

EXECUTIVE DOCUMENT SUMMARY

Department: <u>Emergency Mgt./911</u> Contact Person: <u>Matt Ansorge</u> Telephone No.: <u>231-256-8775</u>	Submittal Dates
	<input type="checkbox"/> Executive Board: _____ <input type="checkbox"/> Regular Session: _____
Source Selection Method	VENDOR: <u>Federal Economic Development</u>
<input type="checkbox"/> Select One <input type="checkbox"/> Other: _____ <i>Account Number</i> <i>(Funds to come from):</i> _____	Address/ Phone: _____

Budgeted Amount: _____	\$ 0.00	Contracted Amount: _____	\$ 0.00
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Document Description	
<input checked="" type="checkbox"/> Grant Application	<input type="checkbox"/> Other _____

Request to Waive Board Policy on Bid Requirements

At the Special Meeting scheduled for Monday, October 26th, the Leelanau County Board of Commissioners will discuss the possibility of applying for the Federal Economic Development Administration (EDA) Grant for potential tower expansion in order to enhance broadband capabilities for Leelanau County residents.

Two tower projects have been identified for this grant application; the additional tower at the Government Center property and an extension to the Maple City tower site. The County Board of Commissioners have agreed that additional collocation ability at the Government Center property would be beneficial to the citizens for enhanced cellular and Internet service. The existing tower at this location has been deemed inadequate for expansion to increase collocation, so another RFP process is planned to determine the best options for moving forward on an additional tower project. The Maple City tower site has potential to service many areas that currently have limited access to reliable cellular and broadband Internet. Increasing the height on this tower will not only increase collocation ability, but also expand the service area of cellular and Internet providers.

The EDA grant will have a partial match requirement for Leelanau County. Fortunately, the County Board of Commissioners have already agreed to plan for the additional tower site at the Government Center property. The targeted amount for this project will be sufficient to meet or exceed that commitment.

Suggested Recommendation: I recommend that the Leelanau County Board of Commissioners approves an application for an Economic Development Administration Grant to assist with the costs of constructing a tower within the Government Center Complex and extend the Maple City Tower.

Department Head Approval:  Digitally signed by Matt Ansorge
 Date: 2020.10.23 14:34:54 -04'00' Date: 10/23/2020

Building broadband
infrastructure to support
economic recovery, growth,
and resiliency for Leelanau
businesses

Outline for EDA Grant Application Package that follows

- Overview
- About Leelanau County
- Impact of coronavirus disruption
- Broadband Needs and Gaps
- Broadband keeps businesses running, workers employed
- Agricultural broadband needs today
- Small business internet needs during coronavirus
- Why fixed wireless broadband
- Why County-owned towers
- Who supports the proposal
- Project details
- ISPs on standby
- Summary
- Appendix (proposed elements)
 - DBA survey comments
 - Towers bid details

***Leelanau County, MI, Application for Public Works Grant
Under Economic Development Administration's Coronavirus Aid, Relief, and Economic
Security Act (CARES Act) Recovery Assistance***

I. OVERVIEW

Leelanau County, MI, seeks an Economic Development Administration grant to allow the County to expand infrastructure for the delivery of fixed-wireless broadband internet within the County that would enhance business recovery and resiliency arising from the coronavirus pandemic shutdown, help retain and create jobs and strengthen economic activity in the future.

The economic shutdown caused by the ongoing coronavirus pandemic created an increased reliance by businesses, farms and residents upon online tools and resources to sustain economic activity and connectivity with employees and customers, provide access to online learning programs and access to telemedicine services. The availability of broadband internet within our rural county is uneven and for a sizable percentage of businesses falls well below the 25 Mbps by 3 Mbps standard used by federal entities to evaluate broadband adequacy.

Our grant proposal is the result of a public-private partnership to evaluate the technology needs of the community, and identify a strategy to improve access to online resources. In 2016, the Leelanau Peninsula Economic Foundation (LPEF), a non-partisan advisory board whose purpose is to support the Leelanau business community, partnered with the Michigan branch of Connected Nation on a comprehensive County-wide survey of residents and businesses, including tourism and agribusinesses, to identify broadband needs and priorities. Survey results formed the basis of a comprehensive action plan that was submitted to the Leelanau County Board of Commissioners for implementation in 2018.

Our grant proposal specifically seeks \$674,906. These funds would be used to build one new County-owned tower and to raise the height of an existing County tower. With the addition of the new tower and the modification of an existing tower, the County would have a more robust tower network that covers a majority of our County and can be leased to internet service providers willing to expand their service to deliver fixed-wireless broadband services.

