Availability

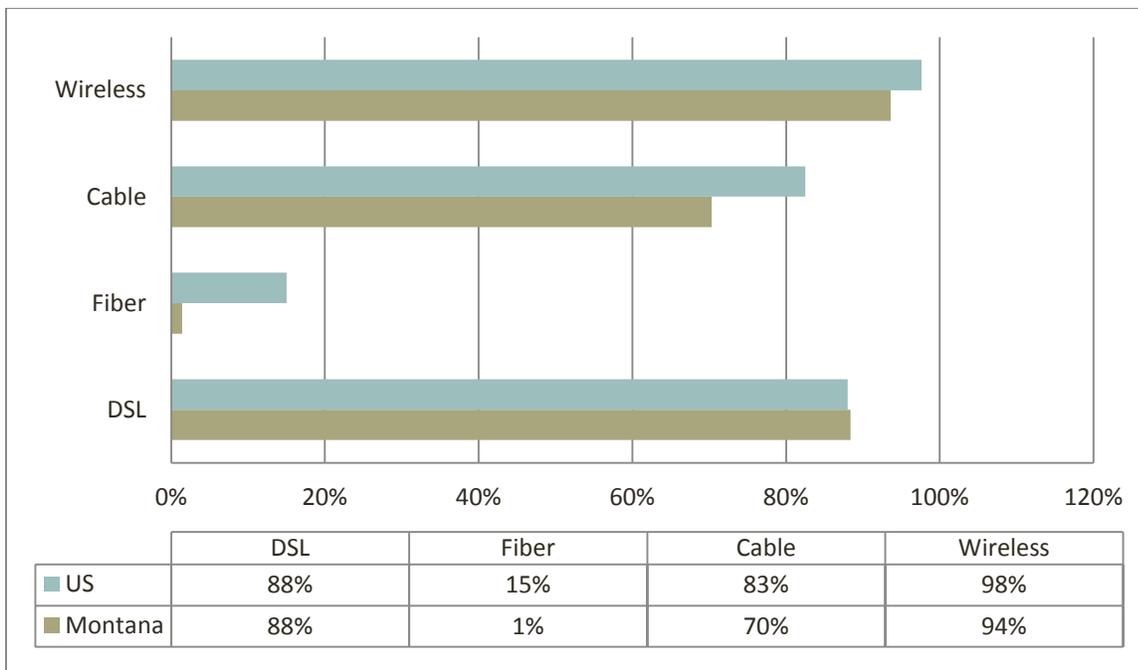


## IV. Five C's Framework

### A. Connectivity

Connectivity means that businesses and households have access to a minimum level of broadband service. Participants in the meeting emphasized the need for connectivity at every home and business in order for citizens to have access to telework opportunities, for students to access educational materials at home and for seniors to access home health care services. According to the chart below, the vast majority of Montana households have access to some type of broadband technology but there are still areas that lack service. Additionally, those areas that are show in wireless service areas may have limitations in coverage due to topography. Gaps in wireless coverage were the number one infrastructure issue in regional meetings.

Figure 2 : % of Population with Access to Internet by Type of Technology



Source: <http://www.broadbandmap.gov/summarize/state/montana>

### B. Capacity

Currently, the average bandwidth speed for the United States is approximately 6 mbps download speeds. While this may be sufficient for today's home users, bandwidth needs are growing exponentially. More people are relying on video applications for entertainment, education, and health care consultations. Institutions and businesses are relying more on cloud based computing and are transferring larger amounts of data over their networks. This creates additional demands on bandwidth. Consequently, the FCC National Broadband Plan calls for 100 mbps service for homes and 1 gigabit service for anchor institutions.

### **C. Costs**

Broadband services are typically more expensive in rural states. There are a number of factors contributing to this including:

- Due to low population densities, it is difficult to achieve economies of scale and there are not as many customers to spread the costs of paying for infrastructure upgrades.
- It is more costly to deploy fiber in rocky mountainous terrain than in relatively flat areas.
- Montana is a large state geographically. Circuit costs are based, in part, on distance and these longer distances from the consumer to the telecommunication provider's central office and the Internet backbone adds to cost.
- Policy issues such as expensive roaming costs from national cellular carriers is expensive for customers of smaller companies providing cellular service
- Lack of competition generally results in higher costs

Universal Service Funds are funds available to small providers to help off-set the costs in high costs areas such as rural Montana. Recent changes in USF rules will allow the funds to be spent for broadband infrastructure. It is important to monitor future rule-making to make sure that rural providers will still have sufficient access to these funds.

### **D. Choice**

One of the most critical issues regarding choice is redundancy. Redundancy in a broadband network means having a back-up system in case of a service outage in the network. There are a number of ways to achieve redundancy. Having multiple providers, such as a DSL connection and a wireless provider, allows a business to switch data traffic to the secondary provider should the primary service provider experience an outage. If both providers, however, use the same network to connect to the Internet backbone and there is a network failure, this solution does not offer complete redundancy. Path redundancy is when there are two paths to the Internet backbone. If the fiber is cut, data traffic can be re-routed to another path on the network. Redundancy issues were frequently mentioned during the regional meetings.

It is also important to have choice in the type of technology. More often organizations need multiple solutions to provide services. They need high capacity wireline solutions to meet bandwidth needs but also need wireless technology to use mobile applications.

Finally, choice in providers introduces competition which could result in more affordable broadband. All of these issues regarding choice should be addressed when developing broadband strategies.

## E. Community

Community issues include making sure that everyone has the skills to use the technology and that low-income households are not being left behind. It is also important to connect members of the community with disabilities to broadband technologies.

Currently, adoption rates for households that have access to the Internet are typically around 66%. According to the Pew research Center's Internet and American Life Projects spring tracking survey conducted in 2011, the factors that are most likely to predict Internet use are age, income, and education. Some Internet facts include:

- 95% of the population from age 18 to 25 uses the Internet regularly compared to 42% for the population over age 65.
- 96% of households earning more than \$75,000 a year use the Internet regularly as opposed to 63% for households earning less than \$30,000
- 94% of college graduates use the Internet regularly as opposed to 69% with just a high school degree and 42% with no high school degree.
- 79% of households in urban areas use the Internet regularly compared to 72% in rural areas.

<http://www.pewinternet.org/Static-Pages/Trend-Data/Whos-Online.aspx>, 2011



*Public access computers at libraries and tech centers are one way to address the digital divide.*

# PART 2: REGIONAL ASSESSMENTS

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# I. Bear Paw Development Corporation

## A. Regional Profile

- Geography** – The total land area for the region is 17,668 square miles with a total population in 2010 of 34,992. This translates to an average population density of two people per square mile. The largest city in the region is Havre with a population of 9,310. There are 11 incorporated municipalities in the region. Major highways include U.S. Highway 2, which runs east-to-west along the northern tier of the region. U.S. Highway 87 is the major north-to-south route from Great Falls to Havre while Highway 191 is the north-to-south route from Malta to Lewistown. The Bear Paw Mountains are located in southern Blaine and Hill Counties. Portions of the Wild and Scenic Missouri River also crosses the southern portion of the region. The region includes the Rocky Boy Indian Reservation and the Fort Belknap Indian reservation.
- Population Growth** - The region has experienced a declining population from 2000 to 2010. This trend is expected to continue through 2015.

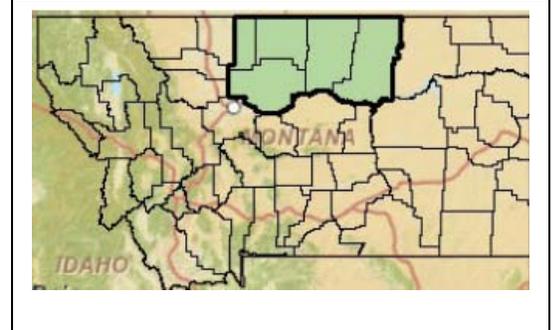


Table 1.1: Bear Paw Region Population Growth by County

County	2000	2010	2015
Blaine	7,009	6,491	6,425
Chouteau	5,970	5,813	5,229
Hill	16,673	16,096	16,441
Liberty	2,158	2,339	1,917
Phillips	4,601	4,253	4,157
<b>Bear Paw Region</b>	<b>36,411</b>	<b>34,992</b>	<b>34,169</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 37.9 years compared to 39.6 years for the state. Liberty County had the oldest population with an average age of 46.0 years while Blaine County had the lowest average age of 34.3 years.
- Income** - Median household income for the five-county region is \$35,379. This income ranks 10th among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 1.1: Broadband Service Providers with facilities in the Bear Paw Development Corp. Region*

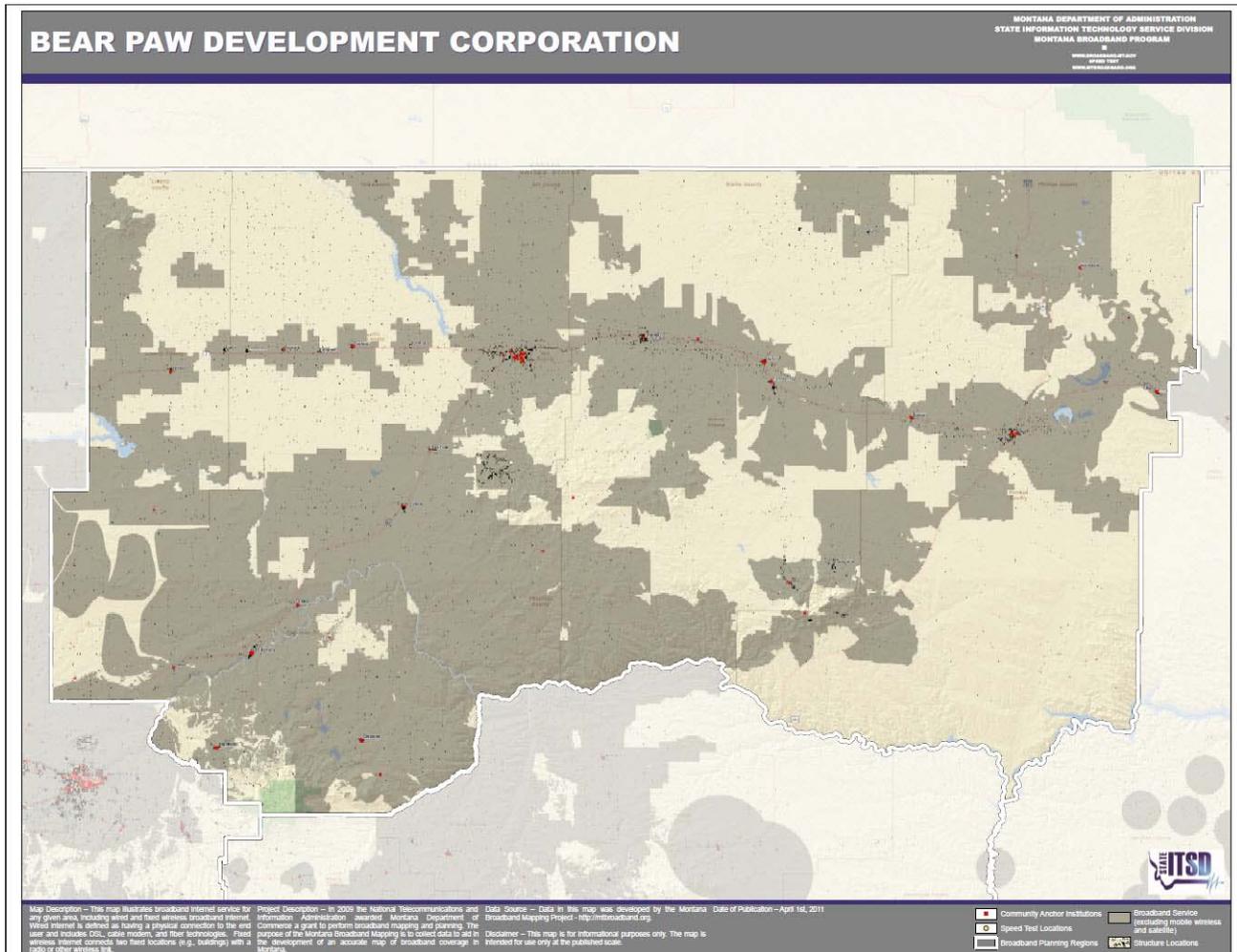
<b>PROVIDER NAME</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Central Montana Communications, Inc.	aDSL
Nemont Telephone Cooperative, Inc.	aDSL
Northern Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Triangle Telephone Cooperative Association, Inc.	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
3 Rivers Telephone Cooperative, Inc.	Fiber to the End User
Central Montana Communications, Inc.	Fiber to the End User
Triangle Telephone Cooperative Association, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Landmark Electronics	Terrestrial Fixed Wireless-Licensed
Nemont Telephone Cooperative, Inc.	Terrestrial Fixed Wireless-Licensed
Konceptio Data Service LLC	Terrestrial Fixed Wireless-Unlicensed
Montana Internet Corporation	Terrestrial Fixed Wireless-Unlicensed
Stellar Computing	Terrestrial Fixed Wireless-Unlicensed
Triangle Communication Systems, Inc.	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have good broadband coverage. Fiber-to-the-home projects have been deployed in a number of towns in the region such as Big Sandy and Fort Benton. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. It should be noted that the southeast portion of the region has a significant concentration of public land (Bureau of Land Management) with minimal development and consequently has minimal broadband infrastructure. The structures database indicates that there are 1,030 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are scattered throughout the agricultural areas in the region. There are just two anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 1: Bear Paw Development Corporation – Broadband Coverage

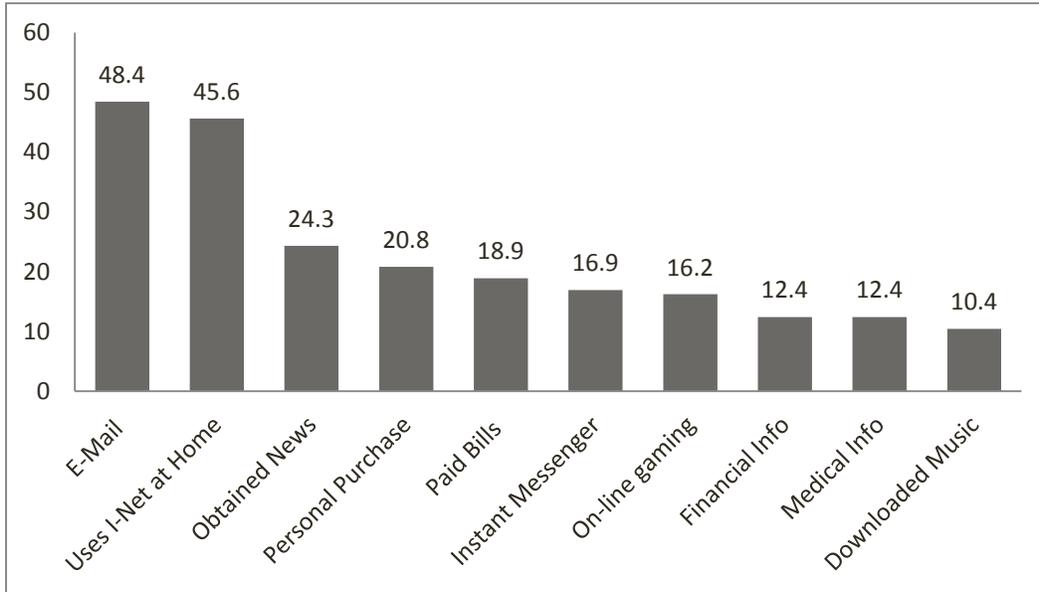


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 1.1 : % of Households Using Internet Applications within last 30 days for Bear Paw Region



Source: ESRI Business Analyst (Shows only those applications exceeding 10%)

## E. Issues

The regional meeting was conducted in Havre. The following issues were identified at the regional meeting.

- There are pockets of inadequate cellular coverage throughout the region.
- There are areas outside of town that lack broadband or have slow Internet service. Some teleworkers still only have dial-up access.
- Right-of-way acquisition for deployment of infrastructure can be time consuming – especially on tribal lands.
- This is a high cost areas with low population density. Universal Service Funds are important to service these areas.
- More reliance on broadband makes reliability more important. Montana State University – Northern was down for two days due to a service outage. There is redundant service in the area but the policies limit the contract to a service provider who does not have a redundant network.
- Reliable power service is also important. Chester area has occasional electric service outages which disrupt Internet service.
- More affordable service would encourage adoption of broadband technologies.
- Promote the FTTH capabilities in the region as an economic development asset.

**F. Preferred Strategies**

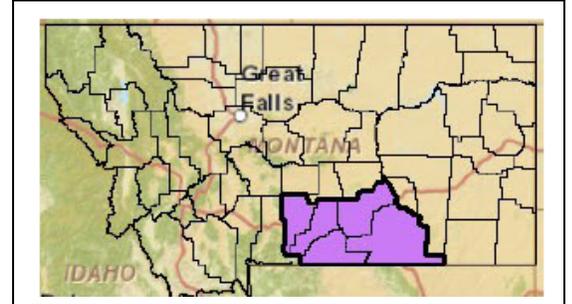
*Table 1.3 – Bear Paw Region Preferred Strategies*

<b>Strategy</b>	<b>Partner – Resources - Opportunities</b>
Form a Regional Task Force	Organize through Bear Paw. Include local governments, telecom providers, anchor institutions ...
Include broadband strategies in Comprehensive Economic Development Strategies (CEDS), Growth Policies, and other planning documents	<p>Bear Paw is updating CEDS</p> <p>Coordinate with Opportunity Link’s HUD sustainability grant to update Growth Policies</p> <p>Coordinate with local governments that updating their Growth Policies</p>
Business Park – Tax Increment Finance (TIF) District should define broadband as eligible infrastructure	Currently working with TIF consultant to create district for new business park. Include in TIF Plan.
Promote telework opportunities by providing information and services such as wi-fi hot spots	Triangle Telephone has programs to promote telework.
Training & digital Literacy programs	<p>Triangle Telephone has digital literacy programs</p> <p>Coordinate with educational institutions</p> <p>Coordinate with Library BTOP grant</p> <p>Work with schools and college on adult ed and opening up computer labs to public</p> <p>Opportunity Link has partnered with Triangle Telephone to do training with mobile computer lab</p> <p>Coordinate with Job Service offices</p>
Partner with anchor institutions to leverage resources for broadband technologies.	<p>Montana State University – Northern</p> <p>Northern Montana Health Care</p> <p>Library BTOP grant</p> <p>School Districts</p> <p>Sweet Medical Center</p>

## II. Beartooth Resource Conservation & Development Economic Development District

### A. Regional Profile

- Geography** – The total land area for the region is 13,326 square miles with a total population in 2010 of 183,647. This translates to an average population density of 13.7 people per square mile. The largest city in the region is Billings - with a population of 104,170. There are 13 incorporated municipalities in the region. Major highways include U.S. Interstate 90/94 which splits off at Billings with I-94 continuing east and I-90 heading south to Wyoming. Portions of the Custer National Forest and Beartooth Mountains are in the southernmost part of the region. The region includes the Crow Indian Reservation.



- Population Growth** - The region had population growth of 12.4% from 2000 to 2010. This exceeds the statewide growth rate of 9.7%.

