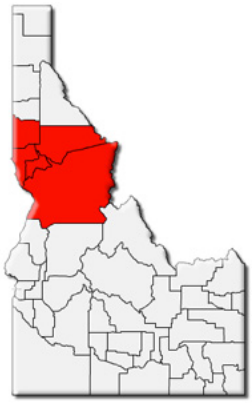
Region 2 Broadband Investment Plan



Priority Need

[1] Within North Central Idaho's five counties and the Nez Perce Reservation the communities have been built and sustained primarily by natural resource extraction industries. Although rich in natural resources the community leadership recognizes the need for economic diversification. In 2003, a regional economic development summit was held to gather business, community and elected leaders in an effort to identify actions that could be undertaken regionally to enhance and diversify the economies of this rural region. One of the major outcomes was the recognition that lack of reliable telecommunications across much of the north central Idaho landscape was recognized as a hindrance to community sustainability, public health, safety and education, and economic opportunity. Clearwater Economic Development Association, a regional economic development planning organization, then spearheaded an effort to engage stakeholders and the public in a planning process. In 2007, the North Central Idaho Telecom Consortium (NCITC), a stakeholder group representing the government sector, health care, private industry, economic development, and education, was established to promote infrastructure development.

USDA Rural Development funding has been utilized to develop the North Central Idaho Telecom Assessment and Implementation Plan (2006) and North Central Idaho Schematic Wide Area Network Design (2008). As a result of these planning efforts, projects have leveraged resources from federal, state, Tribal and local governments as well as private sector to expand telecommunications capacity to most of the regions incorporated communities:

State of Idaho Broadband Initiative (2006) a competitive one time funding source for broadband infrastructure upgrade

- Qwest upgraded switches in the communities of: Grangeville, Cottonwood, Nez Perce, Craigmont, Culdesac, Kamiah, Kooskia
- First Step Internet expanded wireless broadband to Weippe

USDA Rural Utilities Service Community Connect Grant program awards

- First Step Internet: Bovill (2002), Deary & Potlatch (2003), Ferdinand (2008)
- Elk River Free Library District (2007)

USDA Rural Business Enterprise Grant & ID Gem Community Grant

- Nez Perce Tribe Broadband Enterprise Feasibility Analysis & Network Expansion in Orofino in partnership with First Step Internet
- Verizon fiber optic extension to serve Orofino – Weippe (2009); and Frontier switch upgrades to add service capacity in those communities (2010)

American Recovery & Restoration Act –Broadband Technologies Opportunity Program grant (2010)

- First Step Internet – expand middle mile broadband infrastructure across North Central Idaho
- Nez Perce Tribe – expand middle and last mile service, and voice coverage across the Nez Perce Reservation, serving communities of Ahsahka/Orofino, Kamiah, Kooskia, Greer/Fraser, Peck, Culdesac

Other activities were undertaken to improve North Central Idaho connectivity.

- In 2008, the Idaho Regional Optical Network (IRON) was organized as 501(c)(3) not-for-profit Idaho Corporation to provide very high speed network access and connectivity for Higher Education, Health Care, Local Government, and Economic Development in Idaho. In 2009, IRON teamed with Washington State University, XO Communications, First Step Wireless, and 360Networks to establish very high speed (1,000 Mbps) network connectivity between Lewiston and Boise, Idaho establishing a point of presence (POP) in Lewiston.
- In 2009, Frontier Communication partnered with Clearwater Economic Development Association and the North Central Idaho Telecom Consortium and worked with State of Idaho Representative John Rusche to successfully pass an Idaho State Legislature Joint Resolution recognizing the need for fiber connectivity between Riggins and Grangeville, Idaho. Attempts to address this lack of connectivity have been attemped; but, are not yet successful.

All of this work occurred as a result of the North Central Telecommunications Consortium's efforts in conjunction with strategic partners. With the influx of funding from LinkIDAHO to support planning teams, NCITC has been expanded to become the LinkIDAHO Regional Planning Team (RPT).

2: Overview of Regional Opportunity

[1] As part of the LinkIDAHO effort, a group of Region 2 North Central Idaho stakeholders has assessed regional needs that can be advanced by more available and more widely utilized broadband services. They examined statewide and regional consumer survey and broadband availability data collected by the LinkIDAHO staff. Through a facilitated process, this group developed a list of potential broadband investment opportunities for the region and selected as their top priority:

> **To improve broadband access and use to support small manufacturer production and entrepreneurial businesses.**

[2] Other priorities of importance to the group included:

- Grassroots-led adoption effort to develop awareness about the possibilities and resources associated with the Internet.
- Leveraging technology to support tourism.
- Increasing access to distance learning resources.
- Enhancing access to healthcare and supporting the training needs of the medical industry.
- Improving public safety via adoption of real-time video for law enforcement, fire and emergency response.

