



CONNECT
Michigan®

Teleworking in Michigan – Empowering Workers Through Broadband

December 15, 2011



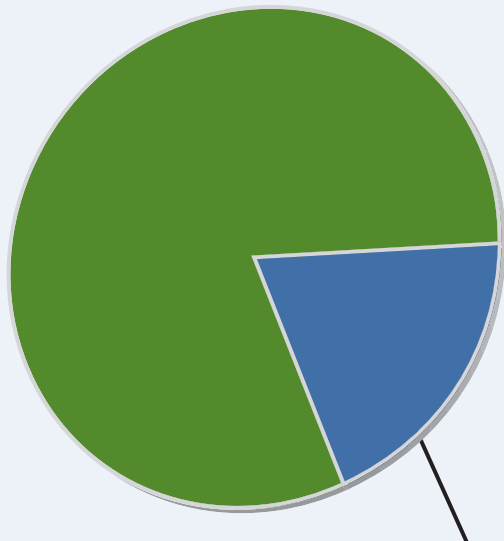
As broadband becomes an increasingly important tool for Michigan residents, a key economic opportunity for the state is emerging – Michiganders working from home through a broadband connection, commonly known as teleworking. Teleworking empowers Michigan workers to use their skills at businesses that can be across town or across the globe while allowing them to remain in their home community. In addition, teleworking benefits Michigan businesses by helping employers attract and retain the best workers while reducing office occupancy and operating costs. Plus, communities also benefit from teleworking as it decreases traffic congestion, reduces CO₂ emissions, and gives teleworkers more opportunities to remain active in their home neighborhoods.¹

Because it has the potential to have such a large impact on Michigan's business climate, it is important to know how many Michiganders telework, as well as how many would be willing to do so if given the opportunity. In addition, it is important to recognize the economic and environmental benefits that teleworking provides for the state. As part of its 2011 Residential Technology Assessment, Connect Michigan examined the impact of teleworking in Michigan.

Teleworking Trends in Michigan

Across the state of Michigan, nearly one in five employees (19%, representing approximately 741,000 adults) work from home using an Internet connection instead of commuting to work; this is up slightly from 17% in 2010 (Figure 1).

Figure 1.
Teleworkers in Michigan



Approximately 741,000 adult Michigan employees telework

Among the findings from this survey:

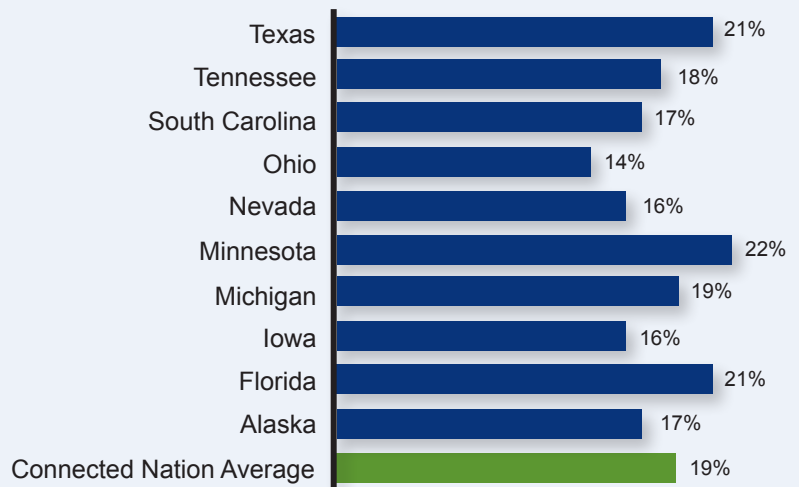
- Across the state of Michigan, nearly **one in five employees** (19%, representing approximately 741,000 adults) work from home instead of commuting.
- Altogether, **47%** of employed Michigan adults say that they either telework now or would be willing to do so if given the opportunity by their employers. This represents more than 1.8 million employed Michigan adults. An additional 1.1 million Michigan adults who do not currently work say they would be willing to do so if empowered to telework.
- On average, Michigan teleworkers work from home at least **1.6 days per week**. This results in an average of 2,560 fewer miles driven per year for each teleworker.
- Statewide, teleworkers save a total of **\$336.5** million in reduced operating costs for their automobiles.
- Teleworking also has a positive environmental impact, as teleworking reduces CO₂ emissions by approximately **884.5 tons per year**. This is more than the carbon footprint of every citizen in Muskegon.
- The greatest growth in teleworking between 2010 and 2011 was among adults age 55 and older. Teleworkers tend to be better educated and have higher annual incomes.