Table 2.1: Beartooth Region Population Growth by County

County	2000	2010	2015
Big Horn	12,671	12865	13,054
Carbon	9,552	10078	9,743
Stillwater	8,195	9117	9,316
Sweet Grass	3,609	3615	3,852
Yellowstone	129352	147972	153,294
<b>Total</b>	<b>163,379</b>	<b>183,647</b>	<b>189,259</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 39.2 years compared to 39.6 years for the state. Sweet Grass County had the oldest population with an average age of 44.5 years while Blaine County had the lowest average age of 30.5 years.
- Income** - Median household income for the five-county region is \$44,446. This income ranks 3rd among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

Table 2.2 : Broadband Service Providers with facilities in the Beartooth Development Corp. Region

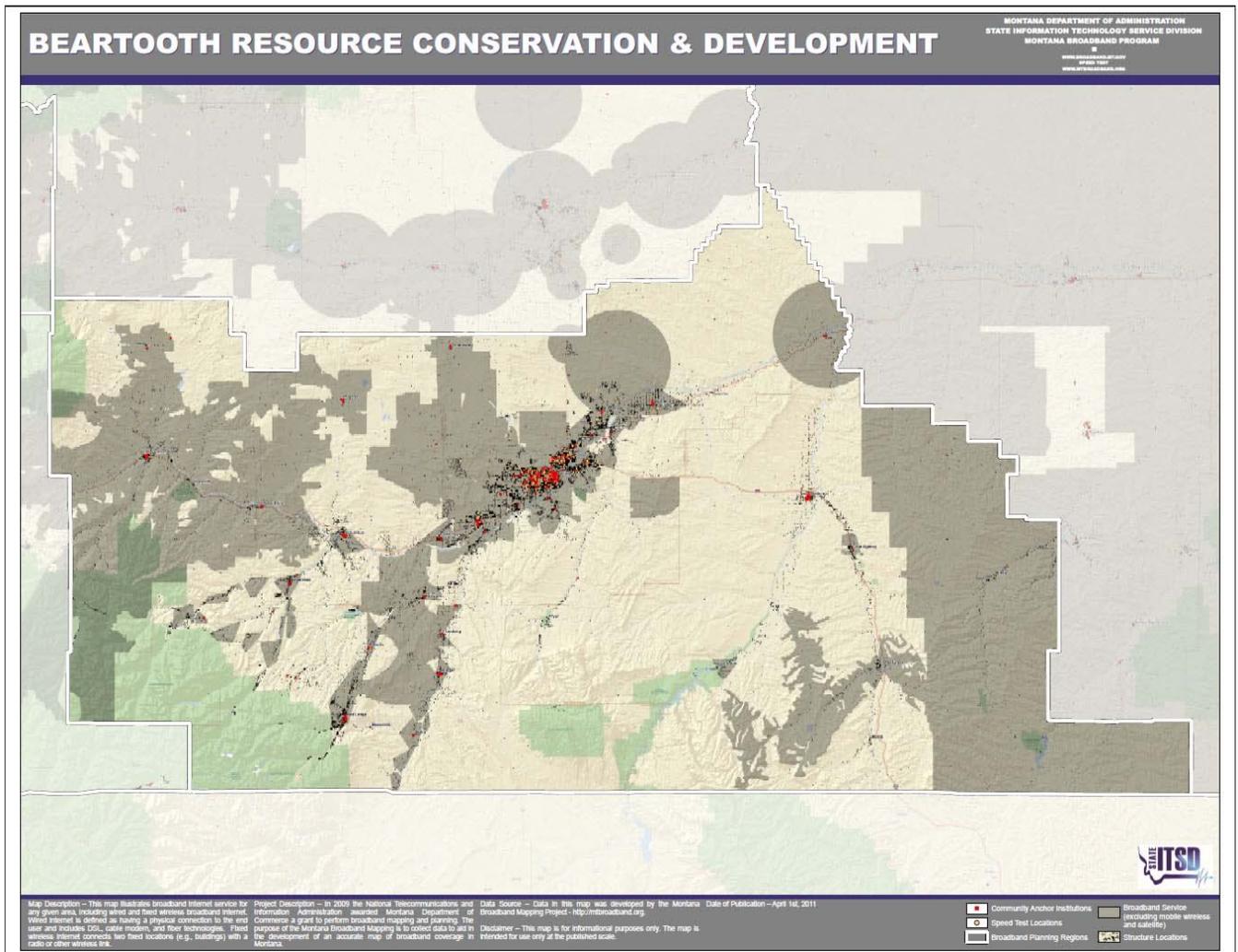
Provider	Type of Technology
Bridgeband Communications, Inc.	aDSL
Central Montana Communications, Inc.	aDSL
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	aDSL
Project Telephone Company	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Range Telephone Cooperative, Inc.	aDSL
Triangle Telephone Cooperative Association, Inc.	aDSL
Cable Montana, LLC	Cable Modem-Other
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Northwest Communications	Fiber to the End User
Triangle Telephone Cooperative Association, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Range Telephone Cooperative, Inc.	sDSL
Project Telephone Company	Terrestrial Fixed Wireless-Licensed
Antilles Wireless, LLC dba USA Digital	Terrestrial Fixed Wireless-Unlicensed
WispWest.net	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. It should be noted that Custer National Forest is located in the southwest portion of the region and consequently there is minimal broadband infrastructure in this area. The structures database indicates that there are 4,434 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are concentrated on the Crow Indian Reservation, the area between Laurel and Red Lodge, and along I-94 between in the eastern part of the region. There are 13 anchor institutions in the region that, according to the map, fall outside of broadband service areas. About half of these are in Yellowstone County. Service for these institutions still needs to be verified.

Map 2.1: Beartooth Resource Conservation & Development Economic Dev. District – Broadband Coverage

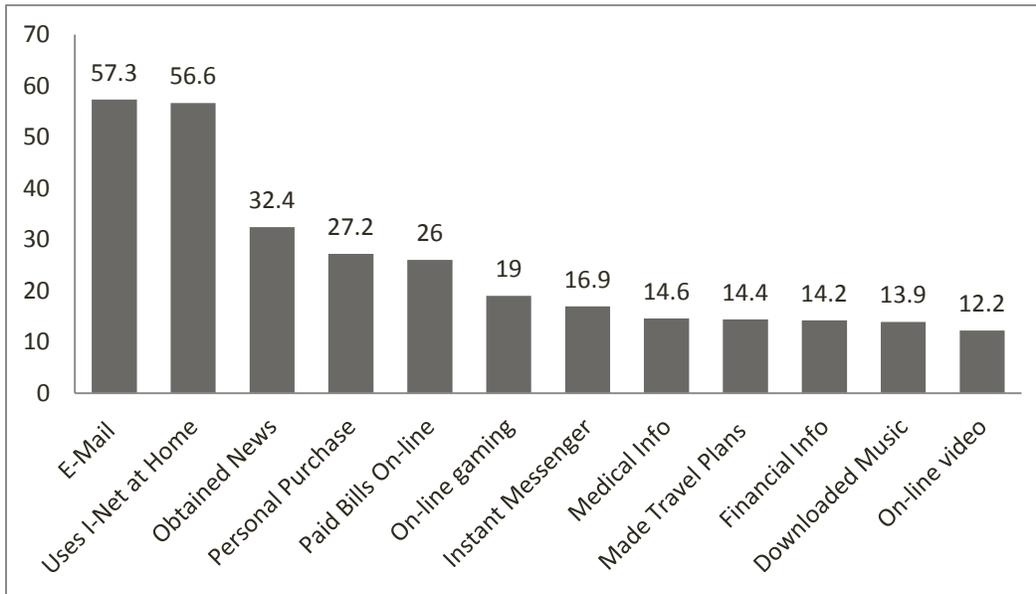


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 2.1 : % of Households Using Internet Applications within last 30 days for Beartooth Region



Source: ESRI Business Analyst (Shows only those applications exceeding 10%)

## E. Issues

The regional meeting was conducted in Billings. The following issues were identified at the regional meeting.

- Affordability for dedicated circuits, especially those that cross state boundaries is an issue.
- There are areas outside of the towns that do not have any broadband access. Satellite service is not adequate.
- T-1 service in some of the smaller towns is still very costly, especially for small schools. Fixed wireless could be a solution but there is a lack of coordination between entities in the towns to pursue this. Bank branches need fiber connection.
- There is a need to address policy issues at the state level to allow access to social media sites for various functions.
- There are a number of policy issues that must be addressed to facilitate the leasing of conduit in the right-of-ways.
- Redundancy for broadband services in the region can be improved.
- It is difficult for small providers of cellular service to get the roaming agreements with the larger providers.
- Gaps in cellular wireless coverage.
- There is a need for more public access computers.

## F. Preferred Strategies

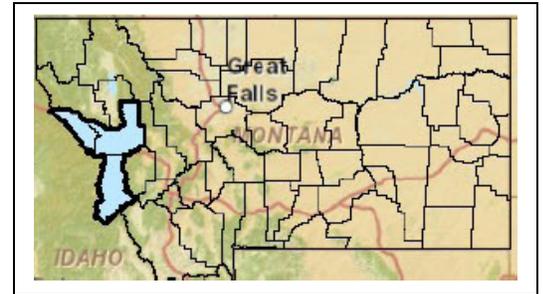
Table 2.3 Preferred Strategies for Beartooth Region

Strategy	Partner – Resources - Opportunities
Form a Regional Task Force	<p>Include anchor institutions to identify their needs and facilitate coordination.</p> <p>Involve broadband providers</p>
Include broadband strategies in Comprehensive Economic Development Strategies (CEDS), Growth Policies, and other planning documents	<p>Include a policy to install conduit in R.O.Ws during road construction and include policy in city planning documents. Include policy to streamline R.O.W permitting for telecom infrastructure.</p>
Inventory sites that can be used for co-locating wireless equipment.	<p>Coordinate with public safety. Work with wireless providers to identify sites for co-location.</p>
Schedule additional broadband outreach meetings to increase awareness of issues.	<p>Coordinate with CEDS public meetings. Schedule meetings in smaller towns in the region.</p>
Training & digital literacy programs	<p>Coordinate with Library BTOP grant</p> <p>Work with schools and college on adult ed and opening up computer labs to public</p> <p>Coordinate with Job Service offices</p>
Address redundancy and capacity issues.	<p>Improve peering opportunities between providers.</p> <p>Seek funding for loans and grants to address issues.</p>
Encourage partnerships in hard to serve areas that would facilitate innovative broadband solutions.	<p>Anchor institutions and businesses can work with providers to develop a joint solution and help share the cost of new infrastructure.</p>

### III. Bitter Root Economic Development District

#### A. Regional Profile

- Geography** – The total land area for the region is 6,202 square miles with a total population in 2010 of 165,400. This translates to an average population density of 26.6 people per square mile. The largest city in the region is Missoula with a population of 66,788. There are 6 incorporated municipalities in the region. Major highways include I-90 which is the main east-to-west route through the region and U.S. Highway 93 which is the major north-to-south route. There is a significant amount of public land and mountainous terrain in each county with the Lolo National Forest and the Bitterroot National Forest located in the region. The region includes part of the Flathead Indian reservation.
- Population Growth** - The region was among the fastest growing areas in Montana from 2000 to 2010. The population increased by 18% during this period. Population growth is expected to slow down through 2015 due to the economic downturn.



*Table 3.1: BREDD Region Population Growth by County*

County	2000	2010	2015
Mineral	3,884	4,223	3,827
Missoula	95,802	117,182	117,182
Ravalli	36,070	43,995	43,995
<b>Total</b>	<b>135,756</b>	<b>165,400</b>	<b>165,004</b>

- Age** – The average age for the region in 2010 was estimated at 38.2 years compared to 39.6 years for the state. Mineral County had the oldest population with an average age of 47.2 years while Missoula County had the lowest average age of 35.7 years.
- Income** - Median household income for the five-county region is \$40,473. This income ranks 4th among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 3.2 : Broadband Service Providers with facilities in the BREDD Region*

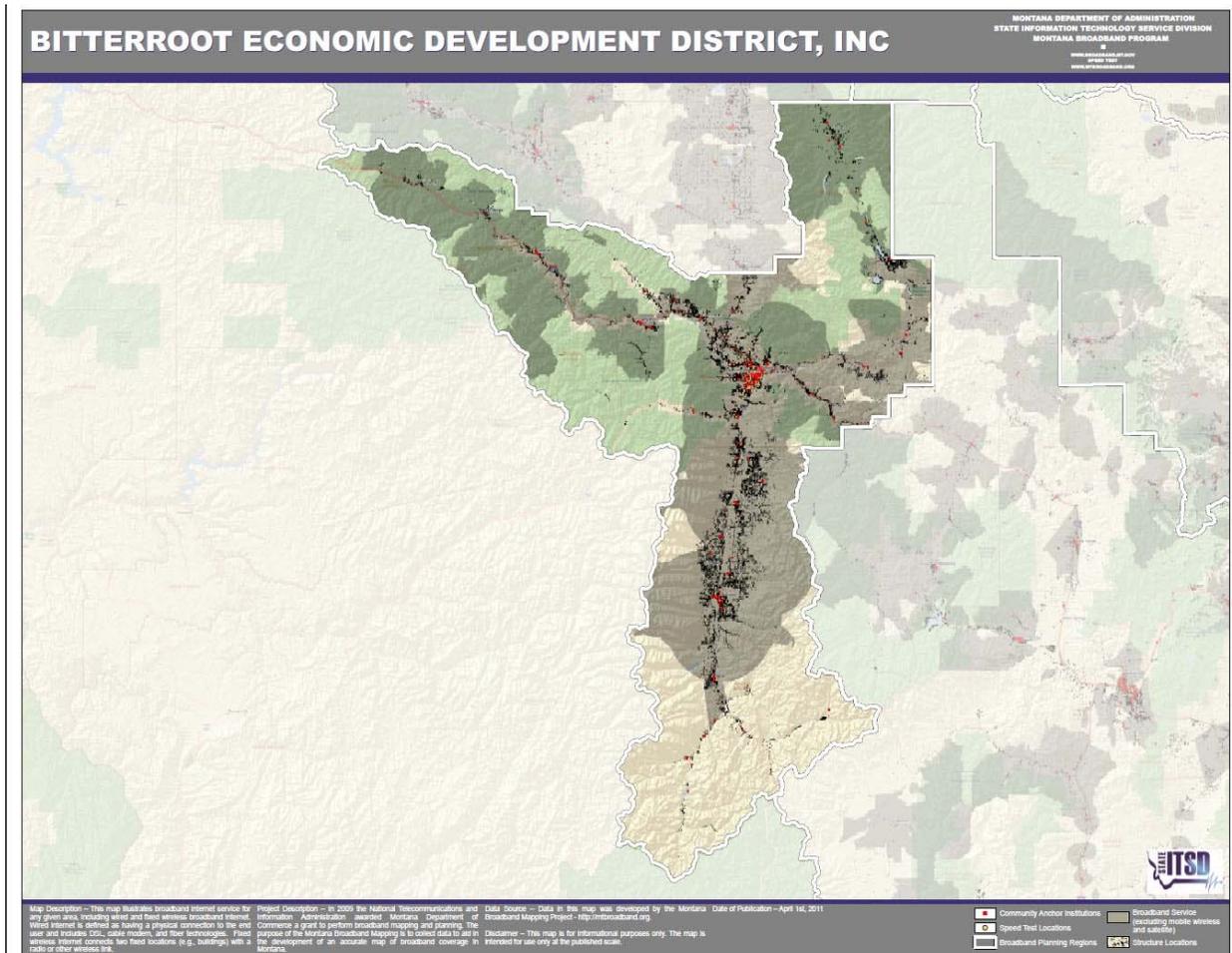
<b>Provider</b>	<b>Type of Technology</b>
Blackfoot Communications, Inc.	aDSL
Blackfoot Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Ronan Telephone Company	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Western Montana CommunityTel	Terrestrial Fixed Wireless-Licensed
Rocky Mountain Internet	Terrestrial Fixed Wireless-Unlicensed
Traceworks, LLC	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in the coverage map below, towns in the region are located along the highways and generally do have broadband coverage. The major unserved area is located in the southern portion of Ravalli County. The structures database indicates that there are 1,478 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are generally concentrated in the southern part of Ravalli County. There are 13 anchor institutions in the region that, according to the database, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 3.1: BREDD – Broadband Coverage

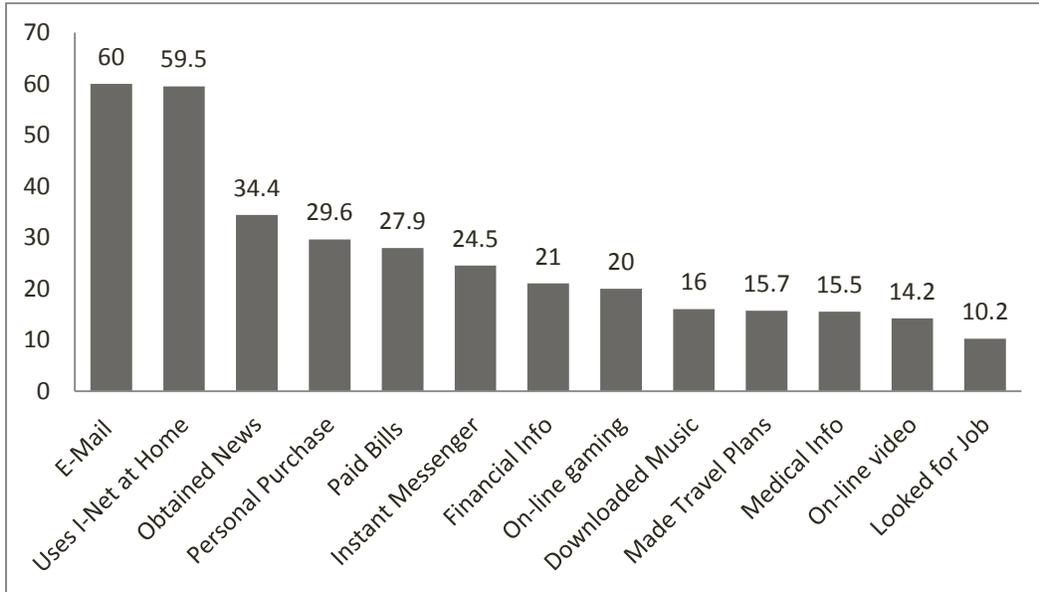


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 3.1 : % of Households Using Internet Applications within last 30 days for BREDD Region



Source: ESRI Business Analyst (Shows only those applications exceeding 10%)

## E. Issues

The regional meeting was conducted in Missoula. The following issues were identified at the regional meeting.

- Lack of redundancy. Ravalli County was without service for 8-hours due to recent cut in fiber line that served the area.
- There are areas in Ravalli County that do not have broadband service. Some of these areas are not that far from US 93.
- There are pockets of areas that can't get cellular coverage.
- Missoula needs better bandwidth capacity and infrastructure to compete for high-tech businesses.
- The general public does not view broadband as basic infrastructure. There is a need to educate public officials on the importance of broadband for economic development.
- More affordable service would increase broadband adoption in the region.

**F. Preferred Strategies**

*Table 3.3 Preferred Strategies for BREDD Region*

Strategy	Partner – Resources - Opportunities
Form a Regional Task Force to keep the momentum going and develop a broadband strategy for the region	<p>Include private sector businesses, telco providers, anchor institutions.</p> <p>Promote coordination between entities</p>
Develop a marketing plan	<p>Use broadband as a tool to recruit business.</p> <p>Compile resource directory</p>
Schedule additional meetings to increase awareness and educate officials	<p>Communicate on public safety needs. Involve public safety officials.</p> <p>Declare that broadband is key to future growth.</p>
Partner with anchor institutions to leverage resources for broadband technologies.	<p>Promote partnerships</p>
Training & digital Literacy programs	<p>Coordinate with Library BTOP grant</p> <p>Let people know about IT courses at community college</p> <p>Provide education &amp; training for users through tech fairs, public tech centers.</p> <p>Provide public access through school computer labs</p>
Provide incentive for broadband investments	<p>Identify funding sources</p> <p>Public –private partnerships</p>

## IV. Eastern Plains Economic Development Corporation

### A. Regional Profile

- Geography** – The Eastern Plains EDC is comprised of five eastern Montana counties. Richland County is not within the EDC district but is included in this region for purposes of analysis. Sidney is the county seat of Richland County. The total land area for the region is 12,042 square miles with a total population in 2010 of 24,958. This translates to an average population density of 2.07 people per square mile. The largest communities in the region are Sidney with a population of 5,191 and Glendive with a population of 4,935. There are 9 incorporated municipalities in the region. Major highways include I-94 which runs from Glendive to Billings. The area is characterized by expansive agricultural lands and grasslands.



- Population Growth** - The region experienced a decline in population from 2000 to 2010. Although population forecast indicate a continued decline, recent oil and gas activity in the region may reverse this trend. Richland County has the highest concentration of oil and gas development but other counties in the region reported spill-over effects from oil fields in North Dakota.

