Q. TELECOMMUNICATIONS

1. Line Connections to the Valley

The entire Valley is connected to Walsenburg by one OC12 fiber optic line, which is owned by Qwest. An additional fiber path from Alamosa to Salida also exists for E-911 and other emergency communications. At this time, Qwest does not have plans to extend the fiber beyond Salida. No direct lines are connected to the south, or west.

From Qwest's central office, OC3 lines branch out to connect most of the Valley cities and towns. The current fiber and copper meets most of the needs in these areas. Residential DSL service is very limited, and potential users are advised to verify that the service is established in a specific area before locating. Due to the limitations on fiber and copper, special circuits may be more expensive, and subject to interruptions.

2. Telephone Services (Table Q-1)

Table Q-1 lists five telephone service providers. Blanca Telephone, CenturyTel, Columbine, and Qwest are considered traditional telephone companies, and also double as Internet Service Providers (ISPs) offering dial-up, DSL, wireless, or satellite alternatives. In addition to these established companies, other startup ISPs may also exist. Bresnan is primarily a Cable TV company, with expanded services including ISP and broadband telephone service known as VOIP.

Telephone rates range from about $15-$25/month for a basic residential phone line. Selected extra services are available at an additional cost. Qwest services most areas of the central valley; CenturyTel covers the south and a few areas in the north and west; Columbine's provides service north and east of Alamosa; and Blanca Telephone serves most of the east and in between.

The two major cellular service providers in the Valley are Verizon Wireless and Alltel. Other cell providers impose roaming charges, and provide sporadic or inadequate service. Wireless cell phone service is available throughout much of the Valley floor. The wireless providers are working hard to keep the Valley updated with the latest technology, and both can provide wireless data at acceptable speeds.

3. Internet Services

Dial-up prices range from $9.95 - $23.95, depending on what services the customer orders. In addition to dial-up, all six ISPs provide DSL. DSL requires that the user be within a certain distance from the hub, usually 3 miles. DSL prices start at $21.95 for the most basic service, on up to several hundred dollars per month. Rates vary depending on how fast the user wants their connection to be. Wireless DSL is also available in some areas, and costs are in the same proximity as ground-based DSL service. Technology is constantly changing, and we would advise potential users and businesses to contact the ISPs regarding availability of services and pricing for any proposed projects.

According to the Census Bureau, 41.5% of all households had internet access in their homes in 2000. This was up from 26.0% in 1998. Based on Census percentages of internet-wired families in the U.S. by income brackets, about 34.9% in the Valley would be Internet-wired. When taking ethnic characteristics into account, however, the rate falls even lower. Hispanic families nationwide average only 23.6% internet access. Given the high percentage of Hispanic families in the Valley, we would adjust the Valley's connectivity rate to around 25.0%.

4. Internet Access to Schools, Libraries, and Project Assistance

In addition to the commercial ISPs, Adams State College, Trinidad State Junior College, and some public schools have T1 access for their students and staff. The Colorado Rural Technology Project (CRTP) has the purpose of making telecommunications affordable and accessible to rural Coloradans. According to our source, funding from the CRTP project provided wireless T1 connections to San Luis and Antonito, and the National Science Foundation provided wireless equipment to Evans Elementary and Monte Vista SD. Free on-site technical assistance and workshops are also being provided to local libraries throughout the Southwest Regional Library Service System.

5. The Multi-Use Network (MNT)

In order to make the State's electronic communications more efficient, the Multi-Use Network Program (MNT) was established in 1996. The driving motive behind this legislation was to link all State offices together electronically.

Qwest was selected to build the network, with the State as the anchor tenant guaranteeing a large percentage of use. The four stated goals of the MNT are: 1) bridging the digital divide; 2) increasing economic development; 3) creating a backbone for e-government; and 4) aggregating traffic to reduce cost. The hope was that once a large electronic network of fiber optics and cable was in place, individual consumers and businesses would be able to tap into the resources as well.

