

# Measuring the Economic Impact of Broadband Expansion Toward Secondary Residents of Door County, Wisconsin



Photo Credit: Dan Eggert



University of Wisconsin  
**Whitewater**

College of Business and Economics  
Fiscal and Economic Research Center



# Executive Summary

Internet access has become vital for the daily activities of individuals and businesses with regards to sustainable economic growth.

There are great regional differences in broadband deployment between rural and urban areas. Wisconsin's countryside is known for its Northwoods, seasonal units, and recreational activities, yet numerous regions lack the availability of high-speed Internet. This study asks how improved broadband connectivity can assist in maximizing the value of a resource: seasonal (secondary) residents.

The lack of reliable Internet access prevents secondary residents in the area from enjoying an extended stay.

While there are many channels through which broadband Internet can have a positive effect in certain economies, we analyzed the effect that improved Internet access had on secondary residents' lengthened stay. Considering there are **more than 9,570 seasonal units/secondary homes** in Door County compared to 10,718 primary homes, it would be greatly beneficial to the local economy for secondary residents to extend their stay (U.S. Census Bureau, 2020).

The University of Wisconsin-Whitewater Fiscal and Economic Research Center (FERC) was tasked with conducting a study on the economic impact of improved Internet connectivity in Door County, Wisconsin. By calculating the extra amount of time a secondary resident would be willing to spend in their vacation property and the daily expenses per household, we can evaluate the additional spending generated in the local economy.

Using that information, we are able to estimate the number of direct and indirect jobs created in the area, additional tax revenue, and other economic factors relevant to Door County and other similar areas throughout the country.



# Methodology

A broadband Internet survey was designed to gather information on the economic impact of broadband deployment in areas with a deficient or non-existent Internet connection. The area of focus is Door County, WI since the number of secondary residents is high in that region.

The FERC designed the survey questionnaire. The survey was conducted to conclude the benefits of broadband availability in the region. Additionally, data on socioeconomic demographics of Door County secondary residents was collected to estimate the potential economic benefit of these homeowners staying longer in their seasonal units.

Finally, to estimate the economic benefits of secondary residents' in the area, we collected information on their daily spending in each major category.

In order to calculate the value of secondary residents' time in Door County, the FERC employed IMPLAN, an input-output method of analysis.

This study's primary findings are a relationship between broadband deployment in an area and economic growth in Door County, Wisconsin. If Internet connectivity in the area were to be improved, Door County residents would lengthen their stay, which would generate an increase in spending and the impact on the overall economy.

Specific findings of broadband deployment in Door County, which are detailed more thoroughly in the report, include:

- Stimulating the economy with **more than \$18,600,000 in annual economic impact.**
- Creation of over **137 full-time equivalent jobs in Door County, providing employees with over \$5,500,000 in labor income.**
- Secondary residents would stay in the area about **15 more days a year** if they had access to improved Internet.



# IMPLAN

The study's objectives are to estimate and to quantify the number of jobs, total wages, and total output generated because of broadband deployment.

The IMPLAN economic impact model (named for its attempt to analyze the impact for use in economic planning) is used to measure both direct and secondary impacts of additional spending by secondary residents in the area. For the economic impact of secondary residents, the input-output analysis model was used.

The input-output analysis methodology best measures both the relative sizes of sectors that make up the economy and the linkages among them. While this paper is unable to reveal the multiple economic iterations between the various economic players, the modeling available through IMPLAN produces a structural model that illuminates the interactions among sectors and measures impacts as they reverberate through the economy. By revealing these interactions, the policy makers can develop a strategy that most efficiently stimulates regional economic growth.

## DOOR COUNTY SECONDARY RESIDENTS' IMPACT ON LOCAL ECONOMY

Door County secondary residents have a significant impact on the local economy on Door County, Wisconsin. These residents provide entertainment and culture to the local community while also bringing in a substantial amount of money through direct and indirect consumer spending. For this study, the UW-Whitewater Fiscal and Economic Research Center (FERC) utilized IMPLAN to calculate a quantitative assessment of the potential increases in the Secondary Residents' additional days spent in Door County.

IMPLAN estimates are grouped into three categories that affect the local economy: the direct effect, indirect effect and induced effect.