Table 4.1: Eastern Montana EDC Population Growth by County

County	2000	2010	2015
Carter	1,360	1,160	1,183
Dawson	9,059	8,966	8,370
Fallon	2,837	2,890	2,732
Prairie	1,199	1,179	1,056
Richland	9,667	9,746	9,644
Wibaux	1,068	1,017	873
<b>Total</b>	<b>25,190</b>	<b>24,958</b>	<b>23,858</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 44.5 years compared to 39.6 years for the state. Prairie County had the oldest population with an average age of 58.3 years while Richland County had the lowest average age of 42.2 years.
- Income** - Median household income for the five-county region is \$36,407. This income ranks 9th among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 4.2: Broadband Service Providers with facilities in the Eastern Plains EDC Region*

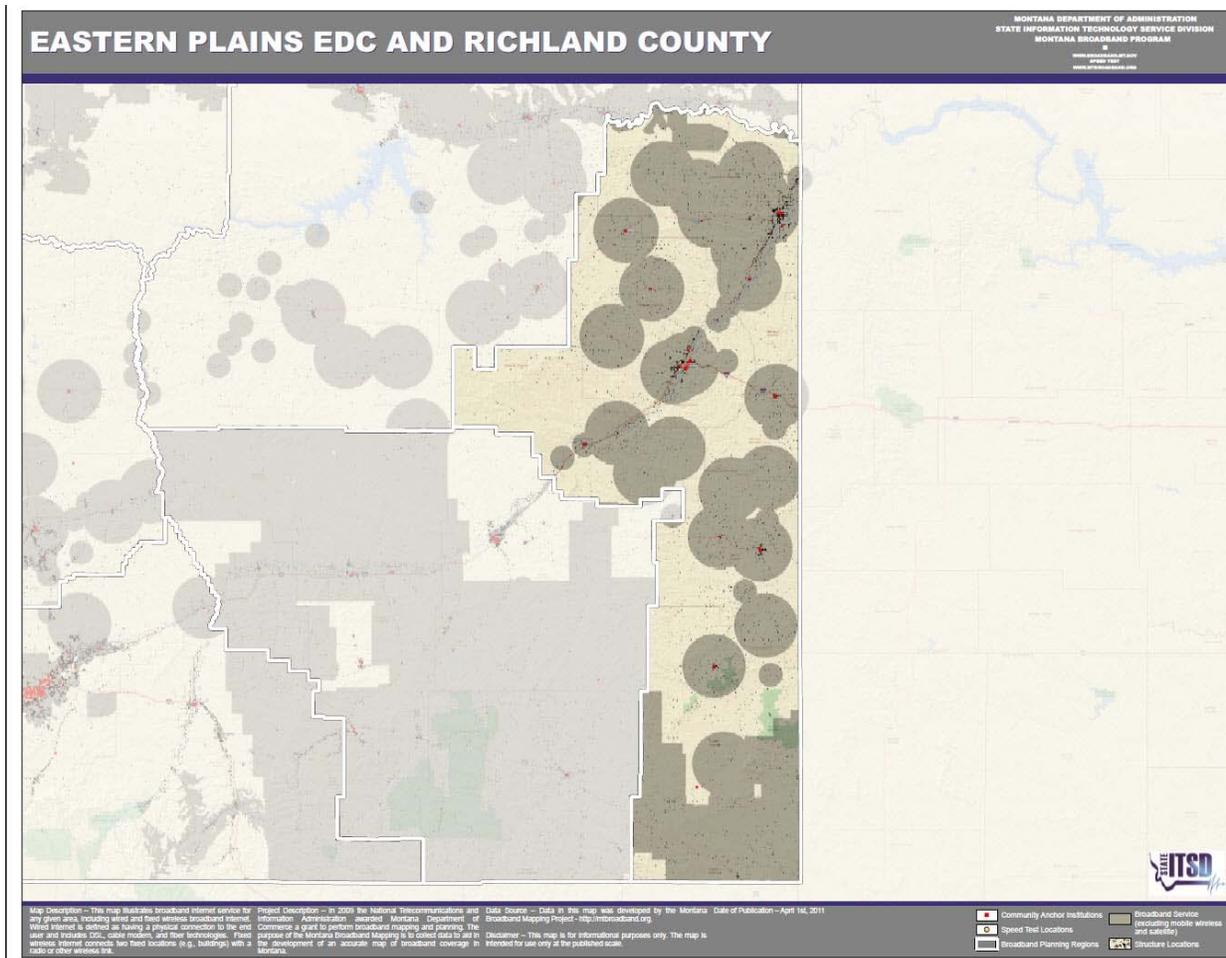
<b>Provider</b>	<b>Type of Technology</b>
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Range Telephone Cooperative, Inc.	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Cable Modem-Other
West River Cooperative Telephone Company	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Range Telephone Cooperative, Inc.	sDSL
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Terrestrial Fixed Wireless-Licensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. The structures database indicates that there are 589 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are scattered throughout the agricultural areas in the region. There is just one anchor institution in the region that, according to the map, falls outside of broadband service areas. Service for these institutions still needs to be verified.

Map 4.1: Eastern Plains EDC – Broadband Coverage

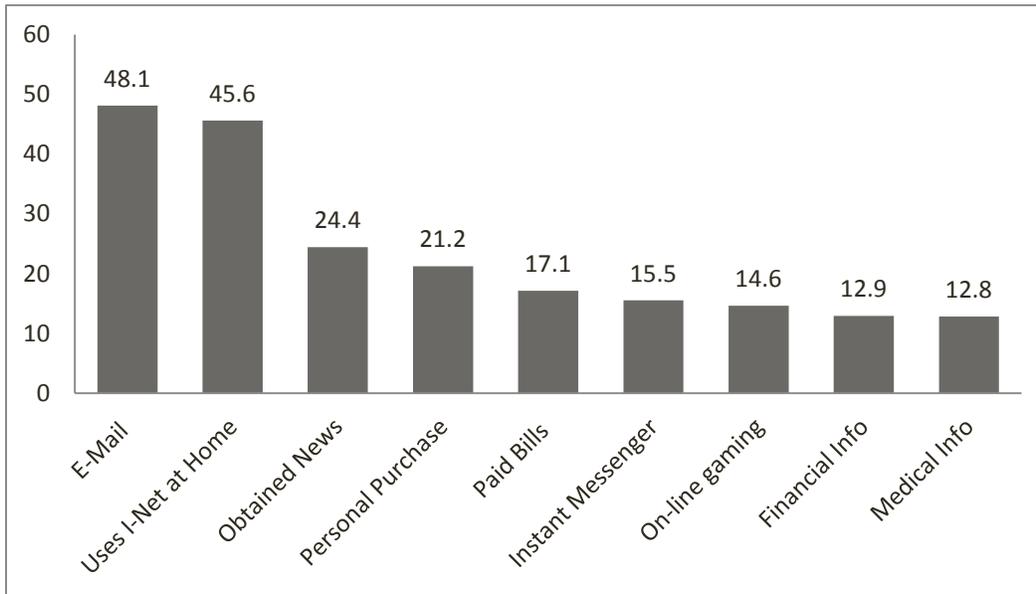


*Note: Shaded areas represent presence of broadband coverage.*

#### D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 4.1: % of Households Using Internet Applications within last 30 days for Eastern Plains EDC Region



Source: ESRI Business Analyst (Shows only those applications exceeding 10%)

#### E. Issues

Meetings were conducted in Glendive and in Baker in this region. The following issues were identified at the regional meeting.

- The broadband in Baker is not adequate for the electronic medical records system that is being implemented. Ekalaka does not have adequate broadband technologies and cannot even support modern banking operations.
- Due to issues with redundancy, the bank has a secondary data center in Laurel.
- Eastern Montana is not rural – it is frontier and is hard to serve due to low population density.
- There are areas without any broadband service. Satellite service is not adequate to meet need for Internet service.
- There is a critical need for mental health services and telemedicine is one way to provide these services.
- There are areas with inadequate cell phone and wireless coverage. Police officers cannot have laptops in the squad cars because there is not the wireless coverage they need.
- It is difficult for smaller providers to negotiate roaming agreements with larger providers.
- There is grant money for anchor institutions to build broadband networks but no funds for operation and maintenance. In rural areas duplicate networks are inefficient and there should be public-private partnerships to address issues.

## E. Preferred Strategies

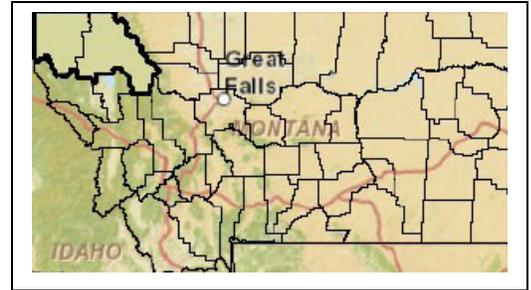
Table 4.3 Preferred Strategies for the Eastern Plains EDC Region

Strategy	Partner – Resources – Opportunities
Create Regional Task Force to coordinate activities between stakeholder groups and increase awareness among public officials regarding broadband issues	<p>Include Econ. Dev. Agency, Chambers, Broadband providers, agriculture, health care and education</p> <p>Develop resource directory that includes state &amp; federal funding sources. (i.e. USDA)</p>
Include broadband map and strategies in CEDS and local growth policies	CEDS update every five years. Glendive & Terry are in the process of updating their Growth Policies.
Inventory potential sites to co-locate wireless equipment	<p>Coordinate with public safety entities.</p> <p>Possible do some preliminary network design for sites to facilitate their development.</p>
Work with Federal agencies regarding policies on wireless roaming agreements and licenses to fill-in areas lacking wireless coverage	Involve local and state public officials to communicate with congressional delegation & other Federal officials
Promote telework, entrepreneurship and home business opportunities using broadband.	Coordinate with other workshops
Improve adoption rates through training & digital literacy initiatives	<p>Workshops, tech fairs. Tie in with Ag days.</p> <p>Coordinate with Dawson Community College, Sidney High Schools</p>
Investigate feasibility for a data center	Define what is needed and where
Inventory shovel ready lots with fiber access	<p>Investigate developing smart parks with fiber and/or wireless infrastructure to market to businesses</p> <p>Public – private partnerships. Involve providers</p> <p>Include information in growth policies</p>

## V. Flathead & Lincoln Counties

### A. Regional Profile

- Geography** – The total land area for the region is 8,700 square miles with a total population in 2010 of 110,615. This translates to an average population density of 13 people per square mile. The largest city in the region is Kalispell with a population of 19,927. There are 7 incorporated municipalities in the two counties but there are also several sizeable unincorporated places with commercial centers such as Big Fork and Lakeside. Major highways include U.S. Highway 2, which runs east-to-west along the northern tier of the region. U.S. Highway 93 is the major north-to-south route from Missoula to the Canadian Border. There is significant amount of public land in the counties include the Flathead National Forest, Kootenai National Forest, and Glacier National Park. These areas are characterized by mountainous terrain. Flathead Lake is a major water feature and is the largest lake in the state. The region includes the Flathead Indian Reservation.



- Population Growth** - The population in the region increased by 18.5% from 2000 to 2010. This was among the fastest growth rates in the State. High growth is expected to continue once the national economy gains momentum.

Table 5.1: Regional Population Growth by County

County	2000	2010	2015
Flathead	74,471	90,928	100,993
Lincoln	18,837	19,687	19,125
<b>Total</b>	<b>93,308</b>	<b>110,615</b>	<b>120,118</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 43.0 years compared to 39.6 years for the state. Lincoln County had the oldest population of the two counties with an average age of 47.2 years while Flathead County had an average age of 42.1 years.
- Income** - Median household income for the five-county region is \$38,999. This income ranks 6th among the 13 regions.

### B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 5.1: Broadband Service Providers with facilities in the Flathead & Lincoln Counties Region*

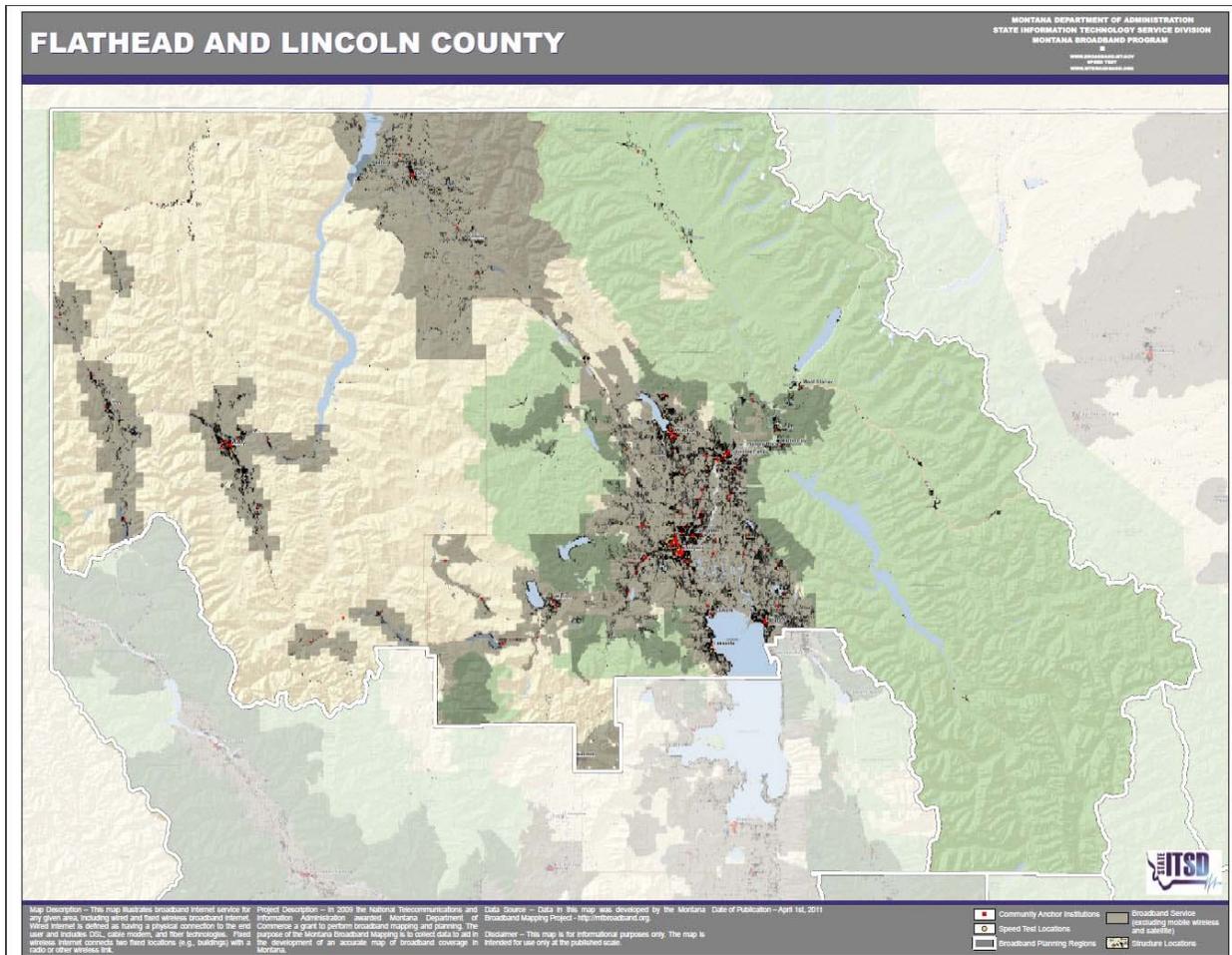
<b>Provider</b>	<b>Type of Technology</b>
Blackfoot Telephone Cooperative, Inc.	aDSL
CenturyLink, Inc.	aDSL
Interbel Telephone Cooperative, Inc.	aDSL
Montana Sky Networks	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless
Citizens Telecommunications Company of Montana dba Frontier Communications of Montana	aDSL
Western Montana CommunityTel	Cable Modem-Other

**Source:** [www.broadband.mt.gov](http://www.broadband.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have broadband coverage. There are large swaths of public lands with remote mountainous terrain that have no development and consequently do not have broadband services. The structures database indicates that there are 2,095 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are concentrated in more remote areas such as the Yaak Rivers, North Fork of the Flathead and Hungry Horse area. There are seven anchor institutions in the region that, according to the map, fall outside of wired broadband service areas. Service for these institutions still needs to be verified.

Map 5.1: Flathead- Lincoln Counties – Broadband Coverage

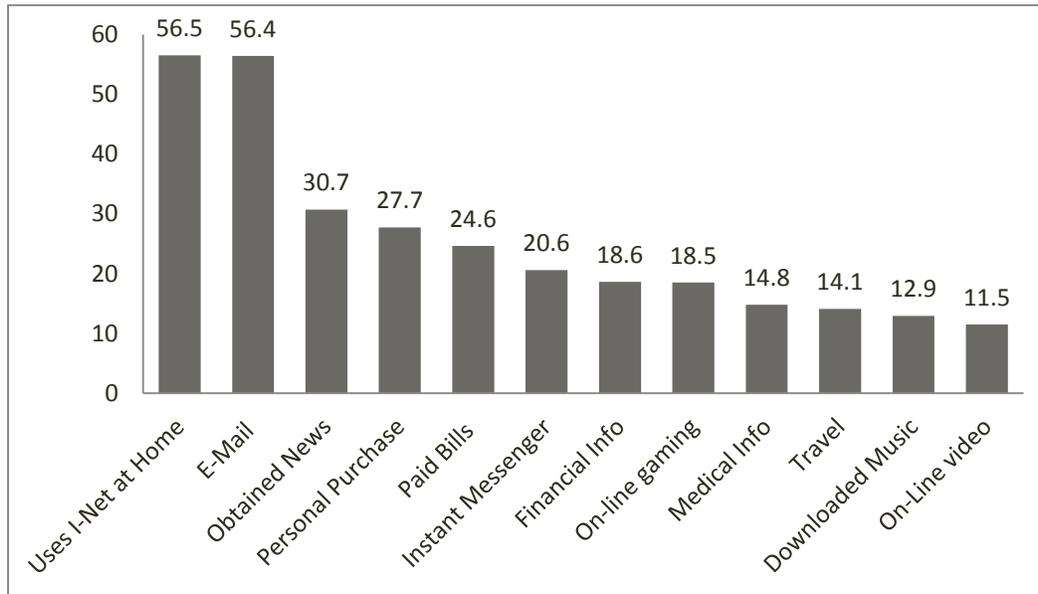


Note: Shaded areas represent presence of broadband coverage.

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 5.1 : % of Households Using Internet Applications within the last 30 days for Region



Source: ESRI Business Analyst(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting.

- High-speed circuits are considerably more expensive than in California and other states. This is a barrier to attracting high-tech businesses and is expensive for smaller providers to backhaul traffic out of state.
- There are still households that can't get broadband service. Many of these are located in remote hard-to-serve areas.
- Cellular/smart phone coverage is spotty.
- Public access computers are constantly full. More people are using wi-fi hot spots for their Internet access and are eliminating service at home.
- There is a need for more IT professionals. This should be presented as a career choice to students while they are still in high schools.
- There are now redundant fiber lines to Missoula but it is expensive to pay for two circuits to get the redundancy. More competition might drive down prices.
- Schools have a growing need for more bandwidth at affordable prices.