The broadband delivered via our proposal will enable County businesses, especially agriculture, within the towers' range to more reliably and efficiently access online tools, capabilities and resources to support commerce and create jobs. Many businesses that closed during coronavirus shutdown lacked broadband options that would provide greater resiliency to develop online capabilities to continue sales, engage with employees and customers, and manage supply chains.

Beyond the business benefits, enhancing the infrastructure for delivering broadband via the towers and fiber optic cable to selected premises also would increase the availability of

broadband options for County schools, government and residents. With so many employees and students under partial or complete shutdown due to coronavirus, the need for broadband access is higher than ever.

Improved broadband also will benefit the healthcare sector, making it easier to expand the delivery of telemedicine services and enabling both medical providers and patients in the community to connect online for timely and efficient consultation and care. During the coronavirus shutdown, telemedicine technology was not available to residents and doctors in the County with inadequate broadband. Leelanau County's senior population—a population group that uses far more medical services than younger groups—has steadily increased and currently makes up approximately 43% of the population and is projected to continue to increase.

II. ABOUT LEELANAU COUNTY – ECONOMIC BASE

Leelanau County's economic activity is diverse, but two areas are dominant: tourism and agriculture. Tourism economic activity supports area accommodations, wineries, retail stores, restaurants and recreational activities, to name a few. Agriculture is represented not only by farms and vineyards within the County, but also markets, tasting rooms, farm stands, tours and events.

According to Census data analyzed by Networks Northwest, Leelanau County's top 5 business sectors in number of companies are, in descending order: Construction, retail trade, accommodation and food services, other services, and agriculture and forestry. The top 5 business sectors in number of employees are, in descending order: Accommodation and food services, construction, retail trade, manufacturing, and healthcare and social assistance.

With the exception of the Grand Traverse Band of Ottawa and Chippewa Indians, 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.

Among these small businesses are many home-based businesses, including farms, which underscore that broadband internet availability within the home is important for commercial activities and employees.

III. IMPACT OF CORONAVIRUS DISRUPTION

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 (\$33,500) represented 6% of our 10-

county 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 coronavirus pandemic impact on jobs in Leelanau County is dramatic, with an estimated 23% of the County's workforce in occupations that are not deemed critical or are non-remote. 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 in the future and to recover from the pandemic will be access to high-speed internet. ⁱ

Preliminary data from the [Michigan Department of Technology, Management and Budget](#) shows that in Leelanau County, unemployment during the first few months of the coronavirus pandemic increased dramatically. The Leelanau County unemployment rate (not adjusted) was 11.1% in June, 17.1% in May, 22.0% in April, and 4.1% in March. In comparison, the seasonally adjusted Michigan unemployment rate was 14.9% in June, 21.3% in May, 24.0% in April and 4.3% in March. The U.S. unemployment rate was 11.1% in June, 13.3% in May, 14.7% in April and 4.4% in March.

As a result of school closures due to the coronavirus pandemic, many employees, especially women, took time off from work to remain home and care for their children, which had an economic toll on businesses in terms of absenteeism. Also, many workers in the top employment categories within the County—accommodation and food services, construction, retail trade, manufacturing, and healthcare and social assistance—were not be able to work remotely. Even in those jobs where a parent may perform his or her job remotely from home, insufficient internet may make that an unavailable option, especially if sharing bandwidth with children engaged in online learning.

Other ways in which the problem of inadequate broadband within Leelanau County has negatively impacted businesses and employees in the County during the pandemic shutdown include:

- Farmers without available broadband found it challenging to retain and attract critical seasonal workers because their children could not access online school lessons.
- Farmers were unable to attend webinars and virtual meetings to obtain education and critical information on managing their crops, herds, equipment, weather, etc.
- Retail stores that had not developed an online sales capability prior to the pandemic were unable to shift operations online during lockdown, and thus had to shut down and furlough workers.
- Restaurants unable to facilitate online sales for take-out orders struggled to meet demand or shut down completely.
- Business customers were impacted, unable to readily access services from online ready businesses.

A June 2020 survey of small businesses in the County found that during the coronavirus shutdown, 57% said their dependence on the internet for business activities increased. In addition, nearly one-third, or 31%, said that essential business activities were not available

during the coronavirus shutdown due to insufficient internet. See below for more findings from the survey, in section VII. SMALL BUSINESS INTERNET NEEDS DURING COVID.