### DIRECT EFFECT













The direct effect refers to the production change associated with a change in demand for the good itself. In other words, the direct effect is the initial impact to the economy, which is exogenous to the model. Secondary residents' direct spending comes from daily purchases and expenses for groceries, dining out, recreation, shopping, etc. In addition, output is the value of production by industry in a calendar year. It can also be described as annual revenues plus net inventory change.

## INDIRECT EFFECT

The indirect effect refers to the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output). It concerns inter-industry transactions, as companies that witness increased business create a demand for locally sourced materials that are needed to produce said companies' products or services. Output represents all of the output generated because of the direct business to business spending. Secondary residents indirectly affect the local and state economies because the firms that provide direct goods and services to these residents must also purchase materials and supplies. These types of spending generate indirect impacts.

## INDUCED EFFECT

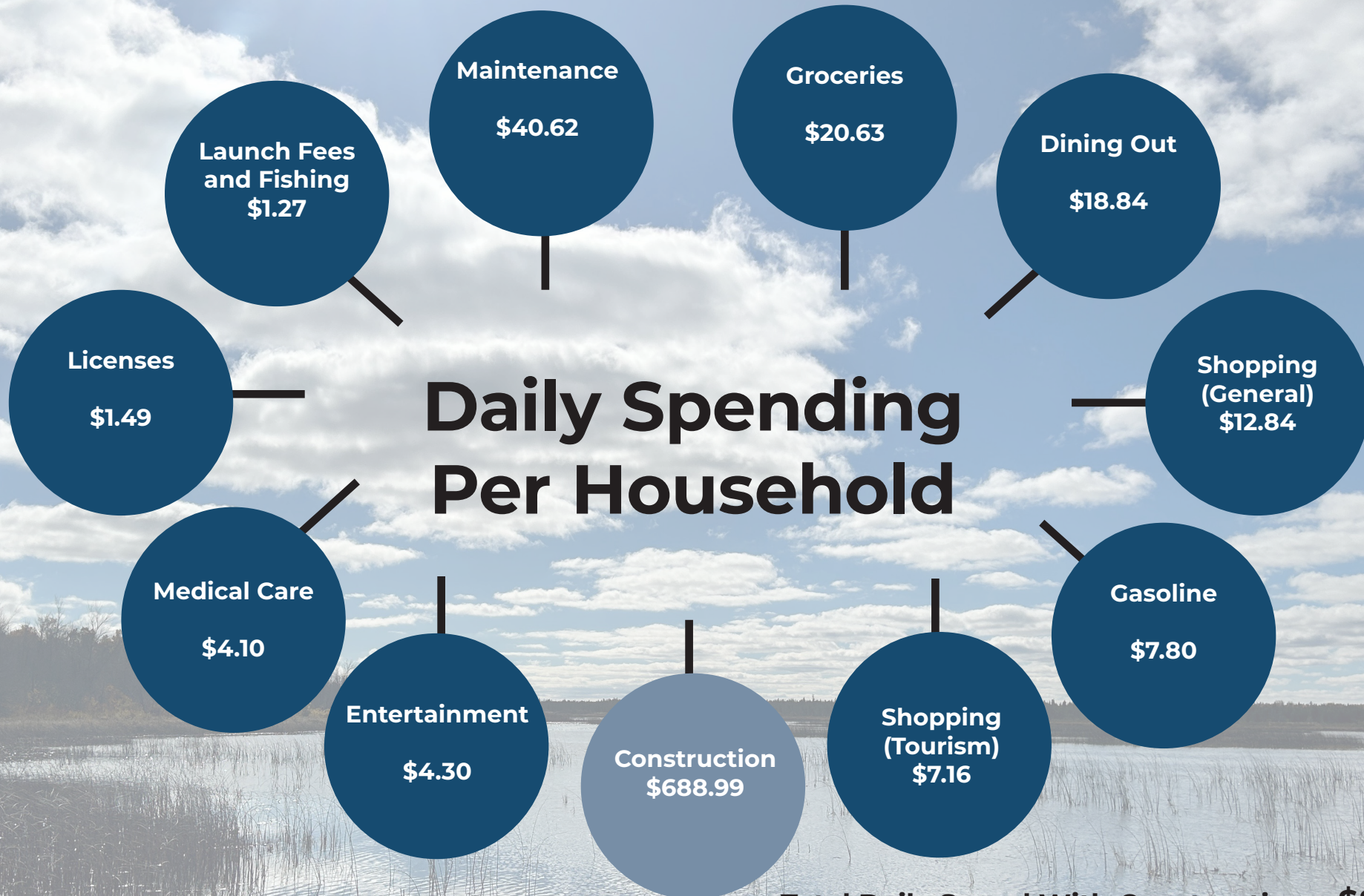
The induced effect is caused by the changes in the household spending due to the additional employment generated by direct and indirect effects. The direct and indirect effects on employment and income affect overall purchasing power within the economy, thereby inducing further consumption spending. This cycle continues until the spending eventually leaks out of the economy as a result of taxes, savings or purchases of non-locally produced goods and services (imports).