## F. Preferred Strategies

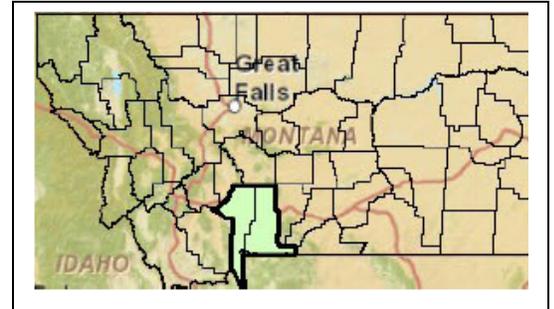
Table 5.1 – Preferred strategies for Flathead – Lincoln Counties

Strategy	Partner - Resources
Work with anchor institutions to identify their needs.	<p>Public safety. Would like wireless access in fire trucks.</p> <p>Schools need more bandwidth and need to find a way to pay for more technology in the schools.</p>
Digital Literacy efforts and technology training	<p>Use school labs in off-peak hours during the evenings.</p> <p>Keep workshops affordable.</p> <p>State of Montana incumbent work force training funds may be a resource to pay for technology training for employees.</p> <p>Target seniors for training so they can access Medicare and other health info/services.</p> <p>CenturyLink has training seminars.</p> <p>Library has training (BTOP program)</p>
Regional Task Force to promote networking among IT professionals. Increase awareness among public officials.	<p>Create Resource Directory</p> <p>Outreach to high school students on IT careers</p>
Promote broadband to businesses and Measure impacts of broadband to local economy.	<p>Use to prioritize actions</p> <p>Include info in planning documents such as CEDS, Growth Policy, TIF....</p>
Install conduit & fiber in right-of-way	<p>Coordinate with road construction &amp; Utility projects</p> <p>Streamline R.O.W. permitting &amp; regulation. Have single point of contact at state level.</p>

## VI. Gallatin County & Park Counties

### A. Regional Profile

- Geography** – The total land area for the region is 5,402 square miles with a total population in 2010 of 105,149. This translates to an average population density of 19.4 people per square mile. The largest city in the region is Bozeman with a population of 37,280. There are 7 incorporated municipalities in the region. Four Corners in Gallatin County is an unincorporated area with a population of just over 3000. Major highways include I-90, which runs east-to-west through the region. U.S. Highway 87 is the major north-to-south route from Great Falls to Havre while U.S. Highway 89 heads south from Livingston to is the north entrance of Yellowstone National Park and U.S. Highway 191 runs from I-90 to West Yellowstone. The Gallatin National Forest is located in this region with the highest elevation mountain peaks in the state.



- Population Growth** - The region had an increase in population of 26% from 2000 to 2010. This growth was the highest in the state. High population growth is projected to continue.

*Table 6.1: Flathead and Gallatin Counties Population Growth by County*

County	2000	2010	2015
Gallatin	67,831	89,513	106,595
Park	15,694	15,636	16,925
<b>Total</b>	<b>83,525</b>	<b>105,149</b>	<b>123,520</b>

*Source: U.S. Census Bureau & ESRI population forecast for 2015.*

- Age** – The average age for the region in 2010 was estimated at 35.2 years compared to 39.6 years for the state. Park County had the oldest population with an average age of 43.8 years while Gallatin County had an average age of 34.0 years.
- Income** - Median household income for the five-county region is \$45,899. This income ranks 1st among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 6.1: Broadband Service Providers with facilities in the Gallatin & Park County Region*

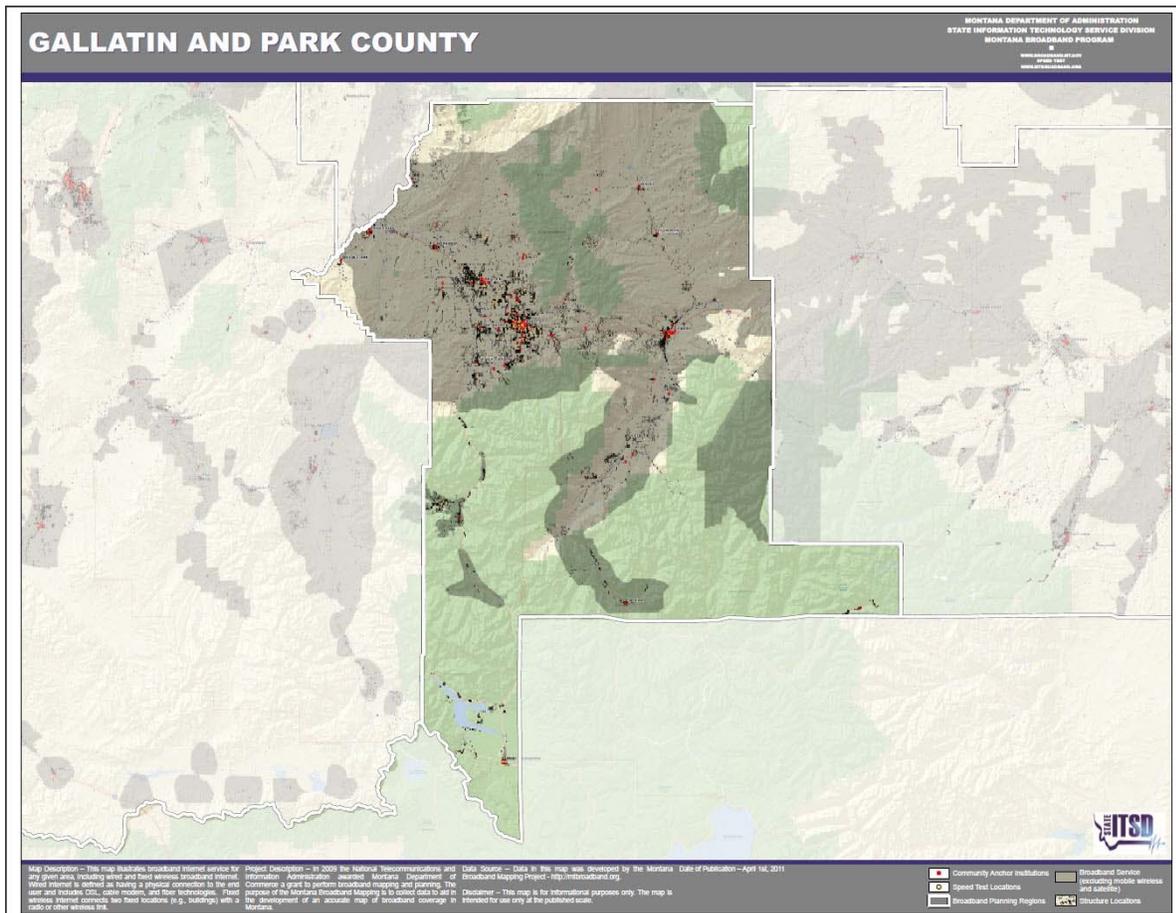
<b>Provider</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Bridgeband Communications, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
3 Rivers Telephone Cooperative, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Big Sky Wi-Fi, Inc. (acquired by 3 Rivers Telephone Cooperative)	Terrestrial Fixed Wireless- Unlicensed
Grizzly Internet, Inc.	Terrestrial Fixed Wireless- Unlicensed
Little Apple Technologies	Terrestrial Fixed Wireless- Unlicensed
Montana Internet Corporation	Terrestrial Fixed Wireless- Unlicensed
WispWest.net	Terrestrial Fixed Wireless- Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless
Triangle Telephone Cooperative Association, Inc.	aDSL

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, the region generally has good broadband coverage. The areas lacking broadband coverage are typically within the National Forest. The structures database indicates that there are 879 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These appear to be located along US Highway 191 and in the West Yellowstone area. There are just four anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 6.1: Gallatin & Park Counties– Broadband Coverage

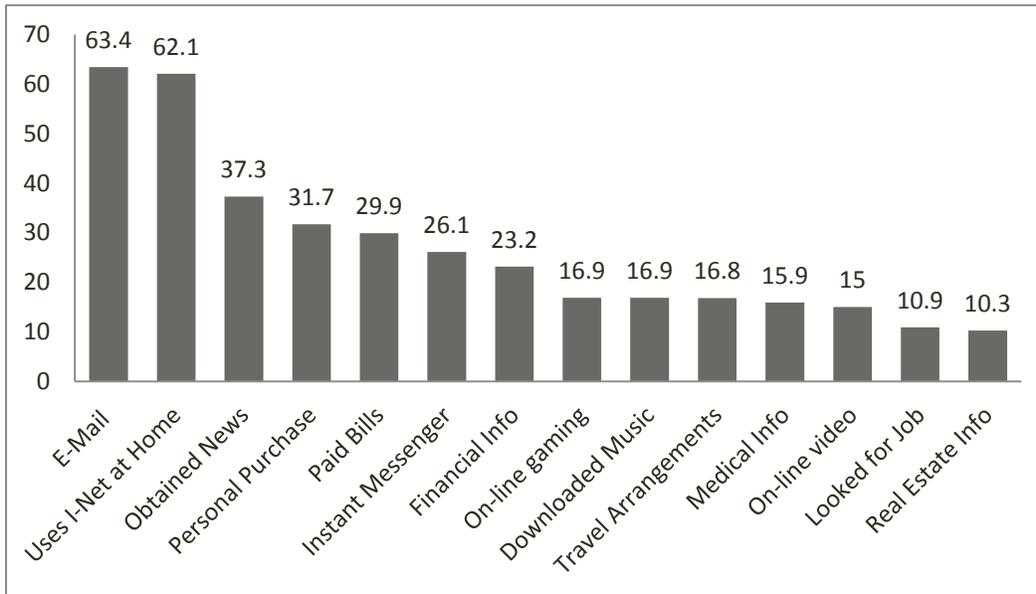


Note: Shaded areas represent presence of broadband coverage.

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 6.1 : % of Households Using Internet Applications for within last 30 days for Gallatin/Park Counties



Source: ESRI Business Analyst - 2011(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting in Flathead-Lincoln.

- Schools have good broadband access but the budget for technology and for the cost to meet increasing bandwidth demand is an issue.
- Some students can't afford to have broadband at home and this presents an equity issue.
- Due to terrain and costs it will not be feasible to deploy fiber everywhere. Wireless is an affordable solution for these areas.
- There is a need for more route diversity in the broadband network to get redundancy.
- Circuit costs are high compared to other states.
- Actual bandwidth speeds are less than advertised bandwidth. Peering arrangements between providers would improve this.
- Widespread mobile coverage is important. More mobile apps are being introduced and everyone wants mobile access all of the time.
- The hospital can provide telemedicine service but small towns and rural areas do not have the connectivity needed for these applications. Video requires higher bandwidth. There is a huge need for tele-mental health services and this requires video.

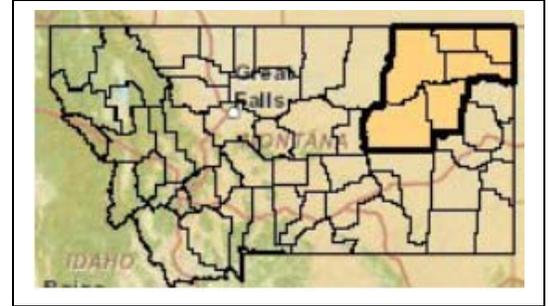
**F. Preferred Strategies**

Strategy	Partner – Resources - Opportunities
Identify sites to co-locate wireless equipment. Create inventory or database for sites.	<p>Coordinate with local governments to streamline process.</p> <p>Work with providers to identify sites</p>
Work with anchor institutions to develop networks that meet their needs. This may include constructing a middle-mile network.	<p>Coordinate with economic development and public safety</p> <p>Montana Health Network &amp; Southwest Montana Telemedicine Network</p> <p>VisionNet</p>
Work across state boundaries to address backhaul issues and peering issues.	Investigate use of dark fiber
Digital Literacy Programs for basic computer skills and Tech Training	<p>Coordinate with library BTOP grant</p> <p>Job service has computer lab and does some training</p> <p>Target senior citizens</p> <p>Collaborate with schools</p>
Promote telework/home business	<p>Need an adequate number of wi-fi hot spots</p> <p>Home workers need tech support</p> <p>Adequate bandwidth for video - telemeetings</p>
Construct robust networks	<p>Financial incentives/support to providers</p> <p>Install fiber in R.O.W. during road construction</p> <p>Include strategies in CEDS and Growth Policies</p>
Create Regional Task Force (Park County already has a Tech Task Force)	<p>Include public officials and increase awareness</p> <p>Involve major players such as providers and high tech businesses</p> <p>Develop Resource Directory</p>

## VII. Great Northern Development Corporation

### A. Regional Profile

- Geography** – The total land area for the region is 23,692 square miles with a total population in 2010 of 27,371. This translates to an average population density of 1.5 people per square mile. The largest city in the region is Glasgow with a population of 3,250. There are 21 incorporated municipalities in the region. U.S. Highway 2, which runs east – to-west along the northern tier of the region. Portions of the Wild and Scenic Missouri River and the Charles M. Russell Wildlife Refuge are within the region. The region includes the Fort Peck Indian reservation.



- Population Growth** - The region has experience a decline in population from 2000 to 2010. Although this trend may continue for some counties in the region, the eastern most counties may experience some population growth due to oil and gas development.

Table 1.1: GNDC Region Population Growth by County

County	2000	2010	2015
Daniels	2,017	1,715	1,520
Garfield	1,279	1,206	1,154
McCone	1,977	1,734	1,599
Roosevelt	10,620	10,425	9,827
Sheridan	4,105	3,384	2,912
Valley	7,675	7,369	6,680
<b>Total</b>	<b>27,673</b>	<b>27,371</b>	<b>23,692</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 41.7 years compared to 39.6 years for the state. Sheridan County had the oldest population with an average age of 51.8 years while Roosevelt County had the lowest average age of 33.1 years.
- Income** - Median household income for the five-county region is \$32,784. This income ranks 12th among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 7.1: Broadband Service Providers with facilities in the GNDC Region*

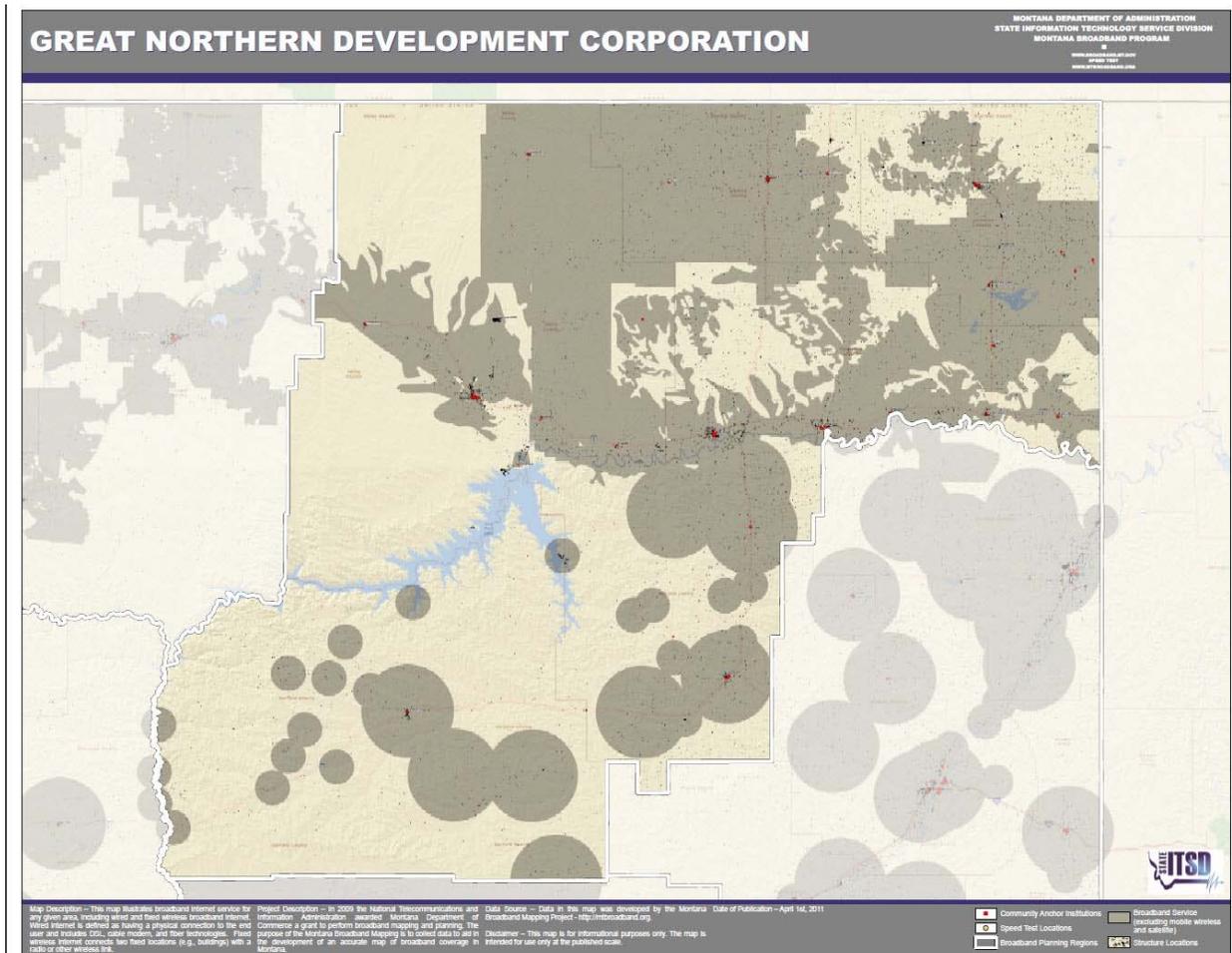
<b>Provider</b>	<b>Type of Technology</b>
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	aDSL
Nemont Telephone Cooperative, Inc.	aDSL
Triangle Telephone Cooperative Association, Inc.	aDSL
Cable Montana, LLC	Cable Modem-Other
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Nemont Telephone Cooperative, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Terrestrial Fixed Wireless-Licensed
Nemont Telephone Cooperative, Inc.	Terrestrial Fixed Wireless-Licensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated on the coverage map below, towns in the region generally do have good broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. Much of these agricultural lands in the southwest part of the region are very low density with few structures. Additionally, there is significant concentration of public land under the Bureau of Land Management jurisdiction with minimal development and consequently has minimal broadband infrastructure. It was noted at the regional meeting that there is a fiber-to-the-home project in the northeast corner of the region that has not been mapped. The structures database indicates that there are 1,029 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are primarily located in the northeast portion of the region. There is just one anchor institution in the region that, according to the map, that falls outside of broadband service areas. Service for this institution still needs to be verified.

Map 7.1: Great Northern Development Corporation – Broadband Coverage

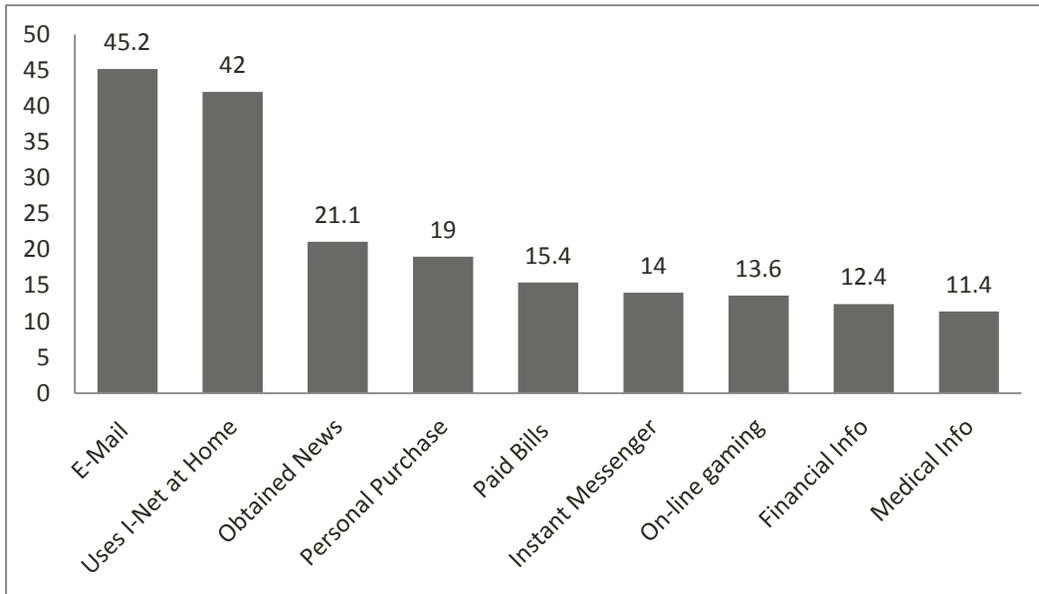


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 7.1: % of Households Using Internet Applications within the last 30 days in the GNDC Region



Source: ESRI Business Analyst - 2011(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting in Wolf Point.