¹ <http://archive.teleworkexchange.com/pdfs/The-Benefits-of-Telework.pdf>

Across Michigan, more than nine out of ten teleworkers (94%) say they telework via a home broadband connection, highlighting the importance of high-speed Internet to Michigan's economy. Availability is not the only factor in this equation, though; 93% of teleworkers say they have subscribed to home broadband service for more than one year, suggesting an increased level of digital literacy and comfort using broadband at home. This argument is strengthened by the fact that 15% of Michigan broadband adopters (approximately 682,000 Michigan adults) first subscribed to home broadband service because they needed it for work. When examined together, these facts point to the importance of having a digitally literate workforce to make the most of modern opportunities like teleworking.

Michigan employees telework at a rate that is comparable to other states surveyed by Connected Nation (Figure 2).

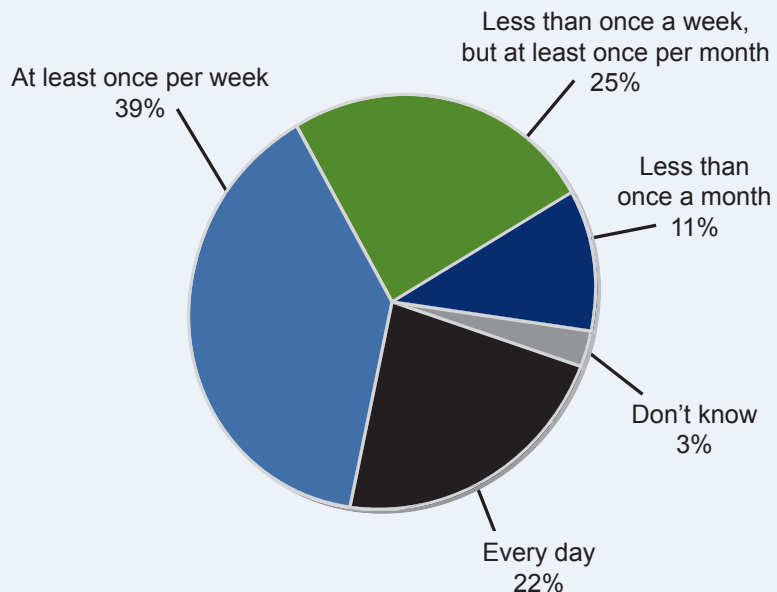
Figure 2.
Employees Who Telework



When asked how often they telework, more than one in five teleworkers (22%, representing approximately 166,000 adult Michiganders) say they telework every day, while an additional 39% (representing approximately 290,000 employed Michigan adults) telework at least once per week but less often than every day (Figure 3).

On average, Michigan teleworkers report using the Internet instead of commuting to work at least 1.6 days per week.

Figure 3.
How Often Teleworkers Work From Home



It should be noted that while Michigan workers telework at a comparable rate to other states surveyed by Connected Nation, Michigan teleworkers are the least likely to say that they telework every day (22% of Michigan teleworkers report teleworking every day, compared to the Connected Nation average of 31% of employees). Altogether, 86% of Michigan teleworkers (representing 644,000 Michigan adults) telework at least once per month.

Interest in Teleworking

In addition to the 741,000 Michigan employees who currently telework, more than one-third of adult Michigan workers who do not currently telework (35%) say they would be willing to do so if empowered by their employers. This represents an interest to telework by more than 1.1 million adult Michigan workers (Figure 4).

Altogether, 47% of employed Michigan adults say that they either telework now or would be willing to do so if given the opportunity by their employers. This represents more than 1.8 million employed Michigan adults.

Teleworking could also provide opportunities for Michiganders who are not currently working to join the ranks of the employed. When asked, 31% of Michigan adults (representing approximately 1.1 million Michigan adults) who are either unemployed or are not part of the workforce say they would be willing to enter the workforce if they were given the opportunity to telework, including 44% of homemakers, 13% of retirees, and 31% of adults who are not working due to a disability. This represents approximately 187,000 homemakers, 217,000 retirees, and 156,000 Michigan adults with disabilities who would join the workforce if empowered to do so via teleworking (Figure 5).