	EMPLOYMENT	LABOR INCOME	OUTPUT
<b>DIRECT EFFECT</b>	 97 JOBS	 \$4.00M	 \$13.00M
<b>INDIRECT EFFECT</b>	 25 JOBS	 \$820K	 \$3.40M
<b>INDUCED EFFECT</b>	 15 JOBS	 \$630K	 \$2.20M
<b>TOTAL EFFECT</b>	 137 JOBS	 \$5.50M	 \$18.60M

## STATE AND LOCAL TAX IMPACT

As a result of these additional days spent in Door County, the **secondary residents will generate an additional \$750,000 in state and local taxes**. This does not include property taxes. This total consists mainly of sales and other use taxes, reflecting the impact of heavily taxed tourism-related activities on the economic contribution of Door County residents.

# Daily Spending Per Household

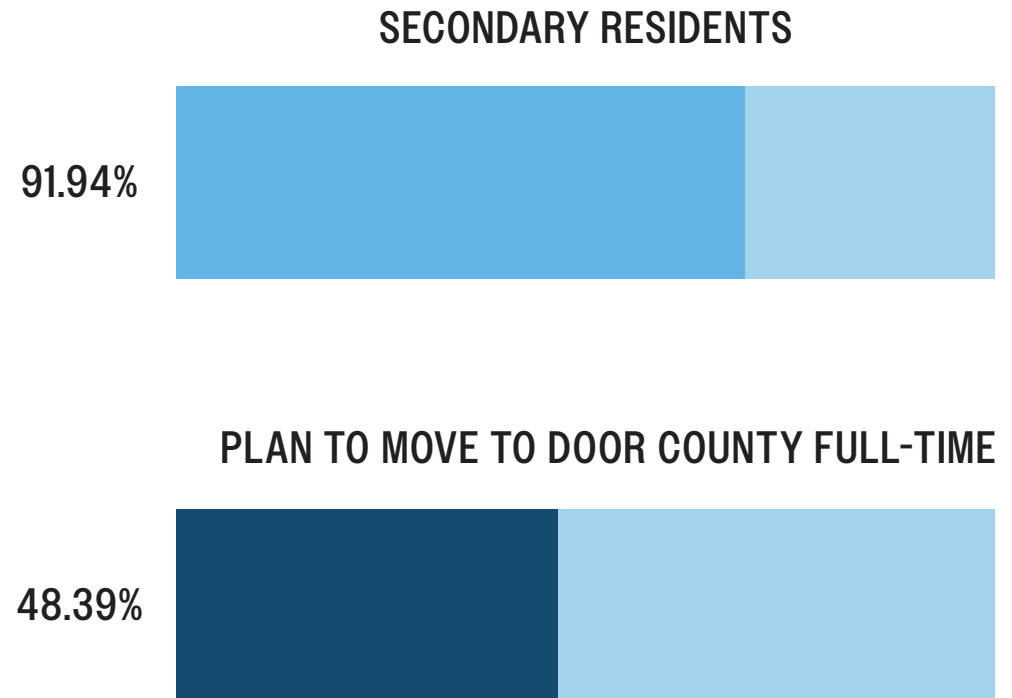