- There are areas that do not have cellular/smart phone service. Roaming agreements are an issue.
- There are areas that lack broadband coverage or have slow Internet speeds.
- There should be more wi-fi hot spots.
- More affordable broadband would promote adoption. Low income households cannot afford.
- The map only shows one anchor institution lacking broadband but the Wolf Point School District reports four schools that only have dial-up access.
- The FCC standard of 4 mbps download speeds is not adequate for rural areas.
- Population growth due to oil and gas development will put pressure on police and other public services. Broadband technologies will become more important to meet these needs.
- Changes in Universal Service Funds may affect the ability of providers to expand broadband services.
- Satellite service is not adequate for technology applications. Latency is an issue.
- Wireless broadband is becoming important to monitor oil and gas site and for remote monitoring of water systems.

## E. Preferred Strategies

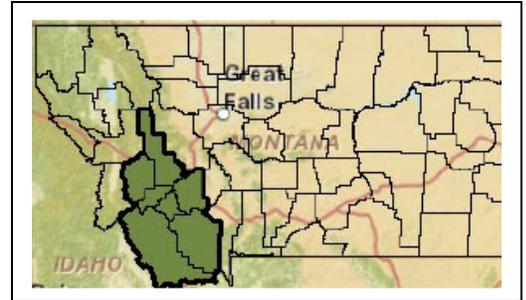
Table 7.3 – Preferred Strategies for the Great Northern Development Region

Strategy	Partner – Resources – Opportunities
Include maps and strategies in CEDS and Growth Policy Updates	CEDS update is underway
Digital Literacy & Increase awareness	Training & Workshops  Help people find tech support services
Address policy issues to facilitate broadband deployment	FCC – Comment on the National Broadband Plan. Need 100 mbps standard same as urban areas.  Address roaming agreements between local providers and national wireless carriers
Explore public-private partnerships to address broadband needs	Work with providers to develop solutions
Create Regional Task Force	Include economic development agencies, public officials, providers, anchor institutions, banks, Fort Peck tribes
Explore ways to create more wi-fi hot spots	Work with businesses & libraries
Support emergency services applications	Investigate partnerships. Oil development creating more demand. Coordinate with this industry to find solutions.
Support tele-health and tele-psychiatry applications	Coordinate with hospitals and health care providers in region.

## VIII. Headwaters Resource Conservation & Development Area

### A. Regional Profile

- Geography** – The total land area for the region is 19,291 square miles with a total population in 2010 of 81,947. This translates to an average population density of 4.24 people per square mile. Butte-SilverBow County is a consolidated government and the county population is 34,200. Anaconda-Deer Lodge County is also a consolidated government. There are 14 incorporated municipalities in the region. Major highways include I-90 which runs which generally carries east-to-west through traffic and I-15 which is the major north-south route. The junction of the two highways is in Butte. Much of region is characterized by mountainous terrain. The Beaverhead –Deer Lodge National Forest is located within the region.



- Population Growth** - Although the region experienced modest growth from 2000 to 2010, individual counties in the region are experiencing varying rates of growth and decline.

Table 8.1: Headwaters RC&D Region Population Growth by County

County	2000	2010	2015
Beaverhead	9,202	9,246	8,895
Deer Lodge	9,417	9,298	8,584
Granite	2,830	3,079	2,715
Jefferson	10,049	11,406	12,245
Madison	6,851	7,691	7,989
Powell	7,180	7,027	7,045
Silver Bow	34,606	34,200	32,947
<b>Total</b>	<b>80,135</b>	<b>81,947</b>	<b>80,420</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 43.2 years compared to 39.6 years for the state. Madison County had the oldest population with an average age of 48.3 years while Beaverhead County had the lowest average age of 40.2 years.
- Income** - Median household income for the five-county region is \$37,967. This income ranks 7th among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 8.2: Broadband Service Providers with facilities in the Headwaters RC&D Region*

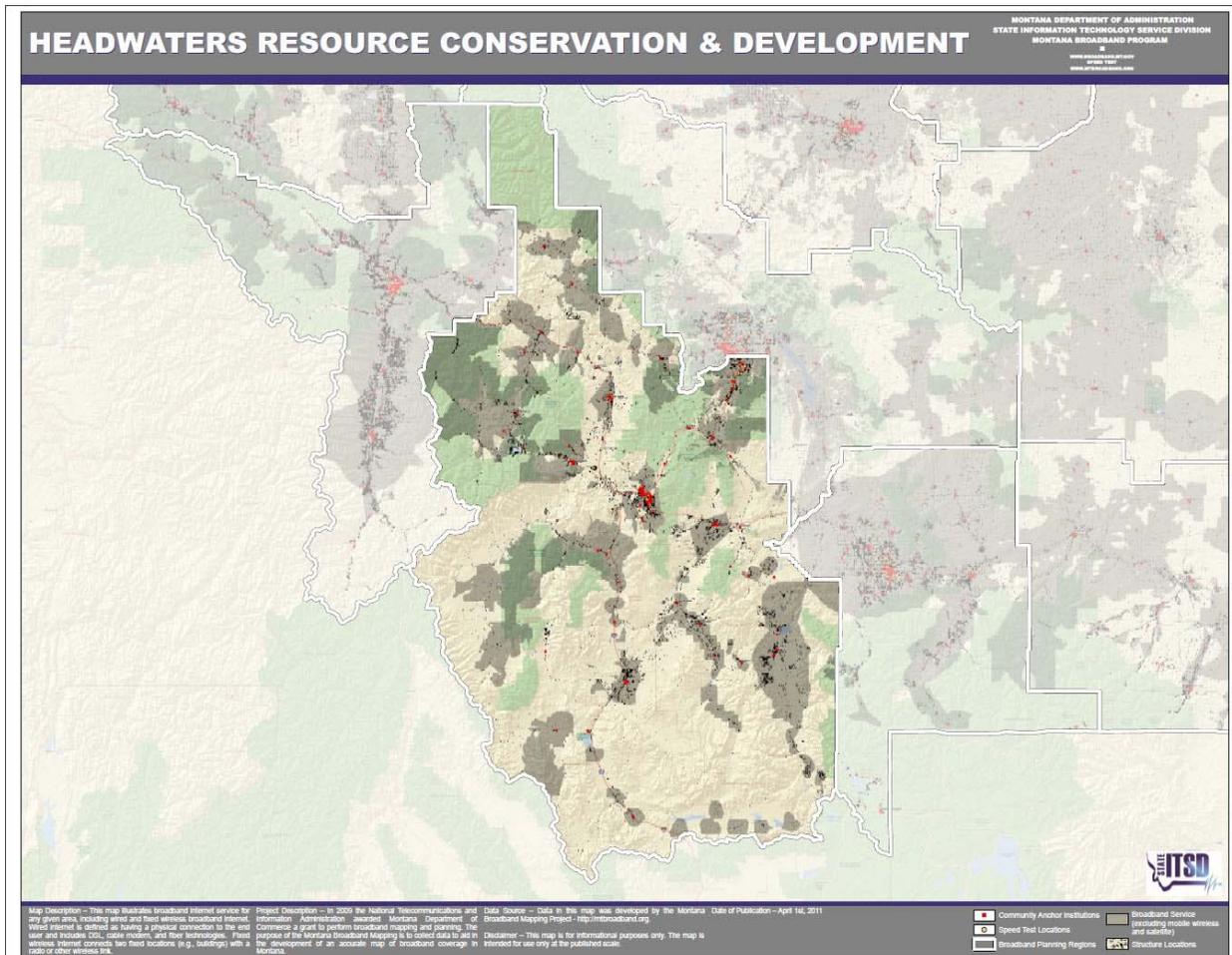
<b>Provider</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Blackfoot Telephone Cooperative, Inc.	aDSL
Lincoln Telephone Company, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Southern Montana Telephone Company	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
3 Rivers Telephone Cooperative, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Little Apple Technologies	Terrestrial Fixed Wireless-Unlicensed
Montana Internet Corporation	Terrestrial Fixed Wireless-Unlicensed
Rocky Mountain Internet	Terrestrial Fixed Wireless-Unlicensed
WispWest.net	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, broadband coverage is concentrated around the cities and towns in the region. There are pockets along the highways that do not have coverage. The structures database indicates that there are 4,230 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are generally located near the major highways but fall in the areas where there is a gap in coverage. The Beaverhead – Deer Lodge Forest is a large area of undeveloped, remote land that consequently does not have coverage. There are 21 anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 1: Headwaters RC&D – Broadband Coverage

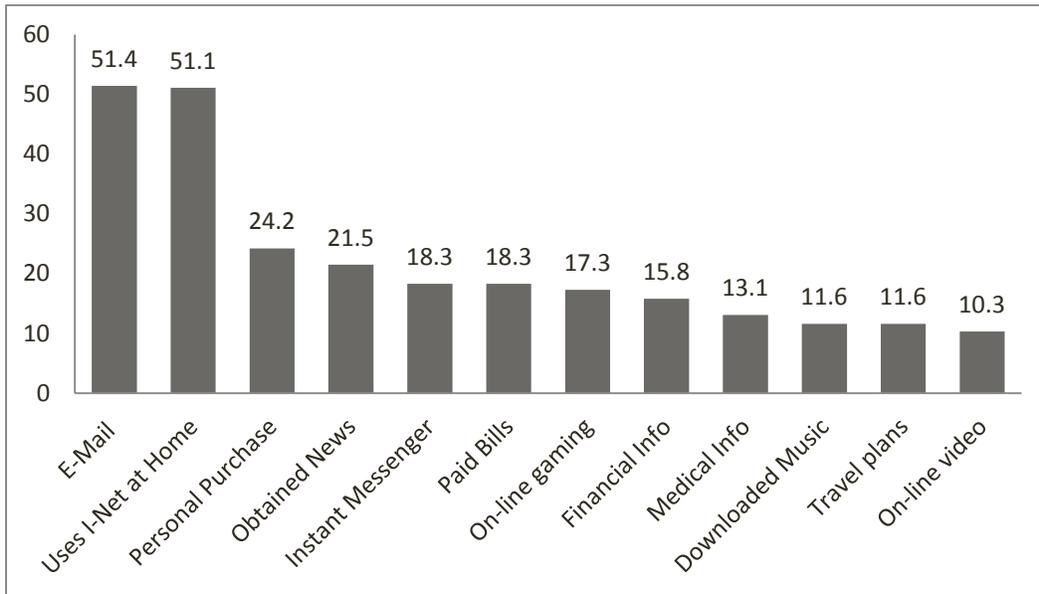


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 8.1 : % of Households Using Internet Applications within the last 30 days for Headwaters Region



Source: ESRI Business Analyst(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting.

- Gaps in wireless coverage. There are areas that lack any type of broadband access.
- Affordability is an issue. Schools have a growing need for bandwidth and it is expensive to keep up with demand.
- There is a need for digital literacy training. People need help to determine legitimate telework opportunities.
- Bandwidth needs are growing for hospitals and it is difficult to keep up.
- Redundancy is an issue. There is provider redundancy but not path redundancy. Need more choices.
- Some high schools students have computers but don't have Internet access at home. There should be wi-fi hot spots so they can have access to Internet. People are maxing out the wireless hot-spot at the library with their laptops.
- Many people who have Internet access are not subscribing to the service. There should be a higher adoption rate among households.
- 4mbps standard for rural areas is too low. Need same standard as urban areas.
- More applications are moving to the cloud so bandwidth and reliability are becoming more and more important.
- Public access computers are always being used at the library.

**F. Preferred Strategies**

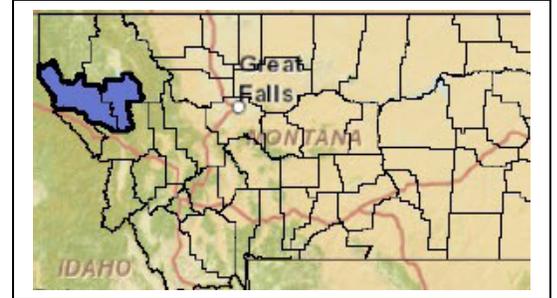
*Table 8.3 – Preferred Strategies for the Headwaters Region*

Strategy	Partner – Resources – Opportunities
Increase awareness – Educate public – Digital Literacy	<p>Outreach to senior center. Area 5 – Agency on Aging may have funds for this.</p> <p>Butte library has classes. Coordinate with BTOP Grant</p> <p>Jefferson County – GIS does informal training</p> <p>Purchase program for laptops</p>
Promote telework	<p>Produce videos on success stories.</p> <p>Partner with Job Service, Better Business Bureau to identify legitimate opportunities</p>
Construction of middle mile network for speed and redundancy	<p>Provide incentives to providers such as grants, loans, and guarantees.</p>
Install conduit or fiber in right-of-way	<p>Coordinate with state and local government on road construction projects</p> <p>Coordinate with broadband providers</p>
Identify sites to co-locate wireless equipment	<p>Allow tower at school in exchange for service</p> <p>Coordinate with broadband providers</p>
Technology training for workforce	<p>IT classes at the college</p> <p>Teacher training to update on tech skills</p> <p>Training for EMS workers and using social media –texting for warning system</p>
Create Regional Task Force	<p>Develop resource directory</p> <p>Have community meeting with providers so they can hear concerns (especially in Qwest/CenturyLink service areas)</p>

## IX. Lake County Community Development Corporation

### A. Regional Profile

- Geography** – Lake County Community Development Corporation (LCCDC) encompasses Lake, Sanders and Mineral County. Mineral County is located in both the with the BitterRoot Economic Development District (BREDD) and the LCCDC region. For purposes of planning, it is included as part of the BREDD region. The total land area for the two counties in this region (Lake and Sanders) is 4,250 square miles with a total population in 2010 of 40,159. This translates to an average population density of 9.44 people per square mile. The largest city in the region is Polson with a population of 4,488. There are 5 incorporated municipalities in the region. Major highways include U.S. Highway 93, which runs north-to-south through the region. Montana Highway 200 is the major east-to-west route. The Lolo National Forest, Salish Mountains, and Mission Mountain range are in the region. Flathead Lake is a major water body in the region and is the largest lake in Montana. The region also includes the Flathead Indian reservation.



- Population Growth** - The region has experience an increase of 9.3% in population from 2000 to 2010. This is comparable to the state growth rate. According to the projections growth should level off for the next five years.

Table 9.1: LCCDC Population Growth by County

County	2000	2010	2015
Lake	26,507	28,746	29,752
Sanders	10,227	11,413	11,676
<b>Total</b>	<b>36,734</b>	<b>40,159</b>	<b>41,428</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 42.8 years compared to 39.6 years for the state. Sanders County had the oldest population of the two counties with an average age of 48.1 years while Lake County had an average age of 40.1 years.
- Income** - Median household income for the five-county region is \$32,451. This income ranks 13th among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 9.2: Broadband Service Providers with facilities in the LCCDC Region*

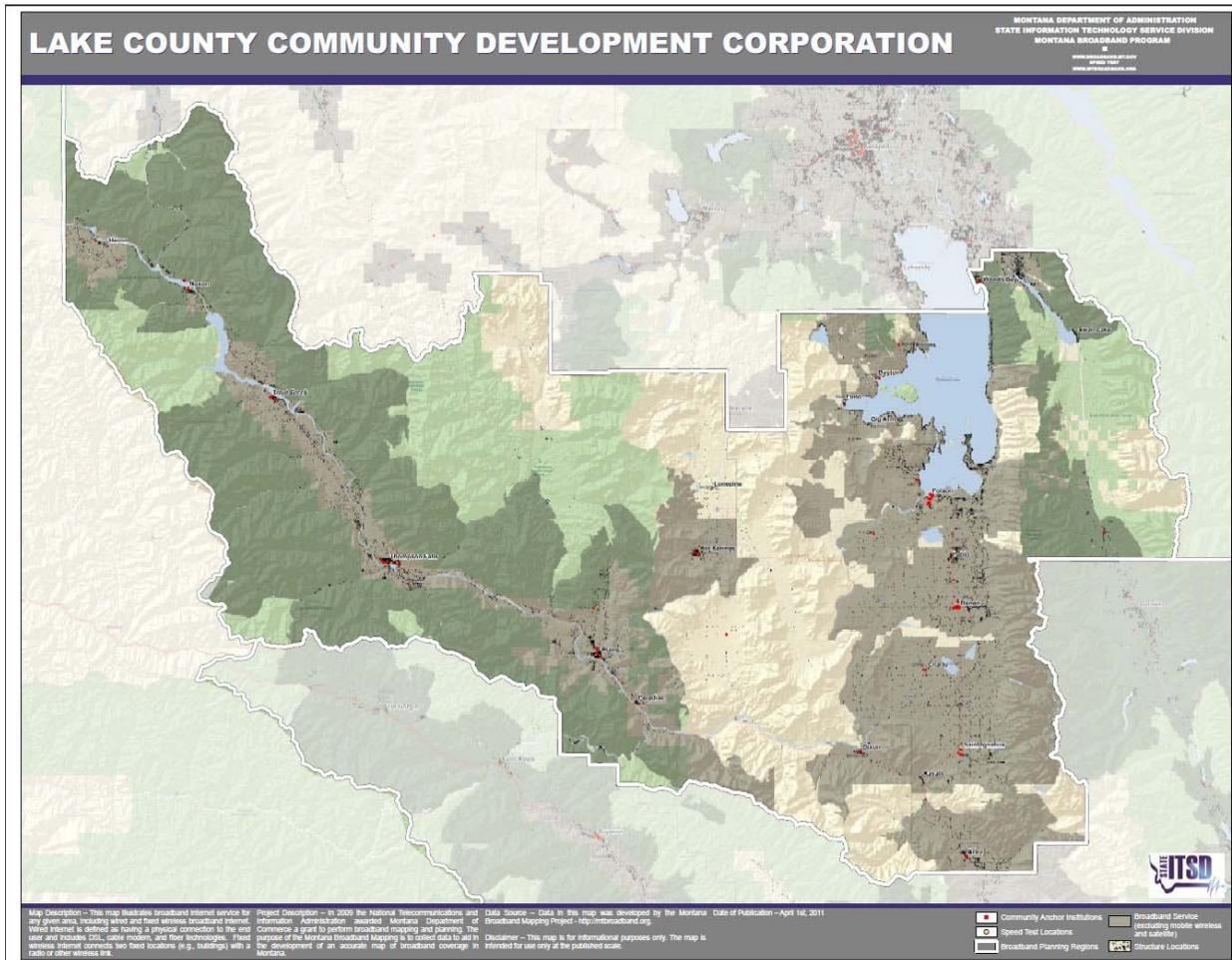
<b>Provider</b>	<b>Type of Technology</b>
Blackfoot Telephone Cooperative, Inc.	aDSL
CenturyLink, Inc.	aDSL
Citizens Telecommunications Company of Montana dba Frontier Communications of Montana	aDSL
Hot Springs Telephone Company	aDSL
Ronan Telephone Company	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Western Montana CommunityTel	Cable Modem-Other
Ronan Telephone Company	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Polson CommunityTel	Terrestrial Fixed Wireless-Licensed
Western Montana CommunityTel	Terrestrial Fixed Wireless-Licensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in the coverage map below, towns in the region are located along the highways and generally do have good broadband coverage. There are large swaths of primarily national forest land, however, that lack broadband coverage. These forest lands have minimal development and consequently have minimal broadband infrastructure. The structures database indicates that there are 562 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). There is a just one anchor institution in the region that, according to the map, falls outside of broadband service areas. Service for these institutions still needs to be verified.

