Chapter Three

Rural Broadband: Federal and State Perspectives

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To understand the issues surrounding broadband, one must look at Federal and state broadband policies, regulations and laws, which are an ever-changing landscape. The landscape is complicated, and they all impact Yuma County consumers and businesses in the near future and for the long-term. It will come at no surprise that surveying this landscape is an ongoing effort as new legislative and legal events unfold.

Federal Perspective

The Telecommunications Act of 1996 represented an overhaul of existing communications legislation to support a more competitive and deregulated policy framework that could encourage deployment of high-speed, switched broadband infrastructure in a reasonable and timely manner. It intended to open up markets to competition through regulatory reform, by requiring incumbent carriers to provide access to their networks by new entrants, by allowing the FCC to preempt state and local service requirements and to make universal service support explicit.[1]

Shortly after the act passed, much debate surfaced about whether the legislation was encouraging broadband deployment, which at the time included DSL, cable modem and fixed wireless solutions. Ohio State University research, looking at data from 1999 to 2001, showed that although competition continued to increase at the national level, it was doing so at a decreased pace. It also noted that while metropolitan areas were benefiting from high levels of competition, rural areas failed to attract significant levels of activity - the size of small markets deterred new provider entry or there was a loss of existing providers over time.[2]

Over time, fourteen states passed legislation that contained barriers to entering broadband markets - from outright restrictions to prohibitions - and made entering new markets difficult or cost prohibitive. A variety of stakeholder businesses and groups worried that the US was falling further behind the international broadband deployment, and likened the need for local control to the rural electrification movement in the early 1900 s. Consumers Union weighed in by saying, "The problem is particularly acute in rural and urban areas that either lack access entirely, or have only a single high-cost service to choose from—which is no choice at all. Dominant telephone and cable companies have all too frequently skipped over Main Street to deliver higher returns to Wall Street."[3]

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[1] http://en.wikipedia.org/wiki/Telecommunications_Act_of_1996

[2] http://cura.osu.edu/research/publications/data/printed-grubesic-murray04.pdf

[3] http://www.consumersunion.org/pub/2005/06/002432print.html

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A bill to amend the Telecommunications Act of 1996 to preserve and protect the ability of local governments to provide broadband capability and services was proposed in 2005 by Frank Lautenberg and John McCain, but never passed out of committee.[4]

In 2009, the Federal Communications Commission (FCC) released a report report, "Bringing Broadband to Rural America: Report on a Rural Broadband Strategy", which outlined an effort of the FCC and US Department of Agriculture to ensure that rural America can benefit from the growing Internet-based economy. Recommendations included improving coordination of federal agencies, local governments, community groups and individuals; assessing broadband needs; and findings ways to overcome the challenges of rural broadband deployment.

The FCC planned to gather yearly information about broadband deployment and adoption and map national broadband services. The FCC offered coordination of grants and loans available to expand broadband deployment, through USDA RUS (Rural Utilities Service) programs and NTIA BTOP (Broadband Technology Opportunities Program). They noted the need to stimulate demand for broadband services and address the high cost of rural broadband deployment to ensure sustainability of broadband deployment efforts.

The FCC also offered to consider universal service fund reform (beyond providing access to telephone to access to broadband, including to help cover middle mile costs), network openness, spectrum access (for increased wireless access), middle mile reform (access to affordable and adequate middle mile facilities) and access to poles and rights of way, among others.[5]

On October 27, 2011, the FCC announced a plan to reform the federal Universal Service Fund to provide broadband support. It includes a Connect America Fund to ensure the availability of reliable and affordable broadband in unserved areas and a Mobility Fund to accelerate the deployment of 4G mobile broadband.[6]

The ruling stated that "*The universal service challenge of our time is to ensure that all Americans are served by networks that support high-speed Internet access—in addition to basic voice service—where they live, work, and travel.*"[7] They also acknowledged problems with previous efforts:

