

NTCA 2008 BROADBAND/INTERNET AVAILABILITY SURVEY REPORT

October 2008

DISCLAIMER: Data from the survey has been presented as reported.

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EXECUTIVE SUMMARY

For the last ten years, the National Telecommunications Cooperative Association (NTCA) has conducted its annual Broadband/Internet Availability Survey to gauge the deployment rates of advanced services by its member companies.¹ In the late spring and early summer of 2008, NTCA sent an electronic survey form to each of the companies in NTCA's email database; 146 members (30%) responded.

One hundred percent of the 2008 survey respondents offer broadband to some part of their customer base, compared to the 58% of the 2000 survey respondents who offered broadband.² Respondents indicated that they use a variety of technologies to provide broadband to their customers: 99% of those who offer broadband utilize digital subscriber line (DSL), 44% fiber to the home (FTTH) or fiber to the curb (FTTC) (up from 32% last year), 17% unlicensed wireless, 16% licensed wireless, 14% satellite and 10% cable modem. Only 29% of 1999 survey respondents offered DSL service, and none offered wireless broadband.

Eighty-two percent of survey respondents offer dial-up connection to the Internet at 56 kilobits per second (kbps); 100% of these respondents' customers can receive the service. Ninety-one percent of respondents' customers can receive 200 to 768 kbps service, 83% 768 kbps to 1.5 megabits per second (Mbps), 58% 1.5 Mbps to 3 Mbps, 46% 3 Mbps to 6 Mbps, and 25% greater than 6 Mbps. On average, 11% of respondents' customers subscribe to 56 kbps service, 19% subscribe to 200 kbps to 768 kbps service, 36% to 768 kbps to 1.5 Mbps, 10% to 1.5 Mbps to 3 Mbps, 11% to 3 Mbps to 6 Mbps offerings, and 5% to greater than 6 Mbps service. Overall, dial-up take rates declined and broadband take rates rose significantly in the past year.

The typical respondent is 98 miles from their primary Internet connection. Seventy-three percent of those who recently changed backbone providers did so for price reasons. Seventy-seven percent of respondents indicated they are generally satisfied with their current backbone access provider, while 3% are generally dissatisfied.

Ninety-three percent of survey respondents indicated they face competition in the provision of advanced services from at least one other service provider, up from 87% a year ago. By comparison, only 66% of respondents to the 2003 survey indicated they faced competition and only 43% in the 1999 survey. Current competitors include national Internet service providers (ISPs), satellite broadband providers, cable companies

¹ Following the completion of the 2001 survey in December 2001, it was decided that subsequent Broadband/Internet Availability Surveys would be conducted in the first half of the year in order to capture year-end data. Consequently, no survey was conducted and no survey report published in calendar year 2002.

² For the purpose of this survey, broadband is defined as throughput of 200 kbps in one direction.

and wireless Internet service providers (WISPs). Respondents are taking numerous marketing steps to increase broadband take rates, including free customer premise equipment installation, price promotions, bundling of services, free hardware, free introductory service and free software. Just under one-half of respondents find it difficult to compete with price promotions offered by competitors. Overall, 37% of survey respondents consider their company's marketing efforts to be "very successful."

Seventy-one percent of those respondents with a fiber deployment strategy plan to offer fiber to the node to more than 75% of their customers by year-end 2009, while 74% plan to offer fiber to the home to at least 25% of their customers over the same time frame. Deployment cost remains the most significant barrier to wide deployment of fiber, followed by regulatory uncertainty, long loops, low customer demand, and obtaining cost-effective equipment. Throughout the history of the survey, deployment cost has been respondents' most significant concern.

Six percent of respondents currently offer voice over Internet protocol (VoIP) service, down slightly from 7% last year. Forty-four percent of respondents have plans to offer VoIP in the foreseeable future, down from 54%. Sixty-eight percent of respondents offer video service to their customers, up from 63% last year.

INTRODUCTION

In the summer of 2008, NTCA surveyed its members on their activities in the areas of providing broadband services and Internet availability to their members/customers. NTCA is a national association of more than 580 local exchange carriers in 44 states that provide service primarily in rural areas. All NTCA members are small carriers that are “rural telephone companies” as defined in the Telecommunications Act of 1996 (“Act”). While some offer local exchange service to as few as 44 lines and a small handful to 90,000 or more, nearly 50% of NTCA members serve between 1,000 and 5,000 lines. Population density in most member service areas is in the 1 to 5 customers per square mile range. Approximately half of NTCA’s members are organized as cooperatives and the other half are commercial companies.