There are three phases in the MNT, which are designed to create Aggregated Network Access Points (ANAPs) of at least 20 MBit/Sec. The first phase was started in the year 2000, and included Alamosa County. Phase 2 (2001) included Conejos, Costilla, and Saguache. Phase 3 (2002) included Mineral and Rio Grande.

Having passed the 10-year anniversary since its authorization, the State noted progress in completing the ANAP installation in 2003, and credits the MNT with making all but the last mile of fiber-optic connectivity possible to every county seat in the State. This also stimulated private carrier offerings of last-mile broadband (DSL, cable, wireless) to homes and businesses in 97% of the county seats. According to the MNT 2006 Annual Report, the strategic goal to bridge the Digital Divide was met, and it also accomplished a public-private partnership in telecommunications investment by using the public sector as an anchor tenant.

Future plans for the MNT are to continue its role of anchor tenant to stimulate telecommunications investment in the underserved areas of the State. Competitive re-procurement of telecommunications services to meet the State's data communications needs is also planned for 2010. A key business goal for the re-competition will be to achieve price discounts for MNT circuits commensurate with the large scale of State government business (~$10 million/year).

A key technical goal of the re-competition will be to move from the current megabit per second (Mbps) speeds of the MNT backbone and last-mile circuits toward gigabit per second (Gbps) speeds. This will address future application requirements in 2010-2020, which will include video and voice over IP. A second technical objective of the re-competition will be to procure services, not just connections, therefore minimizing the need for the State and its users to own, operate, or maintain telecommunications network equipment.

According the MNT Annual Report, MNT Qwest cost per circuit was $597.93 for T1 ATM UBR 1.54MB service; and $2,751.84 for DS-3 ATM UBR 10MB.

The Beanpole Project mentioned in the last CEDS was targeted specifically at connecting schools, libraries, hospitals, and other community facilities, but after an initial round of funding which benefited some other regions of the State, no further action was taken. As a result, the "last mile" or "next mile" connections in the Valley remain as an unfinished task, requiring investment beyond the current funding capabilities of the region.

6. Current Status and Recommendations

We are advised that telecommunication/data services are readily available in and near the major and small towns that dot the Valley, but are more limited in the rural surroundings. The major service providers strive to keep current with ever-changing technology, but the cost for most basic and advanced services is more expensive than in a metropolitan city. Investment in rural technology is necessary to help the growth of school, medical care,

government, and other local institutions in order to remain competitive with urban areas. Advancement for the San Luis Valley depends on State and Federal Government providing a stronger assistance role, along with an increased level of support from the private sector.

Table Q-1

SLV Telecommunications

Telephone and Internet Service Providers

	Services	
	Telephone	Internet
Amigo.net: Alamosa, Monte Vista		X
Blanca Telephone (Fone.net): Easter portion of the Valley	X	X
CenturyTel: southern part of Valley	X	X
Columbine Telephone: Crestone, Hooper, Moffat, Mosca	X	X
Qwest: most areas in the Valley	X	X
Vanion (mostly business): Alamosa, Monte Vista	X	X

Maximum speed comparisons by technology

Type	Max bit rate	Equals
Spread spectrum microwave	2 MBit/Sec	1 T1 line
Copper	44,73 MBit/Sec	29 T1 lines (1 T3)
Microwave	45 MBit/Sec	29 T1 lines (1 T3)
Satellite	45 MBit/Sec	29 T1 lines (1 T3)
Fiber optic	36,057 MBit/Sec	806 T3 lines

Type	Max bit rate
Analog	56 kBit/Sec
ISDN	128 kBit/Sec
T1	1.54 MBit/Sec
T3/OC1	44.73 MBit/Sec
OC3	135 MBit/Sec
OC12	540 MBit/Sec
OC48	2,160 MBit/Sec

Costs

Access type	Speed	Monthly cost
Modem	56 kBit/Sec	$19.95 - $23.95
SDSL	160 – 416 kBit/Sec	$80 - $1,225
Wireless DSL	128 K – 1.54 MBit/Sec	$49.95 - $500

Source: Jeff Bobicki, www.jefftech.net/telco.html, and various company websites, June 2002.