



Lee County  
*Southwest Florida*

## LOCAL TECHNOLOGY PLANNING TEAM

# Broadband and Digital Equity Plan

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# Executive Summary

Lee County formed a Broadband Services Local Technology Planning Team (LTPT) as part of our efforts to ensure all County residents have availability to fast (100/20 Mbps minimum & 100/100 Mbps desired) broadband services and, where their income is below 200% of the poverty level, access to affordable services. We used the Florida Department of Economic Opportunity Office (DEO) of Broadband Planning Toolkit as a guide for creating the LTPT process and are in full compliance with their program which will have over a billion dollars available to award to qualifying projects.

The 9 process steps from the Planning Toolkit that were (or will be) conducted by Lee County are:



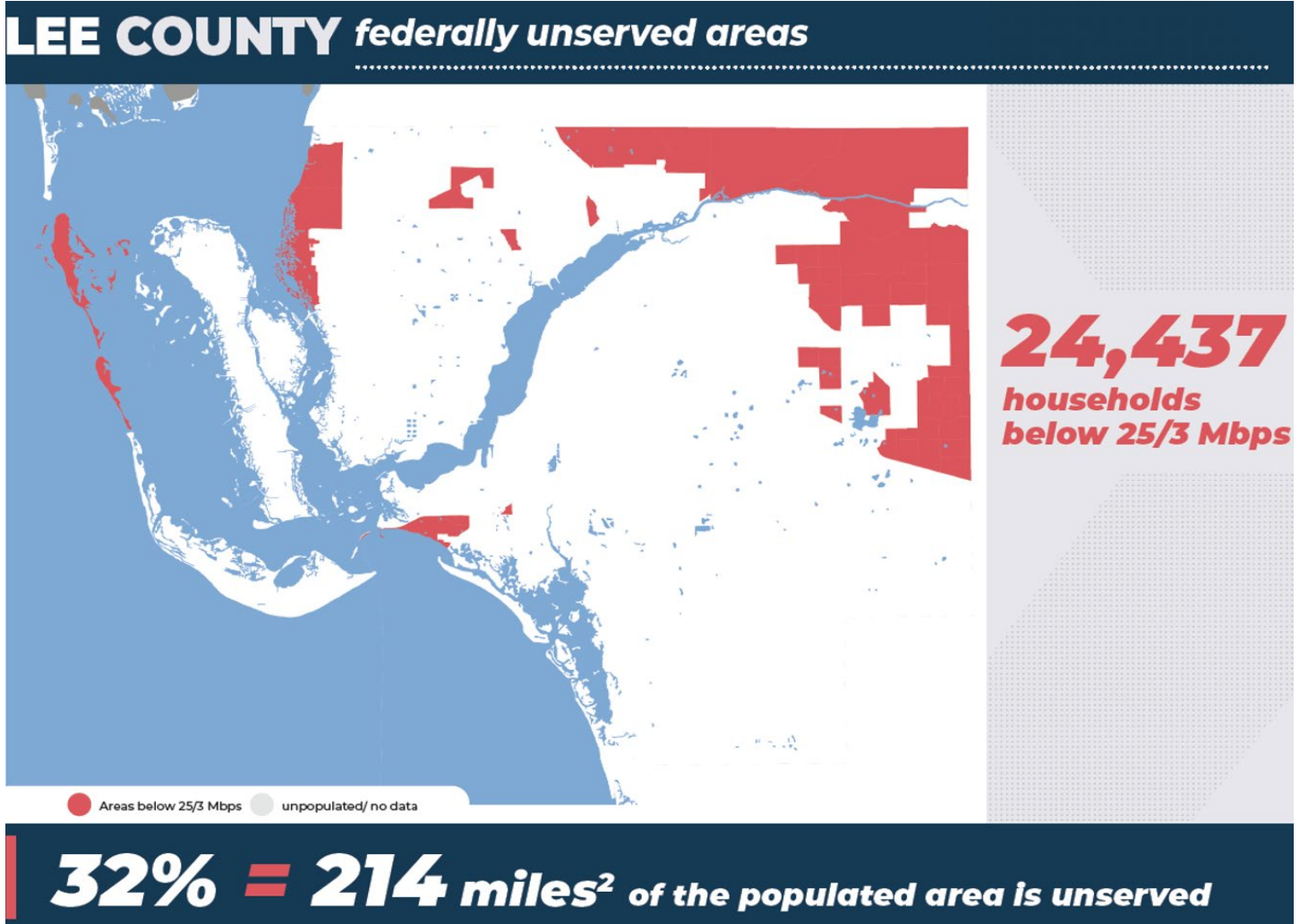
Figure 1

Our LTPT Team has completed Steps 1 through 7 and has detailed the results in this document. In addition to the Planning Toolkit, the State Broadband Office provides a Speed Test so that upload and download speed data can be collected to define those areas of the State that are Unserved or Underserved from a broadband perspective.

Here is the link to the [Office of Broadband's Planning Toolkit](#).

Here is the link to the [Office of Broadband's Speed Test](#).

After executing the first 7 Steps from the Planning Toolkit, the key finding from the LTPT's study is that over 24,000 households fit the definition of Unserved by the Federal Broadband guidelines. These homes are eligible for funding to get them up to a minimum of 100 Mbps download by 20 Mbps upload speeds and a goal of being gigabit capable.



**Figure 2**

The team also determined that the areas of need were concentrated in Northern Cape Coral and the Eastern areas of the County from Alva and Lehigh Acres in the north, to SR 82 and the Hendry Canal in the south. The area in Northern Cape Coral has work already being done by Lumen and Comcast. We expect that area to be in full service before the end of 2023, so the focus should now be on the Eastern segment of the County.

