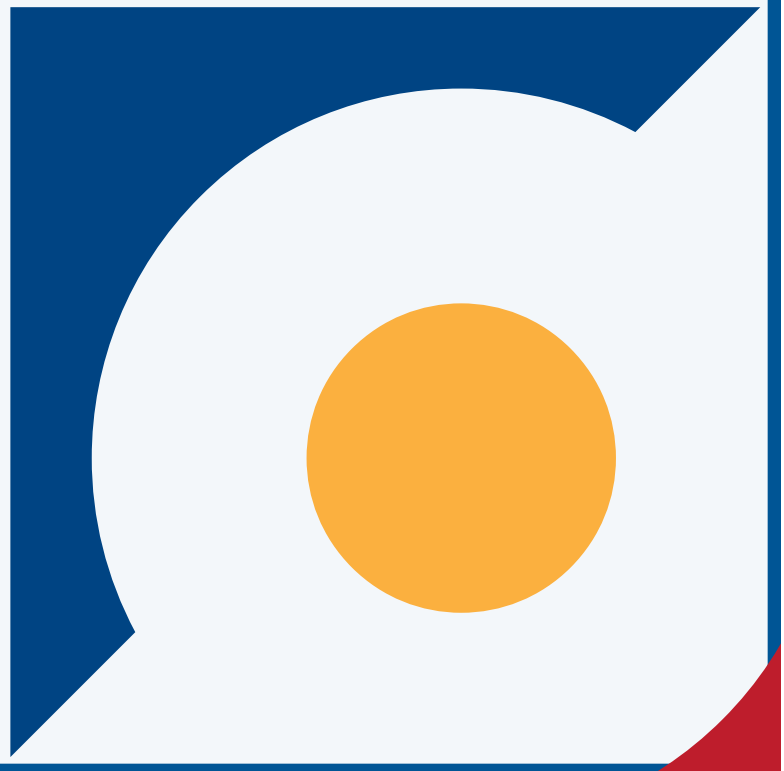




# Technology Barriers and Adoption in Rural Appalachian Ohio

December 9, 2011

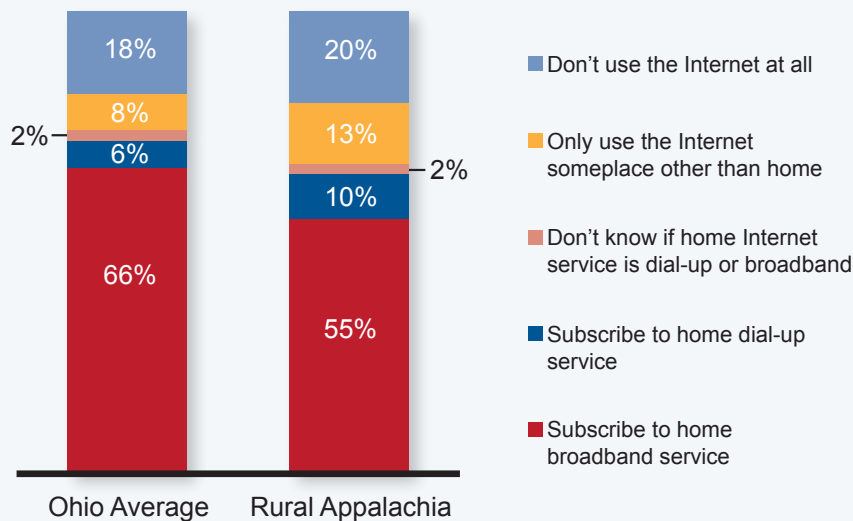


The Appalachian region of Ohio is distinct from the rest of the state with its rich cultural tradition and history, as well as a unique natural environment. Unfortunately, many residents in this important part of the state are desperately struggling to get connected to broadband.

As part of its 2011 Residential Technology Assessment, Connect Ohio recently examined how residents of rural Appalachian Ohio are using broadband. These results show that the region is lagging in broadband adoption when compared to the state as a whole.

Only 55% of residents in rural Appalachian Ohio subscribe to home broadband service, significantly lower than the state average of 66%. This translates into 531,000 rural Appalachian adults who do not have access to broadband in their homes. Thus a significantly larger share of rural Appalachian residents still rely on home dial-up service or access the Internet someplace other than home, such as a school or public library (Figure 1).

**Figure 1.**  
**Technology Adoption in Rural Appalachian Ohio**



**Among the findings from this survey:**

- Approximately **531,000** adults in rural Appalachian Ohio do not subscribe to home broadband service.
- **One in three children** in rural Appalachian Ohio do not have broadband service at home.
- Approximately **124,000** adult Ohioans living in rural Appalachia cannot get broadband service, or they cannot get service that is fast enough to meet their needs.
- Approximately **72,000** adult Ohioans in rural Appalachia, many of whom have children at home, say they do not subscribe to home broadband service because they can access the Internet someplace else, such as a school or public library.
- Nearly **one-half** of rural Appalachian Ohio residents who do not subscribe to broadband don't believe the Internet is relevant and feel they do not need it.