1 Fourth Economy Research Consultants, May, 2020

IV. BROADBAND KEEPS BUSINESSES RUNNING, WORKERS EMPLOYED

As the coronavirus pandemic emerged, Michigan ordered the closure of many businesses throughout the state in mid-March leading to a statewide stay-at-home order on March 23 for all non-essential workers. To maintain operations and employment, many businesses sought to pivot to online sales and marketing—but those that lack adequate internet speed, access and online tools risk being left behind, a situation this grant would address. Examples of the impact on employment of broadband application during the pandemic include:

- Many restaurants in Leelanau County that had online ordering systems in place as the pandemic shutdowns occurred in March 2020 were able to continue to serve customers with curbside services, retaining jobs to serve that demand. Restaurants that lack adequate internet are less likely to take advantage of online e-commerce systems, and during the shutdown were forced to limit operations to outdoor service or shut down and laid off workers. An informal survey of Leelanau County restaurants by the [Leelanau Enterprise](#) at the height of the shutdown in early April identified 36 restaurants offering take-out services vs. 31 restaurants that closed.
- Retail businesses in Leelanau County that were closed during the pandemic turned to phone, email and internet orders to keep their operations running, thereby able to retain both employees and customers. An informal survey of Leelanau County retail businesses by the Leelanau Enterprise identified [21 businesses taking email and online orders as of April 21](#), which increased to [33 businesses as of April 29](#), and [44 businesses as of May 19](#). Internet-ready businesses were able to pivot to online sales and marketing much more quickly.
- Although some workers were allowed to perform their jobs remotely from home via the internet, anyone with inadequate internet would find it less efficient, time-consuming or impossible to be productive. Low bandwidth makes it difficult to engage in such activities as downloading and uploading large files, participating in video conferencing or attending online training, to name a few. Workers unable to effectively work remotely are more at risk of losing their jobs.
- According to a [Pew Research Center study](#), job losses in the early stages of the COVID-19 outbreak have been concentrated among workers unable to work remotely. From February to March, U.S. employment decreased by 2.9 million, a loss of 1.8%. This was driven almost entirely by employment falling by 2.6 million (-2.7%) in jobs that could not be done remotely via the internet. Employment in occupations that could be done remotely was essentially unchanged, edging down by 300,000 (-0.5%).

- The coronavirus pandemic has shown many businesses that they need to develop online capabilities in the event of another crisis that shuts their physical location. Availability of internet will ensure they don't face that obstacle to innovating in how they serve customers, engage employees and grow their business.
- According to McKinsey & Co., even before the COVID-19 crisis, structural shifts—for example, the adoption of automation and the move toward clean energy—that were reshaping the labor market and increasing demand for particular skills were under way. Technological advances were expected to bring large-scale change in demand for particular roles in the workforce. For example, demand was forecast to increase for information- and communication-technology specialists and managers as well as for “future skills,” such as digital literacy and cognitive, social, and emotional skills. Demand was expected to decline for administrative roles.
- For workers who lose their jobs, finding new work will depend on the internet. Online job boards, researching career options and openings and also skills training and re-training all require effective internet to find new jobs.
- In the tourism sector, businesses can use online tools like social media, blogs, email marketing and multimedia to build demand for their services during a shutdown, so that business recovers more quickly after any restrictions on travel, gatherings and in-person operations are lifted.
- In the agricultural sector, [farmer's markets in Leelanau County](#) turned to an online ordering system enabling them to continue to harvest and sell their products locally, keeping the farms' labor force employed and productive.
- For Leelanau County farm workers with school-age children, working for a producer that had internet available for online learning was critical to remaining on the job, or having to seek work elsewhere.
- According to the American Farm Bureau Federation, many of the latest yield maximizing farming techniques require broadband connections for data collection and analysis performed both on the farm and in remote data centers. However, 29% of U.S. farms have no access to the Internet according the USDA report, “Farm Computer Usage and Ownership, 2017.” Within Leelanau County, a 2016 survey found that 92.5% of farms had internet service, though more than half had download speeds of less than 10 Mbps.
- The Michigan State University Extension Service in Leelanau County has identified multiple technologies that farmers use broadband connectivity to achieve optimal yield, lower environmental impact and maximize profits for their orchards, fields and livestock. A lack of access to high-speed internet to use these new tools will make our farmers less

competitive, resulting in fewer farms and jobs (See Section VI. Agricultural broadband needs today) for detail.

- The availability of high-speed internet within Leelanau County also will create new agricultural technology jobs as farms are able to access broadband internet and make use of these innovative new tools and services to gather and analyze data and maximize yields.