This latest broadband survey is a follow-up to similar surveys conducted in recent years by NTCA, and seeks to build upon the results of those surveys.³ This year’s survey asked about technologies used to provide broadband service, broadband availability and subscription rates, prices charged, quantity and type of competition, broadband marketing efforts, fiber deployment, emerging technologies, Internet backbone connections, finance and availability of capital, and also provided an opportunity for respondents to provide any specific comments they wished to share.

OVERVIEW OF SURVEY

The 2008 NTCA Broadband/Internet Availability Survey was conducted online. The survey was broken up into three separate segments, each sent out about three weeks apart. Member companies were provided with a URL through which they could access each portion of the survey. Every effort was made to minimize the reporting burden on the survey respondents.

The first part of the survey was comprised of general questions about the respondent’s current operations, competition/marketing and future plans. The second part dealt with the Internet backbone, and voice over Internet protocol (VoIP); the third, video and fiber deployment. The third part also contained an opportunity for respondents to offer any miscellaneous thoughts.

³ Copies of this and previous NTCA survey reports may be downloaded from the NTCA Web site, www.ntca.org.

SURVEY RESULTS

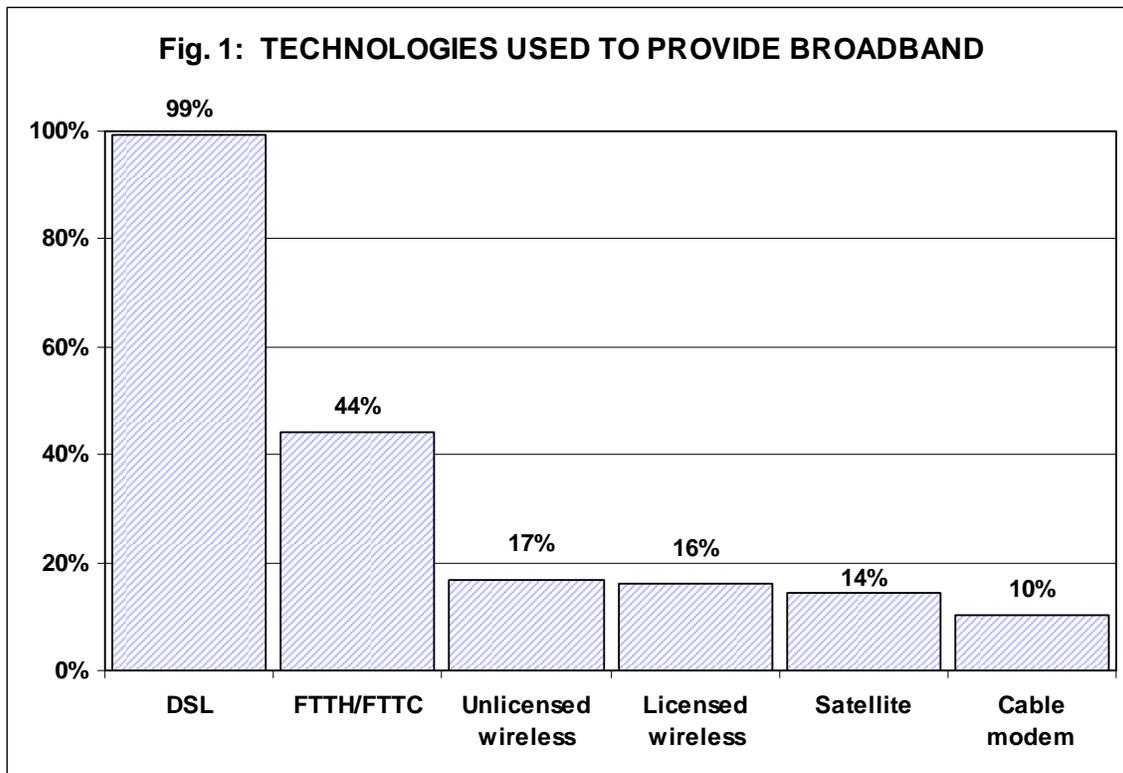
The survey URL for each part of the survey was distributed via e-mail to all member companies in NTCA's email database. The message contained instructions for online access to the survey. Responses were received from 146 member companies, a 30% response rate.⁴

The average survey respondent serves 5,985 residential and 1,975 business lines; a few large companies skew these numbers upward, hence the median respondent serves 3,700 residential and 900 business lines. One hundred percent of survey respondents offer broadband⁵ service to some part of their customer base. Respondents indicated that they use a variety of technologies to serve their customers: 99% utilize digital subscriber line (DSL), 44% fiber to the home (FTTH) or fiber to the curb (FTTC), 17% unlicensed wireless, 16% licensed wireless, 14% satellite, and 10% cable modem.⁶ (See Figure 1.)

