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RURAL POLICY
and DEVELOPMENT

October 2010

2010 Minnesota Internet Survey

Looking at the growth of broadband access and use for clues to what's next

Introduction

It is probably safe to say that nothing has hit the world quite like the Internet. In its ability to change our day-to-day lives and society itself, it is unprecedented. In the ten years since the Center for Rural Policy and Development began its survey of broadband adoption in Minnesota, the growth of broadband use — and its necessity — has been nothing short of remarkable. In the Center's first, very short survey conducted in 2001 of just households in the 80 counties outside the Twin Cities, we found that 60% of rural Minnesota households had home computers, 40% were connected to the Internet and just 6.2% had broadband. At that time, the availability of broadband was quite limited, even in the Twin Cities. Since 2001, its availability has spread steadily, and its adoption has risen accordingly statewide.

But while the story of broadband tends to center on its phenomenal growth, we find that in rural areas access is still inconsistent. Both private and public entities have endeavored to build out an adequate broadband infrastructure across the state, but today, while residents of virtually every city in the state have access to broadband, there are still many pockets in rural areas where broadband is not available, and in rural communities that do have access, not everyone has access to or can afford the speed necessary to do the more complex activities that are emerging every day on the Internet.

To get a little closer look at the question of rural access, the researchers this year divided the state's counties into three groups: the seven-county Twin Cities group; the Metropolitan or Micropolitan Statistical Areas counties group; and the Rural counties group (these definitions are explained further in the Methodologies section). The results of the survey show a significant divide still exists in several ways.

Major findings

• Statewide, availability continues to spread: 76.8% of households report having computers, 73.5% (95.7% of those with computers) are connected to the Internet, and 69.5% of households (94.3% of households with Internet) are accessing the Internet via

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

The Center for Rural Policy and Development, based in St. Peter, Minn., is a private, not-for-profit policy research organization dedicated to benefiting Minnesota by providing its policy makers with an unbiased evaluation of issues from a rural perspective.

broadband. Computer and Internet adoption are up slightly from the last survey, taken in December 2007 and January 2008, when adoption rates were 75.9% for computers and 71.5% for Internet. Broadband adoption is up sharply, nearly 12 percentage points from 57.8% in 2007-08.

• In Greater Minnesota, computer, Internet and broadband adoption continue to grow and are catching up with the Twin Cities. Computer ownership went from 73.0% in 2007-08 to 75.5%, while Internet connections have gone from 68.2% in 2007-08 to 71.2% in 2010. Broadband adoption grew from 52.3% to 65.4%.

• A high percentage of Minnesota households with Internet continue to engage in the most popular activities. Email is universal, but close behind are shopping, checking the news and banking. Other activities are also growing in use, such as doing work for an employer, communicating with a child's school, or contacting a legislator or doctor. Greater Minnesota still lags behind the Twin Cities in many activities.

• Income and age continue to be significant indicators of whether a household will have a computer, Internet or broadband. Older and lower-income groups still tend to be behind in adopting these technologies, but they show steady growth.

• Within Greater Minnesota, counties without significant population centers lagged behind those with population centers in computer, Internet and broadband adoption, and in activities.

Methodology

A note on geography: Since this survey was started, we have defined rural Minnesota as the 80 counties outside the Twin Cities metropolitan area, but over the years, the Twin Cities population has expanded into some of these Greater Minnesota counties. At the same time, broadband service has been spreading out from other population centers around the state. To better understand the connection between population density and availability and use of broadband in Minnesota, the researchers decided with this year's survey to divide the state up into three geographic definitions, instead of two. Rather than use the geographies of the seven-county Twin Cities area as "metro" and the other 80 counties as "rural," we opted to group the state's counties into "Twin Cities Metro," comprising the seven-county Twin Cities area; "Metro- and Micropolitan counties," defined as the counties with population centers of greater than 10,000 residents; and "Rural counties," the remaining counties that are defined by population centers of less than 10,000 (see map, page 4). The 80-county region that was referred to as "rural" in past studies will be referred to as Greater Minnesota this year.