The top priority was selected because it can provide insight into the needs of broadband throughout the region and benefit more than just the manufacturing industry.

[3] Region 2 has a unique opportunity to leverage the new infrastructure projects and the momentum of regional support. Regional economic groups are working to create economic diversification by focusing on the specific needs of the small to mid-size manufacturers that spread throughout the region. For example, many manufacturers rely on computer-aided-design software for product development. It is imperative that manufacturers have reliable, robust broadband services in order for companies to quickly respond to customers and suppliers with efficient transmission of computer-aided design (CAD) plans. A 2010 LinkIDAHO consumer survey showed that 49% of survey respondents in Region 2 stated that improving broadband availability would promote use of broadband by small businesses. Providing training to support small business owners was of second highest importance at 20%. A direct survey of the manufacturers and businesses in the region could determine their specific broadband and training needs.

[4] The following are examples of how the wider broadband availability and adoption of these services by small businesses and manufacturers can directly benefit the regional economy:

- More manufacturers would consider locating in Region 2, providing jobs and supporting economic development. For example, a new foundry in Craigmont, Ende Machine & Foundry, which opened in April 2011, is serving the region and using waste streams from other manufacturers. They need high-speed broadband for design work and have the potential to attract other businesses to the region.
- High-speed broadband would enhance business competitiveness for Department of Defense manufacturing contracts.
- More small businesses will start up or expand as a result of being able to market their products to a wider audience and decreased transactional costs.

3: Proposed Broadband Investment

[1] The priority broadband investment selected by the Region 2 Planning Team is to improve broadband access and adoption of it to support small manufacturer production and entrepreneurial businesses.

[2] The following table provides an overview of key planned investments and activities that would support this priority:

Type of Investment	Activities	Responsibility	Dollar Value[1]
Leadership	• Establish committees to implement phases of the plan. CEDA will coordinate committees. • Outreach & Awareness Committee (may add training committee later) • Broadband Assessment Committee • Broadband Infrastructure Committee • Apply for and manage grants if needed.	CEDA Economic Development Organizations led by Doug Mattoon CEDA, in partnership with University of Idaho Chris St. Germaine TBD	TBD
Research	• Identify capacity of current broadband availability for manufacturers and businesses. • Conduct survey of manufacturers and businesses to assess: -Current broadband access -Barriers to adopting broadband -Business development interest and barriers. -Security concerns • Find out if any new provider efforts will serve manufacturers and businesses in the area. • Assess broadband gaps.	Broadband Assessment Committee via survey and map CEDA Broadband Infrastructure Committee	
Awareness Programs	• Generate awareness among manufacturers and businesses regarding broadband and Internet-based resources and how can they can support businesses'	Outreach & Awareness Committee (also LinkIDAHO module resources can be used)	

Type of Investment	Activities	Responsibility	Dollar Value[1]
	success and return on investment. • Conduct training to support adoption of broadband related resources for small businesses. • Host demonstrations and collect success stories. • Generate awareness about new connectivity options, especially where fiber is not an option. • Increase legislative awareness and support for broadband.	Libraries, Chamber, LCSC Outreach, Palouse ISSA TBD Outreach & Awareness Committee Rep. Rusche	
Address Broadband Service Gaps	• Engage providers to find solutions for critical broadband service gaps. • Encourage providers to promote benefits of connectivity options to businesses. • Apply for broadband infrastructure grants if appropriate.	Broadband Infrastructure Committee in partnership with CEDA and RPT CEDA and TBD	

[1] - Note the "dollar value" of investment includes volunteer time, allocation of existing staff to project tasks, new paid staff and other costs. See budget below.