Figure 4.
Among Employed Michigan Adults
Who Do Not Telework

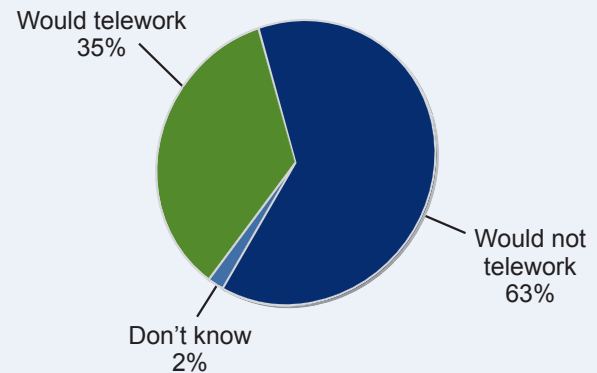
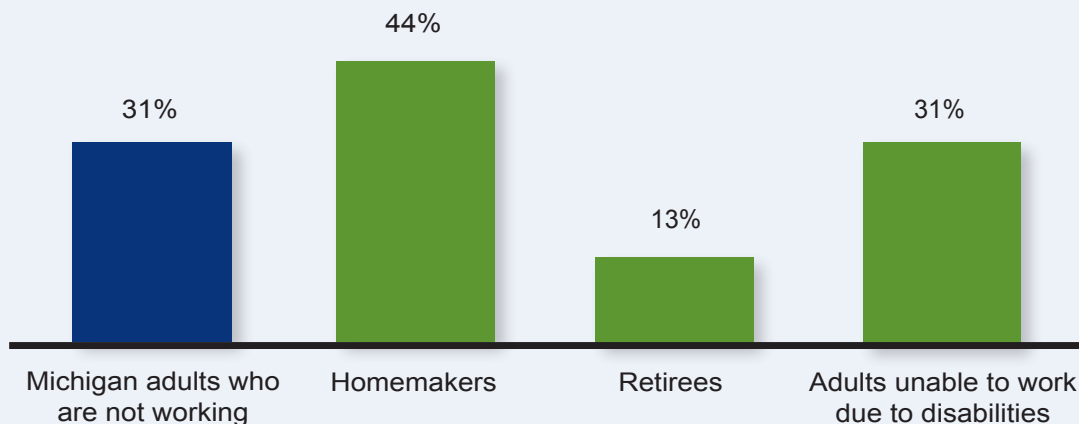


Figure 5.
Potential Teleworkers in Michigan



The Economic and Environmental Impact of Teleworking

Empowering Michiganders to telework would provide a definite and measurable economic advantage to the state. If each of those 1.1 million potential teleworkers made just the minimum wage working full time, that would represent an increase of nearly \$16 billion dollars annually in revenues statewide.

Yet increasing the potential Michigan workforce is not the only benefit that residents would see from teleworking. According to a poll conducted by ABC News, Time Magazine, and the Washington Post, the average American commutes 32 miles per day for work.² This means that when Michigan employees telework 1.6 days per week, they drive an average of 2,560 fewer miles per year. Based on data collected by AAA, that represents a statewide savings of \$336.5 million for teleworkers.³

² <http://abcnews.go.com/Technology/Traffic/story?id=485098&page=2#.Tt5FAlaqfXs>

³ <http://www.aaaexchange.com/Assets/Files/201145734460.DrivingCosts2011.pdf>. Based on average automobile operating costs of 17.74 cents per mile.

Those saved miles also equal fewer CO₂ emissions. By working from home instead of commuting to work, the average Michigan teleworker produces approximately 2,193 fewer lbs. of CO₂ emissions each year, resulting in a decrease of more than 884.5 tons of CO₂ gas per year.⁴ To put this into context, this is more than the carbon footprint of every citizen in the city of Muskegon.⁵

A Demographic Analysis of Teleworkers

Across Michigan, there are several differences between employed adults who telework and those who do not across different educational, income, and age groups.

Michigan teleworkers tend to have higher average incomes than employed Michigan adults who do not telework (Figure 6).

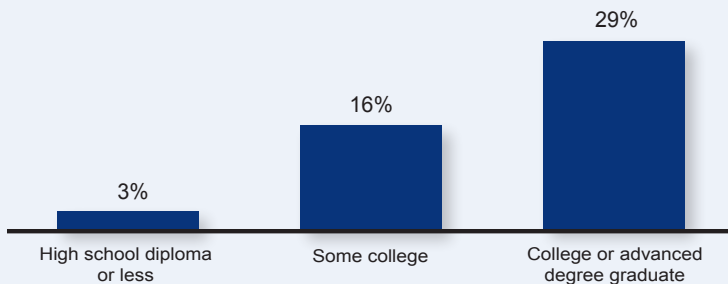
On average, employed teleworking adults in Michigan report earning an average of approximately \$79,400, compared to the average of \$59,200 earned by non-teleworking employees.