V. BROADBAND NEEDS AND GAPS

The issue of broadband availability was identified as a critical issue prior to the pandemic by the Leelanau Peninsula Economic Foundation (LPEF), a non-partisan advisory board supporting businesses by providing resources, programming and collaborative opportunities to strengthen the economic vitality of Leelanau businesses and communities. Following a 2016 survey of technology needs, LPEF in 2018 presented a comprehensive “Community Technology Action Plan” to the Leelanau County Board of Commissioners. Among other things, the plan recommended development of “public-private partnerships” to expand broadband availability, specifically in the form of allowing usage of the County-owned towers by ISPs to expand service.

In 2019, the County undertook a tower load capacity study to determine whether existing infrastructure could host equipment from multiple ISPs, as well as a propagation analysis to determine where gaps might exist using existing infrastructure. Those efforts determined that one of five County-owned towers could not handle additional equipment from multiple ISPs and would need to be replaced to be an effective platform for fixed-wireless expansion.

A 2020 analysis of existing towers indicated that by increasing the height of one or more towers a fixed-wireless signal could reach an increased range of potential customers. Kasson Township passed a resolution in September 2020 supporting the EDA grant application for funds that could be used to increase the height of an existing tower thereby improving infrastructure that would provide greater access to broadband services within the County and Kasson Township. ([Resolution 12-2020](#)).

The EDA grant would allow the County to add the infrastructure needed to support the goal of facilitating fixed wireless broadband delivery via County-owned towers.

A 2016 survey of community needs formed the basis of the LPEF action plan, and highlights of that survey’s findings for business, tourism and agriculture sectors are included below:

Business:

- Slightly more than 96% of businesses responding to the survey indicated they have a broadband connection. However, nearly half of responding businesses (49%) reported an internet download speed of less than 10 Mbps, while an additional 10% have between 10 and 25 Mbps speed, which is the federal benchmark for adequate internet. Only 7% of

businesses in the County connect with a download speed of 100 Mbps or faster, the 2016 survey found.

- Of 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.
- Beyond having a website, which 81% of businesses reported, there are many Internet-enabled technologies that can benefit businesses of all types. These technologies are aimed at increasing revenue and reducing expenditures to give businesses a competitive advantage. In the 2016, 43.7% of Leelanau County businesses either currently used or planned to implement advanced applications within one year. These digital applications—which can range from a corporate email system, to digital inventory and supply chain management software, to point-of-sale and e-commerce—all benefit from a robust internet bandwidth. Without wider availability of high-speed internet, business productivity and growth may be stifled.
- The 2016 survey found that one-quarter, or 24.6%, residents engaged with local businesses online on a daily basis, while 47.6% engaged digitally on a weekly basis.
- E-mail, text messaging, and Facebook were the three most popular tools for customer communication among businesses responding to the 2016 survey. Website updates, YouTube, and Instagram represented the next most popular platforms for digital communication. Google Hangouts is likely used for video calling or video conference meetings. At the time of the 2016 survey, responses indicated that the frequency of business use of digital tools to communicate with the public was between weekly and several times each month.
- (Since the 2016 survey was conducted, the frequency of online business activity in the United States has grown significantly. Checking email and texting once a day, for example, is hardly the norm today for successful businesses, along with other activities like posting to social media or updating content on a company web site. However, all those communication activities that are critical to business operations today can be challenging with slow or poor internet, representing lost productivity as tasks take longer to complete. Or, in the case of technology applications like video conferencing or online training and education, poor internet speeds may make them all but impossible.)
- Among all responding businesses, 21% stated that the technology skills of their employees only poorly or fairly met the technology needs of their business. While these responses were spread among businesses of all types, a few clusters stood out. Accommodation and Food Service establishments and Manufacturing businesses had a higher concentration of responses of “poor” or “fair” when asked about the technology skills of their employees. Additionally, businesses with revenue between \$100,000 and \$500,000, annually, also

responded with a higher proportion of similar responses. Finally, businesses with less than 10 employees also indicated “poor” or “fair” technology skill alignment with their employees.