The data for this survey was collected via telephone interview from March to July 2010 across the entire state using a sample generated through a random-digit dialing method. The data collection process yielded 800 responses for the Twin Cities area, 500 for the Metro- and Micropolitan counties group and 400 responses for the Rural counties group. The data were weighted for age and population share, based on U.S. Census data, to generate statewide and Greater Minnesota results. The survey results have a margin of error at the 95% confidence level of ±3.5% for the statewide, Twin Cities, and Greater Minnesota samples, and ±4.5% for the Metro- and Micropolitan county and Rural county samples.

Adoption

In the two years since the previous Minnesota Internet study was conducted, the adoption of broadband in Minnesota continues at a fast pace, although perhaps not as fast as earlier in the decade. Between the end of 2007, when data for the last survey were collected, and mid-2010, the percentage of households in Greater Minnesota using broadband grew from 52.3% to 65.5%; in the Twin Cities metro area, adoption went from 62.9% to 73.2% (see Table 1). So fully two-thirds of Greater Minnesota households and three-fourths of Twin Cities households now have broadband. Even the adoption-rate gap between Greater Minnesota and the Twin Cities has shrunk, going from 10.6 percentage points down to 7.7 percentage points. Figure 1 shows how this gap has been closing; in particular, Internet service has become almost universal for computer owners. Only 6.8% of Greater Minnesota computer owners and 2.9% of Twin Cities computer owners don't have their computer connected to the Internet.

Users of dial-up service are also becoming increasingly rare. In Greater Minnesota, only 8.0% of Internet users are using dial-up, down from 21.8% in the last study, while in the Twin Cities the percentage of Internet users using dial-up is down to 1.9%, compared to 15.5% two years ago. When asked why they haven't chosen to purchase broadband

Table 1: *Adoption rates for Greater Minnesota and the Twin Cities, 2001-2010.*

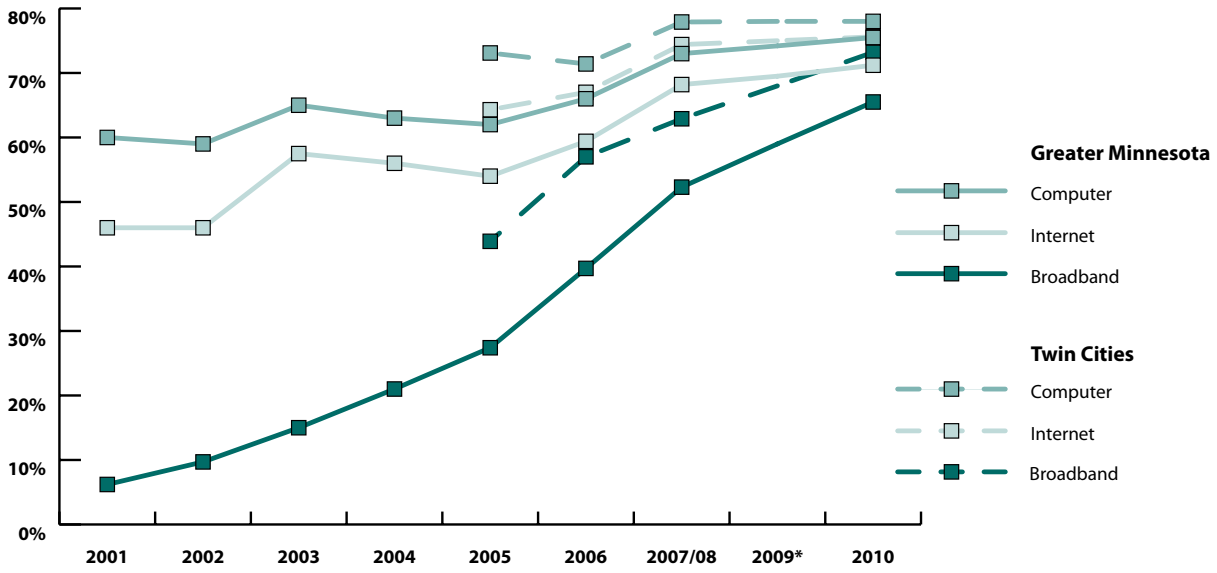
Greater Minnesota	2001	2002	2003	2004	2005	2006	2007/08	2010
Computer	60%	59%	65%	63%	62%	66%	73%	75.5%
Internet	46%	46%	57.50%	56%	54%	59.4%	68.2%	71.2%
Broadband	6.2%	9.7%	15.0%	21.00%	27.4%	39.7%	52.3%	65.5%
Twin Cities	2001	2002	2003	2004	2005	2006	2007/08	2010
Computer					73.1%	71.4%	77.9%	78.0%
Internet					64.3%	67.0%	74.4%	75.6%
Broadband					43.9%	57.0%	62.9%	73.2%

