



LEELANAU PENINSULA  
ECONOMIC FOUNDATION

***Leelanau Internet Futures Team  
Updated Report and Action Plan  
May, 2020***

***Origin and Mission***

In the spring of 2016 the Leelanau Peninsula Economic Foundation (LPEF) conducted a survey of business owners in Leelanau County. They were queried on several important issues including barriers deemed most critical to their business success and growth. The lack of available high-speed Internet service ranked high on the list. Subsequently, the LPEF established the Leelanau Internet Futures Team (LIFT) tasked with examining the status of broadband services in Leelanau County with a goal of developing an action plan to provide high-speed Internet access throughout County.

The LIFT committee partnered with Connect Michigan and surveyed Leelanau County residents, businesses and stakeholders to identify broadband needs and priorities. In addition to a resident survey, multiple survey instruments were used focusing on Libraries, Agriculture, Economic Prosperity, Government, Healthcare, K-12 Education, Public Safety, Talent/Workforce Development, Tourism and Community Organizations. Since the survey was conducted, the reliance on Internet for businesses, schools and residents has only increased. And the COVID-19 pandemic has magnified the issue of inadequate broadband for many businesses, schools and residents.

***Who Are We***

Representatives from the various stakeholder organizations from across the county were invited to participate as LIFT committee members. The following individuals comprise LIFT:

Matt Ansorge • County - Director of Emergency Management/911 Services  
Jim Bardenhagen • Agriculture - Bardenhagen Farms, LPEF Board Member, Suttons Bay  
Dave Barrons • Environmentalist, Elmwood Township  
Mary Ann Borton • Business, Centerville Township  
Field Carden • Business - Economics consultant, Bingham Township

David Edelstein • Organization –TART Trails Board Member, Leland Township  
 Kathy Egan • Regional Planner -Director, Community Development, Networks Northwest  
 Tommy Hills • Schools - IT Director, Leland School  
 George McClellan • Grand Traverse Band of Chippewa & Ottawa Indians -IT Director  
 Greg McMorroo • Healthcare – Health Care Consultant, Omena  
 Marcus Mead • Schools -Director of Administrative & Instructional Technology, Glen Lake  
 Brian Mitchell • Agriculture – Cherry Home Orchards, Northport  
 Mark Morton • Libraries – Director, Leland Township Public Library  
 Ron Plamondon • County - Director Information Technology  
 Patricia Soutas-Little, Chair • LPEF Board Member, Leland  
 Tom Stephenson • State - Community Technology Advisor, State Public Service Commission  
 Mary Tonneberger • Business Marketing Management - former Board of Commissioner, Omena  
 Peter Van Nort • Township – Glen Arbor Township Supervisor  
 Ty Wessell • County - Leelanau County Board of Commissioner District #4  
 Paul Winston • Business – Insurance technology consultant, Lake Leelanau  
 Jennifer Zelinski • Agriculture – NW Michigan Horticultural Research Center

### ***Key Findings from the June, 2016 Survey***

#### **Residential:**

- Across the Leelanau Peninsula, the primary barrier preventing home broadband adoption is lack of infrastructure.
  - Among those households without a home Internet connection, 54.8% cite a lack of availability as the reason.
  - 44.7% of people earning less than \$35,000/year are without Broadband services. Lack of availability is the major reason cited, however, 24.4% of those individuals said the service was too expensive.
- Households with Internet service were asked if they were satisfied with their current connection. Of those with a home broadband connection, 63.8% stated their current Internet service does not meet their needs for the following reasons:
  - 83.6% - Speed is too slow
  - 61.0% - Connection is unreliable
  - 58.2% - Price is too high
  - 22.3% - Customer service is poor
  - 5.9% - Connection data limits
  - 4.0% - Other reasons
- Monthly connection costs run from \$25 to \$149.99 per month depending upon the service with 52% of respondents paying between \$25 and \$75 dollars/month.
- Residents who do not have a home Internet subscription access Internet from public locations. Libraries in Leelanau County all have computers available for public use. 43.3% of non-adopting residents use library computers; 43.9% use computers at their

place of employment; 20.9% use computers at coffee shops and 6.7% go to a friend or family member's home.

