



CENTER *for* RURAL POLICY *and* DEVELOPMENT

August 2002

2002 Rural Minnesota Internet Study

The Role and State of Rural Telephone Companies

Introduction

As Minnesota's economy embraces the digital tools of the 21st century, rural legislators and public officials are continuing to express concern about the access and availability of broadband services in rural Minnesota. Data collected by the Minnesota Department of Administration in 2000 and 2001 has documented these geographic inequities throughout the state.

Viewed primarily as an issue of rural economic development and geographic equity, the availability of broadband has prompted the Minnesota State Legislature to enact over the past few years several programs addressing these concerns. These efforts, while of value, have been relatively modest in scope. By far the most progressive of these efforts was the Telecommunications Access Revenue Program (TARP), which used programmatically targeted funds to address inequities in access and costs to telecommunications services for local schools. Unfortunately, this program was allowed to sunset in June 2002, and efforts to continue its funding failed in the 2002 legislative session. Other legislative efforts include the Department of Trade and Economic Development's Broadband Catalyst Grant Program and a sales tax exemption to providers for purchasing broadband equipment.

Today, broadband services are delivered statewide through a variety of technologies that include digital subscriber lines (DSL) offered by telephone companies, cable modem connections offered by cable TV franchises, and a variety of wireless broadband technologies that use both licensed and unlicensed spectrum. At the present time, it appears that cable TV companies have the largest number of broadband customers, but it also appears that no one technology will become the standard in the near future. Rather, all of these technologies are currently increasing their broadband customer base and will likely have a niche in the marketplace for years to come.

While broadband service is available across the state in various forms, its availability is spotty in nature. Residents and businesses in one community may have access to broadband through a local telephone company, cable provider or wireless service (or all three), while residents in a neighboring community may not have access at all because they are in a market covered by a local provider that has opted not to offer these services. Coverage also often varies within a local provider's area, due the technological limitations and costs of upgrading infrastructure for DSL or cable modem service over wide distances. Both these factors can create geographic gaps in broadband availability.

In 2001 the Center for Rural Policy and Development initiated the Rural Minnesota Internet Study to create a baseline of data and to monitor rural Minnesotans' use and attitudes toward the Internet and broadband services. In July 2002 the Center released the findings from its 2002 survey of rural consumers. This report documents the findings from a survey of telephone companies that offer services in rural Minnesota and is the second in a series of three. The third report, which analyzes data from 300 rural manufacturing firms, will be released later in 2002.

A PDF of this report can be downloaded from the Center web site www.ruralmn.org

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The Center for Rural Policy and Development, based in Mankato, Minn., is a private, not-for-profit policy research organization dedicated to providing Minnesota's policymakers with an unbiased evaluation of issues from a rural perspective to benefit Minnesota.

Conducting the survey

In May 2002 the Center for Rural Policy and Development conducted a telephone survey of telephone companies serving rural Minnesota. Data collectors interviewed the general manager or president of each company to identify certain information:

- The number of access lines the company has in rural Minnesota
- The percentage of those access lines that are currently DSL enabled
- The number and growth of customers for Internet services and their pricing structure

The companies were identified through their membership in the Minnesota Association for Rural Telecommunications, as well as those large regional carriers that do business in rural Minnesota. Through this process we identified and attempted to contact 75 telephone companies.

The response rate from the providers was excellent, considering that they are not required to publicly disclose information relating to their access lines or DSL infrastructure. Of those 75 companies in the survey pool, we received data from 69, for a 92-percent response rate. These 69 companies control just over 858,000 access lines in rural Minnesota.

There are some caveats to this research, however. First, while the response rate was very good, it is important to recognize that some of the companies that failed to respond to our survey are large incumbent carriers (including the state's largest), controlling a significant number of access lines in rural Minnesota. Consequently, while we have collected data from 92 percent of the companies, this should not be taken to mean that these companies control 92 percent of the telephone lines in rural Minnesota or that the survey data addresses that percentage of total lines.

Further, over the past few years a significant number of competitive phone companies have been established, and many of them provide Internet services in rural Minnesota. Therefore, it is possible that the original survey pool did not include all of these companies.

Lastly, as mentioned above, many broadband customers, both rural and urban, receive these services through cable and wireless providers, and so it must be recognized that this report only addresses rural telephone providers and not all broadband providers conducting business in rural Minnesota.

Characteristics of the companies in the sample

In aggregate, the 69 telephone companies in the sample control 858,129 access lines; however, there is great variation in terms of each company's size and scope. For example, while the largest companies in the sample controlled well over 100,000 access lines, the smallest controls just 42. There is also a substantial variation in the services these firms offer. One-third of the companies offer cellular service; 94 percent offer dial-up Internet connections; 91 percent offer DSL Internet connections; and 29 percent offer digital video services (Table 1). Clearly, the data confirms that these providers are a diverse group of companies in both their size and in the products they offer in rural Minnesota.