The report also documents areas considered to be underserved – which is defined as homes / areas that do not receive consistent 100/20 Mbps speeds; with a goal of 100 Mbps upload. Our study found that in much of this area the services provided can exceed 100 Mbps download but do not reliably provide upload speeds of >20 Mbps throughput from the device and many have outdated wi-fi equipment that should be upgraded.

The LTPT conducted over 20 meetings with County Departments and Anchor Institutions. This provided valuable information on the current state of network and user needs in Lee County. It also enabled us to form an operational plan by working with the Transportation and Public Works Departments to ensure we utilize a “Dig Once” program as well as an extensive conduit system. As part of this program, we will ensure that the plan includes a standard strand count

that is greater than or equal to 144. Our preference is buried fiber but recognize in some areas that aerial fiber will be the only option.

The LTPT also identified significant needs for connectivity at Community and Senior Centers, Parks, Libraries, non-profits such as United Way Homes, and Healthcare Facilities that can be addressed by both fixed and mobile network technologies. In a follow-up to this report, we will focus on specific digital equity and literacy programs and telehealth and social services solutions for remote and County community center access. Lee Health and Lee County Human & Veteran Services are part of the team.

We are also reviewing Workforce Development and Training programs and have started discussions with the Wireless Infrastructure Association and the Fiber Broadband Association to determine how to integrate their training and apprentice programs into our efforts. Additionally, we are aware of the Florida REACH program and are focusing on how to integrate their Fort Myers location into our programs.

Comcast, Lumen, Summit Broadband and T-Mobile have been most active in helping us complete our study and plan for solutions. Comcast has specifically agreed to match a minimum of \$5 million in funding and if more funding were available, they would provide additional funding that would eliminate over 50% of the unserved area in 2 years.

