



Connect Minnesota

Broadband Initiative

Update

Minnesota Broadband Advisory Task Force
September 30, 2010

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Our Mission

Connect Minnesota is a subsidiary non-profit of Connected Nation, a national 501(c)(3) organization with primary offices in Washington, DC and Bowling Green, KY.

Connected Nation's mission is to generate and support economic development across the United States by:

- 1) Enabling the expansion of broadband availability, and**
- 2) Working to increasing broadband adoption rates**

Connect Minnesota has partnered with the Minnesota Department of Commerce to update Minnesota's broadband inventory maps and collect additional broadband data as required by the National Telecommunications and Information Administration (NTIA). Connect Minnesota is the recipient of an initial \$1.7 million grant under NTIA's State Broadband Data & Development Grant Program (SBDD).

- An omnibus bill containing language to create a statewide broadband inventory mapping project was included in SF 3337, which passed the legislature on May 7, 2008 and was signed into law by Gov. Tim Pawlenty on May 12, 2008. The Minnesota Department of Commerce was charged with issuing a Request for Proposals from qualifying vendors.
- Connect Minnesota, a non-profit 501(c)3 subsidiary of Connected Nation, submitted a bid and was subsequently selected by the Minnesota Department of Commerce to develop the map for the state in September 2008.
- Between October 2008 and June 2009, Connect Minnesota developed the state's first broadband inventory map and analysis of unserved areas.
- The final version of the map produced under Connect Minnesota's original mapping project was released on June 30, 2009.

**The First
Minnesota Broadband
Service Inventory Map
as of June 30, 2009**

Symbology

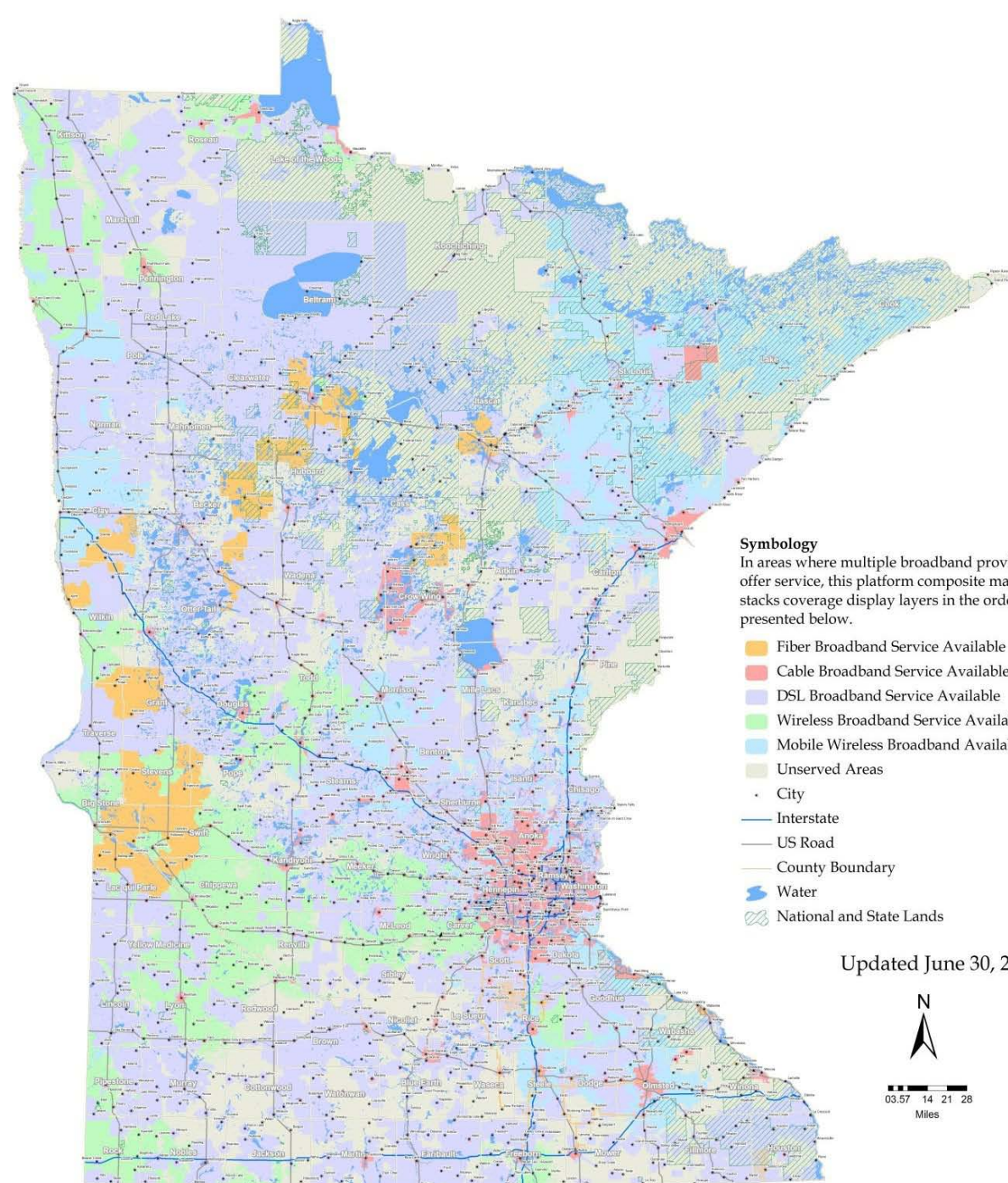
In areas where multiple broadband providers offer service, this platform composite map stacks coverage display layers in the order presented below.

- Fiber Broadband Service Available
- Cable Broadband Service Available
- DSL Broadband Service Available
- Wireless Broadband Service Available
- Mobile Wireless Broadband Available*
- Unserved Areas
- City
- Interstate
- US Road
- County Boundary
- Water
- National and State Lands

Updated June 30, 2009



03.57 14 21 28
Miles

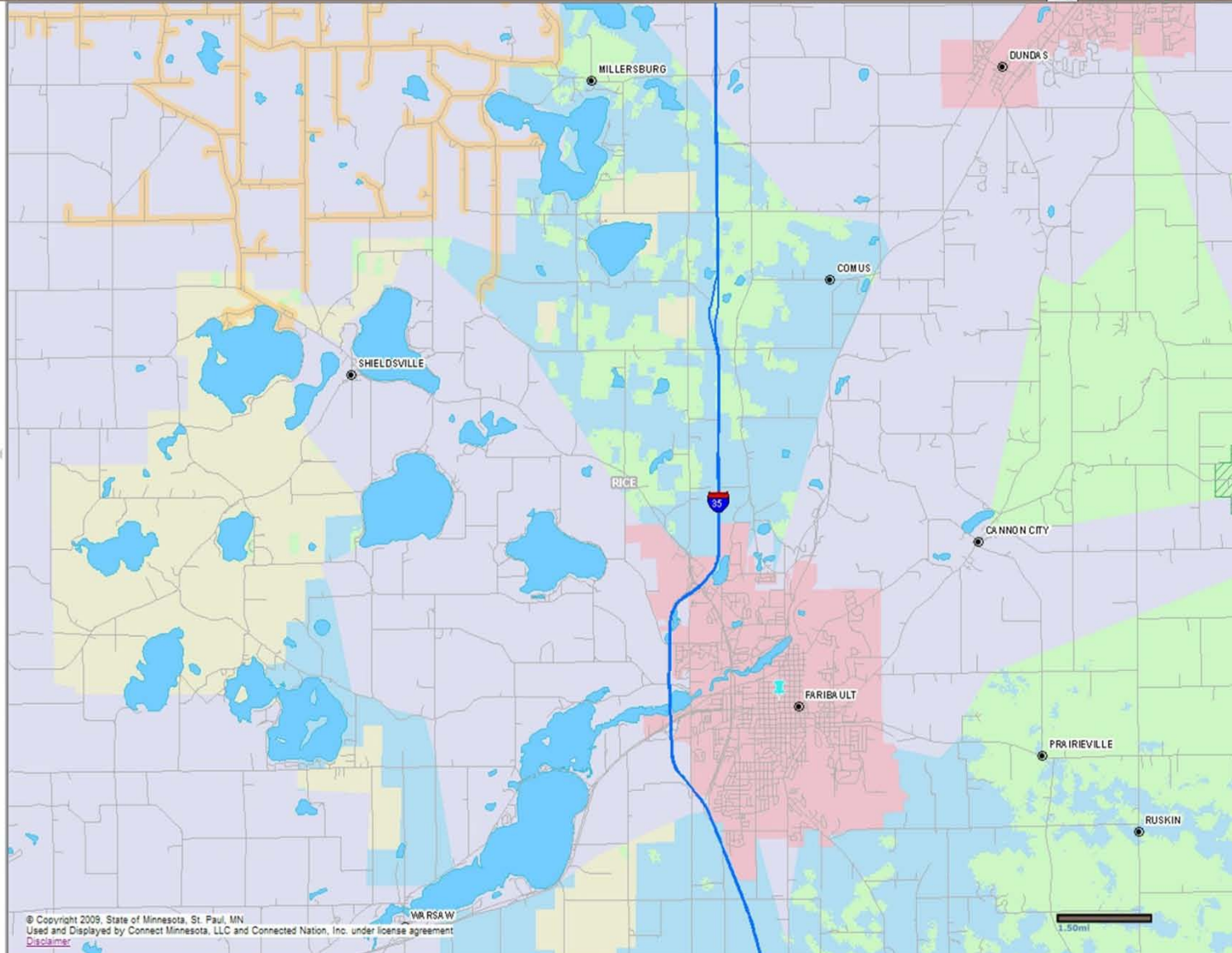


Results

- 400 7th Street NW, Faribault, MN, 55021 (3)
- 400 7TH ST NW, MN, 55021

Legend

- MNBroadband
 - County Seat
 - City
 - Municipal Boundary
 - Interstate
 - US Road
 - Local Road
 - County Boundary
 - National and State Lands
 - Lake
 - Minnesota Broadband
 - Fiber Broadband Available
 - Cable Broadband Available
 - DSL Broadband Available
 - Wireless Broadband Available
 - Mobile Wireless Broadband Available*
 - Average Residential Download Speed
 - 1st Generation Data (200 kbps to 768 kbps)
 - Basic Broadband Tier 1 (768 kbps to 1 Mbps)
 - Broadband Tier 2 (1.5 Mbps to 3 Mbps)
 - Broadband Tier 3 (3 Mbps to 6 Mbps)
 - Broadband Tier 4 (6 Mbps to 10 Mbps)
 - Broadband Tier 5 (10 Mbps to 25 Mbps)
 - Broadband Tier 6 (25 Mbps to 100 Mbps)
 - Broadband Tier 7 (Greater than 100 Mbps)
 - Average Residential Upload Speed
 - 1st Generation Data (200 kbps to 768 kbps)
 - Basic Broadband Tier 1 (768 kbps to 1 Mbps)
 - Broadband Tier 2 (1.5 Mbps to 3 Mbps)
 - Broadband Tier 3 (3 Mbps to 6 Mbps)
 - Broadband Tier 4 (6 Mbps to 10 Mbps)
 - Broadband Tier 5 (10 Mbps to 25 Mbps)
 - Broadband Tier 6 (25 Mbps to 100 Mbps)
 - Broadband Tier 7 (Greater than 100 Mbps)
 - Aerial Imagery - MNDNR Data Deli
 - Farm Services Administration (FSA) C
 - State of Minnesota