The broadband adoption gap affects many of Appalachia's most vulnerable citizens. For example, one-third of rural Appalachian households with children in Ohio do not subscribe to home broadband service. This means that more than 125,000 children living in the region are unable to use broadband to go online from home to do their homework or conduct research that will prepare them for college.

While Ohioans residing in rural Appalachia do tend to have lower incomes, the broadband adoption gap exists across all income levels, particularly between those at both the highest and lowest income levels (Figure 2).

**Figure 2.**  
**Broadband Adoption by Annual Household Income**

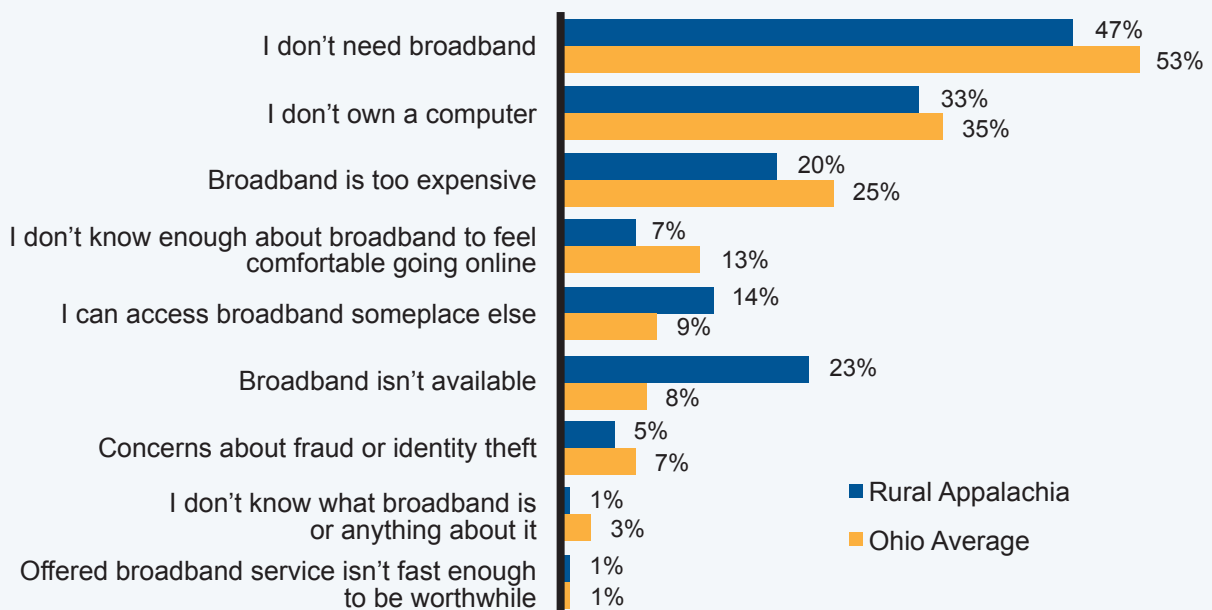
| Income Group        | Ohio Average | Rural Appalachia |
|---------------------|--------------|------------------|
| Less than \$25,000  | 39%          | 31%              |
| \$25,000 - \$49,999 | 70%          | 50%              |
| \$50,000 - \$74,999 | 86%          | 83%              |
| \$75,000 or more    | 88%          | 68%              |

## Barriers to Broadband Adoption in Rural Appalachian Ohio

Rural Appalachia not only differs in its home broadband adoption rates; Ohioans living in rural Appalachia also differ in the reasons they give for not subscribing. These differences highlight important issues that need to be addressed in this region, such as availability, while also underscoring the important role of public libraries, public computing centers, and other Community Anchor Institutions.

In rural portions of Appalachian Ohio, as in the rest of Ohio, the belief that home broadband service is not needed is the top barrier to broadband adoption (Figure 3).

**Figure 3.**  
**Barriers to Home Broadband Adoption**



Nearly one-half of Ohioans living in rural Appalachia (47%) who do not subscribe to home broadband service say they do not need broadband at home. This could be for a variety of reasons, such as the belief that there is not enough online to make home broadband service worthwhile or that it is not relevant to their lives. The lack of a home computer is also a major barrier in rural Appalachia, which is cited by one out of three households that do not have broadband.