Map 1: Lake County Community Dev. Corp. – Broadband Coverage

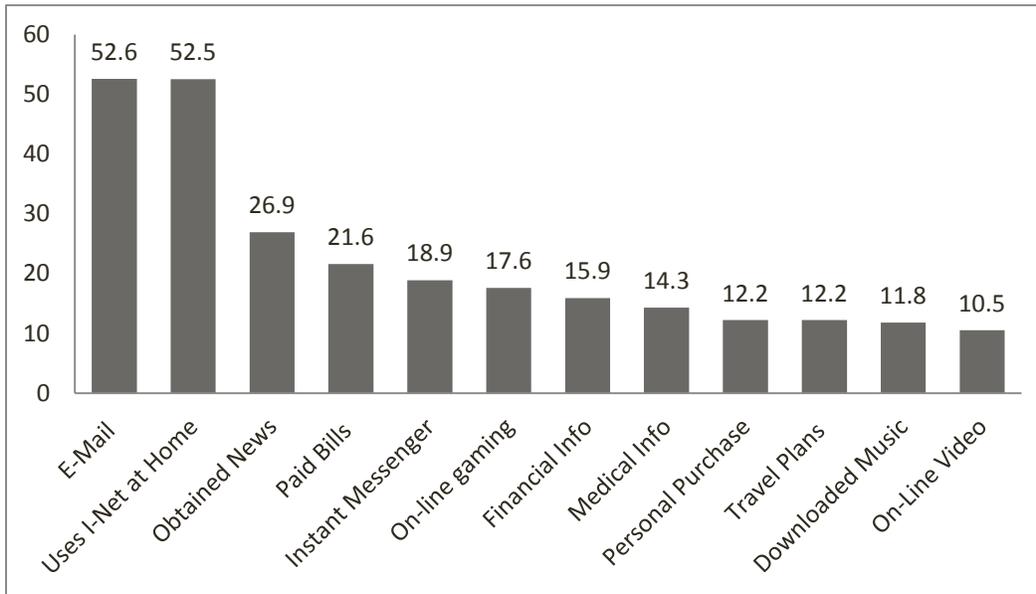


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 9.1: % of Households Using Internet Applications within the last 30 days for LCCDC Region



Source: ESRI Business Analyst-2011(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting conducted in Ronan.

- Cell phone coverage is inadequate in some areas.
- There are some areas that still lack any broadband coverage.
- Affordable service would increase broadband adoption rates.
- There is growing demand for bandwidth in health care and schools. Cost to get additional bandwidth is an issue.
- Cost for bandwidth is higher in Montana than in urban areas. Cost in urban areas is about \$25 per mbps compared to \$40-\$60 per mbps in the western part of Montana while rural areas with a single provider may pay up to \$300 per mbps.
- USF is needed to subsidize service in high cost areas with low population density.
- Increasing the rate of adoption is important to increase demand and to make sure everyone gets the benefits from broadband.
- Mobile access is increasing in importance. Need widespread wireless coverage.
- Public access computers are necessary to reach low-income households. Tech centers are need to teach basic technology skills.

## F. Preferred Strategies

Strategy	Partner – Resources - Opportunities
Regional Broadband Task Force	Organize through local development organization. Include broadband providers, anchor institutions and user groups
Facilitate coordination between user groups	<p>Coordinate investment in broadband and technologies with the Tribes</p> <p>Assess needs of anchor institutions</p> <p>Potential for cost sharing on software licenses among institutions</p> <p>Business partnership with schools to invest in technology &amp; training</p>
Inventory broadband assets and market to businesses	<p>Work with providers to compile information.</p> <p>Resource Directory to Identify what services and resources are available to business</p>
Promote telework opportunities	Identify clusters of teleworkers to help providers identify where services are needed.
Training and public education	<p>Coordinate with the library &amp; Adult ED</p> <p>Schools computer labs can be used in off-peak hours as public access computers</p> <p>Telephone coops have some funds that can be used for training</p>
Include broadband strategies in CEDS and Growth Policies	LCCDC is in the process of updating the CEDS
Investigate the development of a smart park (industrial park with fiber capability) to attract business	Work with providers

## X. Montana Business Assistance Connection

### A. Regional Profile

- Geography** – The total land area for the region is 7,041 square miles with a total population in 2010 of 70,898. This translates to an average population density of 10.4 people per square mile. The largest city in the region is Helena with a population of 28,190. There are 4 incorporated municipalities in the region. Major highways include I-15 which runs north-to-south through the county. U.S. 12 and U.S. Highway 89 also run through the county. The Helena National Forest and parts of the Lewis and Clark National Forest are located within the county. Major water bodies include Canyon Ferry Lake. Large parts of the region are characterized by mountainous terrain but there are also agricultural lands as well.
- Population Growth** - The region’s population grew by 14.3% from 2000 to 2010 and exceeded the average growth rate for the State. This region is expected to continue modest growth through 2015.

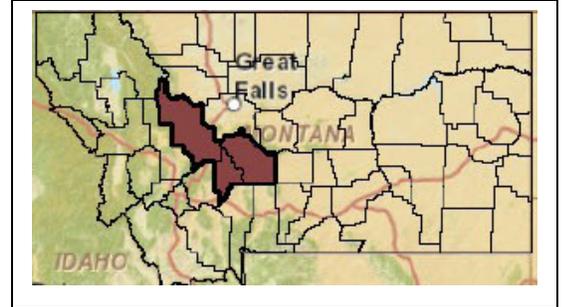


Table 10.1: MBAC Region Population Growth by County

County	2000	2010	2015
Broadwater	4,385	5,612	5,044
Lewis & Clark	55,716	63,395	65,371
Meagher	1,932	1,891	1,794
<b>Total</b>	<b>62,033</b>	<b>70,898</b>	<b>72,209</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 40.5 years compared to 39.6 years for the state. Meagher County had the oldest population with an average age of 47.4 years while Lewis and Clark County had the lowest average age of 40.0 years.
- Income** - Median household income for the five-county region is \$44,897. This income ranks 2nd among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 10.2: Broadband Service Providers with facilities in the MBAC Region*

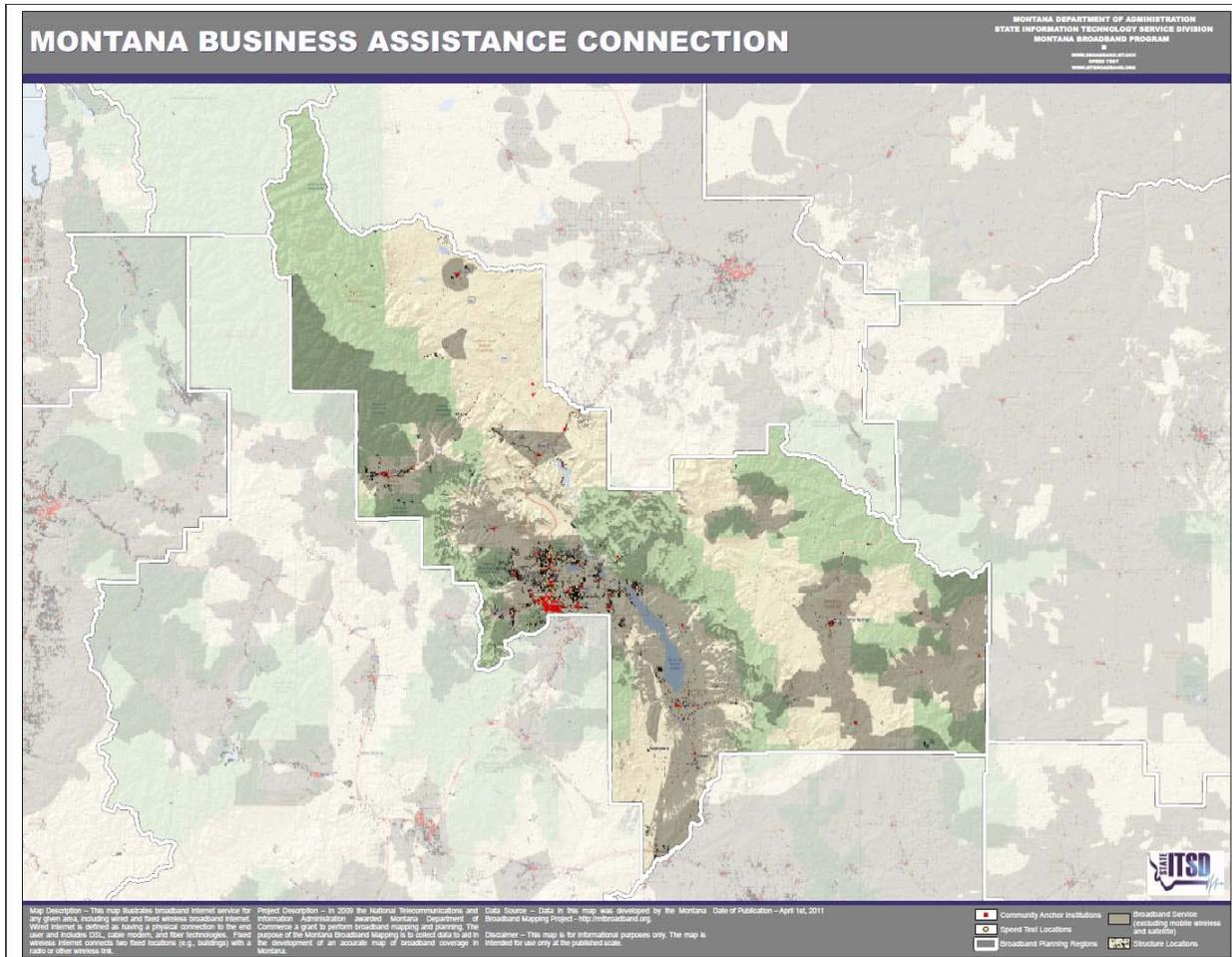
<b>Provider</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Blackfoot Telephone Cooperative, Inc.	aDSL
Central Montana Communications, Inc.	aDSL
Lincoln Telephone Company, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Little Apple Technologies	Terrestrial Fixed Wireless-Unlicensed
Montana Internet Corporation	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

Source: [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. It should be noted that the southeast portion of the region has a significant concentration of National Forest with minimal development and consequently has minimal broadband infrastructure in these public lands. The structures database indicates that there are 1,030 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are scattered throughout the agricultural areas in the region. There are just two anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 10: MBAC– Broadband Coverage

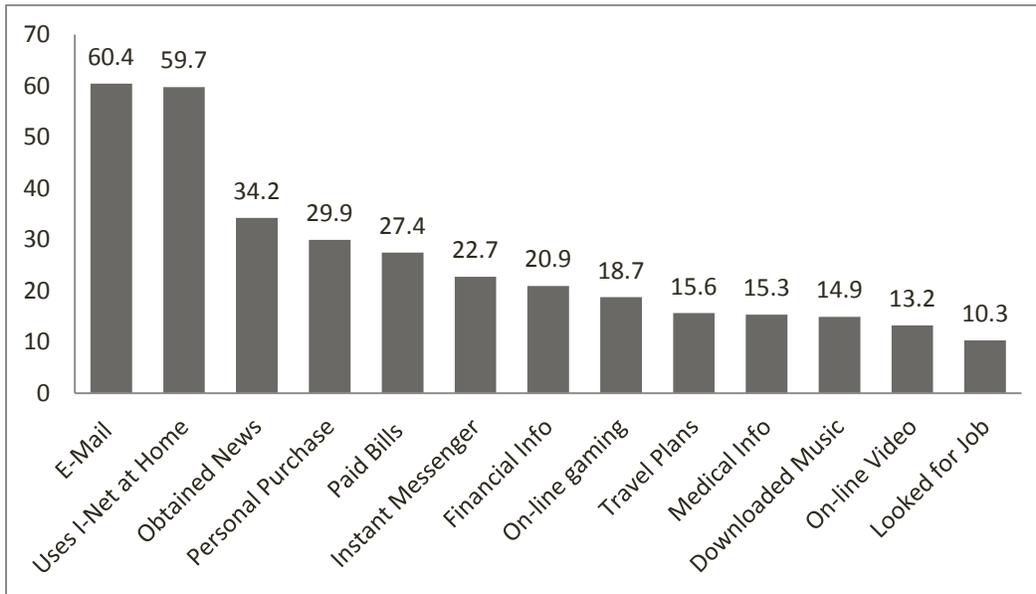


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 10.1: % of Households Using Internet Applications in the past 30 days in the MBAC Region



Source: ESRI Business Analyst - 2011(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting conducted in Helena.

- Affordable broadband services would increase adoption rates. Higher adoption rates increases demand and creates a better business model for providers.
- A residence in an area that is shown to have DSL coverage may still not be able to get the service due to old copper lines that are DSL capable.
- Areas are lacking cell phone – smart phone coverage
- There are areas that still lack broadband coverage or have slow broadband speeds
- Reliability has been an issue both as gotten better over the years.
- Every household needs connectivity to access educational and household services. Some households lack service due to affordability issues and others don't have connectivity.
- Bandwidth needs are growing dramatically for education. They need robust connectivity to connect all their campuses and to connect to every home in both rural and urban areas.
- Prospective businesses routinely ask about redundancy and connection speeds. They need both if they are going to locate here.

## F. Preferred Strategies

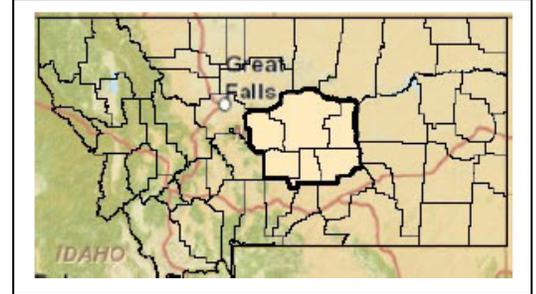
Table 10.3 – Preferred Strategies for MBAC region

Strategy	Partner – Resources - Opportunities
Training and public outreach to increase awareness about the benefits of broadband	<p>Coordinate with Chamber and IT providers</p> <p>Rely on business success stories to convey benefits of broadband</p>
Include broadband strategies in CEDS and Growth Policies	<p>MBAC updates CEDS</p> <p>City of Helena, Lewis &amp; Clark County, other local governments</p>
Regional Broadband Task Force to promote broadband technologies and facilitate information sharing between stakeholders.	Balance of stakeholders. Include telecom providers – anchor institutions – economic development. Providers bring a lot of expertise.
Promote telework opportunities	<p>Work with local business</p> <p>B2B networking groups</p>
Conduct additional meetings on broadband planning	Hold meetings in smaller towns throughout region
Create resource directory	<p>Inventory services that are available (i.e. providers, tech support, training .....)</p> <p>Inventory of commercial sites with fiber access</p>
Investigate feasibility of a smart park with data center	Coordinate with economic development strategies
Investigate the potential for smart grid spin-off businesses	Northwest Energy

## XI. Snowy Mountain Development Corporation

### A. Regional Profile

- Geography** – The total land area for the region is 12,329 square miles with a total population in 2010 of 21,742. This translates to an average population density of 1.75 people per square mile. The largest city in the region is Lewistown with a population of 5,901. There are 15 incorporated municipalities in the region. Major highways include U.S. Highway 87, which runs east –to-west from Great Falls to Grass Range and then turns south to Billings. The northern tier of the region. U.S. Highway 87 is the major north-to-south route from Great Falls to Havre while Highway 191 is the north-to-south route from Malta through Lewistown on to Big Timber. The area is primarily agricultural land with grasslands for grazing and cultivated crops such as hay and wheat. Portions of the Lewis and Clark National Forest are located in Judith Basin and Fergus County.



- Population Growth** - The region has experienced a declining population from 2000 to 2010. Population levels are expected to remain stable over the next five years.

*Table 11.1: Snowy Mountain Dev. Corp. Region Population Growth by County*

County	2000	2010	2015
Fergus	11,893	11,586	11,175
Golden Valley	1,042	884	1,042
Judith Basin	2,329	2,072	2,043
Musselshell	4,497	4,538	4,544
Petroleum	493	494	469
Wheatland	2,259	2,168	1,999
<b>Total</b>	<b>22,513</b>	<b>21,742</b>	<b>21,272</b>

*Source: U.S. Census Bureau & ESRI population forecast for 2015.*

- Age** – The average age for the region in 2010 was estimated at 46.0 years compared to 39.6 years for the state. Judith Basin had the oldest population with an average age of 46.9 years while Petroleum and Wheatland Counties had the lowest average age of 43.3 years.
- Income** - Median household income for the five-county region is \$37,508. This income ranks 11th among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 11.2: Broadband Service Providers with facilities in the Snowy Mountain Development Corp. Region*

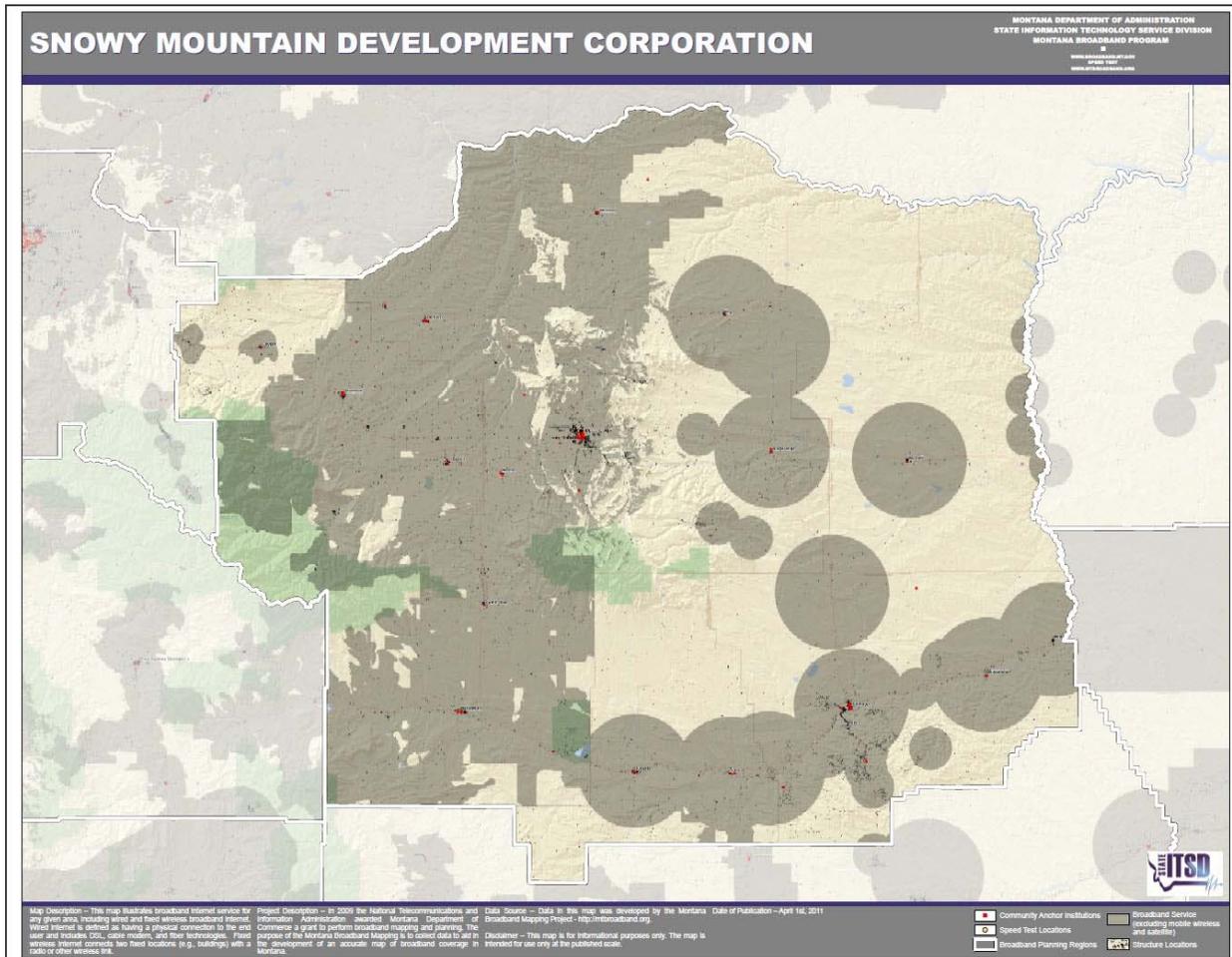
<b>Provider</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Central Montana Communications, Inc.	aDSL
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Triangle Telephone Cooperative Association, Inc.	aDSL
Cable Montana, LLC	Cable Modem-Other
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Cable Modem-Other
Triangle Telephone Cooperative Association, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Landmark Electronics	Terrestrial Fixed Wireless-Licensed
Montana Internet Corporation	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

**Source:** [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are generally served with broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. These areas typically have minimal development and consequently has minimal broadband infrastructure. The structures database indicates that there are 411 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are scattered throughout the agricultural areas in the region. There are just three anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 11.1: Snowy Mountain Dev. Corp.– Broadband Coverage

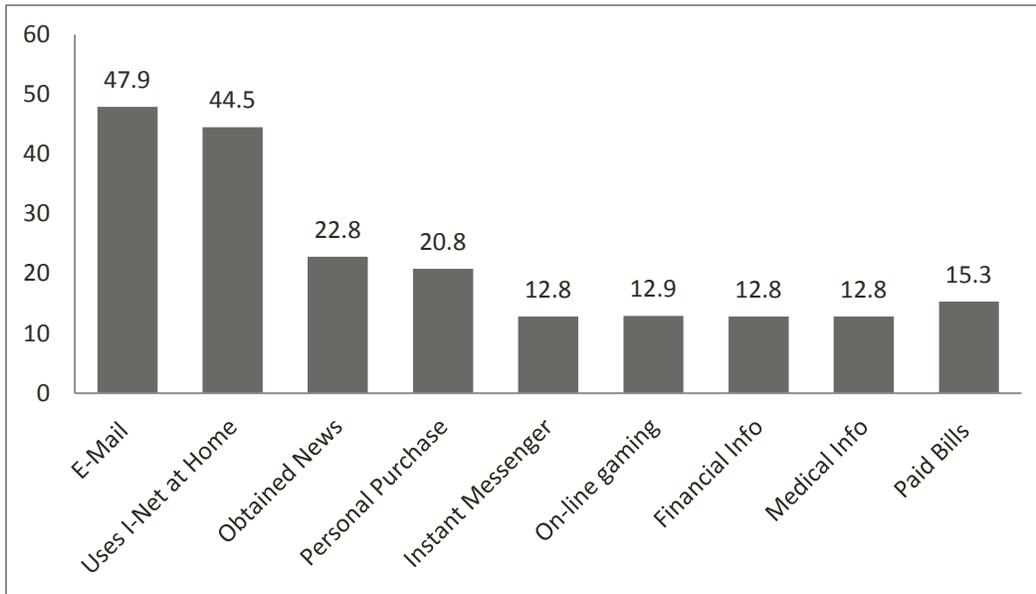


*Note: Shaded areas represent presence of broadband coverage.*

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Figure 11.1: % of Households Using Internet Applications in the past 30 days for Snowy Mtn. Dev. Corp. Region



Source: ESRI Business Analyst-2011(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting conducted in Lewistown.