- If technology is ever-changing, and employee technology skills are important to meeting the needs of local businesses, then technology-related training is essential for ensuring employees keep up with the latest online tools, devices, and applications. Among responding businesses with fewer than 15 employees, 70% feel that technology training for their employees is moderately or very important, (compared to 50% of larger businesses). Similarly, 67% of businesses with revenues under \$200,000 annually state that tech. training for employees is moderately or very important, (compared to 50% of businesses with revenues greater than \$200,000).
- According to survey results, 39.4% of residents in the Leelanau Peninsula are teleworkers, a rate much higher than the national average. Current teleworkers indicate that they telework an average of several days per week.
 - Nearly half (49%) of adults aged 45 to 54 report that they telework with some frequency.
 - Of those who telework, more than 55% have had least a bachelor’s degree, (compared to only 3% of teleworkers who hold a high school diploma or less).
 - Most teleworkers are employed full-time (54.4%) while 30.1% are self-employed.
 - Most telecommuters work from a home office (68.8%) and some work from a restaurant or coffee shop (13.1%), while only a small group work from a co-working or shared office space (5.3%) or a library (7.5%), (respondents were able to select multiple locations).

Tourism:

- Competing in a global economy requires a competitive advantage, and a broadband connection coupled with the adoption and meaningful use of related technology, can provide tourism businesses with a resource for expanding their market and creating operational efficiencies. Nearly half (49.3%) of the 2016 survey’s business respondents identified themselves as part of the local tourism economy. Of those, nearly 100% of responding tourism businesses subscribe to broadband service (a rate higher than that for all businesses in the community).
- Half of tourism businesses connect to the internet with a download speed less than 25 Mbps, while 23% reported 25 Mbps to 49.99 Mbps, and 21% report 50 Mbps to 99.99 Mbps. Tourism establishments were more likely to have a connection faster than 25 Mbps compared with all business respondents.
- Some 40% of responding tourism businesses say they offer free Wi-Fi to the public. This is higher than the rate of 29.2% among all businesses in the community.

- A website is one of the most basic ways in which a tourism business establishes and maintains an online presence. According to the 2016 survey, 86.4% of tourism businesses in the Leelanau Peninsula have a website. This is higher than the rate of 81% rate of website use among all businesses.

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.
- Among agriculture respondents, 56.3% reported internet download service of less than 10 Mbps.
- Agriculture Producers were asked, “Can the internet be accessed throughout your operation?” The majority of respondents (68.2%) indicated that the internet is not accessible in any form in the extended, more remote areas of the operation. Nearly one-quarter (22.7%) of operations indicated that Wi-Fi is accessible throughout their main operation buildings and immediate surrounding area. Finally, 9% indicate that they can access the internet via the cellular or mobile network throughout their operation.
- 21st Century agriculture operations have many opportunities to use technology to improve efficiency and increase production. Agriculture producers were asked about their current and planned use of various technology-enabled equipment. Among respondents, 15.5% say the currently use or are planning to implement the various technologies within one year.
- The two most frequently used technologies are farm management and nutrient management systems. Nearly half (42.9%) of producers currently use these technologies. The least commonly used are hybrid equipment and vehicles and geo-fencing. If they didn’t currently use or had no plan to implement the various technologies, respondents were asked to indicate if they were interested in the technology or not. The potential for improving the use of technology-enabled equipment among agricultural producers in the community lies with those saying they were interested in learning more about the technology. For example, 23.8% of respondents don’t currently use or have a plan to use full autonomous equipment, but are interested in learning more about how the technology could improve their operation. Similarly, 23.8% are interested in learning more about unmanned aerial vehicles (drones).

VI. AGRICULTURAL BROADBAND NEEDS TODAY

Since the 2016 LPEF survey, agricultural operations have expanded their need for high-speed internet. Farms today use the internet to manage their farms, attract and retain workers and go

to market. According to the MSU Extension Service in Leelanau County, some examples of specific needs of farmers that exist now, but are unavailable without adequate broadband, include:

- Internet and cell coverage in the orchards and fields as well as at the farmstead/home.
- Real-time weather information, especially moisture potential, wind, temperatures, inversion meteogram and predictive temperatures, wind and moisture information during critical weather events to perform crop saving management strategies. Agriculture weather needs are much more detailed and precise than local weather stations provide. Access to radar is needed as storms approach so growers can provide preventive applications for crops.
- Access to the many online disease, insect and phenology stage prediction models that enable growers to make timely protective applications to the crops.
- The ability to take high quality photos to send to university diagnostic labs for disease, insect, or excess/deficient nutrient analysis.
- The ability to operate tractors, harvesting and other equipment without human operators using remote steering, GPS guidance and other capabilities to work fields, plant, harvest and make protective and nutrient applications to crops.
- The ability to use high-tech equipment out in the field to analyze crop nutritional needs during the crop season.
- High-tech equipment that is available to prevent wildlife damage to crops that needs high-speed internet access to pull and send data from the internet to the equipment and to act as a remote weather station with sensors that need internet for transmission.
- Equipment available that can do variable application of nutrients based on soil testing and GPS positioning information.
- Live access to webinars, virtual meetings and other virtual online information resources to educate and communicate with growers on a variety of subjects. Especially during the coronavirus pandemic, MSU Extension Research Station Staff and on Campus researchers cannot deliver on-site pest management and horticultural information necessary for effective and efficient crop management. Farmers that do not have the internet capacity to do live webinars and videoconferences are at a disadvantage and cannot get the information they need to effectively manage and grow their operations.
- Leelanau County has approximately 470 farms farming 50,000 acres and employs 1,520 workers with a payroll of \$14 million. To be an attractive employer, the workers want internet available on the farm for their children to do school learning online, especially during the coronavirus pandemic but also for homework in normal times. They also want internet access for information, connection to family, online shopping and communication.
- Agricultural labor retention is key. There is also increasing labor needs as farmers move to develop value-added products and to market fresh produce direct, on-line to consumers as well as local wholesale markets. High-tech equipment associated with packaging can also require additional labor needs. As growers add new capabilities to their operations and need higher technology equipment as well as information and data online, it creates more jobs in the agribusiness community by supplying high-tech equipment requested by more informed farmers.

VII. SMALL BUSINESS INTERNET NEEDS DURING PANDEMIC

More recently, as a result of the pandemic shutdown, LPEF sought to gain additional insight to how small businesses, including many home-based businesses, were impacted by potentially inadequate broadband. Findings of the May 2020 survey included:

- Nearly all (94%) respondents said they require internet access for their business operations. Also, 77% said reliable broadband internet is of high importance to their business.
- A majority of business respondents reported dissatisfaction with their current broadband internet service in terms of:
 - Availability: 53% are not satisfied.
 - Speed: 65% are not satisfied.
 - Price: 73% are not satisfied.
- Among respondents who indicated dissatisfaction with some aspect of their broadband internet, 81% said they believe that if they had satisfactory high-speed internet it would enable their business to grow, and 68% said it would be more likely they could retain jobs.
- More than half of respondents who knew their internet speed, or 56%, reported internet download speeds below the government benchmark of 25 Mbps, including 40% of respondents that receive internet at less than 10 Mbps, and 19% with less than 3 Mbps. Those percentages are a slight improvement from the 2016 LPEF survey, but still represent a sizable segment of county businesses with inadequate internet speeds.
- Thirty-three percent of respondents received internet via a cable provider, which typically offers adequate speed. Yet, 22% receive their internet via DSL (phone), and 11% via satellite, both typically offering slower speeds or limits on data. Other internet sources included wireless, mobile or a combination of several sources.
- During the coronavirus shutdown, 58% said their dependence on the internet for business activities increased.
- Also, 31% said that essential business activities were not available during the coronavirus shutdown due to insufficient internet.
- The businesses responding were overwhelmingly small businesses, with 47% reporting a single employee, 25% reporting two employees and 15% with 3 to 5 employees. Also, 63% of respondents are home-based businesses.

VIII. WHY FIXED WIRELESS BROADBAND

Although fiber to the premises is viewed by many as the best solution for delivering high-speed internet, it is expensive to build a fiber-optic network in a rural environment that meets the needs of all premises in the County and such a network is unavailable without commercial ISP appetite to serve a rural market like Leelanau County. Also, agricultural operations need to access broadband in the field, not only in the home. For these reasons, we have identified fixed wireless broadband as an effective solution today for large rural areas of Leelanau County that do not currently have access to high-speed internet.

We recognize, however, that because of the County's terrain, some premises and areas will not be served by fixed wireless broadband and will require other options. Some ISPs that we are in discussion with are also beginning to explore a limited deployment of fiber to selected premises in the County. It is our hope that with the growth and development of a fixed-wireless broadband customer base, these ISPs will be more inclined to develop additional fiber deployment to County premises in the future.

Fixed-wireless broadband also can take advantage of County-owned infrastructure. The County currently owns five (5) towers and uses a total of eight (8) towers in the County for 911 communications. This network of towers can be used to deliver broadband signals. With the addition of one new tower and increased height of an existing tower, this network could reach currently unserved areas of the County, enabling more businesses to take advantage of online information and services, improving their resiliency for future economic shocks.