"With respect to broadband, the component of the Universal Service Fund (USF) that supports telecommunications service in high-cost areas has grown from $2.6 billion in 2001 to a projected $4.5 billion in 2011, but recipients lack any obligations or accountability for advancing broadband capable infrastructure. We also lack sufficient mechanisms to ensure all Commission-funded broadband investments are prudent and efficient, including the means to target investment only to areas that require public support to build broadband. Due in part to these problems, a "rural-rural" divide persists in broadband access—some parts of rural America are connected to state-of-the-art broadband, while other parts of rural America have no

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[4] http://www.govtrack.us/congress/bill.xpd?bill=s109-1294

[5] http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291012A1.pdf

[6] http://www.fcc.gov/document/genachowski-universal-service-fund-reform

[7] http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db1122/FCC-11-161A1.pdf

broadband access, because the existing program fails to direct money to all parts of rural America where it is needed."

The FCC has set an annual budget of no more than $4.5 billion. "*However, all broadband buildout obligations for fixed broadband are conditioned on not spending the funds to serve customers in areas already served by an "unsubsidized competitor." The Commission defines an unsubsidized competitor as a facilities-based provider of residential terrestrial fixed voice and broadband service. The best data available at this time to determine whether broadband is available from an unsubsidized competitor at speeds at or above the 4 Mbps/1 Mbps speed threshold..."*[8]

Specific Federal Challenges

- ### *Open Access and Net Neutrality*

  Open Access and Net Neutrality are often used interchangeably, but started out as two different ideas. Open Access mandates access to the physical network by other providers, while Net Neutrality mandates access and availability to advanced content without preference to one type of content over another.[9]

  Regarding Open Access, the 2009 FCC report states, "*As broadband networks developed, the few companies that controlled the on-ramps to the Internet could interfere with and distort the development of technology, opportunities for entrepreneurship, and the choices available to consumers.*"

- ### *Affordability of Middle Mile Service*

  The 2009 FCC report states, "*...an ISP providing service to subscribers in a rural area must obtain connections to a node of an Internet backbone service provider. The facilities making this connection are among those commonly referred to as "middle-mile" facilities. Many ISPs typically obtain access to these facilities by purchasing special access services from one or more incumbent LECs, wireless services providers, or other carriers. These services may be subject to tariffed rates or may be obtained pursuant to contract, depending upon the regulatory status of the provider. **Certain commenters argue that the prices charged for access to middle-mile facilities are excessive.***" (Emphasis mine.)

- ### *Infrastructure Deployment*

  In Yuma County, both middle mile (as provided solely by CenturyLink) and last mile (typically provided by ISPs) present problems. Last mile options can be limited by topography and distance from the ISP's point-of-presence access (see State Challenges

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[8] http://www.federalregister.gov/articles/2011/12/28/2011-32411/connect-america-fund-a-national-broadband-plan-for-our-future-establishing-just-and-reasonable-rates#p-59

[9] http://www.wisconsindashboard.org/book/export/html/411

below). With regards to improving the middle mile, there are several challenges common to rural areas. The 2009 FCC report stated:

*"Access to adequate and affordable "middle-mile" broadband facilities—the facilities that are commonly used to connect the "last mile" ISP with an Internet backbone service provider—is a necessary precursor to a provider s being able to deploy broadband services to its customers. Although rural broadband networks are fundamentally similar to broadband networks in non-rural areas in that they involve both a local access or distribution network and a backhaul component, **rural broadband networks are also typically built in locations that are geographically more removed from Internet backbone nodes.***

*In many cases, because of this more distant location, the rural broadband provider will need to obtain backhaul transport, or "middle mile" facilities, from more than one provider, often over facilities that were designed for voice telephone or cable television services. **Some of these "middle mile" facilities may have insufficient capacity, causing the transmission speed on otherwise adequate last-mile broadband facilities to come to a crawl or stall before the data reach the Internet backbone.** Overcoming this may require the construction of a dedicated facility, which drives up costs and can deter last-mile broadband investments. **Moreover, even when the last-mile provider acquires access to adequate middle-mile facilities, that access may be prohibitively expensive.** Consequently, backhaul transport costs in rural areas can be significantly higher than for networks in other areas."* (Emphasis mine.)