- There is a need for greater wireless coverage for public safety first responders.
- Roaming agreements with the major wireless carriers is an issue.
- Acquiring right-of-way easements to deploy fiber is an issue. It is a time consuming process.
- There is a growing need for bandwidth in the schools. Students and teachers are using more applications such as video that require more bandwidth. E-rate is critical for schools to afford broadband but it is a lot of paperwork.
- Mobile applications are becoming more popular. There are more home based health services. Need to have mobile everywhere.
- Using more cloud based service and reliability to access service is more important.
- Satellite Internet is not adequate for home based businesses and is more costly.
- Needs good cellular coverage so can be in contact with customers at all times even when out of office.
- Billing for telemedicine services requires a lot of documentation and should be streamlined.
- There is a potential to co-locate wireless equipment on public safety towers but current policy does not allow this.
- There are areas without adequate cell phone coverage and areas that lack basic broadband services.

## E. Preferred Strategies

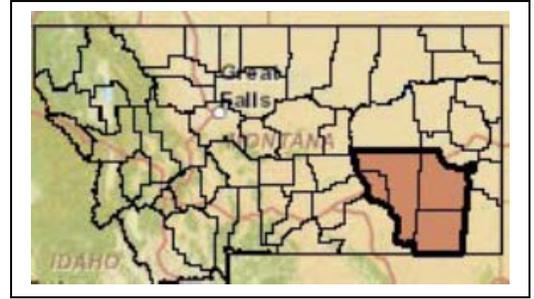
Table 11.3 – Preferred Strategies for the Snowy Mountain Dev. Corp. – Region

Strategy	Partner – Resources – Opportunities
Training & Digital Literacy	<p>Triangle Telephone has training programs &amp; offer no interest loans to customers to purchase lap tops</p> <p>Target senior citizens</p> <p>Educate businesses on potential cost savings from cloud services</p>
Regional Task Force to facilitate communication between stakeholders & encourage partnerships	Broadband providers, SMDC, anchor institutions
Hold additional community meetings to increase awareness and get input for CEDS documents	Hold in other counties in the region
Address policy issues with state and federal officials	<p>FCC – National Broadband Plan should have same standards for rural and urban areas.</p> <p>State – review policies to allow employees to use social networking – especially for public safety</p> <p>FCC remove barriers to deploying wireless technologies in rural areas</p>
Inventory sites for co-location of wireless equipment	Coordinate with public safety and telco providers
Inventory shovel ready sites with fiber access	Coordinate with telco providers
Promote telework	Triangle Telephone has telework resources
Incorporate strategies into CEDS documents and Growth Policies	SMDC is in process of updating CEDS

## XII. Southeastern Montana Development Corporation

### A. Regional Profile

- Geography** – The total land area for the region is 13,067 square miles with a total population in 2010 of 23,393. This translates to an average population density of 1.8 people per square mile. The largest city in the region is Miles City with a population of 8,410. There are 6 incorporated municipalities in the region. Major highways include I-94, which runs east-to-west along the northern tier of the region. U.S. Highway 212 runs east-to-west from the southeast corner of the state to Lame Deer. The region is characterized by agriculture with grazing being the primary use. The Custer National Forest is located in Powder River County. The region includes the Cheyenne Indian reservation.



- Population Growth** - The region has experience a slight declining population from 2000 to 2010. This trend is expected to continue through 2015.

Table 12.1: SEMDC Region Population Growth by County

County	2000	2010	2015
Custer	11,696	11,699	11,074
Powder River	1,858	1,743	1,659
Rosebud	9,383	9,233	9,303
Treasure	861	718	736
<b>Total</b>	<b>23,798</b>	<b>23,393</b>	<b>22,778</b>

Source: U.S. Census Bureau & ESRI population forecast for 2015.

- Age** – The average age for the region in 2010 was estimated at 39.7 years compared to 39.6 years for the state. Treasure County had the oldest population with an average age of 47.4 years while Rosebud County had the lowest average age of 34 years.
- Income** - Median household income for the five-county region is \$37,508. This income ranks 8th among the 13 regions.

## B. Provider Information

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 12.2: Broadband Service Providers with facilities in the SMEDC Region*

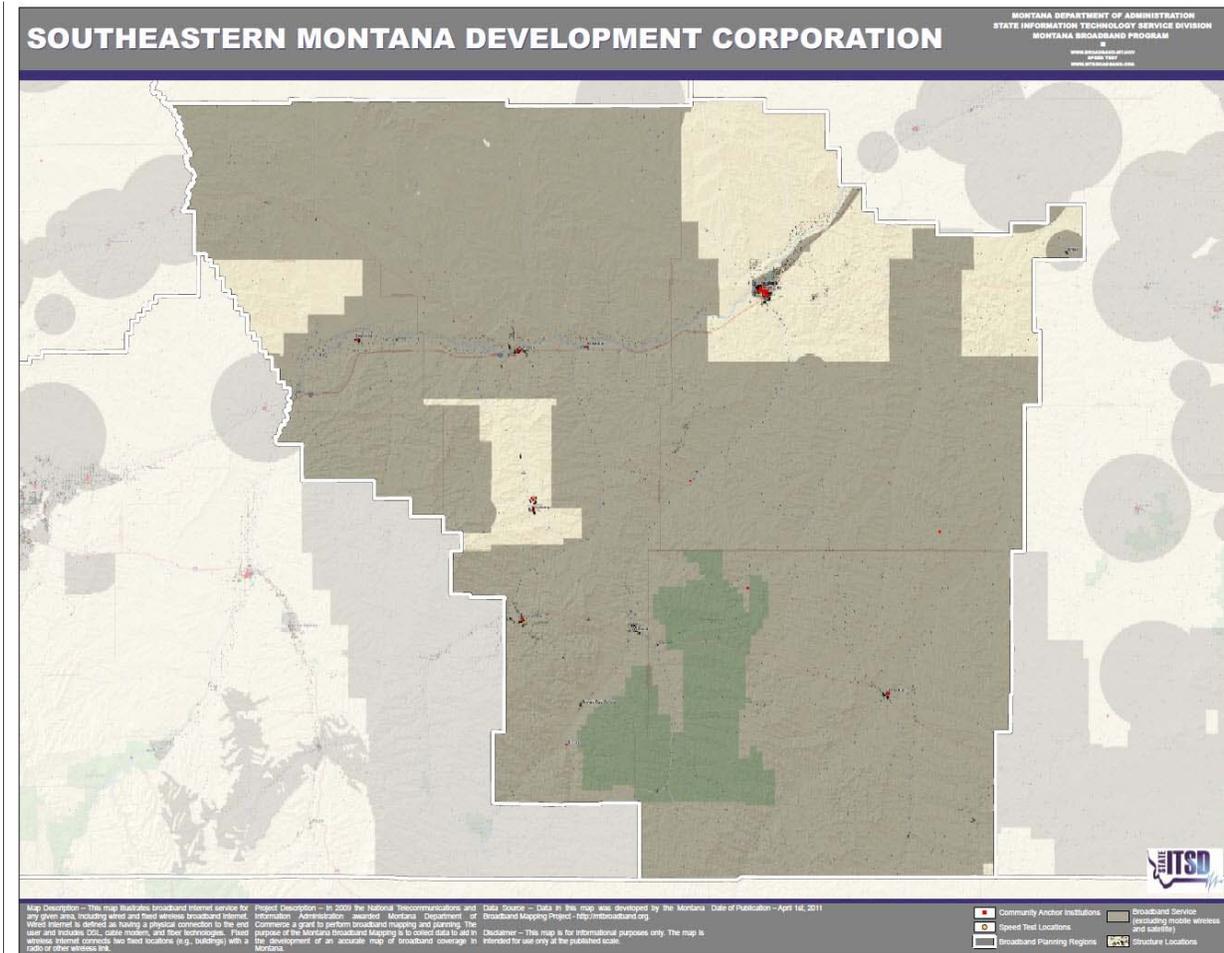
<b>Provider</b>	<b>Type of Technology</b>
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
Range Telephone Cooperative, Inc.	aDSL
Cable Montana, LLC	Cable Modem-Other
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Cable Modem-Other
Range Telephone Cooperative, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Range Telephone Cooperative, Inc.	sDSL
Mid-Rivers Internet dba Mid-Rivers Telephone Cooperative, Inc.	Terrestrial Fixed Wireless-Licensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

**Source:** [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region generally well served with broadband coverage. According to the map, the northeast portion of the region lacks broadband coverage. The structures database indicates that there are 911 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are clustered along the I-94 corridor in the northeast portion of the region. There are just two anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 12.1: SEMDC– Broadband Coverage

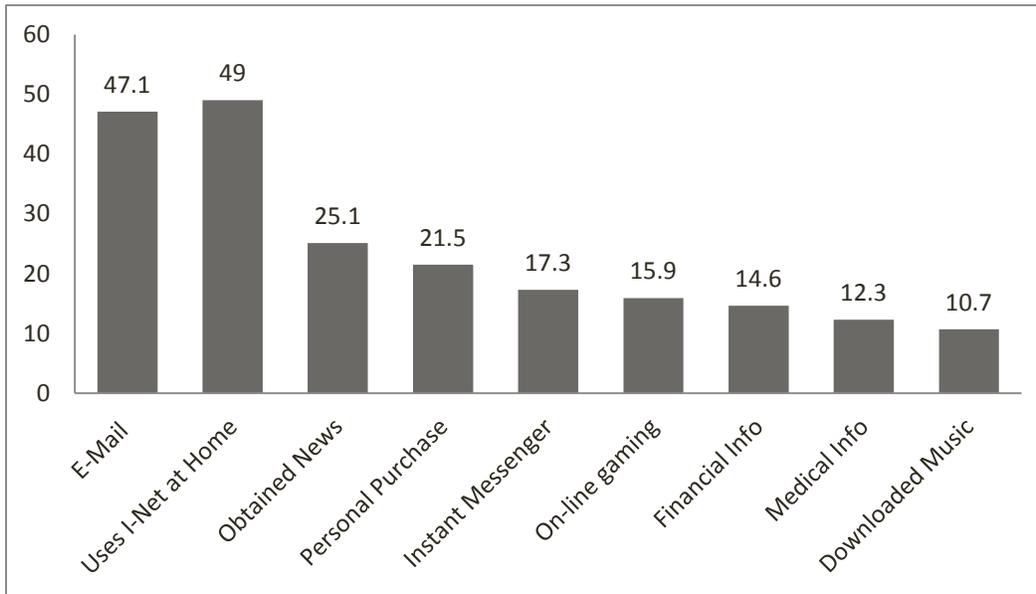


Note: Shaded areas represent presence of broadband coverage.

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Table 12.2: % of Households Using Internet Applications in the past 30 days for SMEDC Region



Source: ESRI Business Analyst(Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting conducted in Miles City.

- Affordable broadband services would increase adoption rates.
- The Universal Funds is important for providing services to high cost areas. Montana has frontier areas with low population densities.
- Rural/frontier areas have the same need for 100 mbps service as urban areas.
- Satellite is not adequate broadband services. It is slow, costly, and has bandwidth limitations.
- Need multiple technologies and partnerships to provide broadband services in rural areas.
- Bandwidth needs for education are constantly growing. The biggest issue to meet the needs is funding.
- Electronic Health Records requirements are driving demand for more bandwidth. Funding is a big issue. Institutions need affordable broadband and funding for the end-user technology to use the broadband.
- Customers want instant access to bank accounts. Mobile applications are more common. Need good wireless coverage.
- State data center in Miles City is a good example of a public-private partnership.
- There is a need for broadband services to support agricultural operations.

**E. Preferred Strategies**

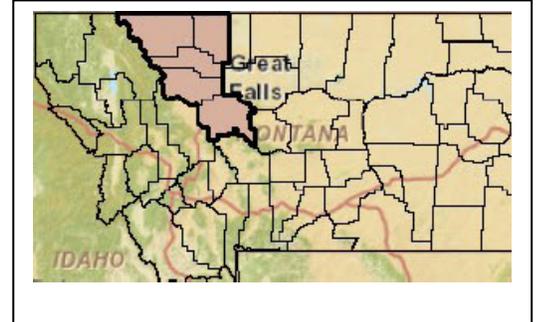
*Table 12.3 – Preferred Strategies in the SEMDC Region*

Strategy	Partner – Resources –Opportunities
Training and public outreach	Work with Miles City Community College on classes and web-based training  Workshops, tech fair
Promote broadband assets to businesses	State data center will have space to lease to private sector (Dept. of Revenue)  Leverage anchor tenants to build Broadband networks
Address policy issues at state and federal level	Roaming agreements Promote public-private partnerships Universal Service Funds should be used for Broadband Recognize unique needs of frontier regions
Conduct additional community meetings to increase awareness about broadband issues	Forsyth, Colstrip ....
Promote telework – home business opportunities	Small business outreach  Assistance for start-up businesses
Task Force to facilitate coordination/communication among user groups	Economic Development, providers, anchor institutions
Include broadband strategies in CEDS and Growth Policies	SMEDC is currently updating CEDS and it will have broadband maps.
Compile resource directory	Services  Funding sources such as: <ul style="list-style-type: none"> <li>- Rural Development Grants</li> <li>- USDA – Rural Utility Service</li> <li>- Tax Increment Finance Districts pay for infrastructure</li> <li>- Education – Distant learning – training funds</li> <li>- Home Land Security Funds</li> <li>- Dept. of Defense grants</li> <li>- FCC</li> <li>- Health Institute – Tele-med</li> </ul>
Put fiber/conduit in right-of-way during road construction	Coordinate with providers and DOT

### XIII. Sweetgrass Development

#### A. Regional Profile

- Geography** – The total land area for the region is 11,543 square miles with a total population in 2010 of 112,276. This translates to an average population density of 9.7 people per square mile. The largest city in the region is Great Falls with a population of 58,505. There are 13 incorporated municipalities in the region. Major highways include I-15 which runs north-to-south through the region. U.S. Highway 2, which runs east –to-west along the northern tier of the region and U.S. Highway 87 is the major north-to-south route from Great Falls to Havre. U.S. Highway 89 runs from Great Falls to Glacier National Park. The area is characterized by croplands producing crops such as wheat and grazing lands. The Rocky Mountain Front and the Lewis and Clark National Forest form the western boundary of the region. The Little Belt Mountains are located in the southern portion of the region. The region includes the Blackfeet Indian Reservation and the eastern portion of Glacier National Park.



- Population Growth** - The region has experience modest population growth from 2000 to 2010. This trend is expected to continue through 2015.

*Table 13.1: Sweetgrass Region Population Growth by County*

County	2000	2010	2015
Cascade	80,357	81,327	82,572
Glacier	13,247	13,399	13,191
Pondera	6,424	6,153	5,686
Teton	6,445	6,073	5,931
Toole	5,267	5,324	5,122
<b>Total</b>	<b>111,740</b>	<b>112,276</b>	<b>112,502</b>

*Source: U.S. Census Bureau & ESRI population forecast for 2015.*

- Age** – The average age for the region in 2010 was estimated at 38.7 years compared to 39.6 years for the state. Teton County had the oldest population with an average age of 43.6 years while Glacier County had the lowest average age of 32.4 years.
- Income** - Median household income for the five-county region is \$39,536. This income ranks 5th among the 13 regions.

**B. Provider Information**

The following table includes a list of providers that are offering broadband services within the region as of 2011. Due to the dynamic nature of the telecommunications industry, it is recommended that readers of this report visit the Montana Broadband Program web site for the most up-to-date information. ([www.broadband.mt.gov](http://www.broadband.mt.gov)) on providers. The web site also has an interactive mapping tool which will indicate the name of broadband service providers on a census block level.