⁴ Based on the sample size, results of this survey can be assumed to be accurate to within $\pm 6\%$ at the 95% confidence level.

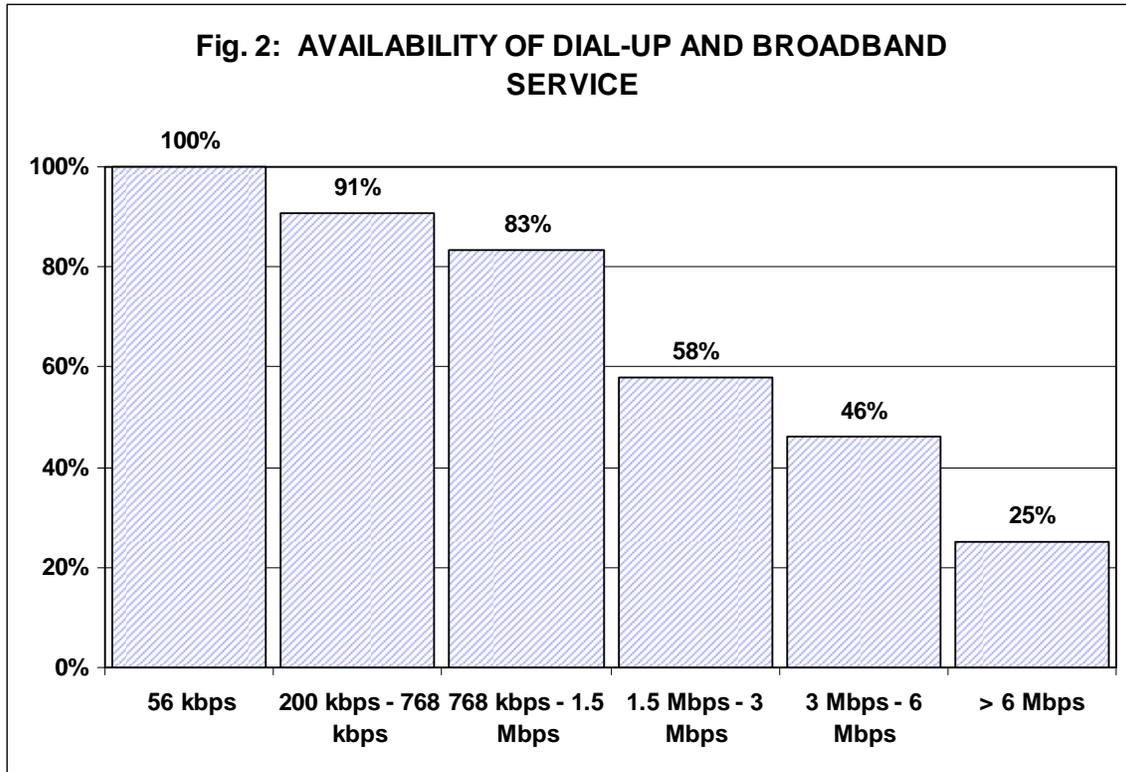
⁵ For the purpose of this survey, broadband is defined as throughput of 200 kbps in one direction. This was the definition used by the FCC during most of 2008. According to the Commission's Broadband Data Order, issued mid-year, throughput speeds of between 200 kbps and 768 kbps will subsequently be classified as "first generation data" and throughputs between 768 kbps and 1.5 Mbps will be classified as "basic broadband." Future editions of the survey will be modified to reflect this change.

⁶ Percentages sum to greater than 100% as some respondents utilize more than one technology to serve their customers.