- ***Workforce and Community Development***

The 2009 FCC report noted that broadband adoption would be hindered by a lack of training and knowledge of the benefits of Internet access. In October 2011, FCC chairman Julius Genachowski announced "a national public-private partnership program designed to increase broadband adoption, elevate digital literacy and assist Americans in searching and training for jobs." He noted that 50 percent of jobs today require some technology skills, which is expected to grow to 77 percent in the next decade.[10]

Research shows that broadband adoption and use is positively impacted by training. A 2006 report prepared for the US Department of Commerce, Economic Development Administration, found that broadband access does enhance economic growth and performance, but to ensure widespread broadband use, local efforts should include education and training.[11] A 2008 research report funded by the USDA found that rural broadband adoption was affected not by demographics, but by the perceived benefits of broadband, the ability to experience those benefits for oneself and having a sense of efficacy when using the Web. All of these adoption factors are amenable to community-based, self-development opportunities.[12]

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[10] http://www.fcc.gov/events/chairman-genachowski-speech-public-private-broadband-adoption-initiative

[11] http://www.eda.gov/PDF/2006%2520Measuring%2520Broadband%2520Report.pdf

[12] http://www.actelis.com/library/BBS_closing-bb-gap.pdf

Related Federal Activities

- *Consumer Broadband Test*

  As part of the National Broadband Plan, the FCC made available an online test of broadband speed that could be taken by consumers. The purpose is to give consumers information about the quality of their current broadband connections and to increase awareness their understanding of how important broadband quality is in using the Internet.[13]

- *National Broadband Map*

  The National Broadband Map was created to allow consumers to check broadband availability across the United States. As part of the State Broadband Initiative of the National Telecommunications and Information Administration, the overall goal is "*to encourage economic growth by facilitating the integration of broadband and information technology into state and local economies.*" [14]

- *Sixth Broadband Deployment Report AKA "706 Report"*
  In 2010, the FCC provided an annual report concerning the availability of "advanced telecommunications capability to all Americans" as required in section 706 of the Telecommunications Act of 1996.[15] It stated:

  "*In response to a Congressional directive to inquire whether broadband   is being deployed to all Americans in a reasonable and timely fashion,   the FCC concluded in its Sixth Broadband Deployment Report that between 14 and 24 million Americans still lack access to broadband, and the immediate prospects for deployment to them are bleak. This report underscores the need for comprehensive reform of the Universal Service Fund, innovative approaches to unleashing new spectrum, and removal of barriers to infrastructure investment.*"[16]
  Seventh Broadband Deployment Report AKA "706 Report"

  In June 2011, FCC Chairman Julius Genachowski provided another update to the 2009 Rural Broadband Report.[17] He reported:

  "*...as many as 26 million Americans live in areas unserved by broadband capable of*

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[13] http://www.broadband.gov/qualitytest/

[14] http://broadbandmap.gov/

[15] http://transition.fcc.gov/Daily_Releases/Daily_Business/2010/db0720/FCC-10-129A1.pdf

[16] http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-299989A1.pdf

[17] http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0622/DOC-307877A1.pdf

"originat[ing] and receiv[ing] high-quality voice, data, graphics, and video telecommunications. Many of these Americans live in areas where there is no business case to offer broadband, and where existing public efforts to extend broadband are unlikely to reach; they have no immediate prospect of being served, despite the growing costs of digital exclusion. For these and other reasons, we must conclude that broadband is not being deployed in a reasonable and timely fashion to all Americans."