4: Key Tasks & Timeline

Following are a list of tasks and activities to address the priority need of improving broadband to support small manufacturer production, entrepreneurial businesses, and develop application awareness:

Phase 1: Detailed Needs Assessment and Strategy Refinement

Summer thru Fall 2011

Task 1.1

Identify current broadband infrastructure availability for manufacturers and businesses. Examine data to determine which commercial and industrial areas have only one provider. Find out if future connectivity will be available through newly funded initiatives or ongoing initiatives. A short survey will be drafted to assess current broadband connectivity as well as current and desired uses of broadband by manufacturers and small businesses. The survey should gather useful, forward-looking information to help promote manufacturer take-rate of broadband. For example the survey may include:

- Barriers to adopting broadband where available.
- Equipment, software, or training needs to make use of broadband viable
- Interest in leveraging broadband for business
- A speed test and record upload/download speeds. Could re-test later to measure improvement
- Information to help determine broadband needs for future growth
- Information security needs, including specific requirements, like Payment Card Industry (PCI) and Healthcard Insurance Portability and Accountability Act (HIPAA)

(Lead: Karen. Christine will see if University of Idaho can assist.)

Task 1.2
Identify key stakeholders who need to take the survey. Distribute the survey to manufacturers and businesses via e-mail, online links, and mail (for those without an e-mail address). Where possible, local economic development and civic organizations will be engaged to help get the word out and distribute surveys. The Northwest Intermountain Manufacturers Association (NIMA) will disseminate the survey to their members via their listserv. Other contacts for survey distribute include CEDA, Idalew, Clearwater County Economic Development, Latah Economic Development, City of Moscow Economic Development (Jeff Jones), Chambers of Commerce, Lorie Higgens for artisan communities and Valley Vision. The survey link will also be posted on a web site and announced via mailing lists and meetings. (Lead: Christine Frei with Broadband Assessment Committee)

Task 1.3
Information collected through survey will be analyzed and summarized. (Lead: Monitoring & Evaluation partner or University of Idaho)

Task 1.4
A report on the survey data will be shared with Regional Planning Team, key stakeholders and service providers. (Lead: Christine Frei with Broadband Assessment Committee)

Phase 2: Implement Awareness Programs

Winter 2012 - Summer 2012

Task 2.1
Survey results will be analyzed to assess barriers that prevent adoption of high speed broadband such as cost, lack of awareness, etc. (Lead: Monitoring & Evaluation partner of University of Idaho)

Task 2.2
Conduct demonstrations at sample sites such as Pacific Cabinets to show businesses and manufactures what higher speed broadband enables them to do. Explain benefits of different connectivity options. Invite providers if helpful. Generate awareness among manufacturers and businesses regarding broadband and how can it can support businesses' success and return on investment. Invite guest speakers from businesses such as Schweitzer Engineering and Pacific Cabinets to share success stories, address concerns and discuss how broadband has benefited them. Engage businesses that support technology and web site development to share information with businesses. Share resources such as the LinkIDAHO Broadband 201 module and the Broadband for Business module at events such as annual

manufacturers meeting and Chamber of Commerce meetings.
(Lead: Broadband Outreach Committee led by Doug Mattoon)

Task 2.3
Conduct outreach and training to support adoption of broadband related resources for small businesses. Increase awareness of Internet resources for economic development and support of existing small businesses. Organizations such as LCSC Outreach Centers, Small Business Development Centers, internet service providers or the Chamber of Commerce could host a workshop to demonstrate resources available, how high speed broadband can be used, such as resources, training, forms, and business opportunities. Libraries could host demonstrations and trainings but would likely need volunteers to support. Businesses that support other businesses' technology needs could be invited to participate. If information security is of concern to business, Palouse ISSA may be able to offer training support. (Outreach & Awareness Committee will determine lead for this)

Task 2.4
Develop a legislative outreach strategy and enhance legislator awareness about the importance of broadband. (Lead: Representative Rusche)

Phase 3: Address Broadband Service Gaps

Spring 2012 - Summer 2012

Task 3.1
Create a GIS-based "demand-side" map visually profiling manufacturers and businesses throughout the region and the level of current connectivity and connectivity needs. Export data to Broadband Infrastructure Committee. (Lead: Karen Manuel and Matt Mitchell)

Task 3.2
Members from the LinkIDAHO Region 2 Planning Team Broadband Infrastructure Committee will review identified broadband service gaps for manufacturers and businesses. The committee will review available data including provider reported availability, demographic data, results from survey and other information to prioritize unserved areas for potential expansion of broadband service. They will assess options and solutions and focus on areas where the top priority for demand or need exists. (Lead: Chris St. Germain with the Broadband Infrastructure Committee)

Task 3.3
Organize regional support for provider, municipal or other organizational loan/grant applications as may be needed to advance solutions to broadband gaps in unserved or underserved areas. (Lead: Chris St. Germaine and CEDA)