**Total Daily Spend With Construction: \$808.03**

**Without Construction: \$119.05**

# Demographics

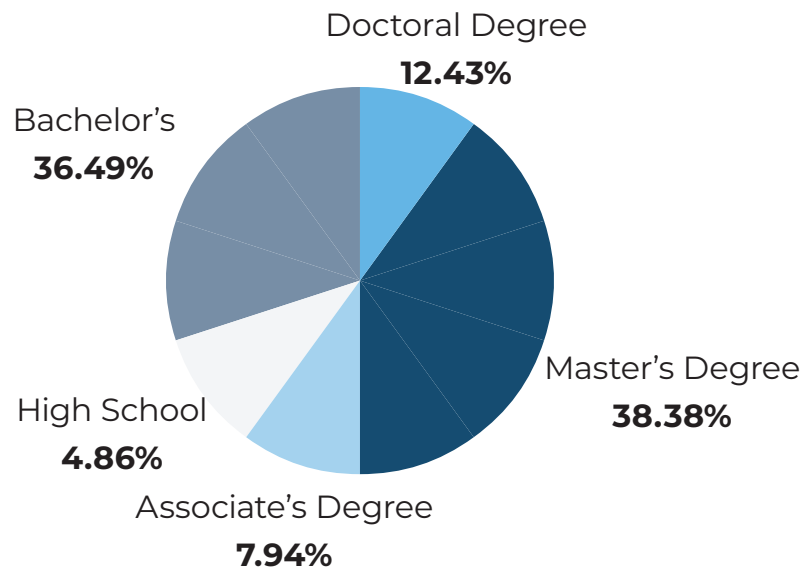
The survey focused on socioeconomic demographics of the secondary residents that own a vacation property in Door, County, Wisconsin. Since **over 9,570 are considered secondary home owners** (Door County Comprehensive and Farmland Plan—2045 Volume II), expansion of broadband can serve as a potential economic growth strategy. The first question on socioeconomic factors asked whether the residents were secondary or primary residents in Door County.



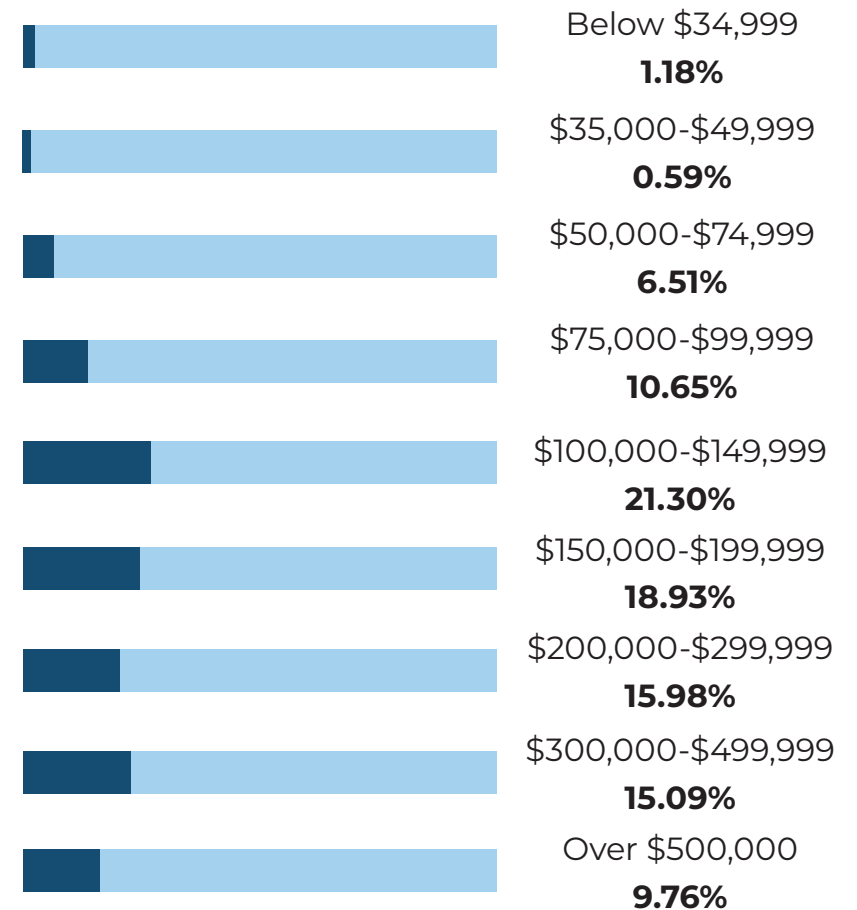
# Demographics cont.