yet, the majority of dial-up users responded that it was too expensive (63.8% of dial-up users in Greater Minnesota and 50.7% in the Twin Cities). After that, though, the answers varied. In the Twin Cities, the second most common answer was "I don't use the Internet enough" at 28.5%, while in Greater Minnesota the answer was "It's not available where I live" at 18.2%. In comparison, only 3.9% of Twin Cities dial-up users cited availability as an issue.

It does appear that since 2007 computer ownership has leveled off at just under 80% of all households. It could be due to the recession, and it could also be interpreted that computer adoption is reaching a natural ceiling and will continue to grow only slowly. When asked why they don't have a computer, the most common answer for Greater Minnesota residents and Twin Cities residents was that they didn't need one. After that, Twin Cities residents were more likely to say a computer was too expensive or that they didn't know how to use one, while Greater Minnesota residents were more likely to say they were too old.

Internet adoption is also bumping up against this computer ownership ceiling, where nearly everyone with a computer has it connected to the Internet. In

Figure 1: *Adoption rates for Greater Minnesota and the Twin Cities, 2001-2010.*



* *Data was not collected for 2009.*

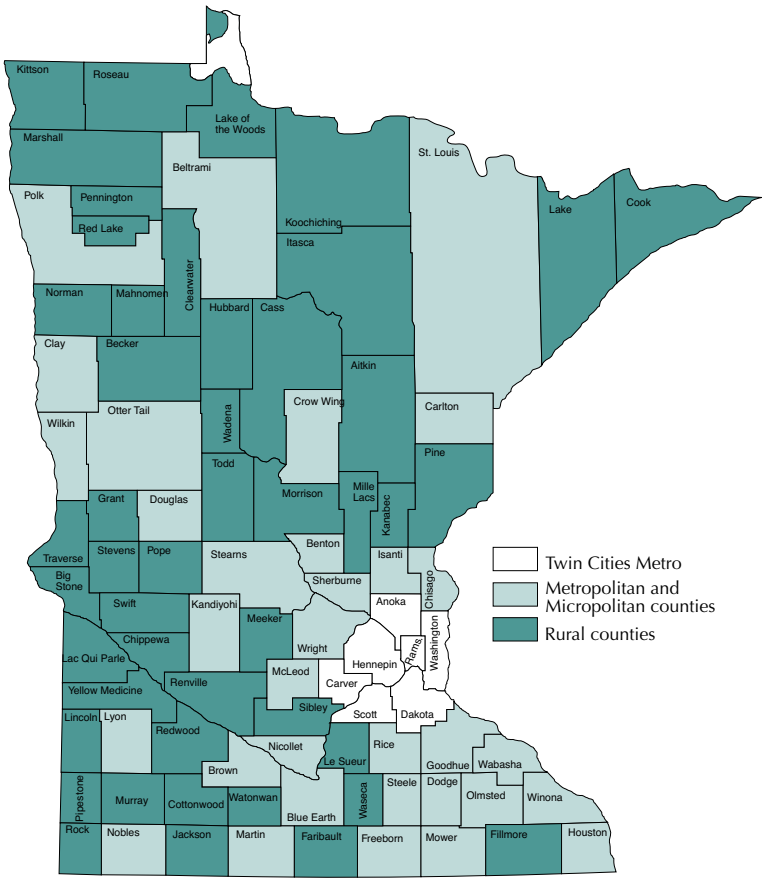
Greater Minnesota the rate is 94.2% of computer owners, while in the Twin Cities the rate is 97.0% of computer owners.

Dividing up Greater Minnesota

While the studies over the years have shown a steady increase in broadband adoption, we have also understood that adoption is not evenly distributed. To get a better look at this issue, we chose to break the Greater Minnesota area down further, into two groups of counties that, rather than being defined by location, are defined by the presence of a population center of at least 10,000 and those without (see map below). The results of the survey in these counties show that there are lower adoption rates and less general use of the Internet in the more rural counties.