5: Budget

Budget Category	Project 2011 Budget	Project 2012 Budget
Infrastructure	None	To Be Determined

Budget Category	Project 2011 Budget	Project 2012 Budget
Equipment	None	None
Paid Staff: Contributed Paid Staff Time Funded Paid Staff Time	To Be Determined	To Be Determined
Volunteer Time: Number of Volunteer Hours Value of Volunteers	To Be Determined	To Be Determined
Other: In-kind Research Skills Funded Contract Skills	To Be Determined	To Be Determined

Infrastructure Funding: TBD

TBD in 2012 after careful research. Additional infrastructure funding to support fiber route diversity or redundancy in the region is needed. With the First Step and Nez Perce grants, redundancy will be available within Nez Perce reservation boundaries and for the University of Idaho. Some redundancy is provided by IRON as well. A critical gap area is Grangeville to Riggins, and a BTOP proposal to serve that area was not funded. This gap must be bridged to support area redundancy, economic development, healthcare, and public safety.

Equipment and Supplies: TBD

Paid Staff: TBD

Contributed In-Kind Staff: TBD

Funded Paid Staff: TBD

Volunteer Time: Given limited resources, most of the key tasks could be accomplished by regional volunteers. We should look to the universities and colleges as a resource.

Number of Volunteer Hours: TBD

Value of Volunteer Hours: TBD

Other Investment: TBD

Funding for an initial study could be requested through USDA Rural Business Enterprise Grant Funds and local match from manufacturers. This grant is usually due in March each year and makes available funding of up to $30,000 with a one to one match. To submit a competitive application, some data would need to be already compiled on manufacturing; the proposal would need to build on past funded survey efforts; and the proposal may need to be positioned as a pilot for Idaho or national. USDA is interested in targeting new and emerging sectors.

6: Anticipated Outcomes and Impacts

The proposed broadband investments are anticipated to result in several important positive outcomes and impacts for the region including but not limited to:

- Improved data transfer speeds and reliability so manufacturers can exchange large files (such as CAD files) with customers and suppliers.
- Improved competitiveness for local businesses and manufacturers.
- Increased number of businesses and manufacturers with high-speed broadband access.
- Improved business capacity to leverage broadband to support their business.
- Enhanced economic development in the region (including in rural areas), including new business growth. Examine state and regional economic data to measure total throughput.

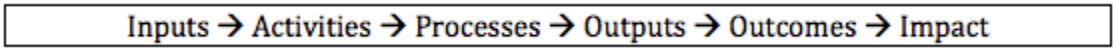
Three-Year Objectives

The following objectives are targeted for region 2 by 2014:

- Increased job creation, retention and expansion.
- All businesses will know where to go to access training and support to leverage broadband for growing their business. Accessible training resources will be established.
- Legislators' awareness about the importance of broadband to the state will increase along with their knowledge of broadband gaps.
- The economic base of the region will expand to include more small businesses and manufacturers.
- More youth will stay in the region after pursuing secondary education because they will be able to find employment.

7: Monitoring and Evaluation

[1] Subject to available funding, the LinkIDAHO Team and a measurement and evaluation partner at a university will support Region 2 design and implement a comprehensive monitoring and evaluation effort. The monitoring process will focus initially on collecting data on inputs, activities and processes. The evaluation process focuses on outputs, outcomes and impacts.



[2] Examples of inputs include such things as number of volunteer hours, hours of paid staff time, number of local partners engaged or time spent in planning meetings. Activities and Processes are such things as progress towards completing an awareness-building strategy, the survey, collection of baseline data on broadband access and adoption, and so forth. Online tools will be developed to support this

necessary data collection.

[3] The evaluation process will focus initially on outputs and outcomes defined by the above objectives, for example, identifying expanded awareness of broadband opportunities among manufacturers and businesses, number of people participating in training activities, or assessing the number of new broadband connections and the uses of those connections. Impact data will include outputs such as changes in data transfer rates and adoption rates of broadband technologies as well as the economic impact of broadband availability on regional economy or on decisions to move to the region. As a data point, the Monitoring and Evaluation Framework will incorporate broadband provider/subscriber data such as the Federal Communication Commission's Form 477 (or equivalent).

[4] Subject to available funding, a detailed monitoring and evaluation plan will be designed and implemented early in 2012.