The Broadband Data Improvement Act

(Also known as S.1492 or Public Law 110-385)

- Created the State Broadband Data & Development Grant Program (SBDD) for states to launch broadband mapping and planning initiatives
- Passed by the U.S. Congress on September 30, 2008
- Signed into law by President Bush on October 10, 2008
- Funded (\$350 million) by the American Recovery and Reinvestment Act (ARRA) in February 2009
- Notice of Funds Availability (NOFA) to potential grantees issued the National Telecommunications & Information Administration (NTIA) on July 1, 2009
- Connect Minnesota was named as the state's "designated entity" for the State Broadband Data and Development Grant Program in July 2010
- A grant application was filed with NTIA on August 14, 2009
- A grant award announcement was made for Minnesota on December 22, 2009 for approximately \$1.7 million
- The first version of Minnesota's updated and enhanced broadband map was completed on April 30, 2010



Project Objectives

- To further develop strong working relationships with all of Minnesota's broadband providers and support an environment of public/private collaboration on broadband issues among all stakeholders
- To update and improve Minnesota's detailed maps of broadband coverage and launch a new robust, more user-friendly interactive map
- To utilize the resulting maps to accurately pinpoint any remaining gaps in broadband availability
- To assess the level of connectivity currently provided to Minnesota's “community anchor institutions” (i.e., schools, libraries, hospitals, etc.)
- To assess broadband use among Minnesota's businesses and residents, and identify barriers to broadband adoption, and
- To support the work of the Minnesota Broadband Advisory Task Force

- On April 30, Connect Minnesota submitted an initial dataset to NTIA, representing broadband data from 100 unique broadband providers across Minnesota—representing 83% of the provider community (100 out of 120 unique providers identified).
- Of those 100 providers, 94 are included on the updated broadband map. 6 providers are exclusively middle-mile (backhaul) providers and cannot be mapped per NTIA guidelines. However, the data was submitted to NTIA.
- Of the 20 providers that are not represented in the initial submission:
 - 2 providers have either refused to participate in the voluntary program or have remained unresponsive to the numerous contact attempts by Connect Minnesota.
 - 18 providers are currently in some form of progress toward data submission but were not able to either submit or verify coverage areas at the time of the April 30 submission to NTIA.



Number of Providers on Map: **100**

Broadband Definition: **768 kbps downstream/200 kbps upstream**

Excluding Mobile Broadband

- Statewide Broadband Covered Households: **1,810,736**
- Statewide Unserved Households: **84,391**
- Statewide Total Households: **1,895,127**
- Percentage: **95.55%**
- Geographic Availability: **60.22%**
- Rural Statewide Broadband Covered Households: **756,035**
- Rural Statewide Unserved Households: **78,848**
- Rural Statewide Total Households: **834,883**
- Percentage: **90.56%**

All Platforms

- Statewide Broadband Covered Households: **1,881,358**
- Statewide Unserved Households: **13,769**
- Statewide Total Households: **1,895,127**
- Percentage: **99.3%**
- Rural Statewide Broadband Covered Households: **822,405**
- Rural Statewide Unserved Households: **12,478**
- Rural Statewide Total Households: **834,883**
- Percentage: **98.51%**

- The generated maps are available in an interactive format called “BroadbandStat” at www.connectmn.org
- The maps will be continuously updated for a period of five years (through at least December 2014)
- Official dataset submissions to NTIA will occur every six months; the next submission will occur today (September 30)
- Connect Nation’s Engineering and Research Divisions are undertaking an ongoing process of validating the coverage information reflected on the maps (26.83% validated to date)
 1. On-the-ground field validation of infrastructure
 2. Survey research to “spot-check” coverage
 3. Public feedback via www.connectmn.org
- The public is encouraged to provide feedback via www.connectmn.org

- The *BroadbandStat* web application represents the nexus between mapping current broadband availability and planning for the future.
- *BroadbandStat* is a powerful, yet user-friendly and customizable tool that will allow state leaders and the public to:
 - Search for and identify broadband service at a specific address, including available speeds and service providers
 - Understand & track broadband deployment over time
 - Analyze and prioritize unserved and underserved areas using population and household density information
 - Track ARRA-funded broadband projects
 - Build and evaluate scenarios to help score and prioritize future broadband infrastructure proposals
 - Track broadband adoption rates and barriers to broadband adoption across Minnesota.



BroadbandStat Demonstration



*SBDD Supplemental Grant Application
Submitted to NTIA on August 5, 2010*

Funding Request: \$2,761,171 over 4 years (through December 2014)

- 1. Broadband Map Maintenance through the end of 2014**
- 2. State Broadband Capacity Building**
 - ✓ **Establish a State Broadband Program Office in St. Paul**
 - ✓ **Hire a State Broadband Program Coordinator**
 - ✓ **Provide Staff Support to the Broadband Advisory Task Force**
 - ✓ **Host an Annual State Broadband Summit**
- 3. Technical Assistance**
 - ✓ **County-level research on residential and business adoption (years 2 and 5 of the program)**
 - ✓ **State-level research on residential and business adoption (years 3 and 4 of the program)**
 - ✓ **Independent Research Peer Review**



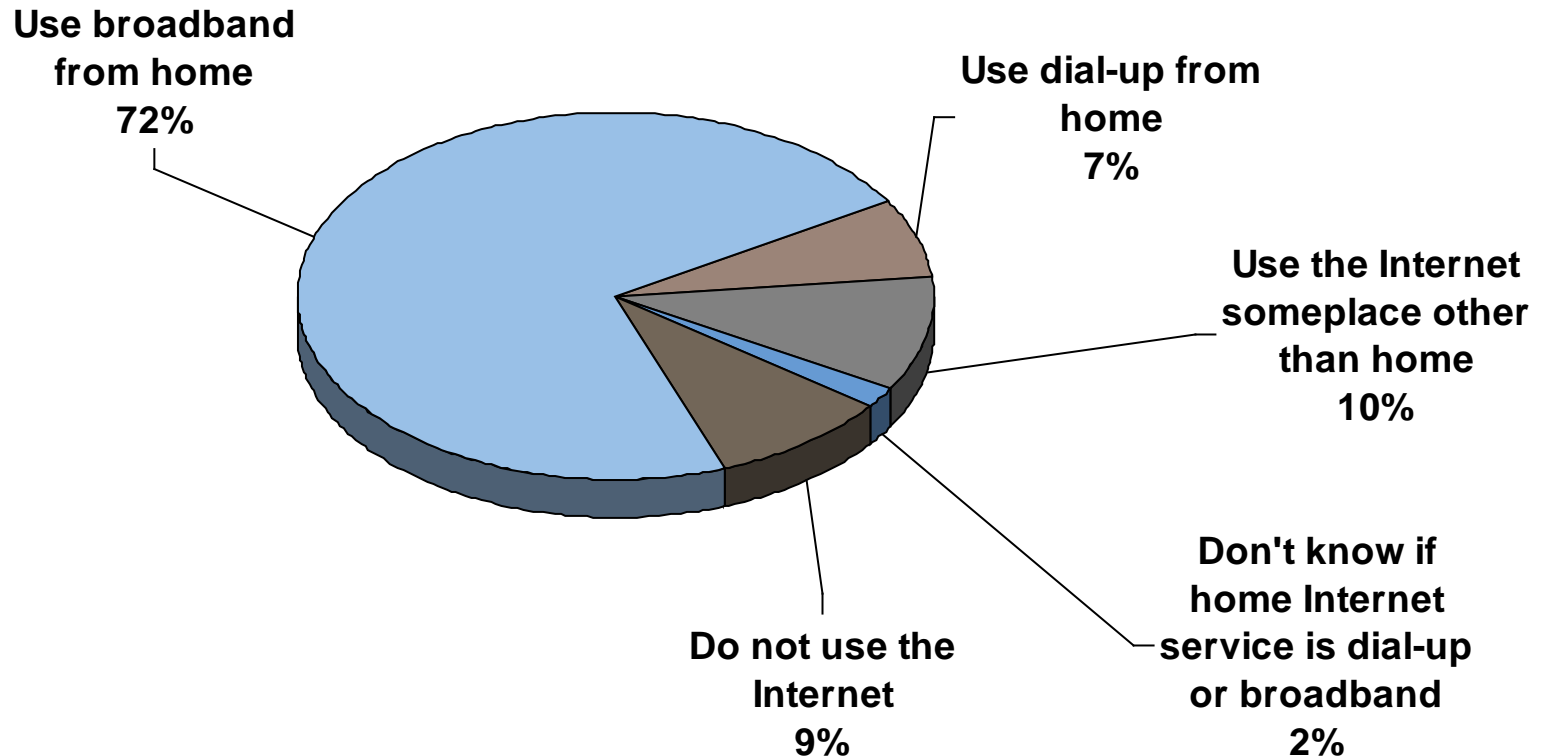
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Connect Minnesota Residential Technology Assessment Results