#### Key Factors regarding Lee County and Broadband Services:

- Lee County is the 9<sup>th</sup> fastest growing County in the United States. Its population is expected to grow from 783k in 2021 to 978k in 2030 (~25% growth). Its current broadband and mobile network infrastructure is insufficient to service this growth.
- 24,000+ unserved homes exist with the largest concentration east of I75 and North and East of SR 82.
- Lee County Schools have leased fiber to every school in the County (supplied by Summit Broadband) and has built very strong digital capability including a 1 to 1 computer to student ratio. The only limitation is home and remote access for some students due to affordability and / or availability issues.
- Comcast has been active in the County and has coverage of 90%+ of the County. It has also been involved in digital affordability and adoption and has been enrolling residents in the Affordable Connectivity Program (ACP). They have also provided free wi-fi and other services to the Fort Myers PAL, Fort Myers Quality Life Center and the Boys and Girls Club of Bonita Springs locations.
- Lee County IT's Fiber Optic Network is one of the most reliable methods to service government, libraries and healthcare facilities. Lee Health's new data center and the Lee County Utilities data center are the most critical to be added to the network and to engineer diverse routes to these locations.
- Numerous County Facilities are on DSL, or have unreliable network designs, which provide poor service and slow speeds particularly to libraries and healthcare facilities.
- Primary business corridors west of I75 generally have access to at least 1 source of fiber optic and >100 Mbps services. No major business corridors exist east of I75 today, but the limitations of broadband in this area significantly impact agriculture, small business and home businesses and inhibit future business growth.
- Lee Health and Lee County Human & Veteran Services have significant need for programs to address broadband network quality and availability for telehealth, quality of life programs and skill development such as workforce and basic bill paying.
- Human touch points are essential to enabling our residents with limited to no digital literacy that may have never owned a computer. Lee Health currently has a technical helpdesk and we are exploring how to utilize that service to aid citizens participating in our programs. We believe this helpdesk function is key to sustaining skills learned from the programs.

- Lee County would benefit from working with established equipment recyclers to refurbish and distribute digital devices donated by corporations and businesses.
- Multiple Lee County Library locations are currently serviced by commercial providers with slow internet connections. Library locations that currently use Lee County's fiber have high quality speeds. However, the internal wi-fi systems at many Lee County Library sites need to be upgraded to take advantage of these higher quality speeds. Options to improve performance speeds include transitioning all Library sites to County fiber and upgrading their internal wi-fi systems or we can work with current service providers to improve the broadband services they provide. Grant funding would be pursued to support any of the options identified. We can apply for grants to build out our own fiber, to buy dark fiber or lease services from the service providers.

Lee County will be pursuing grant funding through multiple State and Federal programs (Appendix D). The most immediate request will be through the Florida DEO's Office of Broadband which is administering \$866 million in funding over the next 2 to 3 years and over \$1.5 billion (estimated) over 5 years.

# Introduction

The purpose of the Local Technology Planning Team (LTPT) and this Broadband Plan is to help Lee County identify gaps in broadband service and to gather information from various sources that can be used to develop and implement strategies and solutions to fill the identified service gaps.

Our goal is to create programs which enable everyone to have equal, reliable and affordable broadband access and the opportunities this access can bring. Opening access to more diverse commerce, providing access to distance learning, telehealth, job opportunities, and creating a conduit to increase professionals' skills will provide citizens not only an opportunity to learn but to open an entire new world to inspire them to reach higher and dream larger.

The top priorities are to:

- Utilize the Florida DEO's Broadband Planning Toolkit as a general guide to collect quantitative and qualitative data to help understand our broadband needs and to assist in the deployment of successful programs.
- Identify the unserved areas of the County and to identify coverage and capacity solutions (availability).
- Create an awareness campaign to adopt affordable cost options for citizens that qualify for programs such as the Affordable Connectivity Program (ACP).
- Create opportunities for economic growth within the community through increased network infrastructure coverage and capacity by either the service provider networks or Lee County's backbone fiber optic network.
- Determine areas of need that would benefit from Broadband and Digital Programs including Telehealth, Workforce Development and Digital Literacy and design solutions and pursue appropriate funding with a dedicated team.

## Local Technology Planning Team (LTPT)

The County formed a Local Technology Planning Team (LTPT) to address the Broadband program and provide requirements to the State of Florida's Broadband Office. The LTPT has held one 'all hands' meeting and over 20 smaller group planning meetings. The full roster of LTPT members is included in (Appendix A) and includes groups mandated by the Florida Broadband Office.



Figure 3



Members of the LTPT come from:

Lee County Administration, Lee County Schools, Lee Health System, Lee County Department of Health, Lee County Agricultural Extension, Lee County Business Departments (Human & Veteran Services, Libraries, Parks & Recreation, Innovation & Technology, Public Safety, Economic Development Office, Visitor & Convention Bureau, Community Engagement, Performance Management), Dense Networks (Consultant), and the Greater Fort Myers Chamber of Commerce.

Small group discussions were also held with Lee County Utilities and the Lee County Department of Transportation (DOT) business departments. The LTPT issued surveys (Appendix B) to Residents and Businesses between July 1<sup>st</sup> and August 1<sup>st</sup> to capture their input on broadband and digital equity services and needs.