8: Sustainability Plan

[1] Sustainability will be achieved through the strategic engagement and leveraging of existing organized efforts in the region to support things such as training, outreach, and awareness. The LinkIDAHO Regional Planning Team will continue to work on addressing broadband gaps that impede the region’s sustainability, well-being, and growth.

The Broadband Demand Survey could be administered annually. Through an IT or Broadband Benchmarking Consortium, businesses could meet once or twice a year to share IT benchmarks and view anonymized results of the Broadband Demand Survey. It would allow the members a way to share confidential information on their broadband capacity, cost, and coverage. This could be used to establish adoption metrics that could be tracked each year. The benefit of participation by a businesses would feedback on how their speed availability and adoption rates compare to the average for the region or state. If this IT Benchmarking consortium was established, then these metrics could be collected and tracked and help drive investment and development plans in the future.

[2] Long-term, there is interest in growing state and legislative support of a statewide broadband development plan, including recognizing broadband as critical infrastructure and creating incentives to support expansion of broadband assets.

9: Appendices

Supporting data is located in the following appendices:

Appendix A: Regional Description

[1] Five counties are part of Idaho's North Central Region: Clearwater, Idaho, Latah, Lewis, and Nez Perce. Lewiston is the largest city in the region with a population over 31,000 people followed by Moscow with over 24,000 people. Two other communities in the region Grangeville and Orofino have a population near 3,000. The vast majority of communities in Region 2 are smaller than 1,000 in population.

[2] Based on 2009 Census estimates, 104,496 people live in the five county Region 2. Nez Perce County

has the largest population 15,461 and the second smallest area in the region at 856 square miles. Idaho County has the largest area 8,502 square miles and the third largest population 15,461 people. The second largest population is Latah County population 38,046. Lewis County has a total population of 3,735 people. The remaining two counties also have populations under 15,000.

[3] Of the five counties, two counties experienced population growth over the past decade, Latah County increasing by 3,111 people and Nez Perce County with 1,801 people. Other counties in the region experienced a population loss: Clearwater County -887, Idaho County -50 and Lewis County -12. Overall Region 2's population increased 0.6% between 2000 and 2009 while declining -0.3% statewide.

Region 2 is a rugged, mountainous region with deep river valleys and forest land, which poses problems for broadband infrastructure development. The total square miles of the five county area is 13,500 square miles.

[4] Overall, the proportion of people older than 25 with a high school diploma for Idaho is higher than the national average, 82.9% versus 80.4%. This general statewide trend is also the case for Region 2. In all five counties, the percentage of the population older than 25 with a high school diploma higher is over 80%. In Latah County 91.0% of adults have a high school diploma or better. The percentage of people over the age of 25 with a Bachelor's degree or higher in Latah County is 41.0% compared to an average of 20.5% for the state. In Clearwater County 13.4% of adults have a Bachelor's Degree or better, which is the lowest for Region 2.

[5] Demographically, Region 2 has about the same racial diversity as that of Idaho. 93.1% of the population living in the region are White. Lewis County has a larger population of American Natives at 5.3% than the regional total at 3.6%. All five counties remain consistent in regards to Hispanic population at 2-3%. Latah County has the largest population of Asians 2.5% compared to the region average 1.0%.

Appendix B: Regional Economy

[1] On average, 2008 median household income is $40,715 for the region compared to $36,400 for the state. Only Idaho County has a median household income lower than $39,000. Nez Perce County has the highest median income at $46,680. Based on 2008 income statistics, the percentage of the population living below the poverty level in Region 2 is less in the than the statewide average, 16.6% versus 19.0%. Latah County has the highest poverty level at 21.0%, while Nez Perce is tied with the country rate 13.0%.

[2] The Idaho Department of Labor Industry has projected non-farm employment growth by industry for each of the state's six development regions for 2006-2016. Region 2 is a part of the North Central Idaho Labor Market region including Latah, Lewis, Clearwater, Idaho, and Nez Perce counties. The following identifies the projected employment change by major sector for the North Central Labor Market.