Table 1: Percent of providers, by size and services offered

	Cellular Phone Service	Dial-up Internet Service	DSL Internet Service	Digital Video Service
All companies	33.3%	94.2%	91.3%	29.0%
1-1,000 lines	0.0%	91.7%	66.7%	8.3%
1,001-10,000 lines	35.3%	94.1%	94.1%	23.5%
10,001-50,000 lines	47.4%	100.0%	100.0%	52.6%
50,001 +	50.0%	75.0%	100.0%	25.0%

Providing Internet services

As mentioned above, nearly all of the telephone companies surveyed offer Internet services, either using dial-up access or DSL (only three companies reported that they do not offer any Internet services). Accordingly, we queried the companies about the number of dial-up and broadband customers they serve, and whether there has been any growth in demand for these services over the past 12 months.

Dial-up service

Table 2 shows the combined statistics for dial-up service. Slightly more than 94 percent of the companies surveyed provide dial-up Internet services to their customers. In total, these companies currently serve 137,444 rural Minnesota households with this service. However, the number of customers they serve ranges from as few as 32 dial-up customers to as many as 20,254. Approximately 88 percent of the companies surveyed reported growth in their dial-up customer base over the past 12 months; seven firms reported either no growth or a loss of dial-up customers. The variation in change of the dial-up customer base was quite large, ranging from a 55-percent loss to a 368-percent increase. In aggregate, however, there was a 27-percent increase in dial-up customers.

The companies were also asked how they price their dial-up service and the actual prices they charge their residential customers. Because there are a variety of marketing approaches and pricing schemes among companies, to make a fair comparison, providers were asked what their monthly charge was for unlimited residential dial-up access. These prices ranged from a low of \$17.95 to a high of \$55.90, with an average price of \$23.30.

Table 2: Firms offering dial-up service

Percent of providers offering dial-up service	94.2%
Percent change in number of dial-up customers in past 12 months across all companies	26.5%
Number reporting no growth in dial-up customers or a decline	7
Average price for unlimited dial-up service	\$23.30

Broadband DSL Service

Firms were also asked about their broadband DSL service (Table 3). As the data shows, approximately 91 percent of the companies surveyed provide broadband services through DSL technology. It should not be assumed, however, that all customers served by a company offering DSL would be able to purchase DSL from that company. Because of technology limitations associated with DSL infrastructure, it is important to recognize that some providers can make DSL available to all their customers, while

others provide it to only a percentage. The data shows, in fact, that across all the providers surveyed, only 61 percent of their total access lines are currently enabled to deliver DSL services.

In aggregate, these companies reported currently serving 24,008 rural Minnesota households with DSL service. However, as with dial-up, the number of customers each company reported ranged from as few as 4 DSL customers to 4,535.

The fact that DSL service is a relatively new product for a significant number of providers became apparent when firms were asked about the number of DSL customers they currently serve and how that number has changed in the past year: approximately one-third (35%) of those now offering DSL reported having no DSL customers 12 months ago, indicating that they had started offering DSL just within the past year. Among providers offering DSL, all but one reported growth in the demand for the service during the past year. Also, based on companies with customers 12 months ago, it can be estimated that 49 percent of the total lines covered in the survey were DSL-enabled one year ago, compared to 61 percent today.

Table 3: Firms offering DSL service

Percent of providers offering DSL service	92.6%
Percent of lines currently activated for DSL, across all companies	61.2%
Percent of lines activated for DSL 12 months ago, across all companies (estimated)	49.1%
Percent change in DSL customers in past 12 months across all companies	205.3%
Percent change in DSL customers in past 12 months for companies that have offered DSL at least one year	143.6%
Number reporting no growth in DSL customers or a decline	1
Average monthly price for 256k DSL service	\$49.92

Having such a significant number of providers initiating DSL service in the past 12 months presents some uncertainty in calculating accurate growth rates. To ameliorate the problem, two growth rates were calculated for DSL services over the past year. The first number, representing the aggregate growth in DSL across all companies in the survey, shows a 205-percent increase in demand for DSL. The second approach, calculating growth in demand across only those companies that have offered DSL service at least 12 months, shows an increase of 144 percent.

When asked about pricing, providers reported a variety of pricing levels for DSL, based primarily upon the speed of the connection. To provide an “apples-to-apples” comparison among these plans, providers were asked how much their monthly charge was for a 256K residential DSL connection. Further, they were asked to include both the local loop charges and the ISP (Internet service provider) charges. The prices reported for this service ranged from a low of \$27.95 per month to a high of \$81.81 per month. The average price reported for a 256K residential DSL connection by these companies was \$49.92 per month.