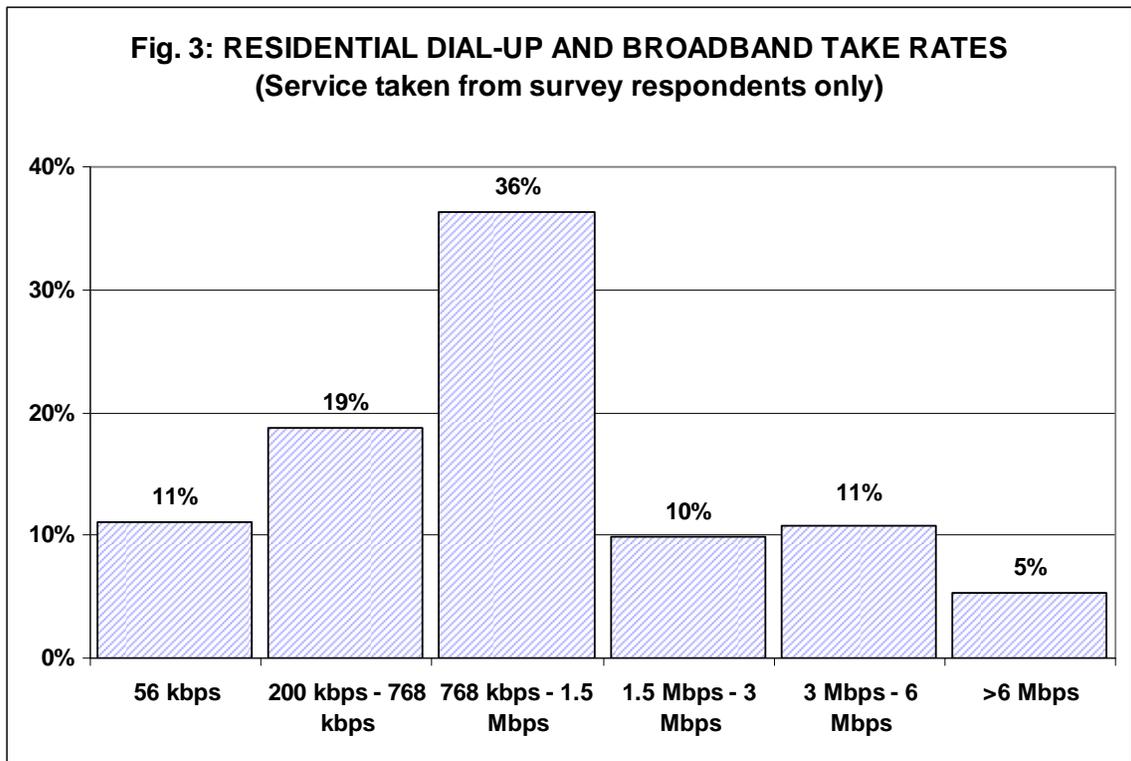
A vast majority (78%) of survey respondents are utilizing fiber fed nodes to extend the reach of DSL. Thirty-five percent indicated that the average distance from the digital loop carrier (DLC) to the end user was between 15 and 18 thousand feet (kft), 29% between 9 and 15 kft, 24% greater than 18 kft and 12% 9 kft or less.

Eighty-two percent of survey respondents offer dial-up connection to the Internet at 56 kilobits per second (kbps); 100% of these respondents' customers can receive the service. Ninety-one percent of respondents' customers can subscribe to 200 kbps to 768 kbps service, 83% to 768 kbps to 1.5 megabits per second (Mbps), 58% to 1.5 Mbps to 3 Mbps, 46% to 3 Mbps to 6 Mbps, and 25% to greater than 6 Mbps service. (See Figure 2.)



On average, 11% of respondents' residential customers subscribe to their 56 kbps service, 19% subscribes to 200 kbps to 768 kbps service, 36% subscribes to 768 kbps to 1.5 Mbps service, 10% to 1.5 Mbps to 3 Mbps service, 11% to 3 Mbps to 6 Mbps service, and approximately 5% to greater than 6 Mbps service.⁷ (See Figure 3.) Typical prices charged range from \$9.95 to \$24.95 per month for unlimited dial-up service, to \$34.95 to \$44.95 for cable modem service, \$34.95 to \$44.95 per month for DSL service, and \$39.95 to \$49.95 for wireless broadband service.

⁷ Actual rural broadband subscription rates are likely significantly higher than the numbers shown here, as survey respondents are joined by a wide variety of competitors in the provision of broadband services within their service area.



Fifty-two percent of survey respondents indicated they offer their customers so-called “naked DSL”—DSL service without a voice component. Take rates for naked DSL service are extremely low.

Survey respondents have come to view the provision of broadband as a crucial part of their operations. Ninety-five percent consider broadband deployment very important for their company’s bottom line, while 5% consider it somewhat important. With respect to respondents’ standing in the community as the telecommunications provider of choice, 100% consider broadband deployment very important.

Internet Backbone

The typical respondent is 98 miles from their primary Internet connection. Seventy-three percent of those respondents who have recently switched Internet backbone access providers did so for price reasons, while 27% switched due to quality of service concerns and 35% for other reasons, such as avoiding transport costs or obtaining diverse routing.⁸ Seventy-seven percent of respondents indicated they are generally satisfied with their current backbone access provider, while 3% are generally dissatisfied.

⁸ Totals exceed 100% as respondents were allowed to select more than one reason for switching providers.

