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## **Q. TELECOMMUNICATIONS**

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### **1. Line Connections to the Valley<sup>1</sup>**

The entire Valley is connected to Walsenburg by one OC12 fiber optic line, which is owned by Qwest. No direct lines are connected to the north, south, or west. From Qwest's central hub, OC3 lines branch out to connect most of the Valley cities/towns. One OC3 line is capable of handling 135 MBit/Sec. One OC12 line is capable of handling 540 megabits/second (MBit/Sec), and is more than enough to satiate the needs of 46,190 Valley residents.

### **2. Telephone Services (Table Q-1, Q-2)**

Table Q-1 lists 5 telephone service providers. Blanca Telephone, CenturyTel, Columbine, and Qwest are considered telephone companies. All 4 of the phone companies double as Internet service providers (ISPs), and offer dial-up, DSL, wireless, and satellite.

Rates listed in Table Q-2 range from about \$15-\$25/month for a basic residential phone line. Selected extra services are available. Qwest services most areas of the Valley. CenturyTel covers the southern area, as well as a few areas in the north and west regions. Columbine's area is in the north, and Blanca Telephone covers many areas in between. Wireless (cell) phone service is also available throughout much of the Valley floor.

### **3. Internet Services (Table Q-1, Q-2)**

Dial-up prices range from \$9.95 - \$23.95, depending on how many hours the customer orders. In addition to dial-up, all 6 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.

According to the U.S. 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 <sup>1</sup>**

In addition to the commercial Internet service providers, both Adams State College and Trinidad State Junior College have T1 Internet access for their students and staff, as well as to some public schools.

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. The National Science Foundation provided wireless equipment to Evans Elementary and Monte Vista SD. Free, on-site technical assistance and workshops are being provided to local libraries through the Southwest Regional Library Service System.

#### **5. The Multi-Use Network and the Beanpole Project**

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 <sup>2</sup>. 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.

While the MNT is designed first and foremost for State government offices, the Beanpole Project is aimed at the community level. Beanpole is targeted specifically at connecting schools, libraries, hospitals, etc, to the larger electronic network. Created by legislation in 1999, the Beanpole Project allocated \$4.8 million to help rural communities get connected to electronic infrastructure. The Valley was one of 10 areas selected for the original round of funding, receiving \$30,000 for technical assistance. Phase 1 was a basic planning grant, and midway through this Phase the Valley requested placement in the advanced planning stage. After the planning phases, no further action was taken toward implementation of Beanpole funded projects.

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<sup>1</sup> Jeff Bobicki, [www.jefftech.net/telco.html](http://www.jefftech.net/telco.html)

<sup>2</sup> State of Colorado Multi-Use Network, "Statewide Multi-Use Network (MNT) Fact Sheet," October 5, 2001.

## Table Q-1

### SLV Telecommunications

#### Telephone and Internet Service Providers (ISP)

	<u>Services</u>	
	<u>Telephone</u>	<u>Internet</u>
<b>Amigo.net:</b> Alamosa, Monte Vista		X
<b>Blanca Telephone (Fone.net):</b> Alamosa, Antonito, Blanca, Center, Creede, Crestone, Del Norte, Fort Garland, La Jara, Manassa, Moffat, Monte Vista, Mosca, Saguache, San Luis, South Fork	X	X
<b>CenturyTel:</b> southern part of Valley	X	X
<b>Columbine Telephone:</b> Crestone, Hooper, Moffat, Mosca	X	X
<b>Qwest:</b> most areas in the Valley	X	X
<b>Vanion</b> (mostly business): Alamosa, Monte Vista	X	X

#### Maximum speed comparisons by technology

<u>Type</u>	<u>Max bit rate</u>	<u>Equals</u>
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

<u>Type</u>	<u>Max bit rate</u>
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

<u>Access type</u>	<u>Speed</u>	<u>Monthly cost</u>
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](http://www.jefftech.net/telco.html), and various company websites, June 2002.

**Table Q-2**

**Monthly Telephone and Internet Rates**

<u>Services</u>	<u>Prices</u>
<b>Amigo.net</b>	
Dial-up	\$9.95 - \$19.95
DSL	\$80 - \$1,225
Wireless DSL	\$49.95 - \$500
<b>Blanca Telephone (Fone.net)</b>	
Dial-up	\$9.95 - \$19.95
Wireless DSL	\$80 - \$90
<b>CenturyTel</b>	
Phone	\$20.08 on up
Dial-up	\$9.95 - \$19.95
DSL	\$49.99 - \$99.99
<b>Columbine Telephone</b>	
Phone	\$25.00 on up
Dial-up	\$19.95 - \$23.95
Wireless DSL	\$49.95 - \$69.95
<b>Qwest</b>	
Phone	\$14.92 on up
Cell phone	\$29.99 on up
Dial-up	\$21.95 on up
ISDN	\$21.95 on up
IDSL	\$21.95 on up
DSL	\$21.95 - \$275
<b>Vanion</b>	
DSL	\$100 on up
Wireless DSL	\$100 on up

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**Source:** Various webpages and phone contacts, June 2002.