In addition to the LTPT, a smaller Broadband Services Gap Analysis team was formed to analyze gaps in broadband coverage, current coverage by carrier and to identify future growth requirements for broadband networks in Lee County.

As part of due diligence, the team met with the 3 leading providers of Broadband in the County – Lumen, Comcast and Summit Broadband. These meetings have been very helpful to identify current activity, future plans and the potential for funding.

The group also reached out to Bluestream, Hotwire and Breezeline; who also have services in the County. No responses have been received to date from this group.

The team also discussed mobile network programs with Verizon, AT&T, T-Mobile and Comcast and sees considerable capability to address affordability, devices, digital literacy, workforce skills training, telehealth and to apply for funding.

## **County Overview**

Lee County, located on the Gulf Coast of Florida, encompasses approximately 811 square miles including several small islands in the Gulf of Mexico. The County is bordered by Charlotte County to the north, Hendry County to the east, and Collier County to the south. The County has six incorporated municipalities: Fort Myers (the County seat), Bonita Springs, Cape Coral, the Village of Estero; Fort Myers Beach, and Sanibel. The unincorporated communities include Alva, Captiva Island, Lehigh Acres, Matlacha, North Fort Myers, Pine Island, and Tice.

The County is governed by a five-member Board of County Commissioners (BoCC). The BoCC elects a chairman who serves as its presiding officer. The County Manager reports to the BoCC.

As stated earlier, Lee County is the 9th fastest growing County in the United States with a growth rate of 2.9% annually. Its population is expected to increase from 783k in 2021 to 978k in 2030 (an increase of ~25%). Its broadband and mobile network infrastructure is insufficient to service this growth. This factor is exacerbated by the additional surge of 18% more residents during the winter season that are not included in any census population data.

The median household income for a family of four in Lee County is \$71,900. Employment levels have steadily increased each year to a workforce of over 360,000 employees. Historically, our area grows by visitors becoming seasonal residents who then become full-time residents.

Lee County is 66.2% White, 22.5% Hispanic or Latino and 9.1% Black or African American. 89.3% of Lee County residents are high school graduates and 28.5% of the population has a bachelor's degree or higher. The Lee County Public School District serves 97,264 students, 72.8% of whom are economically disadvantaged.

The largest industries in Lee County are Retail Trade (38,821 people), Construction (31,863 people), and Accommodation and Food Services (29,542 people). The highest paying industries are Utilities (\$92,667 avg.), Finance & Insurance (\$81,725 avg.) and Professional, Scientific & Technical Services (\$76,396 avg.). All industries located in Lee County produce a Gross Domestic Product nearing \$30 billion a year. There are approximately 25,000 businesses operating in the area. The number of businesses has increased by 37.68% since 2010.

Lee County is served by Southwest Florida International Airport which is averaging over 1 million passengers each month in 2022. Major highways serving Lee County include Interstate 75 and US 41.

## Methodology

After forming the LTPT and the Broadband Gap Analysis Team, the teams began a process of data collection for 2 core purposes:

- To create a map of the County's broadband capabilities
- To create a residential, business and anchor institution broadband and digital equity 'needs analysis' utilizing input gathered during group meetings, 1 on 1 planning sessions and surveys of residents and businesses.

## Mapping

The team created a digital web-based map which allows for zooming down to the residence level as well as a series of flat maps that show areas of unserved and underserved residences and anchor institutions. Poverty levels were also mapped against this database.

The County is eager to demonstrate and review our maps and data with the State's Office of Broadband (at your earliest convenience). It presents a very compelling case for funding support to the 24,000 + households identified as unserved.

Our methodology considers the signal to the device including the wi-fi home link. The core databases used to measure speeds are listed below:



**Figure 4**

The Ookla speed tests are the primary source for speed data. The County will also seek to incorporate the Florida DEO's Office of Broadband speed tests into a layer of our maps once they are completed. Results gathered to this point verify our findings.

**The Ookla database contained 823,333 fixed broadband speed tests over a 24-month period between March 2020 and March 2022.** This allowed us to identify 53,355 locations with an average of 15 speed test records per home. It also allowed us to directly rate 12,907 census blocks.