- Total Employment net new jobs 6,579
- Self-Employed and Unpaid Family net new jobs -171
- Agriculture, Forestry, Fishing and Hunting net new jobs 118

- Mining net new jobs 37
- Utilities net new jobs 24
- Construction net new jobs 1,213
- Manufacturing net new jobs 562
- Wholesale Trade net new jobs -55
- Retail Trade net new jobs 1,029
- Transportation and Warehousing net new jobs 912
- Information net new jobs 317
- Finance and Insurance net new jobs 353
- Real Estate and Rental and Leasing net new jobs 121
- Professional, Scientific, and Technical Services net new jobs -513
- Management of Companies and Enterprises net new jobs 103
- Administrative and Support and Waste Management and Remediation Services net new jobs 24
- Educational Services (all ownership) net new jobs -110
- Health Care and Social Assistance excluding federal net new jobs 1,394
- Arts, Entertainment, and Recreation net new jobs 146
- Accommodation and Food Services net new jobs -338
- Other Services (except Public Administration) net new jobs 227
- Government (all federal, state without education & hospitals, local without education & hospitals) net new jobs 1,177
- Unknown net new jobs 9

[3] The projected future growth is based on historical data. In general, the projected future growth prospects are positive for most of the economic drivers in the region. Job growth is expected in Retail Trade, Health Care and Government are expected to add significant jobs over the ten-year period beginning in 2006 and ending in 2016. Between 2006 and 2016, Accommodation and Food Services, Self-Employed, Wholesale Trade, and Professional, Scientific, and Technical Services employment is projected to decline for the North Central Labor Market Region.

[4] According to the Idaho Department of Labor, the top five employers in Region 2 typically employ at least 700 people and often more than 1,500. The largest employer in the region is University of Idaho in Latah County. In contrast the largest employers in Lewis County typically employ 20-49 people. These employers are reflective of the regions economic drivers described above, led in particular by education.

[5] The following occupational categories are projected to result in the ten largest net job growth between 2008 and 2018 according to North Central Idaho Occupation Projections of which Region 2 is a part.

- Total, All Occupations net new jobs 2,946
- Office and Administrative Support Occupations net new jobs 360
- Personal Care and Service Occupations net new jobs 328
- Healthcare Support Occupations net new jobs 289
- Food Preparation and Serving Related Occupations net new jobs 289
- Healthcare Practitioners and Technical Occupations net new jobs 257

- Education, Training, and Library Occupations net new jobs 230
- Management Occupations net new jobs 224
- Other Personal Care and Service Workers net new jobs 219
- Nursing, Psychiatric, and Home Health Aides net new jobs 212
- Farming, Fishing, and Forestry Occupations net new jobs 205

[6] These data show job growth is projected to grow across a wide spectrum of occupational skill categories. Some fields such as Heath Care will require workers with higher levels of education. Others such as food preparation may require less formal post high school education.

[7] Overall the occupational and industry trends framing economic development in the North Central Region, Region 2 point to the need for effective education and training networks including the continued leveraging of distance delivery technologies supporting access at home and at places of work.

[8] According to the Idaho Department of Labor, a long-term problem in North Central Idaho is the high number of youth that are forced to leave the region to find work. There are many graduates of the University of Idaho and Lewis-Clark State College that would like to remain in the area but can't because of limited job opportunities. Because of the long-term economic stagnation, the region has relatively fewer young families than most other areas. As a consequence, it has an especially high number of older workers who will be retiring in the next 10 years. This will allow more youth to remain in the community, but will pose challenges for employers who will be transitioning from highly experienced workers to less experienced workers.

[9] Lewiston is Idaho's only seaport. The Lewiston and Moscow-Pullman airports provide daily air transportation. Barges carry products loaded in Lewiston along the Columbia-Snake river systems to Portland or out onto the ocean. The region's largest cities and many small communities are located along Highway 95, Idaho's main north-south corridor. Several other communities are located along Highway 12, which extends from Lewiston to the Lolo Pass in Montana. Lewiston is served by the Great North Railroad, which links to the Burlington Northern and Union Pacific railroads. Orofino and Kooskia are served by the Bountiful Grain and Craig Mountain Railroad, which connects to the Great North Railroad. Region 2 is hampered becuase they lack an instersate highway.

Appendix C: Broadband Availability

Eighteen different providers responded to the June 2010 LinkIDAHO "provider survey" indicating they deliver a broadband service within the North Central Region. Among those providers, five report delivering Digital Subscriber Line Service, four cable providers offer a broadband service, two telephone companies deliver broadband to the customer with a direct optical fiber connection, two fixed wireless broadband companies and five provide mobile broadband service. The table below summarizes the number of broadband service providers offering service in each county of the region for the different technologies.