### **Business:**

- Connection speed and bandwidth are important considerations for businesses transmitting large volumes of data in some capacity. In 2015, the FCC changed the definition of high-speed broadband services from 10 Mbps download speed and 1 Mbps upload speed to 25 Mbps download and 3Mbps upload. Of the 96% of the businesses surveyed that have Internet connectivity, it is available at the following rates:
  - 25% - Less than 3 Mbps
  - 24% - 3 Mbps to 9.99 Mbps
  - 10% - 10 Mbps to 24.99 Mbps
  - 17% - 25 Mbps to 49.99 Mbps
  - 17% - 50 Mbps to 99.99 Mbps
- Of these businesses with Internet connectivity, 37% had cable Internet, 34% had DSL Internet (over the phone), 13% were satellite connected, 8% wireless (other than cell phone) and 3% fiber-optic.
- 81% of businesses have a website and 43.7% currently use or are planning to use more advanced technology. 24.6% of residents digitally interact with local businesses weekly.
- 86.4% of Tourism businesses have a website.
- New healthcare technology developments offer not only new treatments and methods of diagnosis but greater access to healthcare providers via the Internet. 2% of the healthcare facilities responding indicated use of Telehealth, with 50% using electronic medical records.

### **Agriculture:**

- Among respondents to the Agriculture survey, 92.5% state they have dedicated Internet service for their operation. Of those, (60%) subscribe to DSL Internet over the phone lines. Fixed wireless service is used by 12% of producers with access to the Internet and the remainder use mobile broadband, cable or satellite technology to connect.
- 56.3% of Agriculture operations have Internet service less than 10 Mbps down.
- Agriculture producers were asked "Can the Internet be accessed throughout your operation?" Most respondents (68.2%) indicated that the Internet is not accessible in any form in the extended, more remote areas of the operation.

### **Education/government:**

- The analysis of K-12 technology adoption and use shows 76.6% of K-12 curriculum is delivered with web-enabled technology. Between 10 and 20% of course delivery is conducted entirely online in our four school districts. However, 18.6% of households with children are without a home Internet connection.
- The Leelanau County Sheriff's Office and 911 Center have a fiber-optic Internet connection with a download speed between 10 Mbps and 25Mbps.

### ***2018 Key Findings from Meetings with ISPs, Township Officials and LIFT***

- High-speed Internet service is no longer is a luxury, it is a necessity to individuals for activities of daily living, including health, and to sustain the wellbeing of our economy.
- Zoning Administrators and Planning Commission members report that they are unaware of the demand for high-speed broadband services from residents in their townships. This impacts their consideration of changes to existing ordinances or adoption of a common set of ordinance standard for towers and other related communication requirements
- Fiber to the home is the best long-term solution, however the cost of laying fiber is expensive. Although a lot of fiber has been laid in Leelanau over time, providers will only use fiber they have laid. There are no plans from major companies to install more fiber in the county.
- The option of a County Internet “backbone” – working with Merit for fiber, contracting with Aspen Wireless for creation and operation of a network allowing ISPs to control service provision and client base – was explored and rejected.
- A combination of fiber and fixed wireless internet is the best secondary solution, utilizing fiber to tower, then wireless from tower to other towers and/or customers (homes, farms, businesses).
- 5G could be an alternative but it is at least five to 10 years out and may not come to sparsely populated areas vs. urban areas. 5G also would rely on towers and repeaters in the county, as well as fiber to towers.
- Although residents of Leelanau County want high-speed Internet services for a multitude of reasons, no one wants to have a tower, of any height, in their vision marring the beauty of the landscape. However, expanding Internet service across the County where fiber is unavailable requires fixed wireless connectivity for provision of services. Fixed wireless ISPs must utilize towers to support their equipment in order to broadcast their signals from tower to tower, and from tower to customers.
- Smaller ISPs are the primary provider of fixed wireless Internet in our area. Many smaller ISPs would be unable to build their own tower network. They are undercapitalized and would have to navigate local zoning requirements so that towers could be built.

- The County currently owns five (5) towers and uses a total of eight (8) towers in the County for 911 communications.
- The potential exists for a select number of fixed wireless ISPs to use five (5) of the towers that the County currently uses for the 911 system. One (1) additional tower may be needed to ensure Internet coverage throughout the County.
- Fixed wireless ISPs will not share equipment on towers. Co-locating ISP Equipment on towers is limited by tower height, footprint and strength. Depending upon the number of providers that wish to co-locate on a given tower, and the weight of their equipment, towers may need to be reinforced.
- Towers currently in existence have been through the zoning process. Reinforcement of existing towers would not be subject to additional zoning requirements unless the footprint was increased or height was added. New towers erected would need to follow zoning ordinances.
- Cost for erecting new towers totals approximately \$300,000 to \$750,000 per tower, depending on height, design variables and bringing fiber to the base. Increasing existing tower height, footprint or reinforcement would cost approximately \$240,000 per tower.
- A modest investment in the towers currently used by the County to make them capable of serving wireless ISPs would minimize the number of new towers required to expand Internet service and at the same time enhance the County's Emergency Management 911 Services.