"The data show that the broadband deployment and adoption gaps in rural areas remain significant. Table 1 reports the number of Americans without access to 3 Mbps/768 kbps or faster fixed broadband services according to SBDD Data. As that table indicates, 72.5 percent of the 26.2 million Americans that still lack access to 3 Mbps/768 kbps or faster fixed broadband services reside in rural areas, even though only 21.7 percent of all Americans reside in rural areas. Close to three out of ten rural Americans—28.2 percent—lack access to fixed broadband at 3 Mbps/768kbps or faster, a percentage that is more than nine times as large as the 3.0 percent that lack access in non-rural areas. Moreover, other data indicate that rural consumers have fewer choices among broadband technologies and providers than other consumers have."

With regards to reforming the Universal Access Fund, he wrote:

"In February 2011, the Commission proposed near and long-term reforms to modernize and streamline its universal service and intercarrier compensation rules, and help bring affordable broadband to all Americans. As described in the 2009 Rural Broadband Report, the Commission s high-cost USF program has traditionally been focused on ensuring the availability of telecommunications networks capable of delivering voice services. In many cases, rural carriers have used high-cost USF support to build networks that are also capable of providing data services. The USF/ICC Transformation NPRM proposes to transform the existing high-cost program into a new, more efficient, broadband-focused Connect America Fund (CAF) to help make broadband available and affordable in rural communities.

The Commission also proposed reforms to the intercarrier compensation system to reduce waste and inefficiency caused by distorted incentives for many broadband providers, freeing up more funds for deployment."

The report also defines "deployment" not just in infrastructure terms, but whether broadband services are fast enough and affordable.

- ***Measuring Broadband America Study***

This FCC study, released in August 2011, reported that 80% of consumers did not know what speed they purchased from their ISP. In addition, they found that even during peak usage periods, the majority of tests showed service to be approximately 80% or more of advertised speeds.[18]

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[18] http://www.fcc.gov/measuring-broadband-america/

State of Colorado Perspective

Shortly after his inauguration in 2011, Governor Hickenlooper launched a bottoms-up economic development planning effort involving local communities across the state. His administration engaged all 64 counties in Colorado, and used county and regional input on needs, priorities and visions for their local economies. As a result, "***The Colorado Blueprint: A bottom-up approach to economic development***" outlines six specific areas to support local economic development.[19] One of the six, "*Cultivate Innovation and Technology,*" specifically states the need to "Improve telecommunications technologies and access across Colorado."

Another area, "Educate and Train the Workforce of the Future," lays out goals to "*Align the efforts of education, workforce training and economic development across state agencies and stakeholders*" and to "*Create a demand-driven workforce system matching Colorado s workforce assets to upcoming needs of business.*" As described above in "Specific Federal Challenges", workforce development is a key component of ensuring broadband adoption and use, and the need for technical skills is growing.

In October 2011, the Colorado Department of Labor and Employment noted that, even in this time of high unemployment, employers could not find workers with the right technical skills and training, costing employers more than $19 million in H1-B visa fees.[20]

Specific State Challenges

- ***Senate Bill 152***

  In 2005, Colorado legislature passed Senate Bill - 152, into law as "Title 29, Article 27 of the Colorado Revised Statues (SB-152)."[21] A portion of the bill relevant to broadband includes:

  "***29-27-103. Limitations on providing cable television, telecommunications, and advanced services.***

  (1) Except as provided in this article, a local government shall not:

  (a) Provide to one or more subscribers cable television service, telecommunications service, or advanced service; or

  (b) Purchase, lease, construct, maintain, or operate any facility for the purpose of providing cable television service, telecommunications service, or advanced service to one or more subscribers.

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[19] http://www.colorado.gov/cs/Satellite/OEDIT/OEDIT/1251595201376

[20] http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251745929879&ssbinary=true

[21] http://www.state.co.us/gov_dir/leg_dir/olls/sl2005a/sl_289.htm

(2) For purposes of this article, a local government provides cable television service, telecommunications service, or advanced service if the local government provides the cable television service, telecommunications service, or advanced service to one or more subscribers:

(a) Directly;

(b) Indirectly by means that include but are not limited to the following:

(I) Through an authority or instrumentality acting on behalf of the local government or for the benefit of the local government by itself;

(II) Through a partnership or joint venture;

(III) Through a sale and leaseback arrangement;

(c) By contract, including a contract whereby the local government leases, sells capacity in, or grants other similar rights to a private provider to use local governmental facilities designed or constructed to provide cable television service, telecommunications service, or advanced service for internal local government purposes in connection with a private provider's offering of cable television service, telecommunications service, or advanced service; or

(d) Through sale or purchase of resale or wholesale cable television service, telecommunications service, or advanced service for the purpose of providing cable television service, telecommunications service, or advanced service to one or more subscribers.