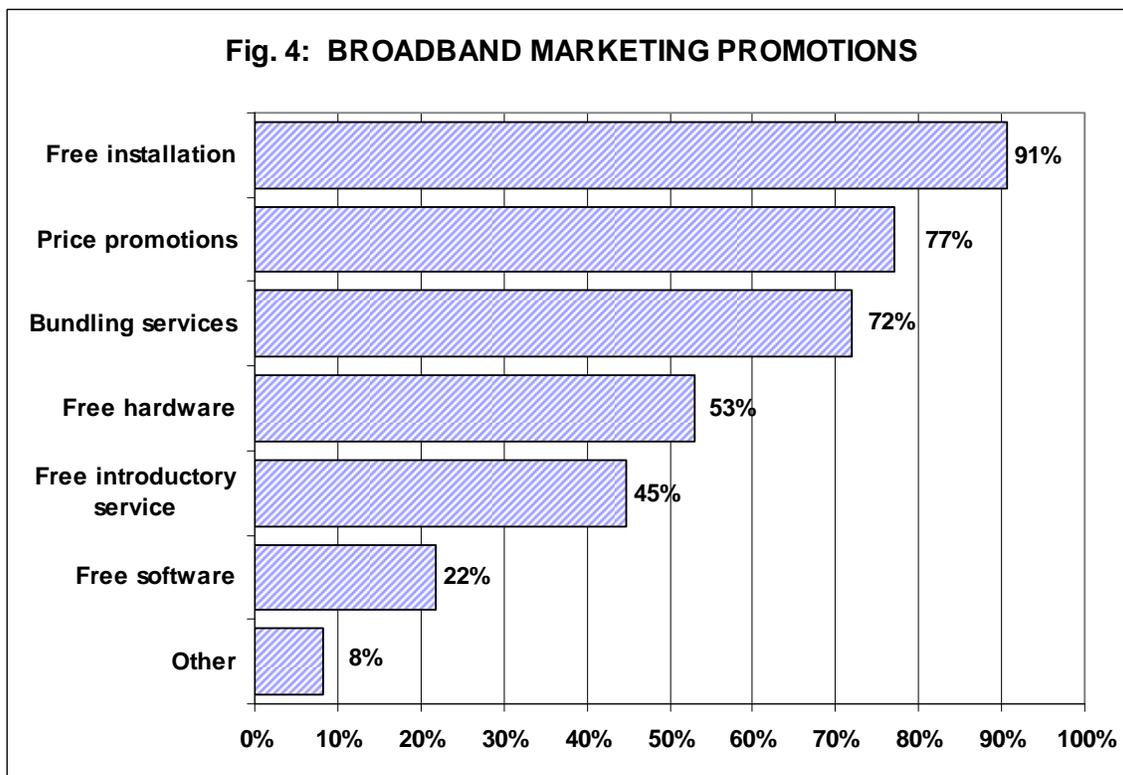
Competition/Marketing

Competition in broadband is becoming more prevalent and more varied: 93% of survey respondents indicated that they face competition from at least one other service provider for at least some of their customers. The typical respondent competes with two national ISPs, two satellite broadband providers, two wireless Internet service providers (WISPs) and one cable company. Other competitors mentioned include electric utilities, local ISPs and neighboring cooperatives. Fifty-five percent of those respondents facing competition indicated that their competitors were serving only the cities and towns in their service areas, while 45% said that competitors were serving customers throughout their service area.

The prospect of cable companies developing the capability to offer voice service is causing respondents some discomfort. Forty-five percent of respondents are very concerned, while 17% are somewhat concerned.

Rural ILECs are taking numerous steps in the marketing arena to increase broadband take rates. Ninety-one percent are offering free customer premises equipment (CPE) installation, 77% of survey respondents' companies are offering price promotions, 72% are bundling services, 53% are offering free hardware, 45% offer free service for an introductory time period (such as 30 days), 22% offer free software and 8% are offering other promotions, such as a discounted installation or cash rebates.⁹ (See Figure 4.) Forty-nine percent of respondents find it difficult to compete with price promotions offered by competitors, while 44% struggle to match competitors' service bundling. Overall, 37% rate their company's marketing efforts as very successful, while 39% rate them as moderately successful.

⁹ Totals exceed 100% as respondents' companies may be offering more than one marketing promotion.