	Telco xDSL	Cable	Fiber	Fixed Wireless	Mobile Wireless
Reported Maximum Download Speeds	**1.5 Mbps - 10 Mbps**	**1.5 Mbps - 10 Mbps**	**1.5 Mbps - 1 Gbps**	**1.5 Mbps - 3 Mbps**	**768 Kbps - 1.5 Mbps**
Clearwater	**2**	**2**	**0**	**1**	**2**
Idaho	**3**	**0**	**0**	**1**	**2**
Latah	**3**	**2**	**2**	**2**	**5**
Lewis	**2**	**0**	**0**	**1**	**3**
Nez Perce	**3**	**1**	**0**	**1**	**4**

Telco xDSL

Digital Subscriber Line (DSL) is the most prevalent of broadband services in the region. DSL has been the primary broadband technology deployed by telephone companies for quite some years because it makes use of existing phone lines. North Central Idaho providers responding the LinkIDAHO survey report maximum download speeds ranging between 1.5 Mbps to 10 Mbps over DSL lines. Many factors determine the potential delivered speed. At least two DSL providers operate in every county of the region. Frontier offers a high speed internet service in all North Central Counties with the exception of Nez Perce County. Inland Telephone Company, Qwest, and TDS reports offering cable service in Nez Perce County.

A 2010 RUS-BIP funded grant to the Potlatch Telephone Company will allow a subsidiary of TDS Telecom to bring high-speed DSL broadband service to unserved establishments within its rural service territory in Idaho.

Cable

Four cable TV companies offer high speed internet service. Broadband is provided over a combination of coaxial and fiber lines with speeds. No company offers a high speed internet service in all North Central Counties. First Step Internet offers service in Clearwater and Latah Counties. Cable One offers service in Nez Perce County. No companies offer service in Lewis and Idaho counties. Suddenlink Communications offers service in Clearwater County and Time Warner Cable offers service in Latah County. Maximum download speeds offered by cable providers responding to the LinkIDAHO survey are between 1.5 Mbps and 10 Mbps.

Fiber

According to 2010 LinkIDAHO provider data, First Step Internet and Level 3 Communications, LLC provide fiber to the customer service in Latah County. No companies provide fiber broadband service in Nez Perce, Lewis, Idaho, and Clearwater Counties. Fiber has an advantage over DSL in that high speeds can be transmitted further from the primary network serving equipment. The companies providing fiber to the customer connections in North Central Idaho report maximum download speeds in the range between 1.5 Mbps to 1 Gbps.

Fixed Wireless

First Step Internet offers fixed wireless broadband service in all five counties in the North Central Region.

Red Spectrum Communication provides fixed wireless service in Latah County. Maximum download speeds offered by fixed wireless providers responding to the LinkIDAHO survey are between 1.5 Mbps and 3 Mbps.

Nez Perce Tribe

The Nez Perce Tribe's recently funded (2010) BTOP award of approximately $1.6 million with approximately $700,000 in matching contributions, will allow the Nez Perce Tribe to offer affordable middle-mile broadband service in northern Idaho. The Nez Perce Reservation Broadband Enhancement project will build a wireless microwave network to provide high-speed, affordable broadband services across four northern Idaho counties: Clearwater, Idaho, Lewis, and Nez Perce. The project plans to directly connect as many as 18 community institutions to broadband. As many as 11,520 people stand to benefit as do 4,000 businesses. In addition, the project plans to expand sparse wireless coverage through partnerships with regional providers Inland Cellular and First Step Internet, also BTOP grantees.

The Nez Perce Reservation Broadband Enhancement project proposes to:

- Connect as many as 18 community anchor institutions with speeds between 20 and 100 Mbps, including 12 public safety entities, four libraries, and the tribal government facilities. The network will also enhance distance learning through Northwest Indian College, the only Native American higher educational entity in the area.
- Facilitate more affordable and accessible broadband service for up to approximately 4,800 households and 2,400 businesses by enabling local Internet service providers to utilize the project's open network. Three existing last-mile providers have already committed to provide service in the region.
- Construct four new microwave towers to cover a 119-mile, four-county region on and around the Nez Perce Reservation. In Nez Perce, Lewis, Idaho, and Clearwater Counties.