***What Have We Accomplished (Spring, 2016 to Spring, 2020)***

- Established a relationship with Connect Michigan and the Michigan Public Service Commission to form a partnership for identifying community Internet need, evaluating providers, assisting with funding opportunities and creation of the *Community Technology Action Plan, April, 2017*.
- Developed a supportive and collaborative relationship with the Grand Traverse Band with ongoing discussion and advance planning for future shared projects that have the potential for broadband expansion, improved service and shared infrastructure.
- Armed with baseline data regarding our County's Internet needs and current services, LIFT convened a meeting with Internet Service Providers (ISPs) who either currently offer services in Leelanau County or might be interested in establishing services.
- Seven (7) ISPs, distilled from the group in attendance at the initial meeting, were invited to one-on-one meetings with LIFT to discuss their business plans and potential provision of high-speed service in the County.
- Based on individual meetings, four (4) ISPs were interested in providing Internet service to Leelanau County and agreed to work with LIFT to explore possible plans for expansion of high-speed service countywide.

- A major barrier to expansion of service identified by the ISPs centers on zoning issues. All 11 townships in Leelanau County have different requirements for communication companies. LIFT completed a survey of township zoning ordinances and created a synopsis of special requirements in township zoning ordinances for wireless towers.
- Meetings were held with township zoning administrators and several planning commission members to share information and determine if the zoning regulations could be harmonized and streamlined.
- A second meeting with zoning and planning officials was held that included the ISPs to identify common areas of agreement essential for moving the project forward.
- A progress report to the County Board of Commissioners was presented in February, 2018, sharing findings from the LIFT study, and again in March for a more detailed discussion.
- LIFT recommended to the County a public-private partnership as part of the *Technology Action Plan* as follows:
  - Five (5) of the tower sites used by the County be utilized by the three (3) or four (4) ISP providers that are willing to expand their Internet service.
  - ISPs would be given a period of time ‘rent free’ to build their business case for customer adoption before the two-year contract begins. ISPs would then pay the County a negotiated rent during the life of the contract.
- Before ISPs are allowed to place their equipment on the five County-owned Towers, a Load Capacity Analysis Study was needed to determine how much additional equipment the towers could hold without bending. That study was completed in April, 2020.
- Currently two ISPs have signed contracts with the County to place equipment on the County-owned towers. Contract agreements with three other ISPs are in progress.
- Met with national and state legislative representatives and USDA to discuss federal and state funding options (Representative Jack Bergman, Representative Curt Vanderwall, Representative Jack O’Malley, State Director, Rural Development, USDA Jason Allen).
- Presentations focusing survey results, tower use, tower need, zoning implications and potential partnerships began in January with Township Supervisors, Planning Commissions and Zoning Administrators. Due to COVID-19 these discussions were suspended at the end of February and will resume later this summer.
- Small but important progress completed (including fiber laid by the GTB): Peterson Park, Fox View, Christmas Cove, and Bugai Road

- Additional projects planned: Omena Point Road (Bayside), Northern Leelanau Township and Northern western lakeshore.

### ***Action Plan Update***

1. LIFT will request release signatures from survey respondents in order to provide the names to the participating ISPs so potential services can be offered now if available.
2. LIFT will continue to provide information to residents on ways they can access Internet services currently, including contacting providers and use of cellular devices where cell phone coverage is adequate.
3. LIFT will continue to assist Leelanau County in identifying any new tower sites needed.
4. LIFT will continue to work with local township boards, zoning admin and planning commission to address zoning ordinance needs and broadband expansion.
5. LIFT has sought funding to support Internet service expansion. As part of this effort:
  - Met with Networks Northwest to discuss potential Economic Development Administration (EDA) grant and formed a grant work group to assist the County in preparing grant requests.
  - Currently LIFT is assisting the County in preparation of a grant application to EDA for infrastructure to expand fixed wireless and fiber connectivity.
  - A description of this proposed grant request follows next. Note that the EDA grant is focused on projects to support economic growth and job creation, particularly ones that would support business continuity and preparedness for an economic shock like the COVID pandemic. For this reason, the grant proposal is focused on business impact of broadband, even though we recognize it also impacts schools, government services and residents.