In compliance with state and NTIA requirements

Minnesota Technology Adoption Summary

Percent of all Minnesota residents

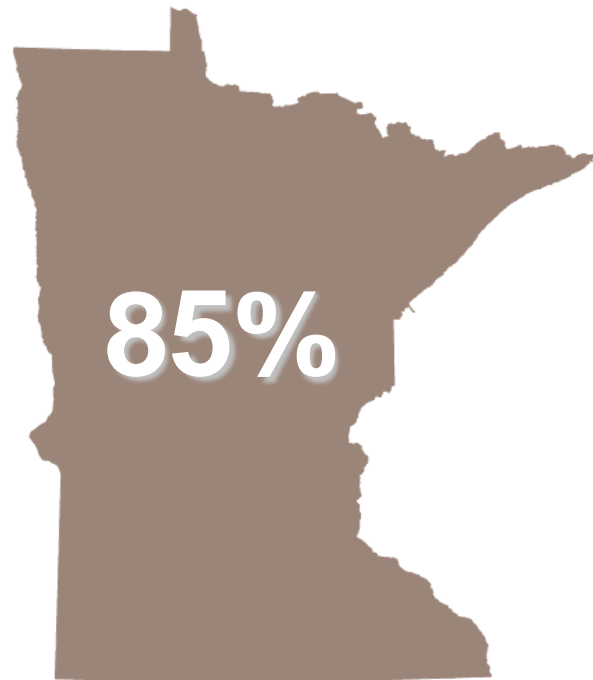


Q: Do you have an Internet connection at home?,
Do you have access to the Internet from any locations outside of your own home? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Minnesota Residents With a Computer in Their Household

Percent of all Minnesota residents who own a computer



**Statewide, 85% of all Minnesota residents own a home computer.
This translates into over 608,000 adults without a home computer.**

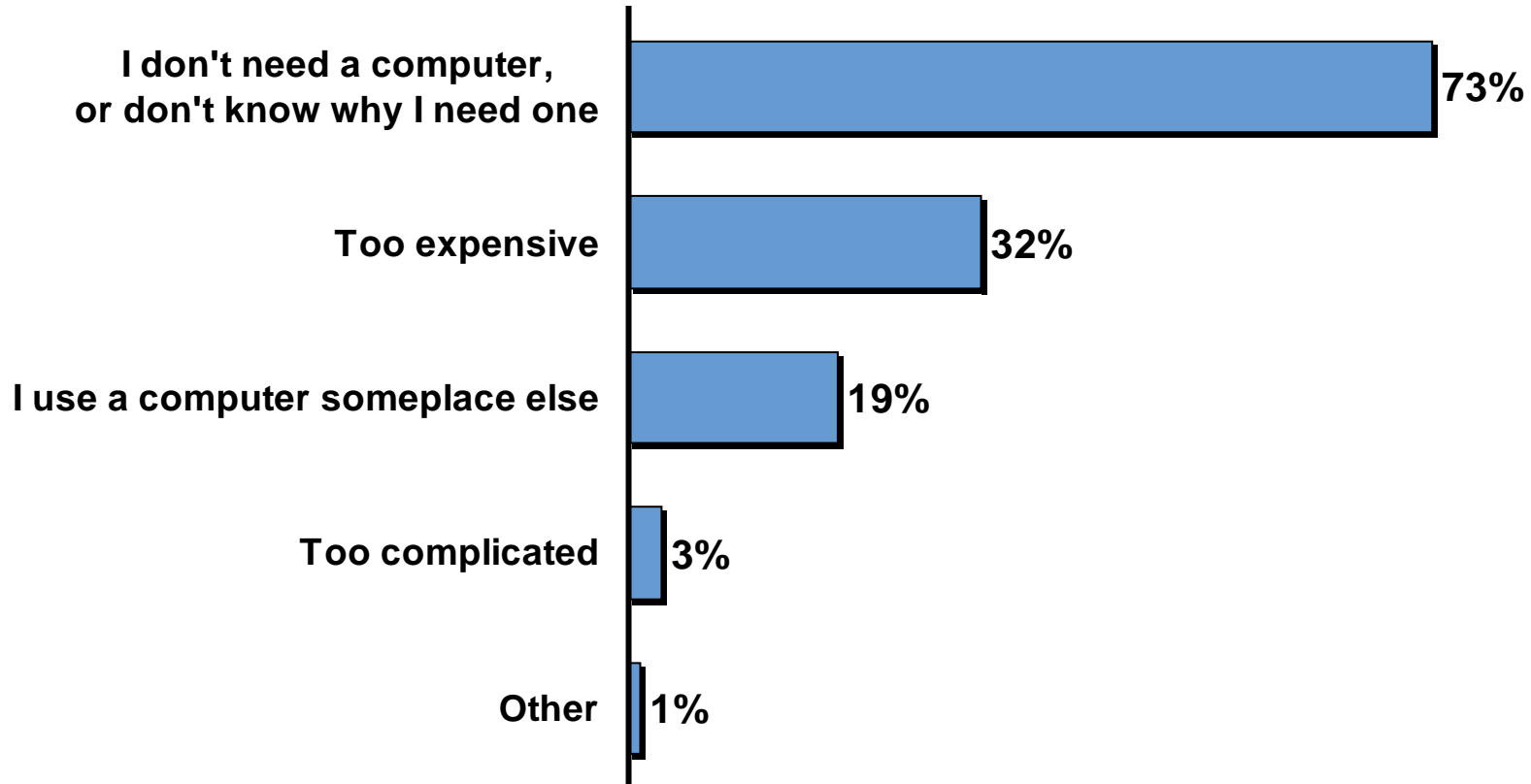
Q: Does your household have a computer?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org



Barriers to Computer Ownership

Percent of Minnesota residents with no computer at home*



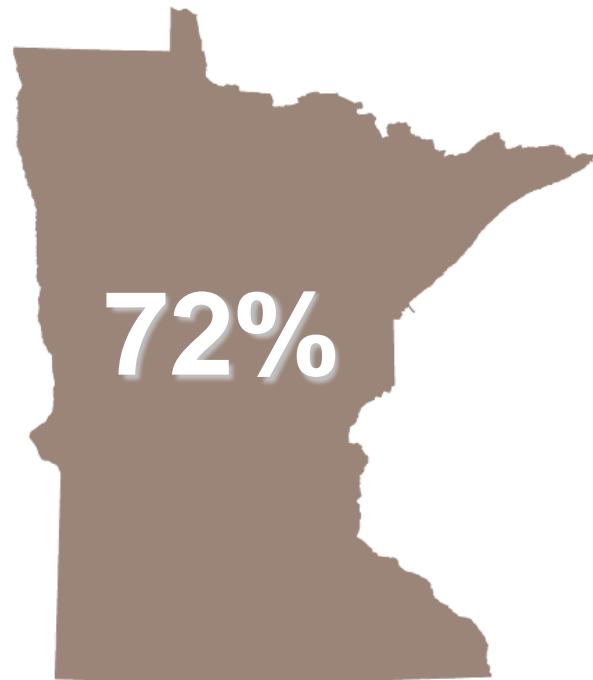
*Percentages do not add up to 100% because individuals could give multiple responses.

Q: Why don't you have a computer at home?
(n=191 MN residents with no home computer)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Minnesota Residents Who Subscribe to Home Broadband Service

Percent of all Minnesota residents who subscribe to home broadband service



Statewide, 72% of all Minnesota residents subscribe to home broadband service. This translates into nearly 2.9 million adults with broadband service at home.

Q: Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

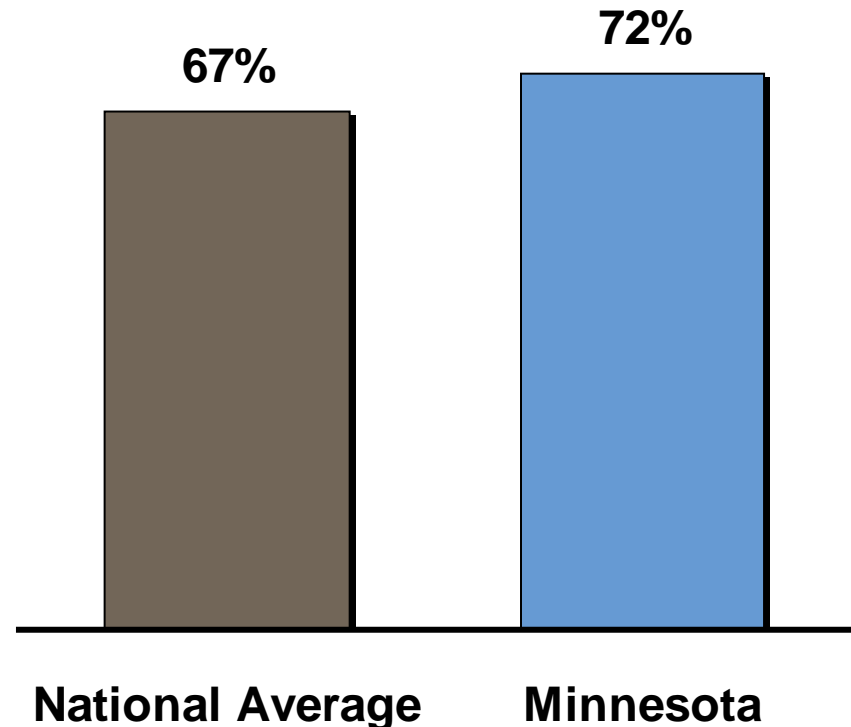


Minnesota Residents Who Subscribe to Home Broadband Service

Percent of all Minnesota residents with broadband service at home

Statewide, 72% of Minnesotans (nearly 2.9 million Minnesota adults) subscribe to home broadband service.

National surveys indicate that 67% of American households subscribe to home broadband service.*



*Source: Federal Communications Commission, *Broadband Adoption and Use in America*, 2010.

Source: 2010 Connect Minnesota Residential Technology Assessment
www.connectmn.org

Q: Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

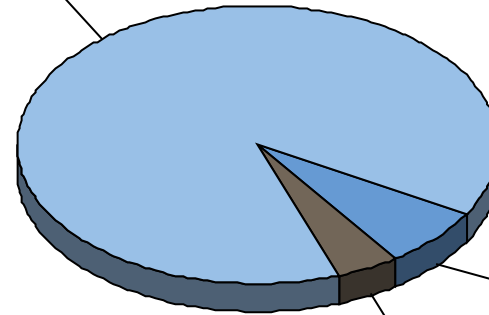
Perceptions of Broadband Availability in Minnesota

Awareness of broadband availability among Minnesota residents

Statewide, 4% of Minnesota residents report that broadband is not available where they live, and 7% do not know whether broadband service is available.

According to Connect Minnesota's provider-validated Broadband Service Inventory, 6.3% of households do not have terrestrial fixed broadband access.