(3) Nothing in this article shall be construed to limit the authority of a local government to lease to a private provider physical space in or on its property for the placement of equipment or facilities the private provider uses to provide cable television, telecommunications, or advanced services."

Essentially, the bill prohibits Colorado municipalities from providing high-speed Internet service to their citizens. It lays out two conditions where municipalities can provide service: if the municipality puts it to a vote, or if the municipality is completely unserved (e.g. either the entire municipality is unserved, or a provider within the boundaries of the municipality has failed to respond to a written require to provide service.)

- ***Geography and Demographics in Rural Areas***

  Obviously, Colorado presents many challenges to broadband deployment. Many unserved and under-served rural areas are located in mountainous or hilly terrain, making wireless transmissions difficult or impossible. Burying fiber for middle or last mile deployment is difficult in areas of rocky underground conditions, requiring higher budgets for drilling or sawing through rock. This can make laying fiber significantly more expensive than suburban settings. Many rural areas contain significant amounts of state and national forest, park and preserve lands, along with tribal, military base or other public use land. The shortest routes may not be feasible based on the regulations of these lands.

  Rural broadband users are also spread over a large geographic area, making it difficult for providers to spread costs over larger numbers of subscribers, like in suburban areas. Providers may not have access to volume discount pricing for end user equipment as compared to providers in areas with high population densities. With fewer subscribers, central facilities also require a higher per customer cost to construct.

  A recent cost model of fiber-to-the-premises looked at cost data for 227 rural and 209 town areas. Nearly all providers who were studied had used direct-buried cable. The study suggests that *"Linear density (locations per route mile) proved to be a much better predictor of costs than area density (locations per square mile)."* They also found *"...for each subscriber location there is a large fixed cost for equipment, installation and so forth, plus a share of the cost of the outside plant, which takes the fiber from the central office to the subscriber location."* Overall costs of rural deployment proved to be double that of in town.[22]

  The simple cost model accounted for 82.5% of the variance in actual cost, so the authors factored in the total number of households, the frost index, the percentage of wetlands, the soil texture and the number of road intersections as statistically significant variables. These factors had small effects on total construction cost, when compared with the primary effect of route density, yet raised the model to nearly 87 percent accurate.

Related State Activities

- ***Colorado Office of Information Technology (OIT)***

  In 2008 the Colorado General Assembly passed Senate Bill 215, requiring development of a geographic, statewide inventory of broadband availability. OIT produced a final project report in June 2009. It relied on service provider data to map availability of service, which was defined as broadband service that could be delivered within 7-10 days. Although the report showed that over 97% of Colorado households had some broadband service (at the time up to 768 kbps download speeds), it included satellite service as one of the potential options, which in today s terms is not considered high-speed broadband. Not surprisingly, rural counties had the most unserved population, but also the least number of people needing service.[23]

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[22] http://bbpmag.com/2011mags/marchapril11/BBP_MarApr_CostOfFiber.pdf

[23] http://cospl.coalliance.org/fez/eserv/co:1983/gov502b782009internet.pdf

These data were intended as a starting point for OIT to develop a broadband deployment strategy for Colorado s unserved areas. OIT applied for a Federal ARRA grant, which it received in November 2009, to help further it s broadband goals, including an improved state mapping project to satisfy the requirements of the federal broadband mapping program.[24]

