

***Leelanau Internet Futures Team  
Full Report and Action Plan  
February, 2018***

***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.

***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 · - Bardenhagen Farms, LPEF Board Member, Suttons Bay  
Dave Barrons · Environmentalist, Elmwood Township  
Mary Ann Borton · Business, Centerville Township  
Field Carden · Business -Economics consultant, Suttons Bay Township  
David Edelstein · Organization - Leelanau Conservancy Board Member, Leland Township  
Tommy Hills · Schools - IT Director, Leland School  
George McClellan · Grand Traverse Band of Chippewa & Ottawa Indians - IT Director  
Greg McMorrow · Healthcare – Health Care Consultant, Omena  
Marcus Mead · School - 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  
Mary Tonneberger · Business Marketing Management - former Board of Commissioner, Omena  
Ty Wessell · County – Leelanau County Board of Commissioner District #4  
Michael Woods · Organization - Regional Planner, Networks Northwest  
Jennifer Zelinski • Agriculture – NW Michigan Horticultural Research Center

## ***What Have We Accomplished***

- 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 offers services in Leelanau County or might be interested in establishing services.
- Seven 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 have 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 eleven (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 will be presented in February sharing finding from the LIFT study, and again in March for a more detailed discussion.

## ***Key Findings from the Survey***

- 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.
- The cost of broadband service across the Leelanau Peninsula is less than the national average overall. Costs in the community are less than or comparable to the average for Michigan as a whole.
- 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
- The expense associated with home computer ownership represents a significant barrier to broadband adoption. Low-income residents without the ability to purchase tend to utilize public computers. Libraries in Leelanau County all have computers available for public use and 43.3% of non-adopting residents use library computers. 43.3% also 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.
  - 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.
  - 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 down and 1 Mbps up to 25 Mbps down and 3Mbps up. Of the 96% of the businesses surveyed have Internet connectivity 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, 37% had cable Internet while 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.
  - 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.
  - 86.4% of Tourism businesses have a website.
  - Among respondents to the Agriculture survey, 92.5% state they have dedicated Internet service for their operation. Most producers (60%) subscribe to DSL Internet over the phone lines. Fixed wireless service also is used by producers with 12% reporting such a connection. The remainder of producers use mobile broadband, cable or satellite technology to connect.
  - 56.3% of Agriculture operations have Internet service less than 10 Mbps.

- 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.
- The Leelanau County Sheriff’s Office and 911 Center have a fiber-optic Internet connection with a download speed between 10 Mbps and 25Mbps.
- 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.

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

- Fiber to the home is the best solution, however the cost of laying fiber is expensive.
- There are no plans from major companies to install more fiber in the county.
- A lot of fiber has been laid in Leelanau but providers will only use fiber they have laid.
- A one-off expansion was floated by Charter but attempts to explore this have been unsuccessful thus far.
- A combination of fiber and fixed wireless is the best secondary solution utilizing fiber to tower, then wireless from tower to other towers and/or homes.
- With speeds limited to 5x5, reliability can be spotty.
- Smaller ISPs are undercapitalized.
- Fixed wireless ISPs will not share equipment on towers.
- Co-locating ISP Equipment on towers is limited by tower height, footprint and strength.
- The option of a County “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.
- 5G could be an alternative but it is at least five years out and may not come to sparsely populated areas
- ISPs using towers would like an easy path through local zoning requirements so that towers can be built.
- Providers determine whether they will expand service into a given area depending upon potential adoption rate per mile. ISPs were unaware of the increased population in large areas of our county.
- 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.

- While broadband services may not be available currently in many areas of our County, ISPs described the steps neighborhoods need to take to request a given ISP expansion of service into their area if there is service in nearby neighborhoods.
- High Speed Internet service no longer is a luxury, it is a necessity to individuals for activities of daily living, including health, and to sustain the well being of our economy. 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.
- The County currently owns three (3) towers but uses a total of eight (8) towers in the County for 911 communications.
- The County currently owns a tower that is not being used.
- The potential exists for a select number of 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.
- Depending upon the number of providers who 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 1 million dollars per tower. Increasing tower height, footprint or reinforcement would cost approximately \$240,000 per tower. Total estimated costs may run up to 4 million.
- A modest investment in the towers currently used by the County 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.

### ***Suggested Action Plan***

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 (low hanging fruit).
2. LIFT will notify the public as to whom they should contact regarding their need and desired use of Internet services.
3. LIFT will 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.

4. LIFT is recommending a public-private partnership as follows:

- Five (5) of the tower sites used by the County be utilized by the three (3) or four (4) ISP providers who are willing to expand their Internet service.
- Leelanau County provide access to its three towers to interested ISPs on a two-year contract and assist the ISPs with reaching an agreement with the private landowners who have the remaining towers on their property.
- 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.
- Leelanau County assist in identifying any new tower sites needed.
- LIFT and the County would seek federal dollars to cover the expansion costs.