**Have broadband service, or say broadband is available where they live
89%**



**Don't know if broadband is available where they live
7%**

**Say broadband is not available where they live
4%**

Q: To the best of your knowledge, is broadband or high-speed Internet service available in the area where you live?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota Residential Technology Assessment
www.connectmn.org

Perceptions of Broadband Availability in Minnesota

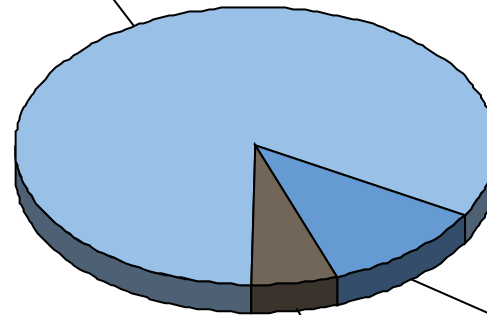
Among Rural Residents

Awareness of broadband availability among rural Minnesota residents

In rural Minnesota, 6% of adults report that broadband service is not available where they live, and 11% do not know whether broadband service is available where they live.

According to Connect Minnesota's provider-validated Broadband Service Inventory, 13.5% of rural households do not have terrestrial fixed broadband access.

Have broadband service, or say broadband is available where they live
83%



Say broadband is not available where they live
6%

Don't know if broadband is available where they live
11%

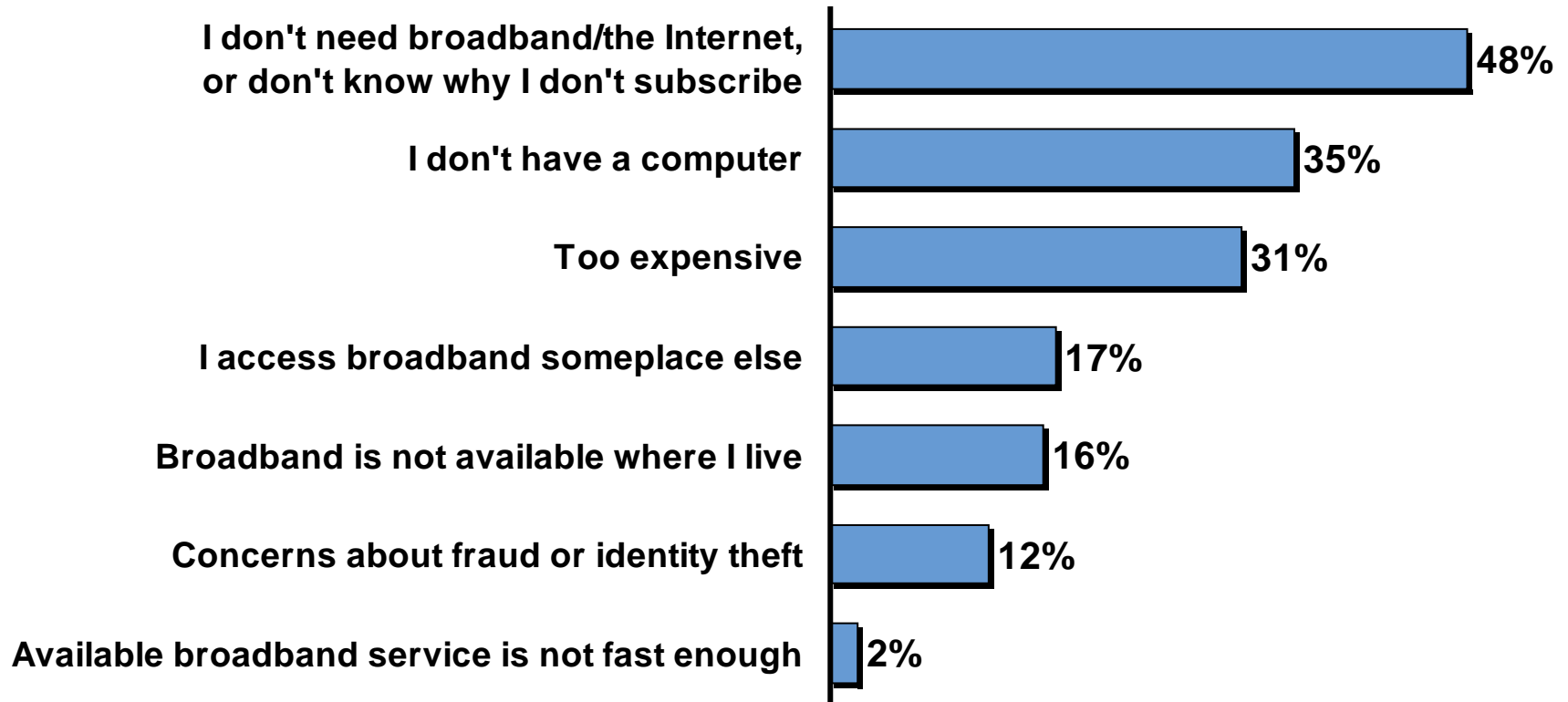
Q: To the best of your knowledge, is broadband or high-speed Internet service available in the area where you live?
(n=400 rural MN residents)

Source: 2010 Connect Minnesota Residential Technology Assessment
www.connectmn.org



Barriers to Broadband Adoption

Percent of Minnesota residents with no home broadband service



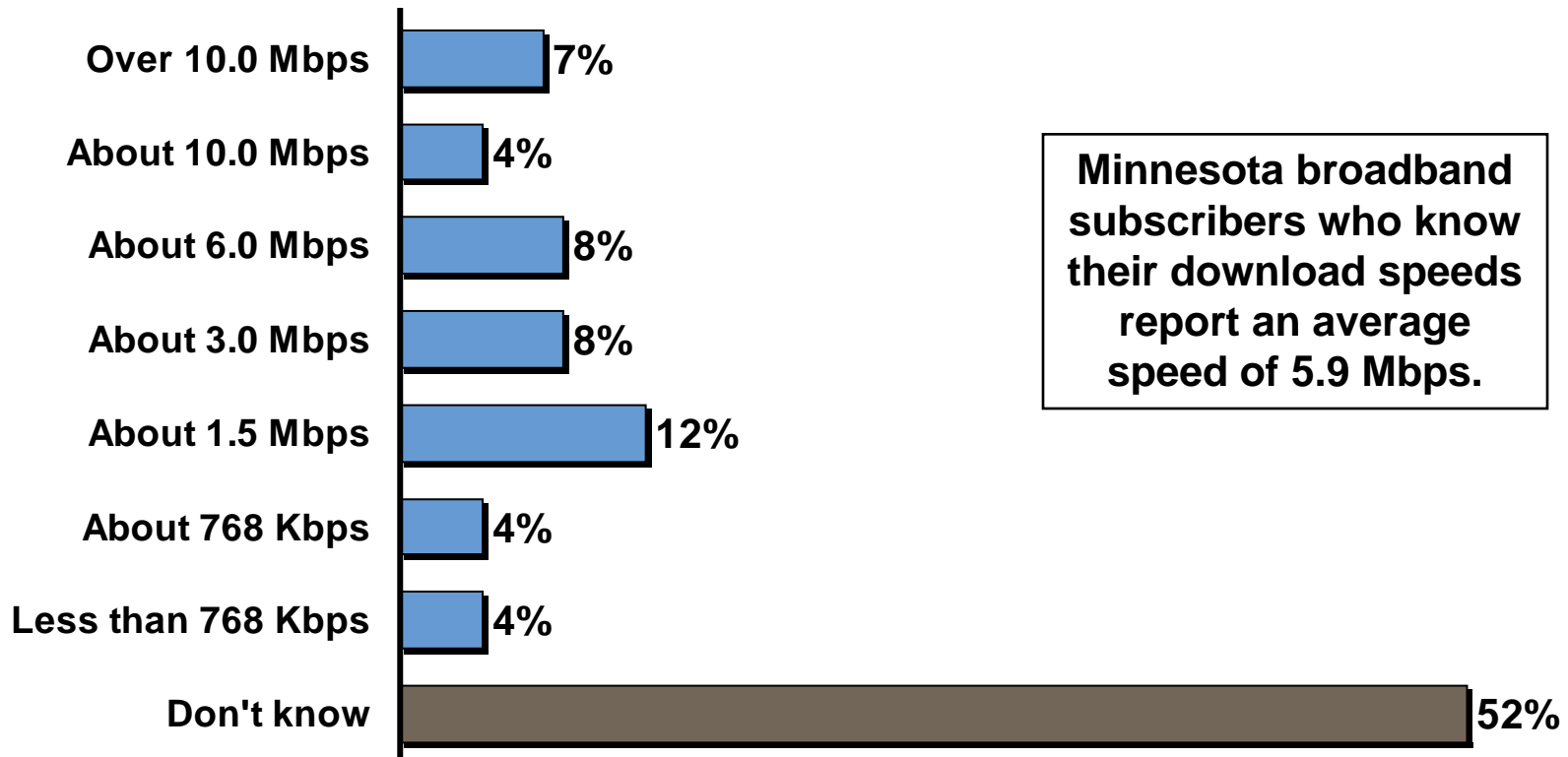
*Percentages do not add up to 100% because individuals could give multiple responses.

Q: Why don't you subscribe to broadband at home?
(n=351 MN residents that do not have home broadband service)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Broadband Download Speeds

Download speeds among Minnesota broadband subscribers



Q: To the best of your knowledge, what is the approximate download speed or bandwidth provided by your Internet service provider?
(n=856 MN residents with home broadband service)