As suggested by this finding, employed Michigan adults with higher education levels tend to telework more often. In fact, only 3% of employed Michigan adults with a high school diploma or less say that they telework (Figure 7).

Figure 6.
Average Annual Household Income



Figure 7.
Telework and Educational Attainment



While the share of teleworkers increases among employed adults who attended college, a significant increase is also seen among employed Michiganders who have at least a college degree.

Between 2010 and 2011, the largest increase in teleworkers was among older Michiganders. During this time, teleworking did not increase significantly among employed adults age 18-54 (Figure 8).

Yet in 2011, one in five employed Michigan adults age 55 or older said that they telework, up eight percentage points from 2010. This represents approximately 134,000 adults in this age bracket who use the Internet to work from home instead of commuting.

Figure 8.
Teleworking Trends by Age

	Statewide	18 to 24	25 to 34	35 to 44	45 to 54	55 or older
2010	17%	8%	15%	22%	23%	12%
2011	19%	11%	17%	23%	21%	20%

⁴ <http://www.epa.gov/otaq/climate/documents/420f11041.pdf>. Based on average CO₂ emission of 423 grams per mile.

⁵ Based on a population of 38,401 in Muskegon (United States 2010 Census) and an average per capita carbon footprint of 17.522 tonnes (19.626 tons) in the United States (<http://mdgs.un.org/unsd/mdg/Data.aspx>)

Methodology and Definitions

Between June 27 and August 18, 2011, Connect Michigan conducted a random digit dial telephone survey of 1,200 adult heads of households across the state. This sample included 1,006 adults age 18 or older who were contacted via landline and 194 adults who were contacted via cell phone. The 2010 sample was collected using a similar approach, using a random digit dial telephone survey of 1,200 adult heads of households contacted between March 6 and March 18, 2010; in the 2010 sample, 1,000 adults were called via landline and 200 reached via cell phone.

Of the 1,200 respondents surveyed in 2011, 612 respondents reported having full-time or part-time jobs, and 116 of those were identified as teleworkers. “Teleworkers” are defined as respondents who report being employed full-time or part-time and say that they work from home using the Internet instead of commuting to their workplace. The results of this survey have been compared to similar surveys that Connected Nation conducted across ten states in 2011 (Alaska, Florida, Iowa, Michigan, Minnesota, Nevada, Ohio, South Carolina, Tennessee, and Texas). Altogether, Connected Nation surveyed 12,004 residents across these ten states in 2011 for this study, including 1,202 teleworkers.

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.

Surveys were conducted by Thoroughbred Research Group. On average, the survey took approximately 12 minutes to complete after the respondent agreed to participate. Based on the effective sample size, the margin of error = $\pm 3.09\%$ at a 95% level of confidence for the entire population and $\pm 4.3\%$ for the sample of all employed. 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.

These surveys were conducted as part of the State Broadband Initiative (SBI) grant program, funded by the National Telecommunications and Information Administration (NTIA). The SBI grant program was created by the Broadband Data Improvement Act (BDIA), unanimously passed by Congress in 2008 and funded by the American Recovery and Reinvestment Act (ARRA) in 2009. To learn more about Connect Michigan please visit www.connectmi.org or e-mail us at info@connectmi.org.



**APPENDIX A:
Select questions and sample sizes**

	<i>n</i> All Respondents	<i>n</i> Employed
All respondents	1,200	612

Into which of the following employment groups do you fall? Are you . . .

Employed or self-employed full-time or part-time	612	612
Not employed	588	

**Which of the following describe the way you work from home, when you do so?
(among employed who report working from home)**

Work at home using an Internet connection, instead of commuting to usual workplace (teleworkers)	116	116
Do not telework	1,084	496

What was the last class or grade of school that you completed?

High school diploma or less	421	148
Some college (13-15 years)	329	179
College graduate (16 years)/Advanced studies (17 years)	412	280
Don't know	38	5

May I have your age, please?

Age 18-24	75	46
Age 25-34	175	126
Age 35-44	223	152
Age 45-54	264	170
Age 55 or older	463	118