

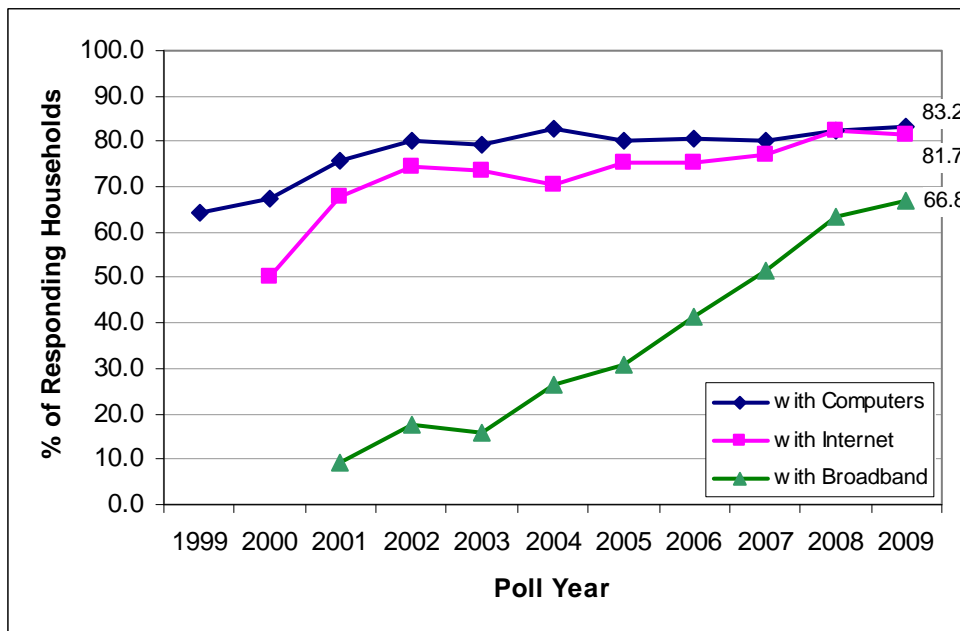
Results and Updates from *Vermont Poll* 2009:

Household computers and Internet connectivity are matched, broadband connections are rising, and the digital divide is evolving.

Measuring Computer Ownership and Internet Connectivity with the *Vermont Poll*

For more than a decade, the *Vermont Poll* has collected data on computer ownership and Internet connectivity among Vermont households. Overall the percentage of households with computers has held steady just above 80% for several years (see Figure 1). Household Internet connectivity has risen to nearly match computer ownership (81.7% in 2009). In the meantime, the proportion of these Internet connections that are “high-speed” or “broadband” continues its steady rise (81.8% in 2009). Overall, 66.8% of Vermont households had broadband in 2009.¹

Figure 1. Vermont households by computer ownership, Internet connections, and broadband connections, 1999-2009.



Source: University of Vermont Center for Rural Studies, *Vermont Poll*, 1999-2009.

Tracking the Digital Divide with the *Vermont Poll*

“Digital divide” is a term that refers to inequalities in the access that people have to information technology and Internet resources. For some time now, *Vermont Poll* data have shown that there are an income-based divides in household computer ownership and connectivity. For instance, households with higher incomes are more likely to have

¹ The preceding two sentences were corrected on June 8, 2009. The numbers 66.8% and 81.8% were switched in error in the first release of this report.

computers. The 2009 poll data continue to follow this trend (see Table 1). Table 1 also shows that lower income households are much less likely to have Internet connections, regardless of having a computer.²

Table 1. Percent of Vermont households that have a computer, an Internet connection or a broadband connection by household income, 2009.

Household Income	% with Computer	% with Internet (regardless of computer)	% with Broadband (vs. dial-up)
Less than \$25,000	44.0	44.1	73.3
\$25,000 - \$50,000	79.4	75.8	77.3
\$50,000 - \$75,000	92.6	89.9	83.2
\$75,000 - \$100,000	100.0*	97.6	80.5
More than \$100,000	97.0	92.9	91.3

N_{computer} = 512, N_{Internet} = 498, N_{broadband} = 408

Source: University of Vermont Center for Rural Studies, *Vermont Poll, 2009*.

Note: *Results of 100% should be interpreted in light of the *Vermont Poll's* margin of error of +/-4%.

The *Vermont Poll* has also allowed an exploration into the digital divide in the TYPE of connectivity. With today's Internet, users limited to dial-up connections are not getting the same experience and access as those with high-speed connections. While it should be noted that a majority of each group of connected households in Table 1 has broadband (vs. dial-up), lower income households are still less likely to have high-speed Internet.

Table 2. Percent of Vermont households with Internet that have broadband by rural-suburban-urban characteristic, 2009.

Character of Household Location	% with Internet (regardless of computer)	% with Broadband (vs. dial-up)
Rural	84.3	76.6
Suburban	85.3	93.9
Urban	69.0	88.3

N_{Internet} = 578, N_{broadband} = 475

Source: University of Vermont Center for Rural Studies, *Vermont Poll, 2009*.