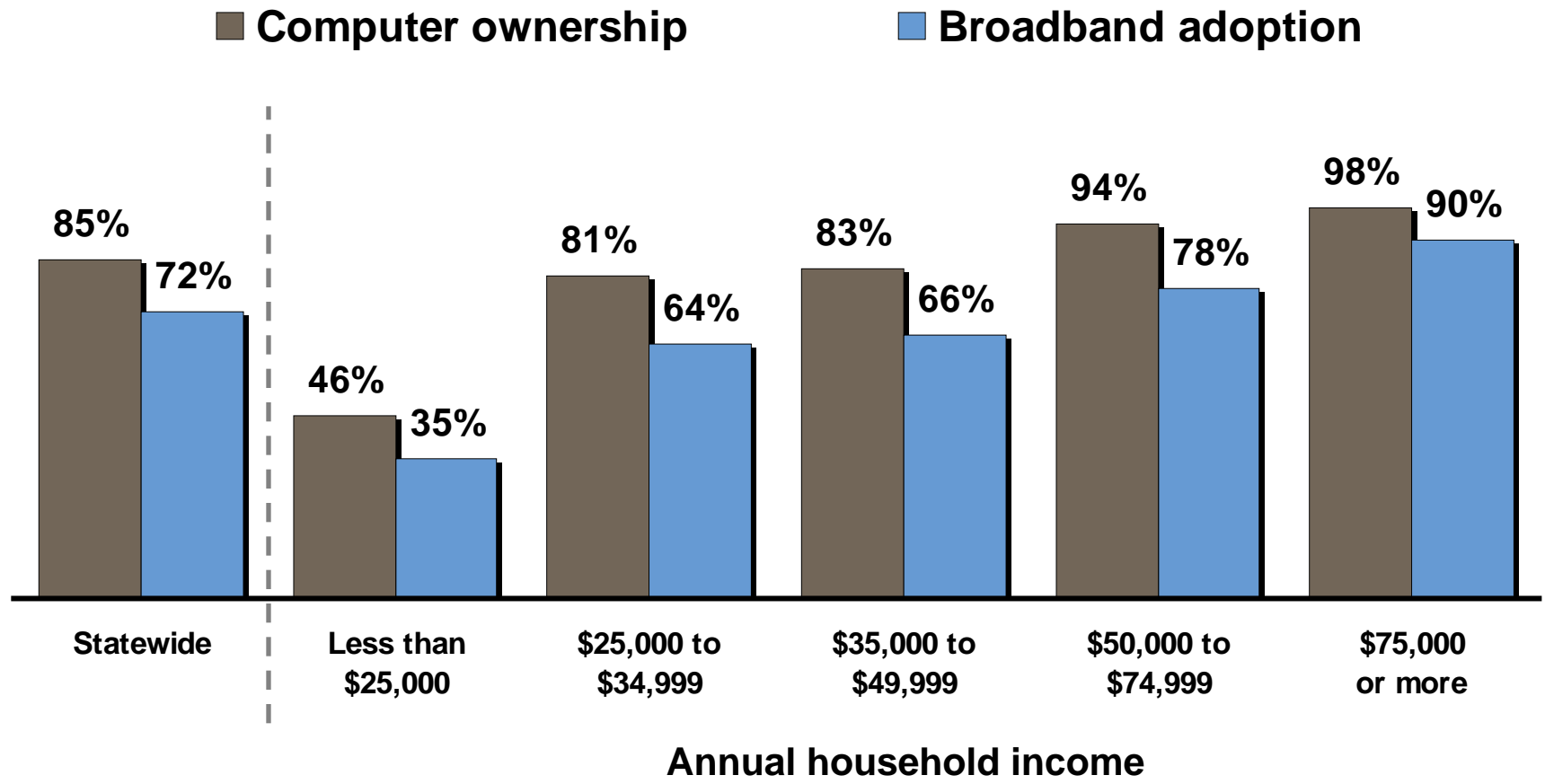
Source: 2010 Connect Minnesota Residential Technology Assessment
www.connectmn.org



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Technology Adoption by Demographic

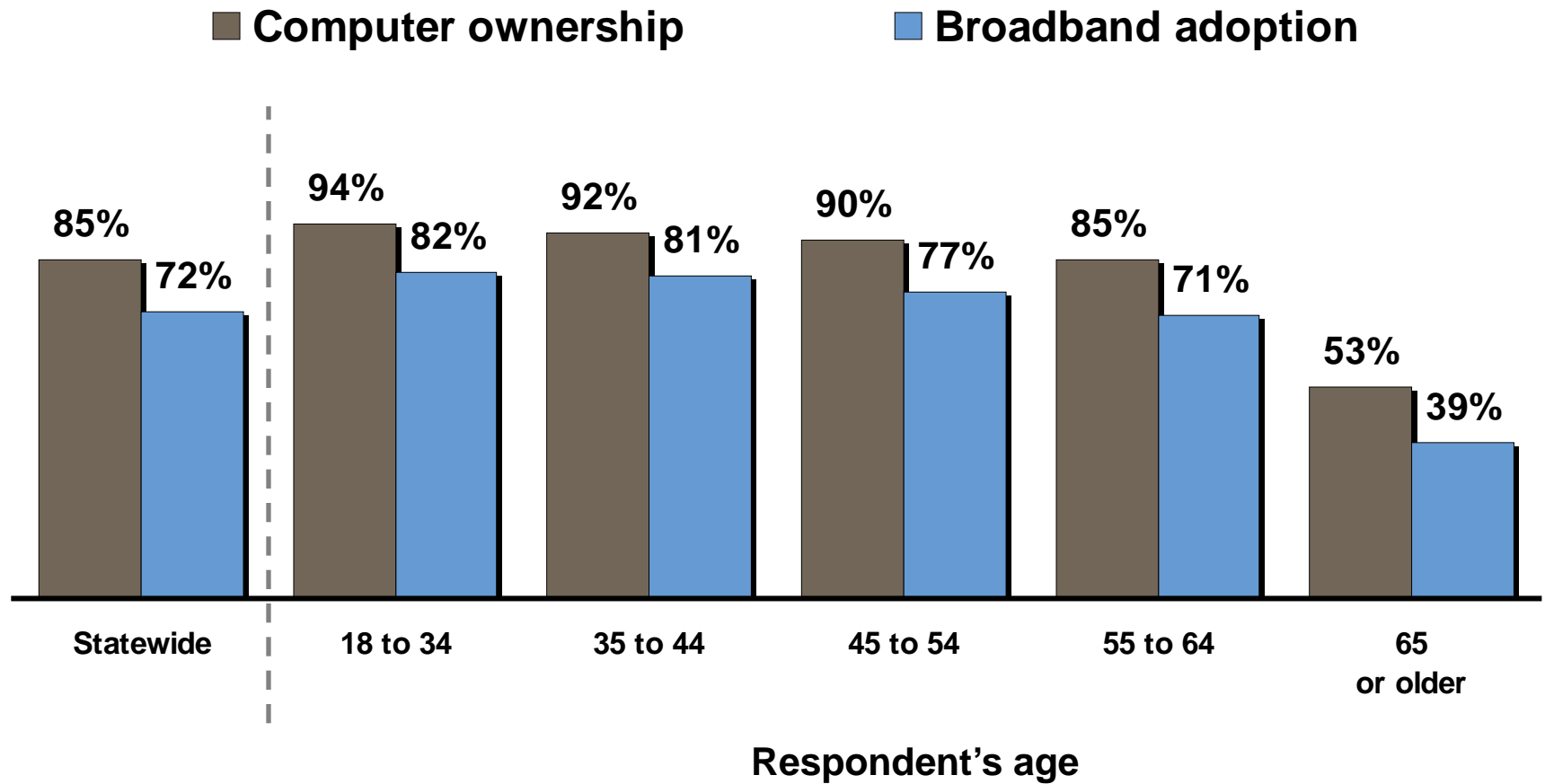
Technology Adoption by Income



Q: Does your household have a computer? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

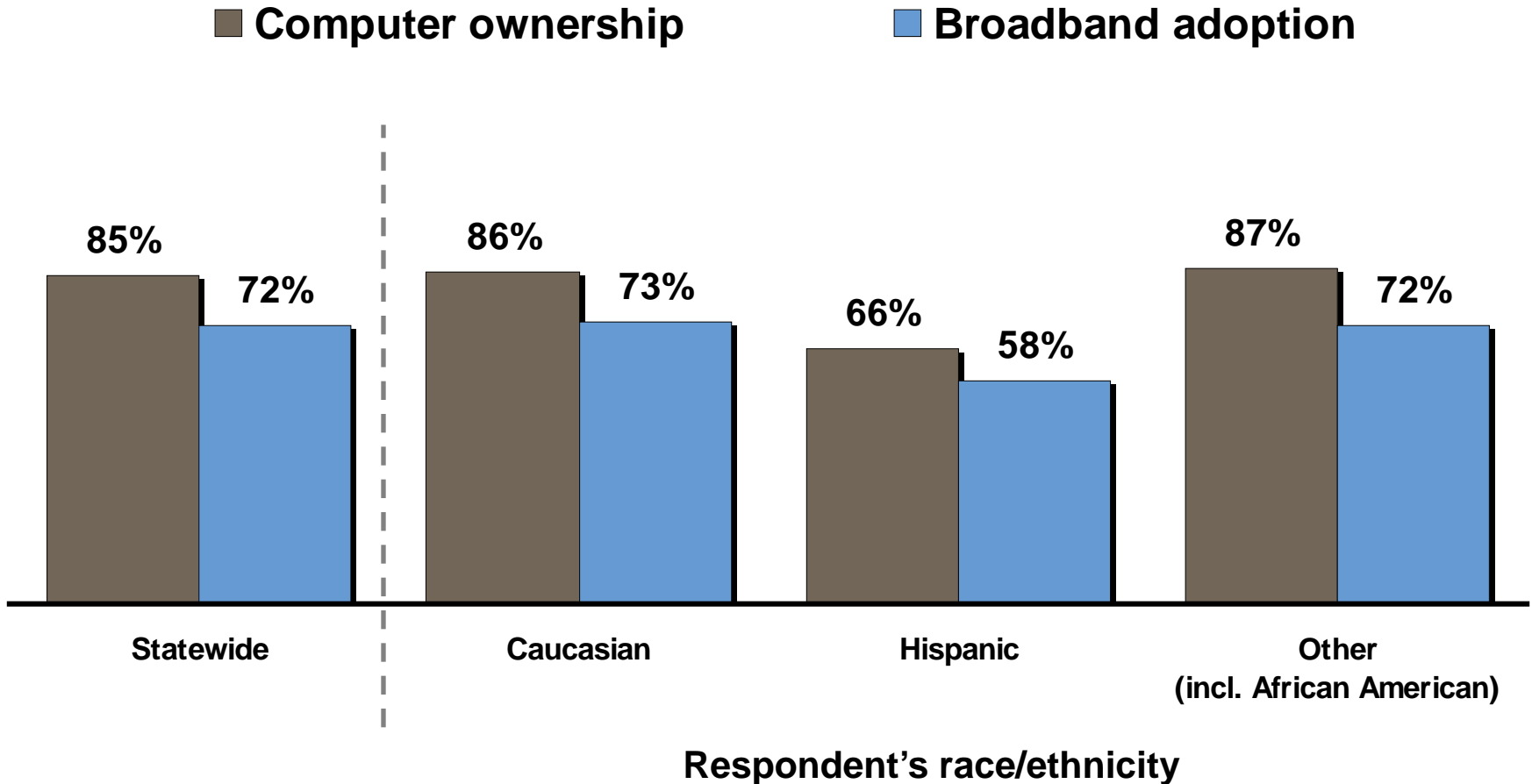
Technology Adoption by Age



Q: Does your household have a computer? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