The counties included in the Metro- and Micropolitan counties (MMC) group include population centers such as Rochester, Mankato, Duluth and Brainerd, and smaller cities like Alexandria and Willmar. The group also includes counties that are adjacent to the Twin Cities metro area, such as Isanti and Wright, that while technically are rural by the definition this study has used in the past, now contain a certain amount of population overflow from the Twin Cities. As Table 2 shows, adoption rates for the MMC counties are comparable to the Twin Cities for computer and Internet, but somewhat behind in broadband adoption. The Rural counties are farther behind for all three categories.

While broadband adoption has been growing, there are still pockets of no service around the state, as indicated by data from Connect Minnesota (www.connectmn.org/mapping). Theoretically broadband is available anywhere in the state via satellite coverage, but satellite is still a small presence, at less than 5.0% for any of the county groups. When Internet users were asked if they were satisfied with the speed of service they were receiving, the percentage responding "yes" were 89.5% in the Twin Cities group, 83.7% in the MMC group, and 78.6% in the Rural group. Interestingly, the average price given for broadband access was fairly similar across regions: $41.31 in the Twin Cities; $39.38 for the MMC counties group; and $38.50 for the Rural counties group.



Age and income

Since we started asking about age and income, we have known that they are a strong indicator of whether a household has computers and Internet technology, but the responses noted above as to why people choose not to have computers or broadband are clues that they may play a larger role in more rural counties. Figure 2 shows broadband adoption broken down by age, while Figure 3 shows it broken down by income. The higher a person's age or the lower their income, the less likely they are to be using broadband. This may be even more true in the Rural group, where, indeed, a check of data from the 2008 Census estimates shows that 24.3% of the population in Rural counties is age 65 and over, compared to 18.7% in the MMC group. Year after year, however, the adoption rate continues to creep up in the older and lower-income groups.

So, while low population density and its impact on the cost-effectiveness of providing broadband has been a factor and

Table 2: *Computer, Internet and broadband adoption by Minnesota region.*

	Twin Cities	MMC counties	Rural counties
Computer	78.0%	78.4%	68.4%
Internet	75.6%	74.3%	63.6%
Broadband	73.2%	68.9%	56.9%

will continue to be, it may not explain everything. Only about 18.0% of dial-up users in both the MMC and Rural counties said they had not subscribed to broadband yet because it wasn't available in their area. Expense appeared to be more of a factor. However, 26% of respondents using dialup in the Rural counties group said they didn't get broadband because they don't use the Internet enough, as opposed to only 9% in MMC counties. A related piece of data appeared when we asked people why they didn't own a computer (Table 3): the largest percentage said because they didn't need one, but respondents also said because they were "too old"; in fact, 25% of respondents in the Rural group gave this answer. "Too old" was not given as an option but was volunteered by respondents under "other," indicating that a certain number of respondents believed their age determined whether they needed a computer or not.

How it's being used

Survey respondents were presented a list of online activities and asked if they had participated in any of them in the last six months. In past surveys, the difference between Greater Minnesota and the Twin Cities were pronounced, and this is still the case this year depending on where a household is located. In years past we also distinguished between dial-up and broadband users, showing that dial-up users spent less time online overall and participated in fewer activities. This year, we grouped dial-up and broadband users together into all Internet users, since, with so few dial-up users, it appeared a separate analysis would not be productive.

A handful of activities that have always been the most popular remain so. Sending and receiving email is still the universal activity at 98.0% statewide, followed by researching a planned purchase, checking the weather or news, and purchasing something online. Newer activities are gaining ground, however. More than three-fourths of households statewide report banking and/or paying bills online, and nearly

Table 3: *Reasons given for not owning a computer.*

	Twin Cities	MMC	Rural
Don't need one	38.0%	46.5%	37.8%
Too expensive	15.1%	8.0%	13.0%
Don't know how to use one	19.6%	11.2%	6.6%
Access elsewhere	12.9%	14.2%	9.6%
Too old	5.7%	10.6%	25.4%