While these two barriers tend to follow the statewide trends, there are other points on which rural Appalachians differ from the rest of the state. One large issue is availability. For example, nearly one in four say that they do not subscribe because broadband is not available where they live, or available broadband is not fast enough to be worthwhile to them. This means that approximately 124,000 adult Ohioans living in rural Appalachian counties either cannot get broadband service at all, or they cannot get service that is fast enough to meet their needs.

While cost is cited significantly less often as a barrier to adoption amongst Ohioans living in rural Appalachia (20%, compared to the state average of 25%), it should not be looked over as an issue. Among low-income households, which make up a larger portion of rural Appalachian Ohio than the state average, cost is cited nearly as often (see Figure 4). However, across all income groups, relevance still remains the largest barrier to broadband adoption.

**Figure 4.  
Cost as a Barrier to Broadband Adoption**

| Income Group       | Ohio Average | Rural Appalachia |
|--------------------|--------------|------------------|
| Less than \$25,000 | 33%          | 32%              |
| \$25,000 or more   | 18%          | 12%              |

It should be noted that 14% of Ohioans in rural Appalachia who do not subscribe to broadband service at home say they access broadband someplace else, such as a library, school, or public computing center. This represents approximately 72,000 adult Ohioans, many of whom have children at home, who rely on these institutions to stay connected to the Internet. The fact that these Community Anchor Institutions play such a vital role for so many Ohioans in this region underscores the need for technology adoption programs to support and partner with these institutions to ensure that they are able to act as resources for their communities.

### How Connect Ohio is Addressing These Issues

Since its inception in 2008, Connect Ohio has been working with state and local governments, as well as community leaders and private sector partners, to ensure that affordable broadband is available to every Ohioan. Just as importantly, Connect Ohio is actively working to ensure that Ohio residents see how connecting to broadband can improve their lives in ways they may never have considered.

One way that Connect Ohio is helping communities get connected is through our Every Citizen Online (ECO) program at libraries, community colleges, education and career centers across the state. ECO provides Ohioans a series of basic training sessions focusing on an introduction to computers, the Internet, and the benefits of using the Internet. In the Appalachian Ohio region alone, the ECO program has provided over 200 new computers to our partner training facilities for this purpose, and awarded laptops to select graduates that have completed the course.

With the biggest barriers to broadband adoption in the Appalachian area being that residents do not feel they have a need to access the Internet, or don't own a computer, Connect Ohio has worked to increase digital literacy in this area. So far a total of 2,783 students have taken the ECO classes in the Appalachian region, learning what the Internet has to offer and creating a need to extend service to this region. Increasing computer literacy, coupled with extending broadband service to this region, will help to bring this area of the state up to speed with the times. Upon completing ECO classes, 87% of residents said they would subscribe to broadband services from home, when available.

To help more communities get connected, Connect Ohio's technical outreach team has developed its Last Mile Enablement Project. Through this project, Connect Ohio engineers are actively collaborating with county officials, private enterprise, and residents to develop and implement custom, viable, and sustainable broadband expansion projects throughout Appalachia and have been integral in recent successful developments in Washington, Crawford, Belmont, and Meigs counties.

By providing residents with the necessary technology as well as the knowledge necessary to use that technology, Connect Ohio helps break down the barriers of access, adoption, and usage across Ohio. Any Ohio adult is eligible to enroll in the program which is geared toward first-time computer and broadband users and more than 15,000 adults have already participated in the Every Citizen Online training since it launched in late December 2010.

## Methodology and Definitions

Data were collected by telephone through live computer-assisted interviews from a statewide random digit dial (RDD) sample of 1,201 adult heads of households contacted between March 8 and March 29, 2011. 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 trends and the awareness of available broadband service.

Of the 1,201 respondents randomly contacted statewide, 201 were called on their cellular phones, and 1,000 were contacted via landline telephone. Of these 1,201 respondents, 231 lived in counties defined as being a part of rural Appalachian Ohio. Rural Appalachia contains the following counties in Ohio: Adams, Athens, Belmont, Carroll, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Tuscarawas, Vinton, and Washington.

Multiple attempts were made to each working telephone number on different days of the week and at different times of the day to increase the likelihood of contacting a potential respondent. To ensure a representative sample, quotas were set by age, gender, and county of residence (rural or non-rural), and the results were weighted to coincide with 2010 United States Census population figures. For the purpose of setting quotas and weighting, "rural" respondents are defined as living in a county that is not a part of a Metropolitan Statistical Area (MSA), as designated by the United States Office of Management and Budget. Weighting and design consultation were provided by Lucidity Research.

Based on the effective sample size, the margin of error =  $\pm 3.0\%$  for the statewide sample and  $\pm 7.2\%$  for the sample of rural Appalachian respondents. As with any survey, question wording and the practical challenges of data collection may introduce an element of error or bias that is not reflected in this margin of error.