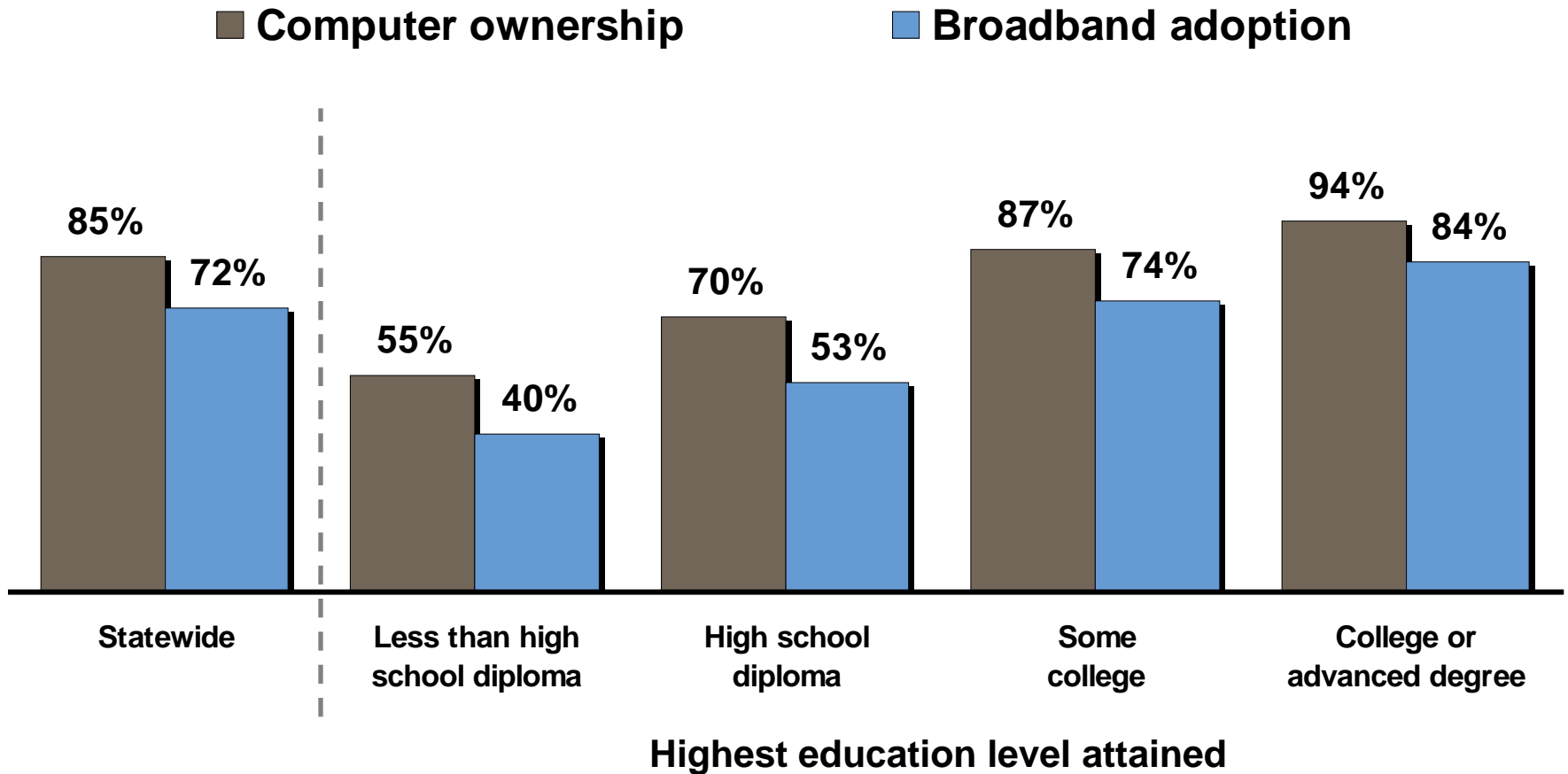
Technology Adoption by Race/Ethnicity



Q: Does your household have a computer? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

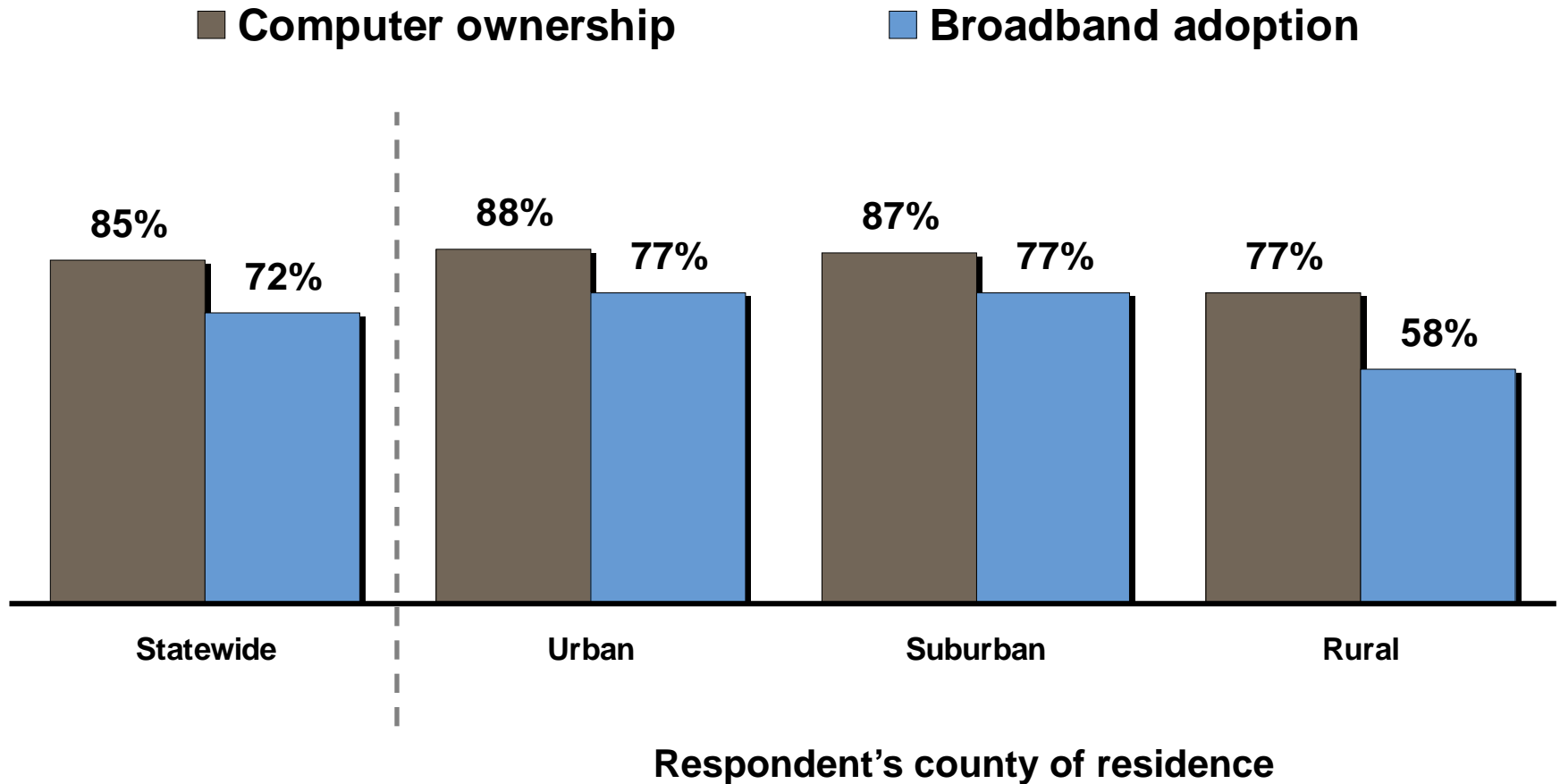
Technology Adoption by Education



Q: Does your household have a computer? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Technology Adoption by Urban-Rural Classification



Q: Does your household have a computer? and
Which of the following describe the type of Internet service you have at home?
(n=1,207 MN residents)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

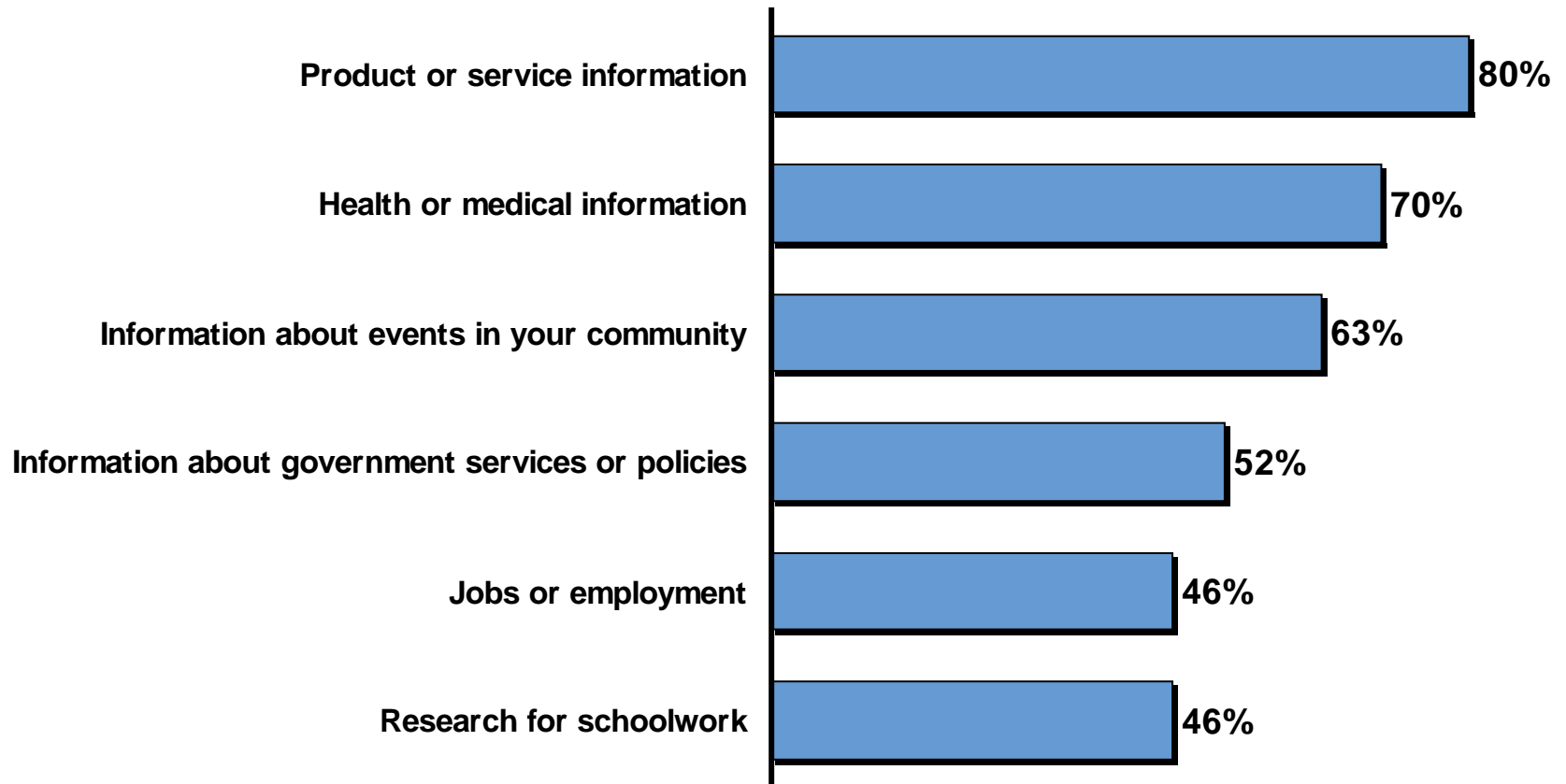


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Online Activities Among Minnesota Internet Users