Figure 2: *Broadband adoption by age.*

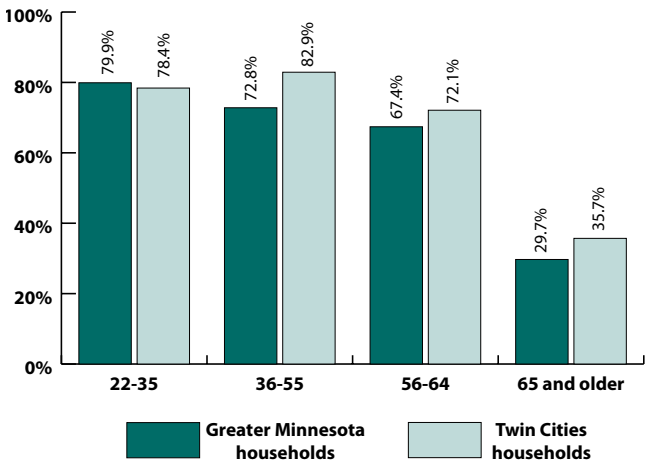
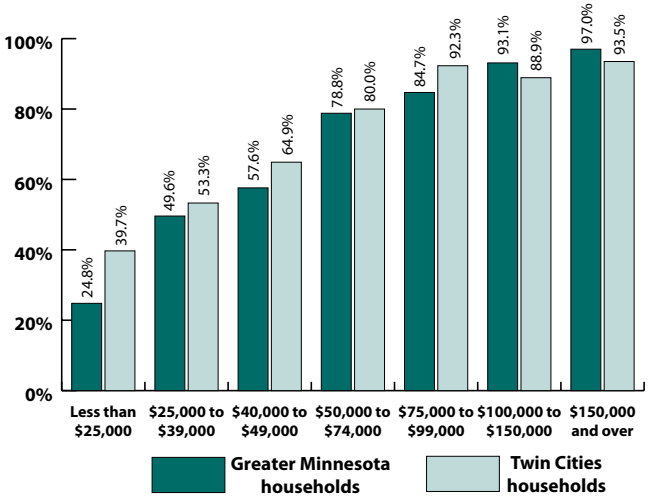


Figure 3: *Broadband adoption by income.*



70% report using some kind of social networking site. Nearly 40% report staying in contact with their children's school online, while 22% contact their legislators online.

Table 4 shows that when the activities are broken down by region, some distinct differences show up. Twin Cities Internet users lead in most activities, particularly in banking, staying informed on community issues, searching for employment, and placing a call over the Internet. Internet users in the MMC counties were more likely to use social networking, communicate with their children's school, take a class online, and check commodity prices online. Internet users in the Rural counties group were less likely to engage in all of the activities on the list. Especially larger gaps showed up for accessing news web sites, making purchases, using a social networking site, communicating with a child's school and streaming movies or TV programs.

A possible explanation for this gap is that while broadband is widely available in these areas, the capacity to engage in these activities may be lacking. For example, streaming TV programs requires more bandwidth than what may be available or a customer can afford; a school may not have the ability to set up a communications portal for parents.

This year the survey also included questions on social networking (see Table 5). Social networking was surprisingly prevalent in all parts of the state. The top use was, of course, for fun and keeping in contact with friends. More than a third of Internet households reported using social networking for staying informed on issues in all three regions. The medium was used much less frequently for earning money. And a dramatic difference was seen in the percentage of Internet households using social networking for their career: 25.4% of Twin Cities Internet households compared to 12.5% for the MMC group and only 3.8%

Table 4: *Percentage of all Internet users engaging in online activities by region.*

Activity	Statewide	Twiin Cities	MMC	Rural
Send and receive email	98.0%	98.5%	98.9%	93.8%
Research a purchase you're planning	86.1%	86.0%	86.8%	85.3%
Check the weather	84.3%	84.5%	85.0%	81.4%
Access news web sites	83.7%	86.2%	83.6%	73.5%
Purchase something at an online store or auction	77.4%	79.2%	77.8%	67.2%
Do banking, pay bills online	76.1%	82.4%	70.4%	63.2%
Research medical information	73.9%	73.6%	74.6%	73.4%
Use a social networking site	69.6%	68.9%	74.3%	60.2%
Download music or video files	55.7%	60.1%	51.9%	45.9%
Stay informed on community news and issues	45.6%	53.1%	35.6%	38.8%
Search for employment	44.4%	49.2%	39.2%	36.6%
Stream movies or TV	40.7%	48.0%	36.5%	19.0%
Do work for employer at home	39.1%	39.8%	41.0%	30.2%
Communicate with school	38.7%	37.4%	43.4%	32.8%
Play games online	25.7%	28.7%	24.3%	15.8%
Contact your legislator	22.5%	23.3%	22.7%	18.1%
Take a class online	18.2%	17.4%	19.8%	17.8%
Earn income other than traditional job	16.3%	18.0%	15.6%	10.9%
Place a phone call over the Internet	15.5%	20.4%	11.1%	5.4%
Communicate with doctor or nurse or other caregiver	11.4%	13.2%	10.0%	7.7%
Check ag commodity prices	6.3%	4.2%	7.9%	10.0%