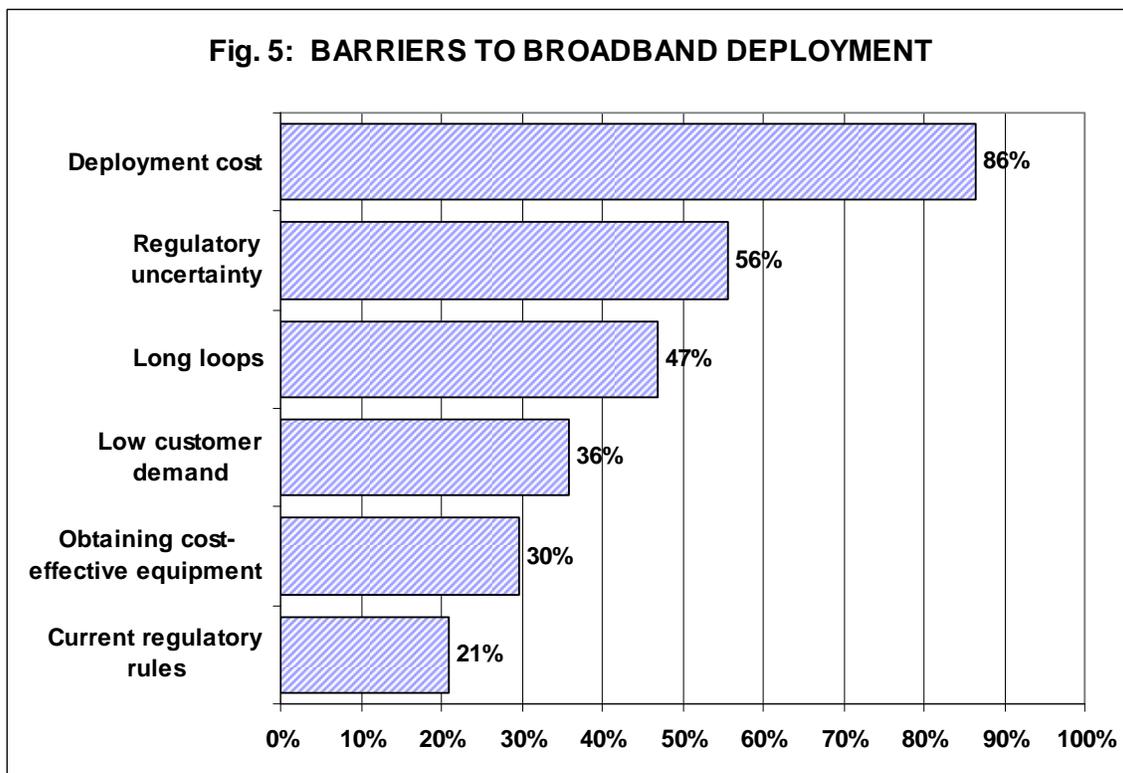


Fiber Deployment

Survey respondents indicated that their companies have some plans to deploy fiber to the curb (FTTC) and fiber to the home (FTTH) to their customers. Seventy-one percent of survey respondents with a fiber deployment strategy expect to offer fiber to the node to more than 75% of their customers by the end of 2009, up from 52% last year. Eighty-nine percent of respondents expect to be able to provide fiber to the curb (FTTC) to at least half of their customers by year-end 2009; 74% expect to be able to offer fiber to the home (FTTH) to the same percentage.

Eighty-six percent of survey respondents identified the cost of fiber deployment as a significant barrier to widespread deployment. Regulatory uncertainty was the number two barrier (56%), followed by long loops (47%), low customer demand (36%) and obtaining cost-effective equipment (30%).¹⁰ (See Figure 5.)

¹⁰ Totals exceed 100% as respondents were allowed to select more than one barrier.



Eighty percent of survey respondents see modest to significant benefits to fiber deployment versus the current cost of deployment; 95% expect to see modest to significant benefits versus the cost of deployment three years from now.