Searching For Information Online

Percent of Minnesota Internet users who search for the following types of information online

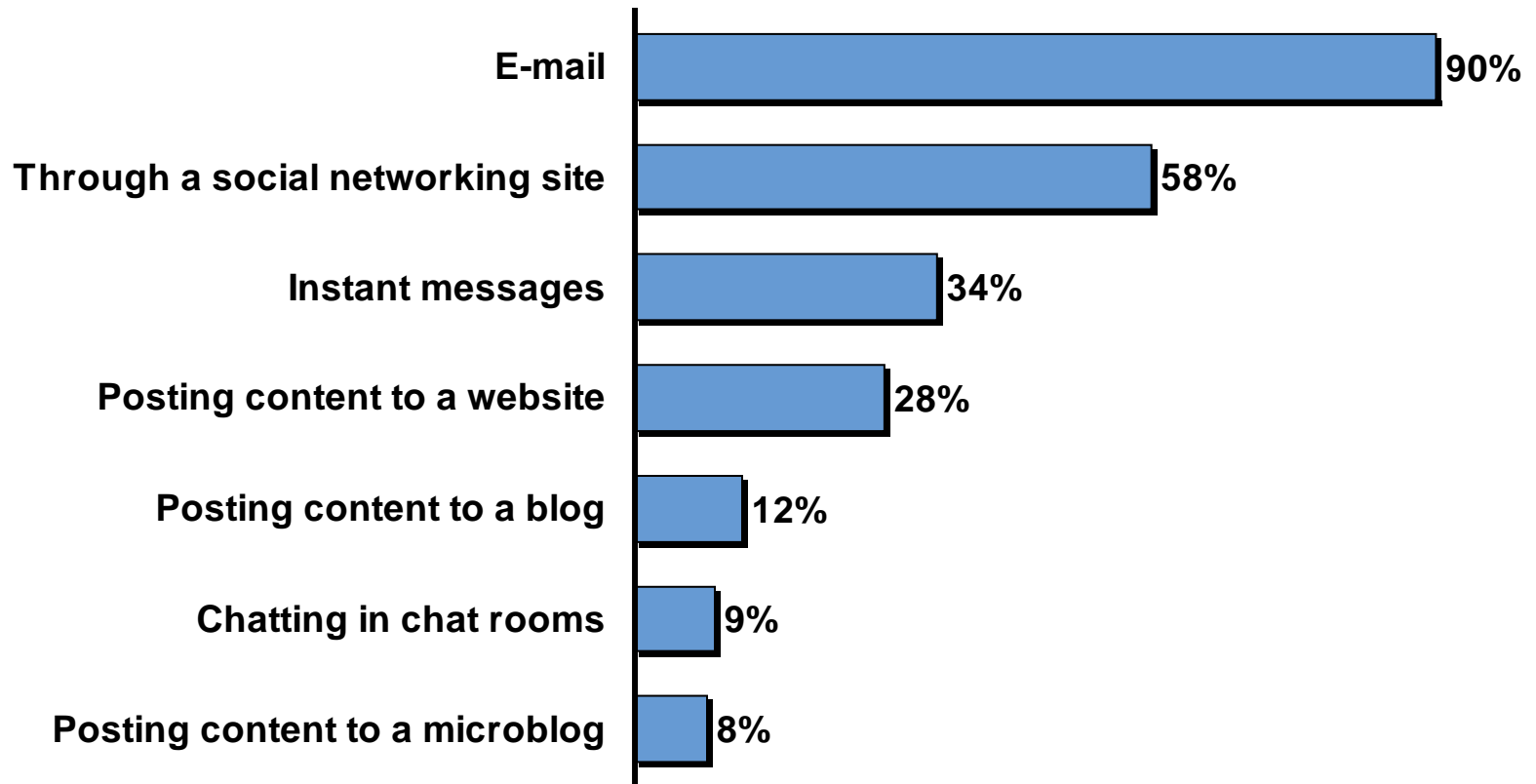


Q: Which of the following types of information do you use the Internet to look for online?
(n=1,093 MN Internet users)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Communicating Online

Percent of Minnesota Internet users who communicate in the following ways

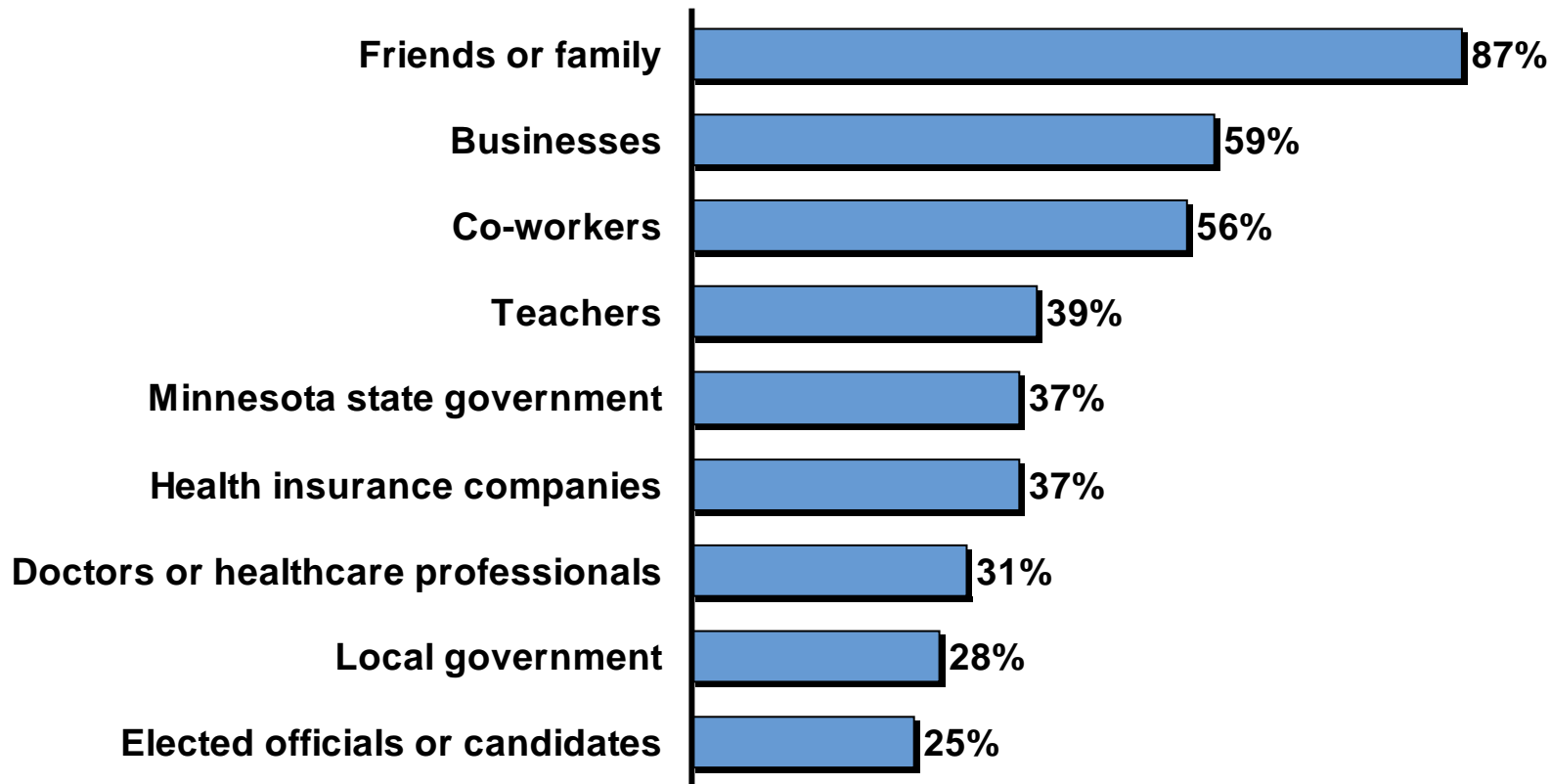


Q: Which of the following ways of communicating with others do you use?
(n=1,093 MN Internet users)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org

Interacting Online

Percent of Minnesota Internet users who interact with the following individuals or organizations online