"*The Colorado Broadband Data and Development Program (CBDDP) was created via a grant from the National Telecommunications and Information Administration (NTIA) for the purpose of broadband mapping and planning. The Governor's Office of Information Technology (OIT) received a $2.1 million federal grant in November 2009 from NTIA. The grant provides approximately $1.6 million over two years to continue the State of Colorado's assessment of broadband deployment across the state and its development of a comprehensive and verified geographically-based inventory and database of broadband availability. The grant also provides approximately $500,000 over five years to engage in planning and outreach activities for coordination with local groups to promote broadband adoption and enhance broadband market information.*"[25]

With the help of OIT, the Yuma County Economic Development Corporation created a Local Technology Planning Team in July 2011, one of several that have formed around the state. The team meets biweekly and includes participants from local businesses, Chambers of Commerce, school districts, local government and the community at large. Information about the group can be found at http://www.chaffeeconnect.org.

- ### *Colorado Public Utilities Commission (PUC)*

The PUC regulates utilities and facilities that provide services in electric, gas pipelines, natural gas, rail, steam, telecommunications, transportation and water.

The Colorado High Cost Support Mechanism (CHCSM) was established by the PUC in the 1990 s. It s purpose is to offset the costs associated with providing service to high cost areas with residential and business telephone lines. In 2010, $62 million was paid to CenturyLink, rural Local Exchange Carriers (LECs) and wireless providers. Wireless providers pay the most into the fund, over 60%. The PUC has considered changes to the fund, such as paying only for primary lines or a single wireless connection per premise, which would reduce the fund by almost half.[26] [27]

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[24] http://www.colorado.gov/cs/Satellite/OIT-2/OIT2/1246283222728

[25] http://www.colorado.gov/cs/Satellite/OIT-StateInitiatives/CBON/1251575390656

[26] http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application %2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251701460043&ssbinary=true

[27] http://www.cobar.org/repository/Inside_Bar/Communications/01.06.10/Binz%20CBA%20Telecom %20Section%20010610.pdf

As part of the Qwest/CenturyLink merger in December 2010, the PUC required the company to invest a minimum of $70 million in broadband infrastructure over five years.[28]

On September 1, 2010, the PUC heard comments from Senator Gail Schwartz, the OIT and various telecommunications stakeholders at a commissioner information meeting.

- The OIT updated the commission on the Colorado Broadband Data and Development Program on the status of the new broadband map, local technology planning teams and the development of the Colorado Broadband Knights of the Roundtable, a group to promote coordination and collaboration between broadband development and adoption stakeholders.[29] Yuma County is represented by Darlene Carpio, director of the Yuma County EDC.

- Senator Schwartz asked the PUC to improve broadband access and affordability for rural Colorado. Specific means include redefining universal service to include broadband, assess the competitive environment in pricing and availability and find ways to ensure access to existing networks so that "future economic opportunity is available to everyone, everywhere throughout Colorado."[30]

- *Workforce Development*

    The Colorado Department of Labor and Economics announced in October 2011 that it had received a $5 Million grant from the US Department of Labor to implement a training program. The grant, called "Strategies to Advance Colorado s Highly Skilled Workforce", will be aimed at preparing workers for careers in Information Technology, Advanced Manufacturing, and the Professional, Scientific and Technical Services industries, focused on Aerospace.[31] The Workforce Centers plan to partner with Community Colleges and the University of Denver Women s College, along with business associations and employers in targeting workers for training.

- *City of Cortez*

    In the late 1990 s, the city of Cortez was served by microwave links that were incapable of keeping up with demand. The city began building their own network, using capital funds, to connect schools and other public facilities. They were able to later expand the network under Colorado's Beanpole Project to around 50,000 linear feet and they have also connected several businesses. Their philosophy is to build an open access network for others to use - they do not plan to provide end user services or support. When SB-152 was passed, the city s network was grandfathered in. Cortez is planning a second phase of fiber-

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[28] http://news.centurylink.com/index.php?s=43&item=88

[29] 09/01/2011 CIM Presentation by Governor's Office of Information Technology - Broadband Update