First Step Internet

First Step Internet received a BTOP grant in 2010 of approximately $2.4M to build a regional network of 10 microwave towers to extend high-capacity Internet service in the rural counties of Latah, Idaho, Clearwater, Lewis, and Nez Perce in north-central Idaho. This will extend high-capacity Internet service in the rural counties of Latah, Idaho, Clearwater, Lewis, and Nez Perce in north-central Idaho. The project intends to directly connect 42 anchor institutions, including healthcare facilities, emergency response agencies, libraries, and government offices, as well as institutions serving the Nez Perce Tribe. The 550-mile network plans to offer speeds of 50 Mbps to 100 Mbps for anchor institutions and facilitate more affordable broadband Internet service for local consumers, including as many as 21,000 households and 700 businesses, by enabling local Internet service providers to connect to the project's open network. In addition, the Nez Perce Tribe has already made plans to use the new network to provide enhanced last-mile services.

Mobile Wireless

Verizon Wireless provides a broadband service in all five North Central Idaho Counties. AT&T Mobility LLC, AIR-PIPE, T-Mobile and Sprint also offer broadband service in selected areas of the region. Latah

County has five different mobile wireless broadband providers and Nez Perce County has four. Other Counties have two or three mobile wireless providers. Mobile wireless carriers providing a broadband service in the region indicate the maximum download speed they offer is between 768 Kbps and 1.5 Mbps.

The average download speeds for businesses and households follow:

Number of Business Firms per Download Speeds for Region 2

Total Number of Business Firms:	6,514
Number of Business Firms in Census Blocks with Mobile Broadband only:	200
Number of Business Firms in Census Blocks with Advertised speeds of Less than 768 kbps or No broadband available:	336
Number of Business Firms in Census Blocks with Advertised speeds of 768 kbps - 3 Mbps:	418
Number of Business Firms in Census Blocks with Advertised speeds of 3 Mbps - 10 Mbps:	2,398
Number of Business Firms in Census Blocks with Advertised speeds of 10 Mbps - 25 Mbps:	3,350
Number of Business Firms in Census Blocks with Advertised speeds of 25 Mbps or greater:	12

Number of Households per Download Speeds for Region 2

Total Number of Households:	42,305
Number of Households in Census Blocks with Mobile Broadband only:	2,491
Number of Households in Census Blocks with Advertised speeds of Less than 768 kbps or No broadband available:	3,051
Number of Households in Census Blocks with Advertised speeds of 768 kbps - 3 Mbps:	3,636
Number of Households in Census Blocks with Advertised speeds of 3 Mbps - 10 Mbps:	11,589
Number of Households in Census Blocks with Advertised speeds of 10 Mbps - 25 Mbps:	24,012
Number of Households in Census Blocks with Advertised speeds of 25 Mbps or greater:	17

Source: 2010 LinkIDAHO provider data

Appendix D: Broadband Adoption

[1] LinkIDAHO launched a consumer research survey during July 2010 in Idaho to ask residents about broadband high-speed internet service. The focus of the research was to identify how households use broadband and the benefits that are derived from its use. A combination of telephone interviews and on-line surveys was used to capture this information.

[2] From Region 2 North Central Idaho, 302 people responded to the consumer survey. They were asked to select how many hours per day their household spends online. Almost 42% of the respondents access the Internet from 1 to 3 hours per day. Of those who responded to the survey, 23.3% selected they access the Internet 1 to 2 hours per day. 17% selected 3 to 5 hours per day for the amount of time their household members access the Internet. 9.9% of households access the Internet for 7 or more hours a day.

[3] When asked where people access the Internet, 76.8% selected home computer. The second most selected category to access to Internet is a work computer at 44% followed by a school computer at 26.2%. 15.6% of those who responded selected a computer anywhere else. Only 10.6% of Region 2 responded don't know or refused to answer. Portable devices are not as commonly used as a traditional

computer--9.9% selected smart phone, 12.6% selected other mobile phone, and 8.3% selected other portable device that can access the Internet.

[4] The majority of the Region 2 population accesses the Internet to get news, weather, sports, or financial information at 66.6%. The second most selected category for use of the Internet is research on health issues at 63.9% followed by handling banking and/or investments at 62.9%. 58.9% of those who responded for uploading photos or other files. Only 10.3% responded Internet phone service VoIP. Work and education related tasks are not as commonly performed on the Internet as personal activities--28.1% selected work from home, 32.1% selected search for job information, and 35.4% selected access educational services such as distance learning.

[5] The main reason people in Region 2 North Central, do not use the Internet is because they do not have a computer. Of those who do not use the Internet 43.8% responded I do not have a computer/No PC. The second highest response was, it is a waste of time, with 15.6%. 9.4% responded it is too difficult/frustrating and 9.4% also responded no need.