### ***Description of Proposed EDA Grant Request***

The Economic Development Administration grant proposal seeks funding to allow the County to expand infrastructure for delivery of wireless high speed Internet to areas lacking adequate service. Construction of two new towers will be included in this proposal, one located on the Government Center grounds and the other on the Miller Hill property in the western side of the county.

The economic shutdown caused by the ongoing novel coronavirus pandemic created a new reliance on online tools to sustain economic activity, transition to online learning both for students, business and agribusiness and increased use of telemedicine for seniors and families. The availability of broadband Internet within our rural county is uneven and where available

often fails to meet the 25Mbps/3Mbps standard used by federal entities to evaluate broadband adequacy.

This grant proposal specifically seeks to build two new county-owned towers that would fill in gaps among tower infrastructure within the county. With the addition of the new towers, the County would have a tower network that could be leased to Internet service providers willing to expand their service to deliver fixed-wireless broadband service to a significant portion of our rural county. Estimated cost of tower construction is \$560,000 plus funds to cover additional infrastructure. Costs for additional infrastructure are being developed.

The problem of inadequate broadband within Leelanau County has been acutely felt by businesses and employees, schools, and families in the county during the pandemic shutdown.

Prior to the pandemic Leelanau County's GDP per capita (total economic output divided by the population, adjusted for inflation) accounted for 6% of our 10-county region's total GDP. By comparison, Grand Traverse County's per capita GDP represented 40% of the region's total GDP. The pandemic is expected to cause a decline in these GDP figures. It is estimated that retail, accommodations and food service are the industries that will see the greatest GDP decrease, and whose workers will be hardest hit. The COVID-19 impact on jobs in Leelanau County is dramatic. With the exception of the Grand Traverse Band, County Government and the Leelanau Public Schools, the vast majority of Leelanau's businesses are considered to be small business, with 44% either sole proprietors or having fewer than 20 employees. The economic impact on Leelanau's small businesses and workforce places Leelanau County in the highest risk category in our 10-county region. A critical tool for businesses and individuals to be more resilient and recover from the pandemic will be access to high-speed Internet. <sup>1</sup>

Prior to the COVID-19 crisis in Leelanau county, lack of available broadband Internet access represented a gap between the haves and have nots in terms of extended education and employment opportunities. Now, for public school students and staff this lack of access may be a linchpin that could lead to a cascade of failures that shut the door on public education in our county. Schools do not have the means to provide broadband Internet services at student and staff homes, but will still be held responsible for providing remote education on an equivalent level to onsite education.

Other examples of how lack of adequate Broadband contributed to COVID 19 impact include:

- Children of farm workers unable to access online school lessons, making it hard for farmers to retain and attract labor.
- Farmers unable to attend webinars and virtual meetings to obtain education and information on managing their crops, herds, equipment, etc.
- Retail stores that had not developed an online sales capability prior to the pandemic were unable to shift operations online during lockdown, and shut down and furloughed workers.
- Restaurants unable to facilitate online sales struggled to operate on a restricted take-out bases or shut down completely.
- Business customers also impacted, unable to readily access services from online.

The lack of broadband availability was identified as a critical issue prior to the pandemic by the Leelanau Internet Futures Team, who have worked for the past three years to implement a Community Action Plan in collaboration with Leelanau County officials. If the Leelanau County Board of Commissioners provides authorization for the Emergency Management Director to pursue this Economic Development grant, with the assistance of LIFT in grant preparation, and if the grant is awarded, provision of high-speed services accessible throughout Leelanau County will be greatly improved.

<sup>1</sup> Source: Fourth Economy Research Consultants, May, 2020

***Documents online at county website:***

- *Community Technology Action Plan, April, 2017.*
  - Internet Maps from LIFT survey
  - LPEF 2016 Business Owner Survey Summary
  - Broadband Glossary of Terminology
  - Links to suggested videos on Technical aspects of Internet
    - How does the Internet work? <https://www.youtube.com/watch?v=x3c1ih2NJEg>
    - Cable vs DSL vs Fiber <https://www.youtube.com/watch?v=qQYiwamq38>
    - Wireless Internet Explained <https://www.youtube.com/watch?v=kxLcwIMYmr0>
    - Fixed Point Wireless <https://www.youtube.com/watch?v=iBphp1RILuA>
-