Table 5: *Social networking.*

	State	Twin Cities	MMC	Rural
Use a social networking site	69.6%	68.9%	74.3%	60.2%
Social networking: Fun and friends	97.9%	99.5%	96.4%	93.9%
Social networking: Your career	18.6%	25.4%	12.5%	3.8%
Social networking: To earn money	7.1%	10.1%	4.6%	0.6%
Social networking: To stay informed on issues	37.0%	38.8%	34.2%	37.1%

Table 6: *Percentage of households with cell phones.*

	Statewide	TC	MMC	Rural
Do you own a cell phone?	82.8%	82.2%	84.5%	80.7%
Percentage cell phone owners who…				
Use cell phone to text message?	58.7%	62.4%	54.1%	55.4%
Send and receive emails?	24.0%	29.2%	20.6%	12.0%
Surf the Internet?	23.6%	28.7%	20.3%	12.1%
Take and send pictures?	48.0%	54.7%	40.7%	39.9%

for the Rural group.

We also asked all survey respondents whether they have used the Internet at the public library. Interestingly, 30.9% of metro respondents said they had, versus 17.4% of MMC respondents and 19.4% of Rural county respondents.

Finally, respondents were also asked about cell phones. The results revealed that more households have cell phones than have home computers, and that the rate of ownership is fairly consistent across the state. As Table 6 shows, more than half the households use their cell phones for text messaging, and that taking and sending photos is also popular, while emailing and surfing the Internet are less so.

Conclusion

The Minnesota Internet Survey was started in 2001 at a time when there was a small but growing awareness of the potential for this new thing called broadband. Since then, its growth — and the growth of activities that require broadband — has been nothing short of staggering. In 2001, 78% of households statewide reported using dialup to connect to the Internet; this year it was 4.7%. When the survey started asking about activities in 2002, email and "fun" were the top uses. Today, Internet users bank, make purchases, watch movies and take classes online.

Over the years, we have concentrated mainly on documenting the growth of broadband adoption, but by the 2007 report, it was apparent that broadband had become mainstream. This year's survey also indicated that availability is less of a problem than it has ever been, and that nearly everyone who has a computer is now connected to the Internet and connected via broadband. Some points to consider can be surmised from this year's survey, however.

- Although not as big a factor, availability is still an issue in Greater Minnesota, especially in the state's more rural counties. Age and income, however, may now have more of an influence on whether a person has broadband than its availability.
- About a quarter of the state's households still do not have a computer, and computer ownership appears to have leveled off, which would imply that broadband adoption must level off as well. Based on responses regarding age, expense and not knowing how to use a computer, however, alternatives to a traditional computer may be part of a solution. Smaller, handheld devices like smart phones, the iTouch and especially the iPad and other tablet computers are making it possible for individuals to access the online world at broadband speeds without a traditional computer. These new devices do have some

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issues in that they rely on cell phone or wi-fi service, which are not universally available either. Regardless of their limitations, though, these devices may serve as shortcuts to the Internet, especially for older individuals who may find a computer intimidating or excessive when all they want to do is send email and view photos.

- Social networking has grown phenomenally in the last few years, giving Internet users completely new means of communicating with friends and policy makers and information gathering. What this means for the future of communications in and among rural communities is still not fully understood, but the potential could be enormous.

In the past ten years, the United States and the world have become dependent on the Internet in ways that were unimaginable when this survey was started. It's necessity for business, education and everyday life has made access to the Internet a top priority for governments at all levels, and especially so for those populations that have limited access. While broadband has reached a point where tracking its growth overall is not that informative, tracking its progress in particular hard-to-serve areas and population groups would be productive. Also, an examination of alternative ways to access the Internet could provide needed information on how to bring the Internet to populations for whom traditional means of access have not worked so far.