[30] http://coloradosenate.org/home/press/senator-schwartz-asks-puc-to-support-broadband-expansion

[31] http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application
%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251745929879&ssbinary=true

to-the-premises, adding another 30,000 feet of fiber, and signing up private companies to provide services to end users.[32]

- ### *City of Longmont*

  The city of Longmont, which deployed a fiber ring in the community in 1996, attempted a ballot initiative in November 2009 to allow the city to provide telecommunications services to it s citizens. The initiative was voted down 44% yes, 56% no, after an advertising campaign whose spending had exceeded any other in Longmont history. The city council put forward another version in November 2011 after pursuing efforts to increase citizen awareness of lost business opportunities and the impacts of maintaining the status quo.[33] That ballot initiative passed on November 1 with 61 percent of voters approving Ballot Question 2A, which opens up Longmont's ability to offer access to its 17-mile fiber optic loop or to work with a private company to do so.

  The effort was not without controversy, and the Longmont Times Call reported that the telecom industry poured money into Longmont to defeat the 2011 measure.

  "According to reports submitted to the Longmont city clerk's office on Tuesday and released late Tuesday night, the local anti-2A group Look Before We Leap already has spent $63,845 of that money on polling, phone messages and other publicity measures. The group has also reported $175,662 in accrued expenses — agreements for services and products that have not yet been paid for. If all of those become actual expenses, Look Before We Leap will have spent more than $239,000 on the campaign." [34]

- ### *City of Silverton*

  Silverton is the only county seat in Colorado not connected by fiber optic under Colorado s Multi-use Network (MNT) project. The nearest fiber run stops 16 miles short of town. Qwest installed a microwave radio relay system in 2003, first stating it was awaiting right-of-way issues, and later, without success in resolving right-of-ways, claiming that the system would serve the needs of the county and fulfill the requirements of MNT.

  The MNT project was authorized by SB-96-201. The MNT project final report stated it s purpose was "to connect urban and rural communities across the state, bridging the digital divide. Its method was to use the public sector as an anchor tenant for telecommunications

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[32] http://www.cityofcortez.com/government/general_services/cortez_fiber_home_project

[33] http://www.ci.longmont.co.us/city_clerk/election/ballot.htm

[34] http://www.timescall.com/ci_19098870

investment."[35] According to the report, Qwest agreed to build a fiber optic to every county seat in Colorado.

In 2005, an avalanche took out a relay tower and left the area without phone or Internet service for about 24 hours. The area s 911 service was also out of service. Without a fiber network, the town realized it s vulnerability to outages. Local Internet users also expressed other concerns over time. During high-tourist seasons, many businesses complain the service is inadequate to keep up with demand for credit card processing. Local students are not able to participate in state-sponsored education activities that require fiber access.

A local initiative, Operation Link Up, has pursued several strategies, including filing a complaint to the PUC and supporting the county attorney in filing a legal brief.[36] In May 2011, a judge for the PUC ruled against the city, leaving them with the original Qwest solution, and plans to appeal the decision.[37]

- *Crestone Telecom*

  Looking to increase competition for Internet services, Crestone Mayor Ralph Abrams and other citizens joined forces to create Crestone Telecom in July 2011. This LLC offers broadband Internet service to the greater Crestone area in competition to the incumbent provider. The LLC is funded by individual investment and a loan from the San Luis Valley Development Resource Group. Crestone Telecom partnered with Skywerx, a Pagosa Springs Internet company, to provide infrastructure and middle mile access. In addition to broadband services, the company incorporates a social activism model by contributing up to 20% of its profits back to a non-profit, Crestone Peak, for reinvestment back into the community.[38]

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[35] http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%22MNT+-+Final+Report+(2003).pdf%22&blobheadervalue2=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251656629210&ssbinary=true

[36] http://www.denverpost.com/dnc/ci_12277637

[37] http://durangoherald.com/article/20110520/NEWS01/705209910/-1/s

[38] http://crestonetelecom.com/index.php