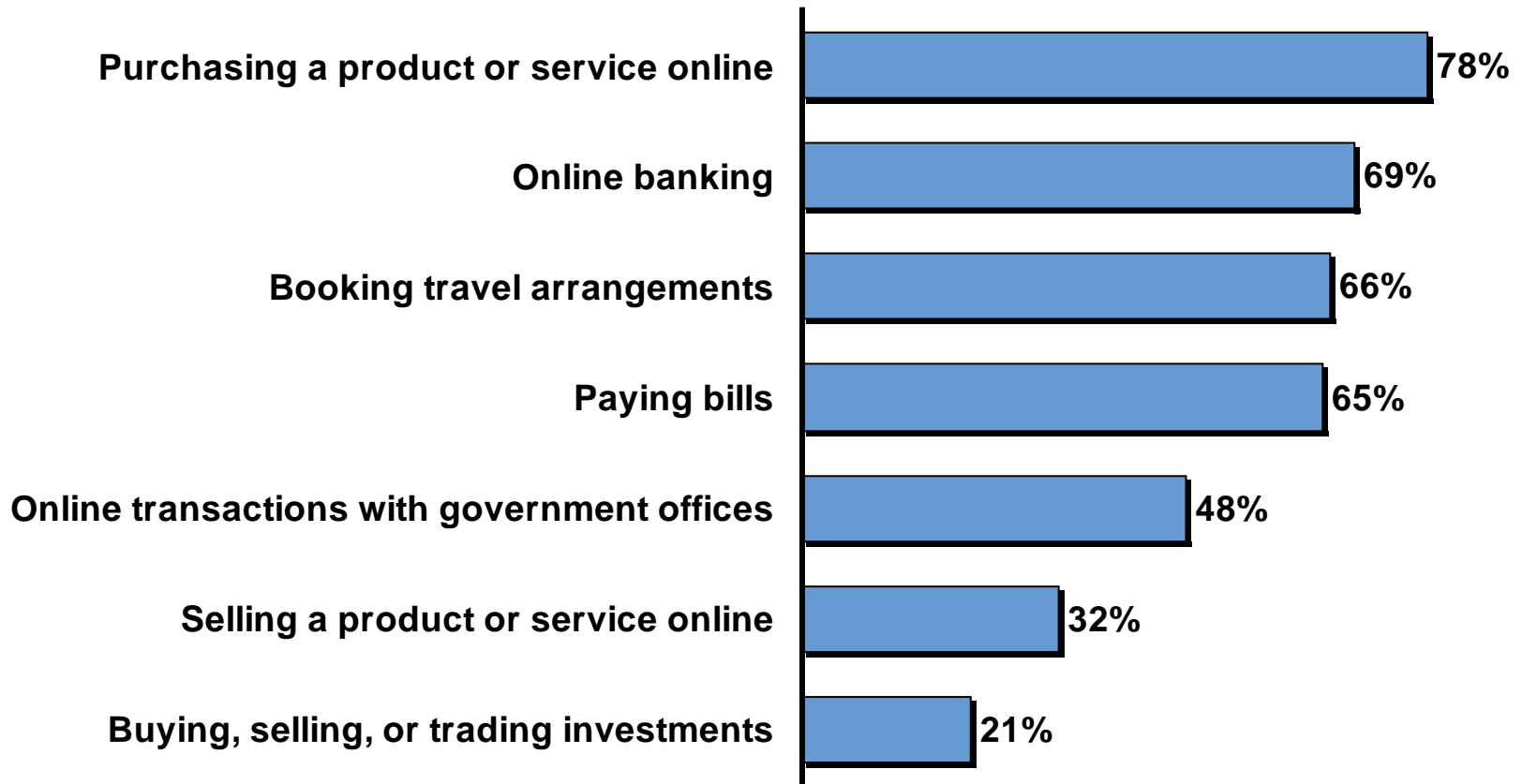
Q: Which of the following types of individuals or organizations do you interact with online, by visiting a website or communicating online to obtain information?
(n=1,093 MN Internet users)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org



Online Transactions

Percent of Minnesota Internet users who conduct the following transactions online



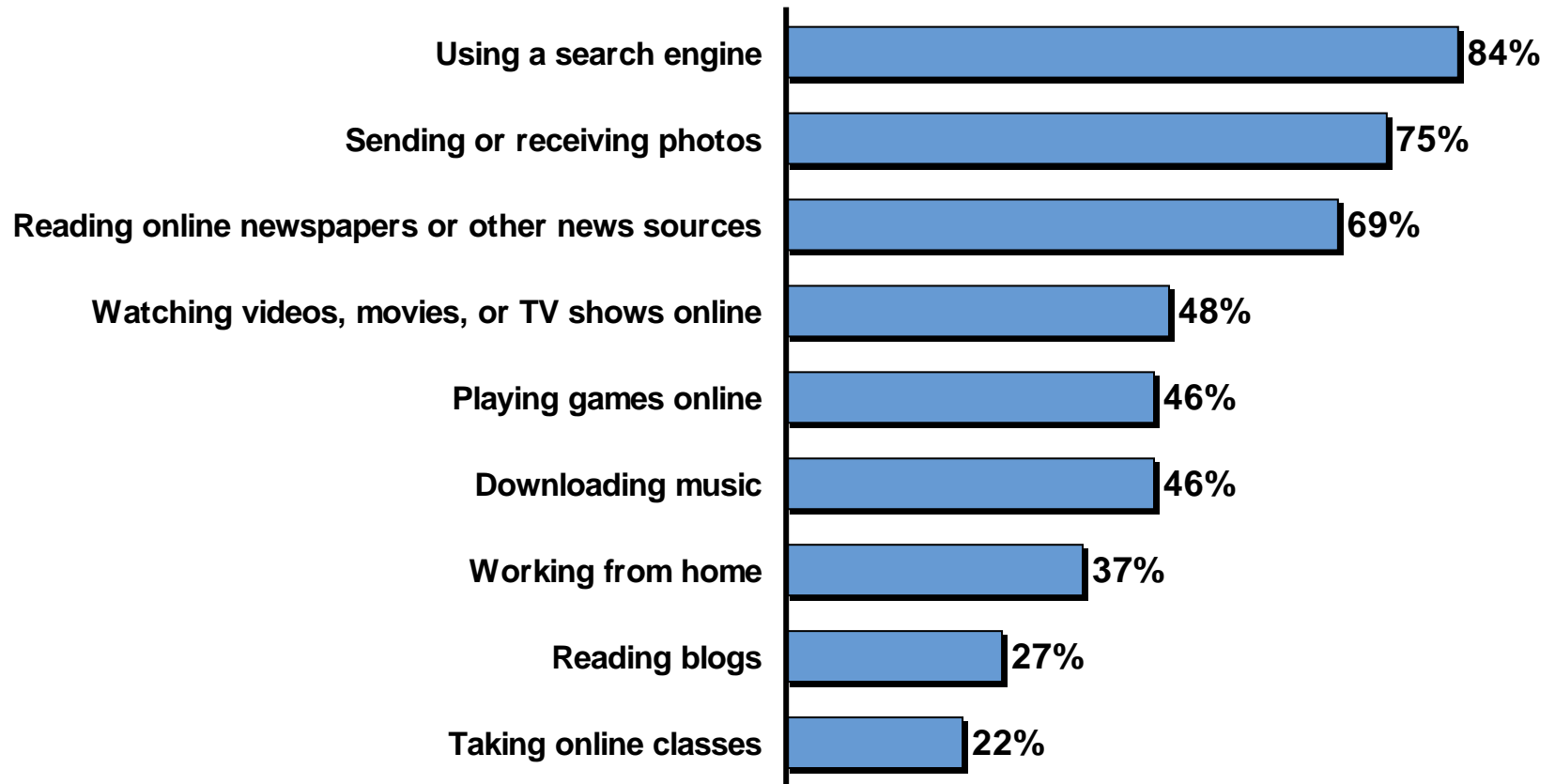
Q: Which of the following types of transactions have you completed online?
(n=1,093 MN Internet users)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org



Online Activities

Percent of Minnesota Internet users who conduct the following activities online



Q: Which of the following activities do you conduct online?
(n=1,093 MN Internet users)

Source: 2010 Connect Minnesota
Residential Technology Assessment
www.connectmn.org



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Research Methodology



Methodology

- **Data were collected by telephone through live computer-assisted interviews from a statewide random digit dial (RDD) sample of 1,200 households contacted between February 22 and March 3, 2010. On average, each survey took approximately 10 minutes to complete. Data were collected by Thoroughbred Research Group in Louisville, KY.**
 - This research was designed to measure technology adoption and the awareness of available broadband service, and establish benchmarks for these metrics.
- **The questionnaire screened to include only adults age 18 or older with quotas set by gender, age, and county of residence (urban, suburban, or rural) to ensure adequate representation of all adults in the state.**
- **Weights were applied to correct for minor variations and ensure that the sample matches the most recent U.S. Census estimates of the state's population by age, gender, and urban/rural classification of the respondent's county of residence. Weighting and research consultation were provided by Lucidity Research LLC.**
- **Sampling margin of error:**
 - Statewide, full sample (n=1,207): $\pm 2.9\%$ at the 95% level of confidence. This sample error accounts for sample weighting, using the effective sample size.

Urban-Rural Classifications Defined

- **The U.S. Census Bureau uses an urban-rural classification based on Metropolitan Statistical Areas (MSAs), which are designated by the United States Office of Management and Budget to collect, tabulate and publish federal statistics.**
- **Metropolitan statistical areas contain a core urban area with a population of 50,000 or more. Each MSA also includes one or more counties that have a high degree of social and economic interaction with the urban core (further information on definitions for MSAs can be found at: www.census.gov/population/www/estimates/00-32997.pdf).**
- **When classifying urban, suburban and rural counties, we follow the Census Bureau definition whereby counties are categorized as “urban” if they contain the core city of an MSA. “Suburban” counties are MSA counties that do not contain a core city, and “rural” counties include all remaining counties that are not part of an MSA.**
- **Using these definitions, there are currently 4 urban, 16 suburban and 67 rural counties in Minnesota.**



State Survey Sample (n=1,207 Adults)

Gender:		Employment Status:	
Male	49%	Employed full-time or part-time	67%
Female	51%	Retired	17%
Age:		Homemaker not employed outside home	4%
34 or younger	30%	Student not working for wages	2%
35 to 44	18%	Unemployed	5%
45 to 54	21%	Disabled, not employed outside the home	2%
55 to 64	15%	Other / no answer	3%
65 or older	16%	Educational Attainment:	
Mean age (years)	47	Less than high school	4%
Median age (years)	46	High school graduate	22%
Any children under age 18 in household	40%	Some college	29%
Race:		College graduate or higher	43%
White (non-Hispanic)	87%	Refused	2%
Black (non-Hispanic)	2%	Household Income:	
Any other (non-Hispanic)	3%	Under \$25,000	12%
Of Hispanic origin or descent	4%	\$25,000 to \$49,999	24%
Refused / no answer (non-Hispanic)	4%	\$50,000 to \$74,999	18%
Marital Status:		\$75,000 or higher	33%
Single, never married	13%	No answer/refused	13%
Married or living in partnership	69%	Mean household income (\$000)	\$63
Separated or divorced	9%	Median household income (\$000)	\$60
Widowed	7%	Average household size (# of persons)	3.0
Refused to say	2%		

Note: Sample profile shown here is after weighting to U.S. Census by age, gender and urban/suburban/rural county classification.