When asked what level of education they have completed, most of the respondents indicated that they have a post-secondary degree. **36.49%, 38.38%, and 12.43% indicated that they have a Bachelor's, Master's, or Doctoral degree, respectively.** It should be noted that the respondents' level of formal education exceeds Door County's average. In Door County, **35.3% of adults 25 years or older have a Bachelor's degree or higher (in our survey, this was 87.3%).**

## EDUCATION LEVEL



## ANNUAL HOUSEHOLD INCOME



Based on the data collected by the U.S. Census Bureau, the median household income in Wisconsin was \$72,458 in 2022 (median household income in Door County was \$68,257). **Over 90% of respondents (who are secondary residents) have a household income that surpasses the median in the state.**

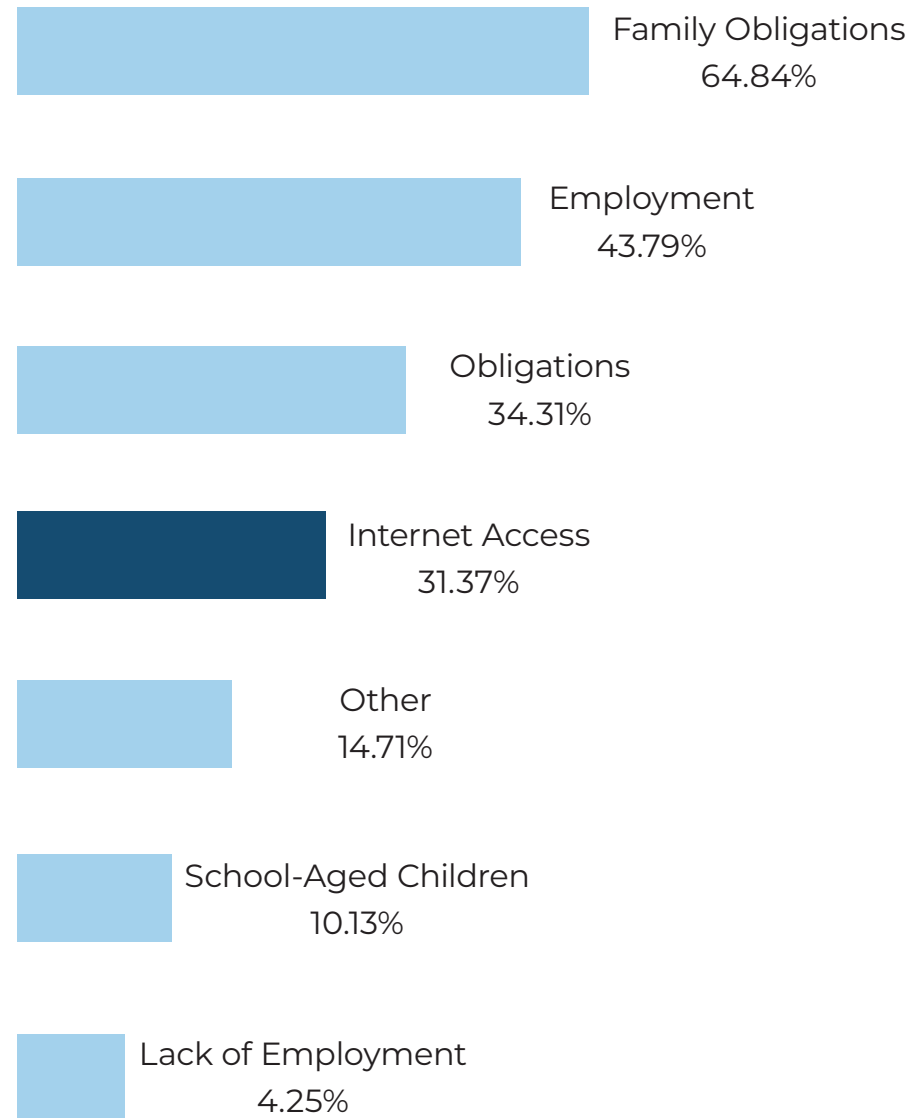
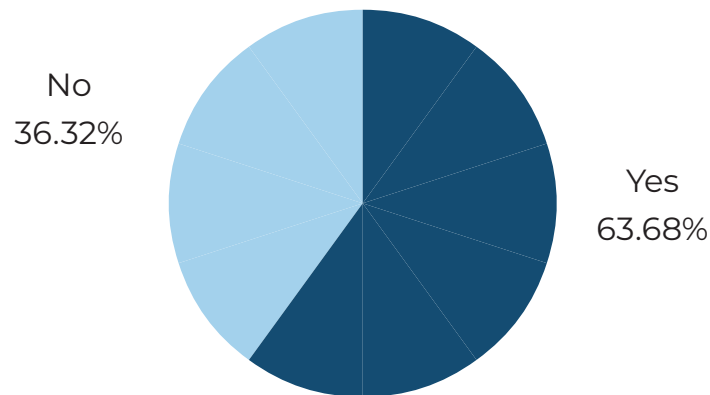