IX. WHY COUNTY-OWNED TOWERS

Smaller ISPs are the primary provider of fixed wireless broadband in our area. Many smaller ISPs would be unable to build their own tower network because not only are they relatively undercapitalized but they also would have to navigate local township zoning requirements so that towers could be built. Each of the 11 townships has different zoning requirements which adds to the inequity and difficulty in ISPs building their own tower network. The County-owned towers have already been through the zoning process and thus the fees charged to ISPs would be more affordable to them than creating a private tower network.

There has also been some public opposition in the past to efforts by private companies to build additional radio towers, making the County-owned infrastructure a more feasible solution for expanding fixed wireless broadband services.

For these reasons, the LPEF action plan proposed a public-private partnership to achieve the goal of a wider rollout of fixed wireless broadband services.

X. WHO SUPPORTS THE PROPOSAL

In addition to Leelanau County officials, the project is supported by the Leelanau Peninsula Economic Foundation (LPEF). Participation in the LPEF's internet task force represents a coalition of County residents, businesses and stakeholders, including Libraries, Agriculture,

Government, Healthcare, K-12 Education, Public Safety, Community Organizations, and Tribal Organizations.

XI. PROJECT DETAILS

This proposal is for construction of one new tower and raising the height of a second tower and related infrastructure, such as power supply and fiber internet junction boxes and fiber connections to the towers, within the County. The new tower will be located in Suttons Bay Township on the campus of the Leelanau County government offices. The existing tower that would be raised is located in Kasson Township.

The new Government Center tower will be a 197-foot self-supporting tower that will hold County and Michigan Public Safety Communication System (MPSCS) 800MHz radio equipment (antennas, microwaves, feedlines, shelters, ground equipment, etc.). The County will ensure the tower is built to withstand at least 5 co-locations, 5 cell carriers and 4 ISPs. The new Government Center tower would be in addition to an existing tower in that location that was determined to have insufficient capacity to co-locate additional ISPs and cell carriers. Based on bids, the cost to build the new Government Center tower is \$486,073 total.

The existing tower in Kasson Township would add 110 feet to the existing 190 foot tower, meeting a 300 foot limit on the existing tower infrastructure. It will cost \$188,833 for the tower extension, including structural analysis, delivery freight, labor and equipment and FAA licensing.

Total projected costs of the Leelanau County project are \$674,906.

It is anticipated that matching funds from the County would be up to 20% of the total, or \$134,981.

XII. ISPS ON STANDBY

With the County's tower load studies now complete, the ISPs are ready to begin installing equipment on the existing towers and with construction of the two new towers to add equipment there, as well.

The County has contracts with three fixed-wireless internet Service Providers to lease access to the County-owned towers for their equipment to deliver broadband. These are Agri-Valley Communications Inc., Cherry Capital Communications and ElevateNet. In addition, the County is in contract negotiations with 2 additional ISPs: Aspen Wireless and an ISP formed by the Grand Traverse Band of Ottawa and Chippewa Indians.

XIII. SUMMARY

The EDA grant would allow Leelanau County to increase the infrastructure needed to attract fixed-wireless broadband providers to serve businesses in our county, especially farms, with much-needed high-speed internet. Improving internet is essential to helping businesses stay current and competitive, to generate growth and to retain and add new jobs. During the coronavirus pandemic, with so many employees under stay-at-home orders and businesses closed to the public, the reality of how vital the internet is to the economic wellbeing and resiliency of businesses was painfully evident to those who lack adequate high-speed internet. The sooner that Leelanau County can build one new tower and increase the height of another, the sooner that ISPs can install their equipment and begin delivering high-speed broadband internet to many businesses in the county that are currently underserved.

XIV. APPENDIX

- DBA survey comments
- Cost breakouts from tower work bids

APPENDIX

Leelanau County Business Owner Survey comments regarding broadband internet in county

“We are a specialty consulting engineering firm servicing a certain segment of the agricultural industry. We frequently host design review meetings via Webex, where we can share our graphics screens with our clients to review and modify current design drawings. An internet speed of 7 to 9 Mbps is just barely adequate for this, and we have had to terminate at least two sessions since late March. While we do not video conference much, we have not even tried since late March.”

“The internet allows us to operate an international business from the most beautiful place in the world. “

“As a photographer I have to transfer a lot of data and upload speeds are always slow—taking hours to upload an event's worth of jpeg files.”

“This is the digital age. Almost all activities, business, commerce, education, ASSUME everyone has internet access. Those without it run the risk of becoming non-participants in today's world.”

“The available choices are terrible, not reliable and ridiculously expensive. Not only for work but I have 2 students at home. This has been a terrible experience for work, school and family.”