Table 4: Firms offering DSL and/or dial-up, by size

	Percent of lines activated for DSL, across all companies	Growth in the last year in the number of DSL customers	Average price per month of those offering 256k DSL	Growth in the last year in the number of dial-up customers	Average price per month of those offering unlimited dial-up service
All companies	61.2%	205.3%	\$49.92	26.5%	\$23.30
1-1,000 lines	53.9%	4,516.7%*	\$51.95	39.7%	\$22.40
1,001-10,000 lines	80.7%	245.4%	\$49.34	27.0%	\$23.69
10,001-50,000 lines	75.6%	111.6%	\$50.25	21.6%	\$23.85
50,001 +	50.0%	349.7%	n/a**	34.1%	\$20.62

* The 12 companies in this category reported collectively that their DSL subscriptions increased from 6 to 277 in the past 12 months.

** These companies all offer DSL, but not at 256k.

Finally, the companies surveyed were asked if they bundled their DSL services with any other telecommunications products that they offer. “Bundling” refers to the marketing practice of creating packages, or “bundles,” of different services that consumers then purchase together. The incentive to the customer to purchase services in a bundle is generally a lower total price than if the customer purchased these same services separately. Therefore, businesses will often bundle new services as an incentive to customers.

Of those providers that offer DSL services, 32 percent report that they do bundle it with other services. When asked which services they bundle with DSL, video and long distance were the two most common services listed.

Summary & Conclusions

The purpose of this survey is to better understand the development and demand for Internet services in rural Minnesota from the perspective of rural telephone companies. It is important to keep in mind that today, Internet services are offered by a variety of providers, including cable TV providers and wireless providers, along with telephone providers. Accordingly, one should not conclude that these findings represent the total Internet offerings in rural Minnesota.

With that being said, however, the findings document that the telephone providers surveyed control approximately 858,000 access lines and are able to provide DSL services on 61 percent of those lines. This percentage appears to be a significant improvement over previous assessments reported by the Minnesota Department of Administration. One important caveat to note, however, is that a handful of large regional telephone companies with exchanges in rural Minnesota (including the state’s largest carrier) did not take part in the study and the percentage of their lines that are DSL-enabled is unknown. It is known, however, that DSL is not available in several of the exchanges served by these companies, and therefore, if these unreported access lines were included, it would likely reduce that 61 percent figure.

In aggregate, the 69 rural telephone companies included in the study reported having 161,452 Internet customers. Of those Internet customers, 85 percent subscribe to a dial-up service, while 15 percent subscribe to a broadband service. Further, it is clear that DSL subscriptions are growing much faster than dial-up business. These companies reported an aggregate growth of 27 percent in their dial-up business during the past 12 months, but several companies reported a loss in their dial-up business. This loss is likely to be a function of the growth in DSL, since it can be assumed that as customers subscribe to DSL, they will often simultaneously drop their dial-up service.

Regarding the growth of DSL, these providers reported currently serving 24,008 broadband customers, up from 7,863 one



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year ago. The percent of total lines activated for DSL also increased from an estimated 49 percent one year ago to 61 percent today. Since approximately one-third of the companies only began offering DSL service within the past 12 months, we chose to calculate the growth in customers somewhat conservatively, using two separate approaches. Across all DSL providers, we calculated the growth to be 205 percent; the rate was 144 percent among those companies that have offered the service for at least 12 months. This latter figure is comparable to the retail measure of growth expressed as “same-store sales.” But regardless of how one views it, demand for broadband services in rural Minnesota is definitely growing.

Lastly we examined the pricing of Internet services. Because of the wide variety of pricing schemes and speeds offered for Internet access, it was important to make an “apples-to-apples” comparison when reporting prices on products. Consequently, definitions were established for two products: unlimited residential dial-up service and 256K residential DSL service, including the ISP service and local loop. Here we found that the average dial-up charges were \$23.30 per month, comparable to the charges of several national ISPs. The average monthly charge for DSL service was \$49.92 per month.

In conclusion, these data suggest that there appears to be a discernible shift in the broadband marketplace in rural Minnesota, as reported by these telephone companies. Of greatest note is the fact that DSL deployment is clearly expanding, with 91 percent of the companies reporting that they currently offer this service, a

considerable increase over just a few years ago. Further, there is the fact that approximately one-third of the providers surveyed report deploying the service just within the past 12 months.

The 205-percent increase in demand for DSL over the last year shows that this broadband service is growing rapidly in Minnesota’s rural markets, and the increase from 49 percent to 61 percent of lines activated for DSL shows that companies have made a commitment to investment in the technology. But of even greater interest is the growth in demand for companies that have been offering DSL for more than one year. That growth rate, 144 percent, shows that demand for DSL has had staying power.

It is important to once again temper this good news with the reality that while most of the companies surveyed reported growing demand for broadband services, there are still many areas throughout Minnesota where such services are unavailable, whether because of technological or financial limitations or both. Most of the companies offering DSL had more than 50 percent of their lines activated for DSL, but only eight reported having DSL available on all their lines. Also, several large phone companies that conduct business in rural Minnesota did not participate in the survey; it is likely then that if all of the providers in the state participated, the percentage of DSL-enabled lines reported in rural Minnesota would actually be lower. Therefore, while discernible strides have been made in both the supply by providers and demand from consumers, some distance will have to be covered yet before the broadband gap is truly closed in rural Minnesota.