## FACTORS PREVENTING RESPONDENTS FROM EXTENDING THEIR STAY IN DOOR COUNTY

From the respondents that indicated the specific reasons that prevent them from staying in the region for longer, family obligations were the most reported at 48.37%. **31.37% of the households in the study specified that Internet access is a major barrier that prevents them from enjoying the area for longer.**

According to the respondents, **64.84% of secondary residents** of the area state high speed broadband would have influence in a potential decision to move permanently to Door County,

### Would access to broadband Internet service influence your decision to move permanently to Door County, Wisconsin?



# Internet Service in Door County

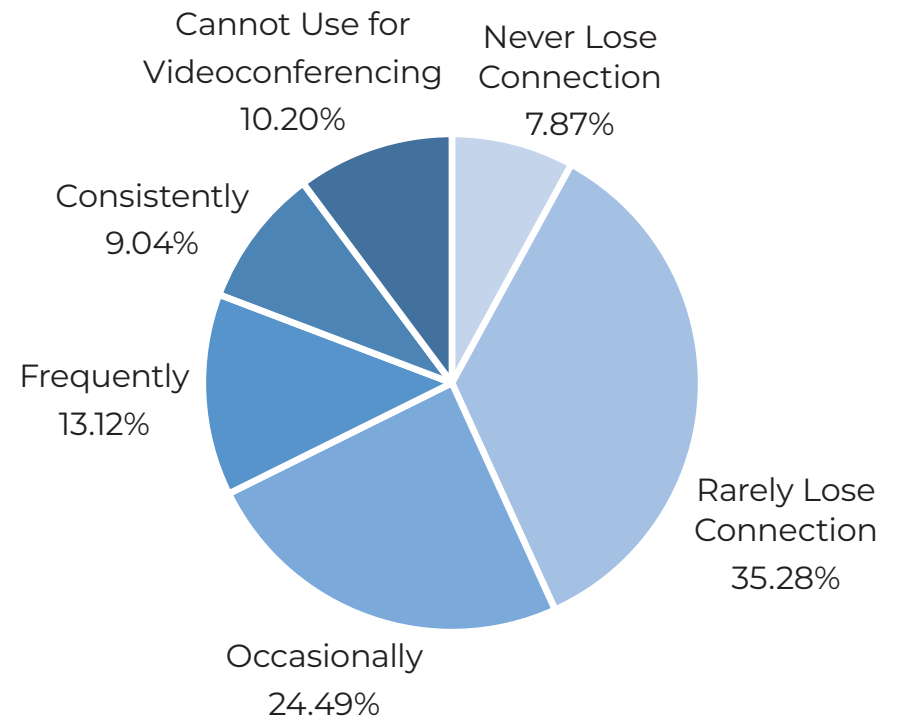
In early 2024, the Federal Communications Commission's Report raises the Commission's benchmark for high-speed fixed broadband to **download speeds of 100 Mbps** and **upload speeds of 20 Mbps**—a four-fold increase from the 25/3 Mbps benchmark set by the Commission in 2015.

One of the challenges of setting benchmarks for high-speed fixed broadband is the continuing evolution of the business and household's needs. Individual households may have a number of needs such as video conferencing, gaming, telehealth, and remote learning.

The increase to a benchmark speed 100Mbps reflects the barriers created by slower speeds when browsing the internet, email, streaming videos, and playing basic online games. This issue is exacerbated when multiple members of a household are streaming at the same time. In order to stream without buffering on multiple devices, you will need **an internet connection of at least 25 Mbps per device**. As a result, if four people stream on four separate device concurrently, **they need an internet connection of 100 Mbps or higher**.

While almost 75% of respondents indicated that they currently have Internet connection, the Internet provided in the area is inadequate in many aspects such as reliability and speed.