“I am considering moving because of the terrible internet service here.”

“It needs to be county-wide if we want to recruit younger professionals and bring in higher business talent.”

“Essential service for fruit growers who must file their spray records, etc., online.”

"I support this cause. Working remotely from home was extremely difficult due to the slow speed of the computer."

"If you had increased availability and speed, you could attract more small entrepreneurs to the area that would increase your tax base."

"We had three people working from home during stay-at-home, and we didn't have enough speed for all activity at the same time. We don't have reliable cell service inside the house, so internet is even more critical."

"It is not that they are unavailable, but our service is so slow and at times is shut down. This applies when I work from home, as I have had to do during COVID crisis. I have said for years that the lack of adequate broadband service to the county is seriously restricting its growth."

"The reliability of the internet connection in Leelanau is not as high as those seen in cities and other larger municipalities. It has decreased productivity and continuity during the Covid 19 shutdown."

"We often sell our products at street fairs and craft markets locally. Because we cannot get a signal for our point-of-sale device, we must accept payments 'offline' meaning there is no immediate verification of credit card validity. We have made numerous sales that ended up being fraudulent. With high-speed internet service, this would not happen. Also, we cannot participate on Zoom conference calls with video service with our slow speed and narrow bandwidth."

"Need internet capabilities in my orchards & fields, worker housing lacks internet for school children & the families."

"(Videoconference) meetings were difficult for several members of our Board because their internet connectivity was so poor."

"Wholeheartedly support this grant application! Fast internet availability would be a Godsend to my business."

"Besides business, Internet is a class and income bias. Children need it to be competing in school, workers need it for communication, the elderly need it for safety. The rich will always have it. Start caring about the vulnerable as much as you care about money. Please."

"I feel very strongly that better internet service is needed in Leelanau County. Broadband internet would be beneficial to both my business and my employees who live in the area."

APPENDIX

BREAKDOWN OF COST FOR MAPLE CITY TOWER EXTENSION

110 FOOT ESTIMATE BASED ON 60 FOOT COST FIGURES RECEIVED*

Project Detail	(estimate for 60 foot extension)		Per/10 foot cost	(estimate for 110 foot extension)
	Estimated Cost	Conservative Cost		
60ft Tower Extension	\$46,200	\$55,000	\$9,166.67	\$100,833
Structural Analysis & Drawings	\$5,000	\$5,000		\$5,000
Delivery Freight	\$6,200	\$8,000	\$1,333.33	\$14,667
Construction Labor	\$15,000	\$25,000	\$4,166.67	\$45,833
FAA Licensing	\$1,000	\$2,500		\$2,500
Contingency	\$10,000	\$20,000		\$20,000
TOTAL	\$78,900	\$115,500		\$188,833

**APPENDIX
 BID FOR CONSTRUCTION OF NEW TOWER ON GOVERNMENT CAMPUS**

EXHIBIT A

EQUIPMENT & INSTALL (LINE ITEM) PRICING SCHEDULE

THIS FORM MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL. FAILURE TO SUBMIT THIS COMPLETED FORM MAY RESULT IN DISQUALIFICATION.

Vendors are encouraged to provide as much detail as they feel will allow the evaluators optimum knowledge and understanding of the items and concepts proposed. Provide a detailed cost breakdown by line item for the related product or service.

Item NO.	Description "Examples"	Qty	Individual Cost	Extended
1	"A" site development	1	\$ 172,450.00	\$
2	"B" Tower Foundation estimated 30' X 30'	1	\$86,300.00	
5	"C" off load tower and erect per manufacturer instructions	1	\$115,911.00	
6	"D" furnish and install anode rod and cable on structure	1	\$4,200.00	
7	"E" Furnish and install tower counterpoise (Halo)	1	\$4,700.00	
16	"F" Furnish and install weed barrier inside compound area and cover with crushed stone 4" thick (Area to be covered 40' x 40')	1	\$6,400.00	
	"G" Furnish and install climbing ladder	1	\$4,600.00	
18	Provide design layout drawing of finished site plan. (Electronic set)	1 set	\$7,800.00	
19	Remove all excess debris and construction materials, dirt and seed disturbed area with hydro seeding	1 lot	\$7,400.00	
	Total		\$405,061.00	
	Subcontracting to local businesses (Y/N)		YES	

Total \$405,061.00

Total cost for purchase of equipment, services and implementation of the project.

FOUR HUNDRED FIVE THOUSAND SIXTY ONE DOLLARS \$405,061.00
 Total Cost in Words Numeric

VENDOR