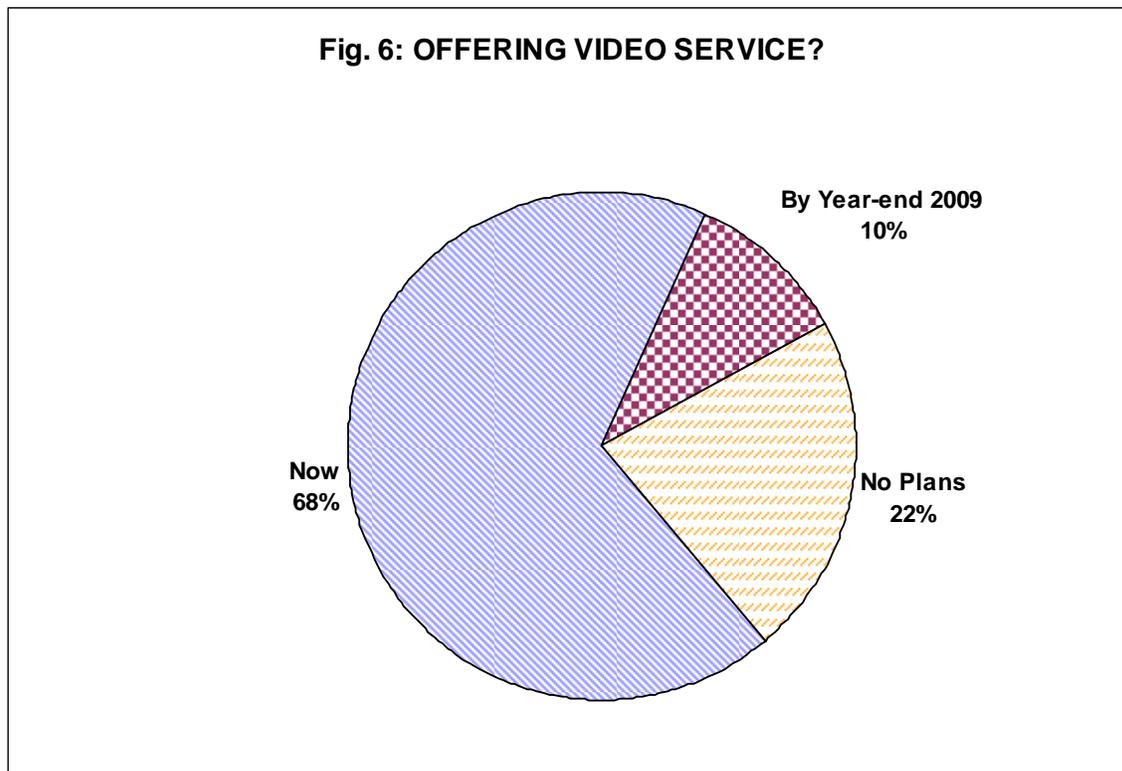
VoIP

Six percent of survey respondents currently offer voice over Internet protocol (VoIP) service to their customers, down from 7% one year ago. Forty-four percent of respondents have plans to offer VoIP service in the foreseeable future, down from 54%. Thirty-one percent of respondents perceive VoIP to pose a significant threat to their current operations (up from 28% last year), while 22% perceive VoIP as a moderate threat (down from 27%.)

Video

Sixty-eight percent of survey respondents offer video service to their customers. Ninety-three percent of those offer video under a cable franchise, while 2% offer video as an Open Video System (OVS) pursuant to Part 76, Subpart S of the Telecommunications Act of 1996.

Of those respondents not currently offering video, 32% (10% of all respondents) plan to do so by year-end 2009. The remaining 68% (22% of all respondents) currently have no plans to offer video service. (See Figure 6.) Nearly three-quarters (72%) of those planning to offer video in the future intend to offer IPTV service.



Miscellaneous

Survey respondents were asked what specific obstacles they have encountered in their efforts to deploy fiber to their customers, and how conditions would need to change to allow them to successfully overcome those obstacles. Their responses are presented in Appendix A of this report.

CONCLUSIONS

Broadband take rates have risen dramatically. For many years, this survey has shown broadband take rates significantly lagging availability. Spurred largely by a change in end-user perceptions—broadband is now considered less of a luxury and more of a necessity—respondents to this year’s survey report a dramatic increase in broadband take rates. The highest average take rate (36%) was reported for the 768 kbps to 1.5 Mbps tier—the FCC’s new definition of “basic broadband” service.

Competition for the provision of broadband services is nearly ubiquitous. After a continued steady climb over the past several years, the percentage of survey respondents reporting competition within their service area for the deployment of broadband service is approaching 100%. The competition remains diverse—national ISPs, WISPs, cable companies, electric utilities and local ISPs all compete in rural areas. NTCA members are doing a solid job of meeting the challenge—the increased competition makes survey respondents’ reported take rates all the more impressive.

Fiber deployment continues to grow. The percentage of survey respondents expecting to be able to offer fiber to the node to more than 75% of their customers in the near-term future grew from 52% in last year’s survey to 71% this year. Forty-four percent indicated they use fiber to the home or fiber to the curb to provide broadband, up from 32% last year. Economic conditions could dramatically impact future deployment plans, however—86% of respondents identified the cost of fiber deployment as the most serious challenge to continued deployment.