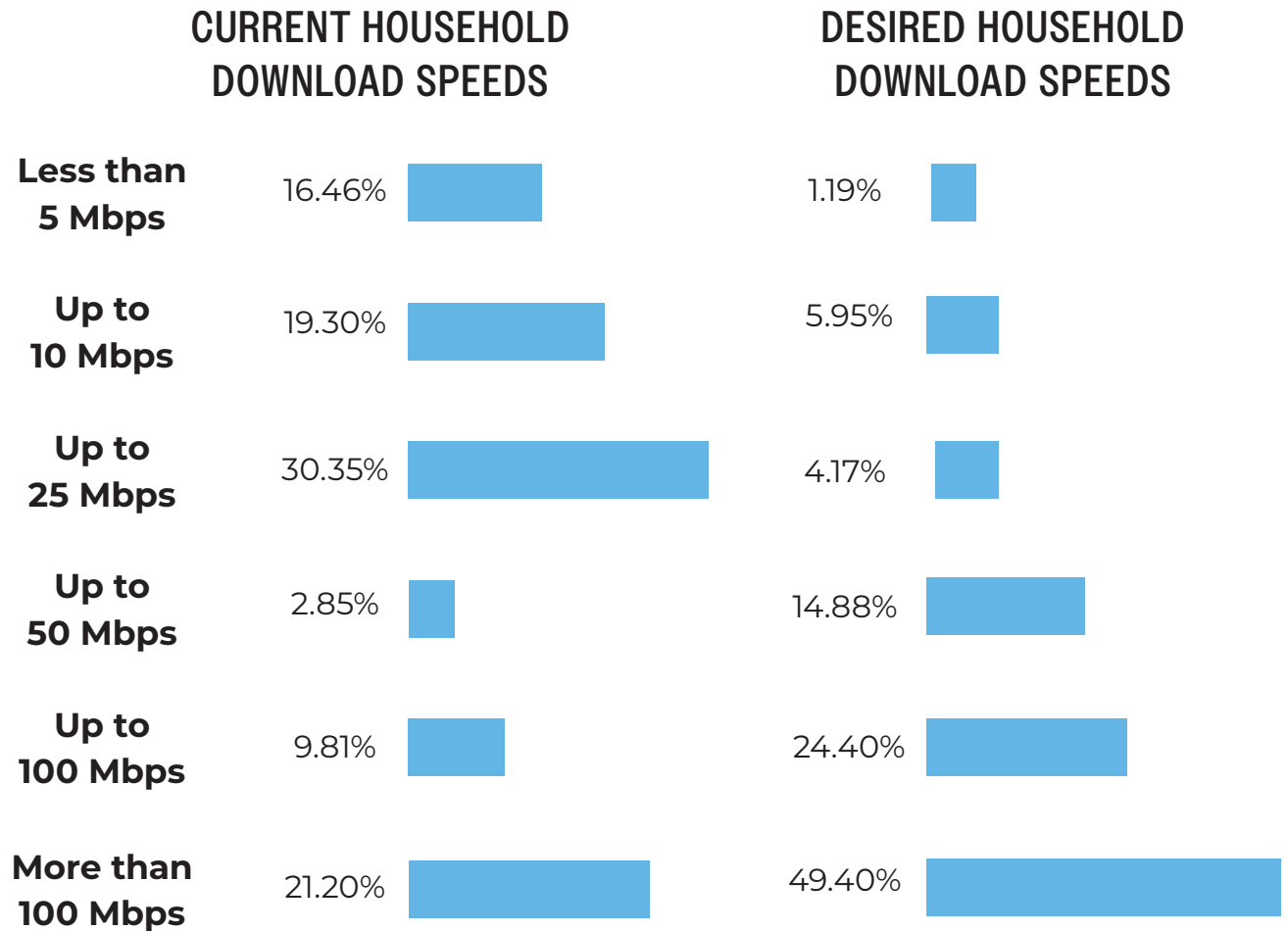
## HOW DEPENDABLE IS YOUR INTERNET CONNECTION?



# Download Speeds

According to the respondents, **56.11% of the secondary residents** in the area possess the speeds required to satisfy the minimum 25 Mbps threshold.

The respondents' desire for access and speed are in concert with the guidelines, as **over 80% are seeking speeds more than 25Mbps.**



## ABOUT THE FERC

The University of Wisconsin-Whitewater Fiscal and Economic Research Center provides research services for area businesses, not-for-profits organizations and government entities, including Economic analysis, Geographic Information Systems (GIS) analysis, market research, economic forecasting and business development, and much more.

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