*Table 13.2: Broadband Service Providers with facilities in the Sweetgrass Region*

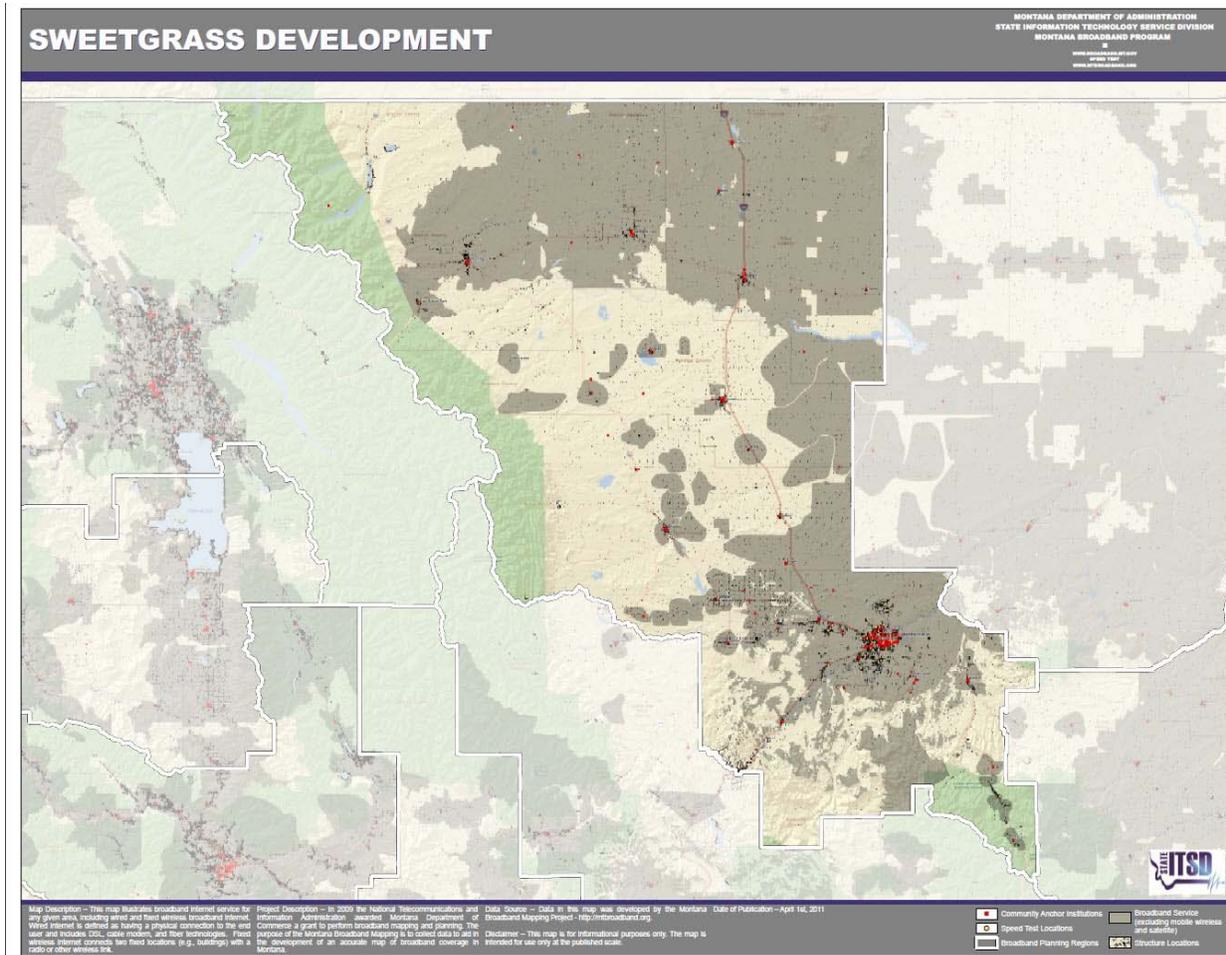
<b>Provider</b>	<b>Type of Technology</b>
3 Rivers Telephone Cooperative, Inc.	aDSL
Northern Telephone Cooperative, Inc.	aDSL
Qwest Corporation (acquired by Century Link)	aDSL
CSC Holdings, Inc dba Bresnan Communications	Cable Modem-Other
3 Rivers Telephone Cooperative, Inc.	Fiber to the End User
HNS License Sub, LLC	Satellite
Starband Communications, Inc.	Satellite
Wildblue Communications, Inc.	Satellite
Landmark Electronics	Terrestrial Fixed Wireless-Licensed
Oki Communications LLC	Terrestrial Fixed Wireless-Licensed
Konceptio Data Service LLC	Terrestrial Fixed Wireless-Unlicensed
Montana Internet Corporation	Terrestrial Fixed Wireless-Unlicensed
Alltel Wireless (acquired by AT&T)	Terrestrial Mobile Wireless
Cellco Partnership dba Verizon Wireless	Terrestrial Mobile Wireless

**Source:** [www.broadmt.mt.gov](http://www.broadmt.mt.gov)

### C. Unserved Areas

As indicated in coverage map below, towns in the region are located along the highways and generally do have good broadband coverage. There are large swaths of primarily agricultural areas, however, that lack broadband coverage. National forest land along the Rocky Mountain front has minimal development and consequently has minimal broadband infrastructure. The structures database indicates that there are 3,018 residential structures located outside of broadband provider service areas for wireline technologies (DSL, fiber, cable). These structures are scattered throughout the agricultural areas in the region with some clusters of structures in the mountainous areas in the south part of the region. There are nine anchor institutions in the region that, according to the map, fall outside of broadband service areas. Service for these institutions still needs to be verified.

Map 13.1: Sweetgrass Development – Broadband Coverage

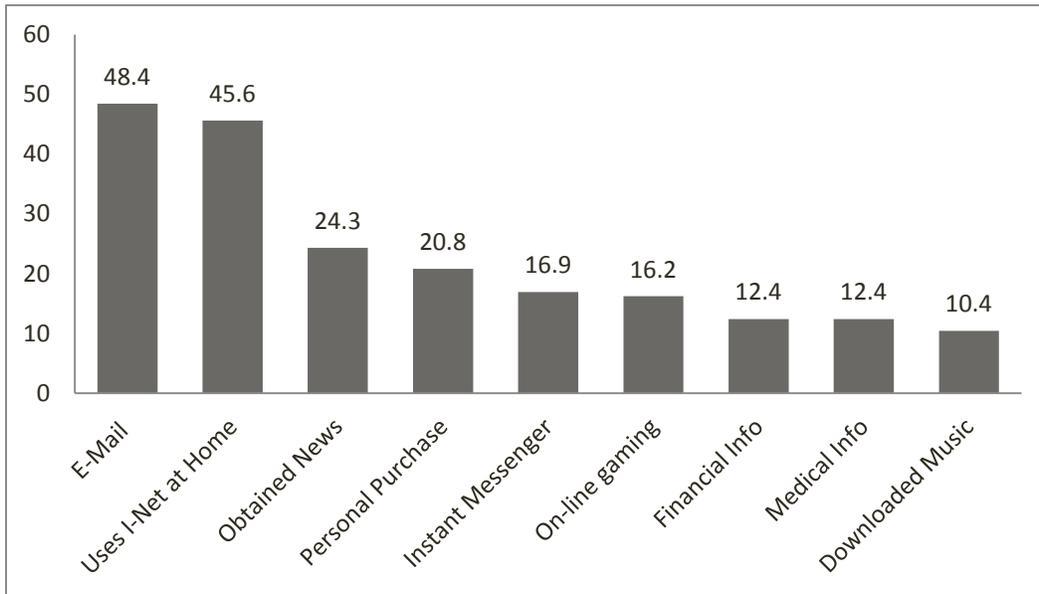


Note: Shaded areas represent presence of broadband coverage.

## D. Broadband Usage

Based upon propensities to use various products and services and applied to the local demographic composition, ESRI Business Analysis forecasts different types of Internet usage. Based on this data, the following are indicative of the broadband use for the region.

Table 13.3: % of Households Using Internet Applications in the last 30 days for Sweetgrass Region



Source: ESRI Business Analyst (Shows only those applications exceeding 10%)

## E. Issues

The following issues were identified at the regional meeting.

- There are areas that lack cell phone/smart phone coverage.
- Areas that lack any broadband service except for satellite. (See map)
- A residence in an area that is shown to have DSL coverage may still not be able to get the service due to old copper lines that are DSL capable.
- Mobile applications are becoming more common. People want to access services anytime – anywhere.
- Reliability and affordability are critical to business development. Broadband services in small towns in Montana are not comparable to Great Falls or Billings. Great Falls and Billings don't have comparable services & costs to major metro areas.
- Need to educate businesses about what is available to them and what they can do with the technology.
- More expensive to run fiber in rocky terrain. Rural areas will need a combination of wired and wireless to meet their needs.
- Satellite service has limitations due to latency and speeds. Satellite service also limits the monthly use of bandwidth.
- Difficult to recruit people with IT skills to small towns.
- Community computer centers at the library are at capacity. More people are using public wi-fi hot spots.

## F. Preferred Strategies

Table 13.3 – Preferred Strategies for the Sweetgrass Development Region

Strategy	Partner – Resources - Opportunities
Training to improve technology skills and digital Literacy	Tech Fairs Partner with schools College of Technology is a resource for IT classes Target senior population at senior centers Northern-Tel offers training and computers for sale Providing tech support is as important as training
Public outreach to businesses to make them aware of broadband services and applications	Match business needs to services so they can utilize apps to grow their business  Work with providers to help publicize deployment of fiber and potential benefits
Education of public officials to increase awareness of broadband benefits and issues.	Universal Service Funds are critical to rural telephone coops Much of Montana is Frontier and has different need than rural area in other parts of the country Rural/frontier areas have same broadband needs as urban areas (100 mbps)
Promote telework opportunities	Partner with call center (N.E.W) on telework initiatives  Make sure telework opportunities are legitimate
Include conduit or Fiber in the R.O.W. during road construction	Coordinate with local providers, DOT and local governments
Include broadband strategies in CEDS documents	Sweetgrass Development is currently updating the CEDS
Compile resource directory	Identify who should undertake this task
Promote partnerships to meet broadband needs	Partnerships between smaller telco providers will become more important

# Appendix

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## Appendix A: Mapping Documentation

## Appendix A: Mapping Documentation

### A. Definitions

**Broadband** - was defined as any service that provided a downstream bandwidth of 768 kilobits per second (kbps) or greater and an upstream bandwidth of 256 kbps or greater. Broadband availability was defined as any address that is currently served by a broadband provider or that could be served within seven to 10 days upon receipt of an order for service.

**Technology of Transmission (ToT)** – ToT is the technology used to deliver broadband service to a user. Typical wireline ToTs include digital subscriber line (DSL), cable modem, and fiber optic cable to the premise (fttp). Typical wireless services can be categorized as fixed or mobile. Fixed wireless systems typically serve users in fixed locations and can be operated with FCC-licensed or unlicensed frequencies. The typical mobile wireless systems in Montana are the “3G” services available from cellular carriers.

**Competition** - Documenting the presence or absence of competitive providers in any given region yields a measure of the affordability of broadband service in that region. It can also allow users of the broadband map to quickly identify their options for purchasing service. By including the ToT information regarding competitive providers, the map enables consumers to select the service that most closely matches their requirements (wired vs. wireless, DSL vs. fttp, etc.)

**Community Anchor Institutions** - These were defined as schools, libraries, medical and healthcare providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and entities. The Mapping Project was required to identify all Anchor Institutions in the State and document their physical address, latitude and longitude, whether the Institution was served by broadband and the technology of transmission servicing that Institution. Community Anchor Institutions are typically early adopters of broadband services and documenting the availability and use of broadband by those institutions is a useful measure of the progress of broadband deployment in the State.

### B. Mapping Process

- **Data Collection**

The data collection process required the identification of all providers of broadband service within the State, the identification of all anchor institutions within the State, the identification of any other credible data sources regarding broadband access in the State, and then the collection of the data. The mapping team compiled a list of over 100 potential providers of broadband service and reduced that number to a list of approximately 60 through telephone interviews, website reviews and e-mail inquiries. The team sent a request for coverage information to each provider remaining on the list and followed up with phone inquiries. Of the sixty-plus providers, fifty-four agreed to participate in the project and provided coverage information.

- **Data Analysis**

The data analysis phase of the project consisted of a review of the Provider data and conversion of that data to a format compatible with the mapping software being used by the project. The data received from providers came in a variety of formats and scales. Providers maintain their data in a variety of systems and at a variety of scales (census block, census tract, zip code, etc.) and this information had to be converted to a single format compatible with the mapping software.

The provider data was also compared to coverage data obtained from other sources to identify any under- or over-estimates of coverage and to identify any gaps in the coverage data received. The final step in the data analysis phase of the project was to compare the compiled coverage data to a set of independent validation tools developed by the Mapping team. These tools included analytical models of the coverage available from wired and wireless ToTs using known “rules of thumb” regarding each technology. For example, DSL services can typically only reach users located within 18,000 feet of a central office or remote terminal. By comparing provider coverage data to a database of all addresses within 18,000 feet of known CO and remote terminal locations enabled the team to independently validate that provider data. A second independent validation tool used by the Team was a physical survey of the mobile broadband coverage along all federal highways in Montana. An independent firm, Root Wireless, was hired to drive these highways and test the availability of 3G wireless services using all common cellular technologies. This data was then compared to national provider maps to validate actual coverage. Other independent validation methods included a bandwidth speed test hosted in Helena that allowed users to enter their physical address and test their connection speed. As of this writing, over 18,000 individuals have added their data to the database.

- **Maintenance**

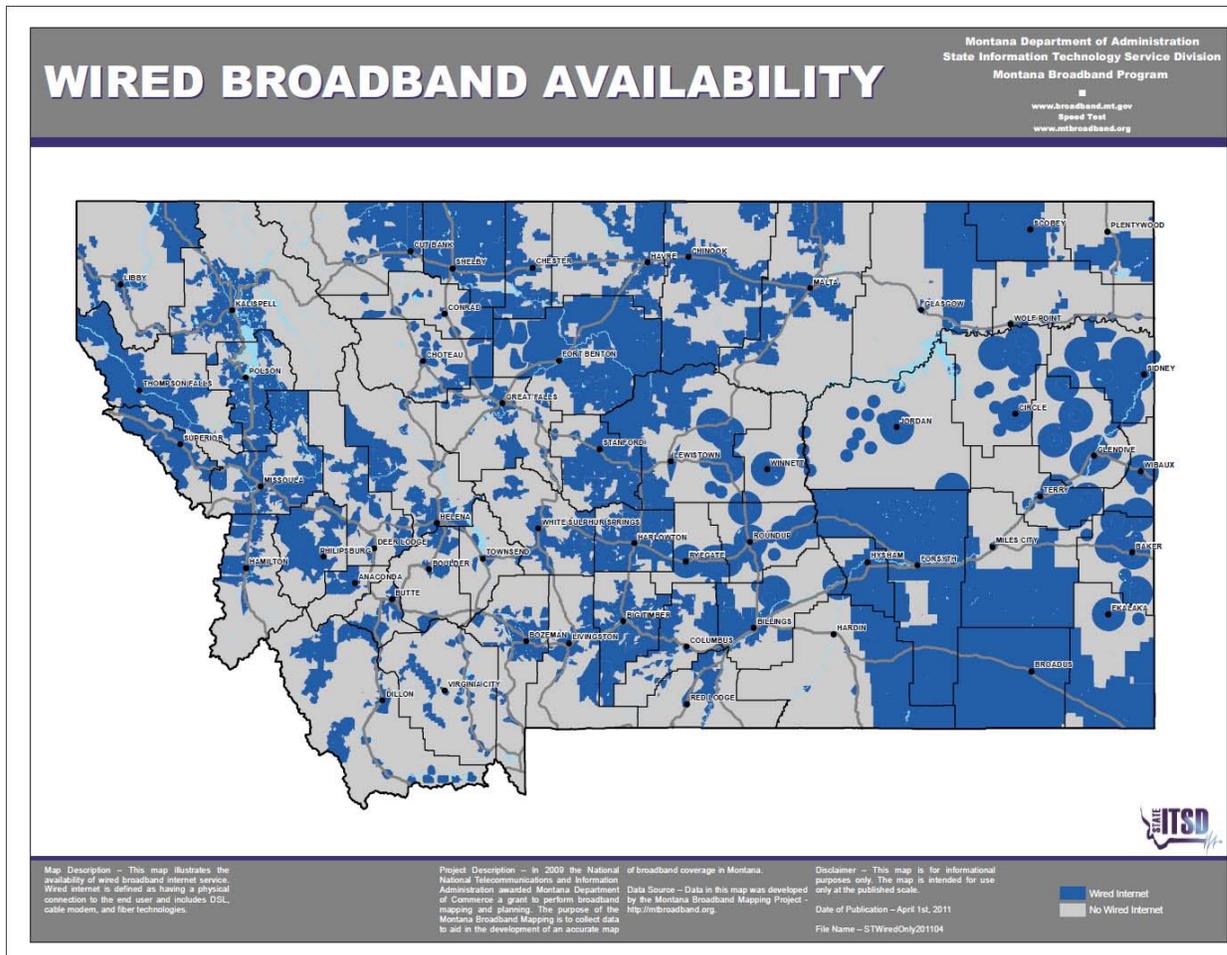
The final step in the mapping process is maintenance of the collected data and the map. This process is accomplished by repeating the first two steps, data collection and analysis, and delivering a refined dataset to the State every six months. Since the original delivery of the data to the State in June 2010, there have been map updates in September 2010, April 2011, and October 2011. During each update cycle, providers are contacted for up to date information and new data sources are incorporated when available. As each maintenance update is completed it is uploaded to the State broadband website, [www.broadband.mt.gov](http://www.broadband.mt.gov), and made available to the public.

Once the coverage data was compiled and validated, it was compared to the State’s structures database to identify unserved locations in the State. The structures database is part of the State’s Geographical Information System and contains the location data for all residential structures in the State. By comparing the structures data to the coverage data on the map, the number of residential structures without broadband service was identified. These results are reported in the regional assessments in Part II of this report.

## C. Broadband Coverage

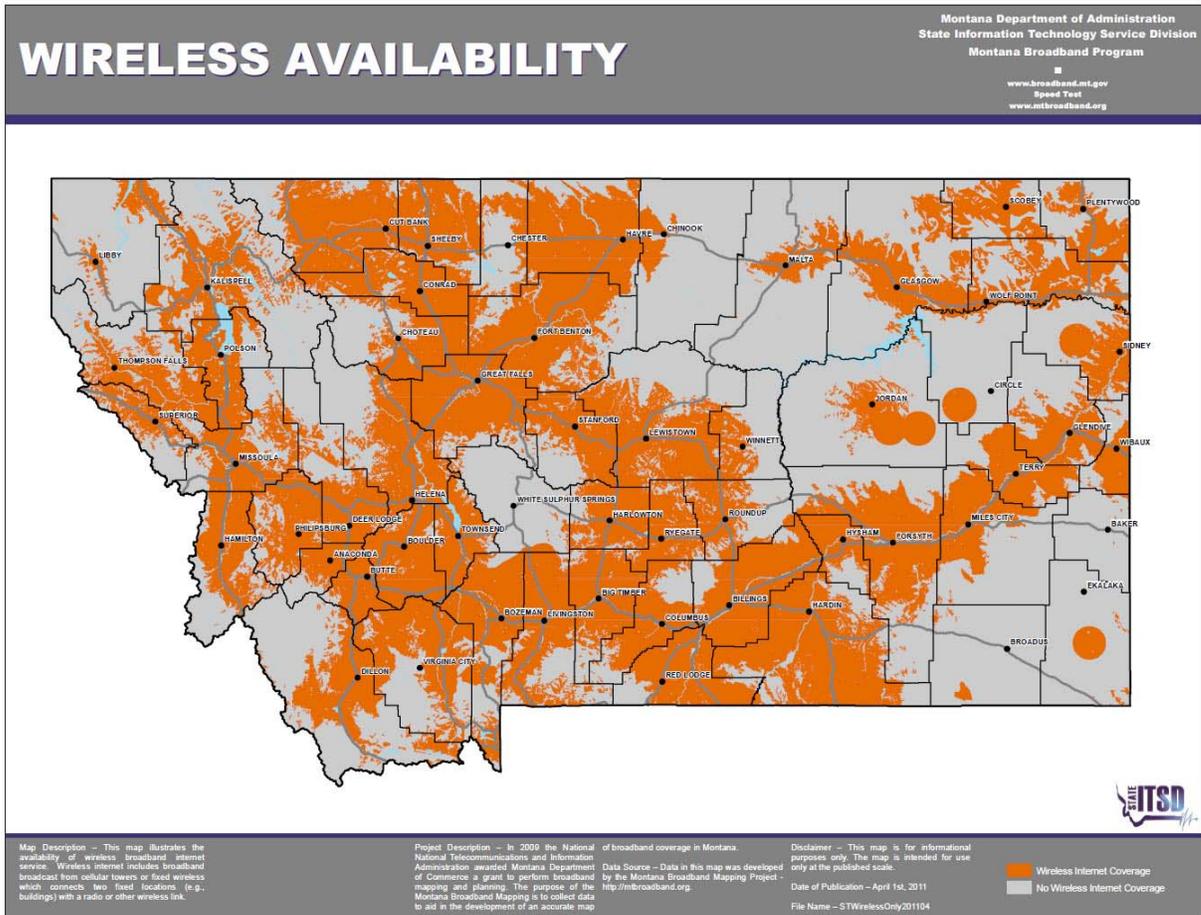
- **Wired coverage**

The map below shows the availability of wired broadband services (DSL, cable modem, ftp) within the State as of the April 2011 map submittal. Predictably, wired service availability is typically concentrated in the cities and towns throughout the State. Comparing this map with the State Broadband Availability map illustrates the important role wireless services are playing in expanding coverage throughout the State.



- **Wireless Coverage**

The next map, shown on the next page, illustrates the availability of fixed and mobile wireless broadband services throughout the State as of the April 2011 submittal. This data is a combination of the Root Wireless survey discussed above and data drawn from regional and national cellular provider’s maps. The map shows that the services typically concentrate around the cities and towns in Montana and along the major highways. There are some notable exceptions, however. Fixed wireless providers are deploying services in rural areas in eastern Montana, along the High Line, and in Ravalli County.



- **Broadband Competition**

The final map shown below illustrates the presence or absence of competitive broadband providers across the State as of April 2011. Not surprisingly, competitive services are typically only available in the major population centers in Montana. One notable exception to this in the rural areas of the State are those areas near a major highway where mobile broadband service offers an alternative to a local wireline service provider.