Video continues to be a “must have” offering for those wishing to succeed in the competitive marketplace. More than two-thirds—68%—of survey respondents are offering video services to their customers, up from 63% in 2007 and 42% in 2005. An additional 10% expect to do so by year-end of 2009. As an increasing number of customers come to embrace the concept of bundling, they will prefer to receive video from the same provider who also supplies their voice and Internet service. Those providers without a video offering will miss out on this potentially lucrative opportunity.

Uncertainty in all its forms on a going forward basis is a major concern for survey respondents. When asked to detail the obstacles that are causing them difficulty in deploying fiber, a number cited future uncertainty—both of regulations that will allow for cost recovery, and of future USF revenue streams. Regulatory action that addresses these concerns will go a long way toward easing these worries and allowing rural providers to focus on their business at hand—bringing high-quality telecommunications services to customers in rural America.

APPENDIX A

Q: What specific obstacles have you encountered in your efforts to deploy fiber to your customers, and how would conditions need to change to allow you to successfully overcome those obstacles?

Cost

Cost, dropping access lines, and uncertainty of support are our biggest obstacles.

Long loops...we are in a 5 year plan to get to FTTx. We currently are within 6,000 feet of approximately 75% of our customers with fiber.

Our revenue streams are being cut off in every direction. First by the lowering of access charges earned and secondly our customers moving to mobile phones and dropping their landline telephone services.

Primary obstacle is geographical challenges

Easements are harder to get.

Uncertainty with NECA tariffs. Regulated/non-regulated allocations.

No more rules or regulations.

Uncertainty of support to repay borrowed funds. Delay and expense of environmental historical artifact studies. Difficulty obtaining private ROW. Difficulty and delay dealing with State Transportation Department re permits.

House powering will continue to be a problem until battery technology improves or off-grid (solar lines powering) power to the chargers is available.

Power outages & battery back-up. Need to create a longer battery back-up solution during power outages. Another obstacle is lightning striking ONTs.

Just finished placing Fiber and Node. It's a little hard to replace that just 5 years after we placed it.

1. Powering the NID 2. Cost overruns

We are approaching 50% FTTH today.

Cost vs. benefit. We are moving from an analog system an IPTV solution in 2009. Some deployment will be FTTH brownfield with the balance fiber to the node until FTTH is phased in over 3 years.

Availability of fiber. Change of technology. Deployment and installation methods.

Long loops in rural areas difficult construction in urban areas and stranding investment in recently deployed fiber to node with copper loops.

High cost of equipment- price for customer interface needs to drop installer / technician resistance to move from copper to fiber (internal training)

Powering of the premise unit.

I'm primarily concerned with the regulatory and hazardous waste issues associated with FTTP technology including battery.

State PUC needs to provide disincentives for deploying copper and employing fiber via depreciation rate ranges they set. Electricity in very rural areas needs to be more reliable.

Overall cost and regulatory stability to ensure cost recovery

Cost number one issue. Low sub number; we are very small.

Access to long term financing: currently have a FTTH loan request @ RUS. Regulatory certainty of cost recovery.

Cost and industry changes.

Our primary competitor has raised downstream data rates and customers do not yet perceive the value of a symmetrical data service.

Regulatory uncertainty is the biggest issue for us. We would like to put our video on the regulated plant but it appears that would have a negative impact on our settlements and/or USF payments. We would also like to have a higher degree of certainty about future USF payments and Intercarrier Exchange compensation so we can make more informed business plan projections.

Electronics is still in the development stage; product maturity will solve the problems and/or eliminate certain vendors from the market place.

The time it takes to do a home visit to determine where the fiber and equipment need to be located as well as the time it takes to cut over to the fiber.

We need support based on broadband delivery instead of voice access lines.

Economics with construction costs nearly doubling in the past 18 months thanks to high energy prices. Not as many contractors available to take on these kinds of jobs.

Cost of bandwidth to the Internet Cloud.

For our board and lenders to know if high-cost funds and settlements are stable for next 10 years.

Obstacles are the cost to construct & deploy and not enough support from broadband to sustain buildout. Also need video costs & regulations to change to be able to offer video at competitive prices and create enough revenue to help pay for FTTH buildout.

Many technical issues to deal with in providing a reliable service.

Demand for FTTH services increasing to make it economically feasible to deploy.

Terrain and topography.

Cost of deployment and inability to get video costs at a level to be competitive with satellite TV providers.

Cost is a major factor. Price will have to come down.

Cost and regulatory uncertainty.

Just cost - uncertainty of USF.

Cost per customer and guaranteed cost of recovery.

Cost and personnel.

FCC lack of clarity on "policy" re: Study Area Waivers.

Cost of deployment is prohibitive.

Cost geography--too much area to cover and long lead-times due to high demand. More supply would ease costs and lead-time problems.