The *Vermont Poll* and other information sources have revealed a rural digital divide in Internet and broadband connectivity in Vermont and around the nation. In 2009, the rural-suburban-urban divide in high-speed Internet is still active but with a new twist:

² Tests show that there is a lack of statistically significant difference by household income amongst households with computers and whether they had Internet.

suburban households with Internet are now more likely to have Internet and broadband than urban or rural (see Table 2).

The lower rate of broadband connections in rural areas makes sense in light of the challenges thus far in securing high-speed Internet availability in less dense areas of the State. However, by that logic, the urban rate would be the highest, not in the middle. Service maps show that Vermont's urban areas have more broadband services available. It could be that the higher rate of low income households (especially those less than \$25,000) in urban areas could be having a downward effect on the adoption of Internet and broadband in these areas (see Table 1).

Of all polled households without high-speed Internet or with no connection at all, 45.8% stated that broadband service was available to them. Suburban households were more likely to say yes (50%), while rural households were more likely to say no (43.2%). Urban households were least likely to say yes (42.9%), but also had a large proportion that did not know (28.6%).

Measuring Public Acceptance of Broadband Funding with the *Vermont Poll*

In 2007, the *Vermont Poll* found that the majority of households without computers or Internet did not want them at all. However the majority of households with a computer and Internet connection without broadband did respond that they wanted high-speed Internet to be made available to them. Overall many organizations, policy-makers, and private citizens have come forward during the course of the decade to proclaim the economic and social benefits of universal broadband availability in Vermont.

Assorted local, regional and statewide efforts to bridge the rural-urban broadband divide are in various stages of organization, activity and success. Most of these efforts – Burlington Telecom and the East Central Vermont Community Fiber Network, for example – require the commitment of local municipal resources, primarily through bonds for infrastructure development. The 2007 *Vermont Poll* found a majority (58%) of respondents in support of the allocation of State funds toward universal broadband. However only a minority (36%) was in favor of the use of municipal funds for the development of broadband infrastructure.

In 2008 the *Vermont Poll* asked more focused questions about the favorability of respondents toward the use of local resources to work “alone or in partnership with other municipalities to develop high-speed Internet infrastructure, such as data lines or wireless transmitters, so that companies may use them to sell high-speed Internet connections to local residents and businesses.” This is more in line with the types of efforts underway today. The understanding is that any municipal investment eventually would be paid back through fees charged for the use of the new infrastructure.

A vast majority of respondents (77%) were in favor of having their city or town involved in such an effort. When the question was focused to ask if respondents were in favor of

an effort exclusively in fiberoptic infrastructure, much faster than typical broadband, a majority (73%) said yes once again. When looking at the data from the viewpoint of the rural-urban divide, there was no discernible difference in the support for local efforts overall, but more rural households (74%) were in favor of the fiber-exclusive concept than urban households (68%) with suburban in the middle. Overall the local effort concepts had much more support in households with computers and Internet than in those that did not, although there was majority support amongst both. Whether or not a connected household had broadband or dial-up did not seem to have an effect.

Methodology

Much of the data used in this report was collected by the Center for Rural Studies at the University of Vermont as part of the 2009 *Vermont Poll*. The poll was conducted between the hours of 4:00 p.m. and 9:00 p.m. beginning on February 18, 2009 and ending on February 27, 2009. The telephone polling was conducted from the University of Vermont using computer-aided telephone interviewing (CATI). A random sample for the poll was drawn from a list of Vermont telephone numbers, which is updated quarterly and included listed and unlisted telephone numbers. Cellular phone numbers were not included in the sampling frame. According to the most recent estimates, 5.1 percent of Vermont households have at least one wireless cellular phone, but no landline telephone.³ As a state, Vermont has the lowest level of “wireless-only” households in the country. Only Vermont residents over the age of eighteen were interviewed. The poll included questions on a variety of issues related to public policy in the state of Vermont. There were 615 respondents to the 2009 Vermont Poll. The results based on a group of this size have a margin of error of plus or minus 4 percent at a confidence interval of 95 percent.

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³ Blumberg et al. (2009). Wireless Substitution: State-level Estimates from the National Health Interview Survey, January – December 2007. *National Health Statistics Report*, 14.

Poll Questions

Is there a personal computer or laptop in your home?

1. Yes
2. No
3. Don't Know
4. Refused

What type of Internet connection do you have at home?

1. None
2. Dial up modem (using phone lines, 56K, 28.8K)
3. Cable Modem
4. DSL (Digital Subscriber Line - using phone lines, faster than dial-up)
5. Satellite Internet service
6. Wireless Internet service coming in from outside your home
7. Fiberoptic
8. Other (specify)
9. Don't know
10. Refused

You may have heard of the term broadband, which is another name for a high-speed Internet connection. Broadband or high-speed Internet are defined as anything faster than a dial-up telephone Internet connection.

At this point in time, is any high-speed Internet service available to your home, if you wanted to be connected?

1. Yes
2. No
3. Don't Know
4. Refused