The data is formatted so that we can drill down to Street Address, Latitude by Longitude or Census block and is exportable into multiple file formats.

Here are more details on the process that was followed:

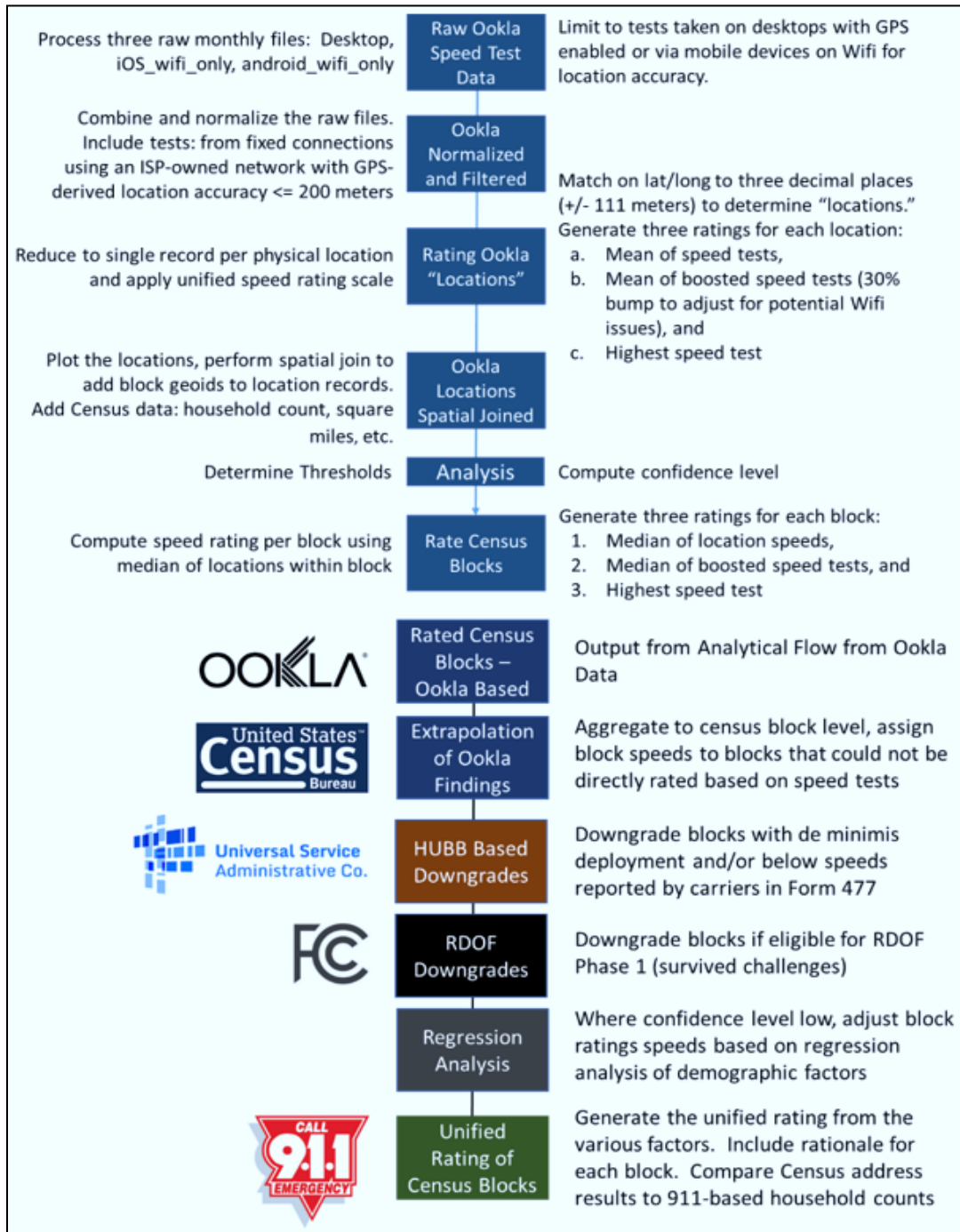


Figure 5

The findings were validated against the 3 largest service provider databases of in-service areas / homes. We also conducted a 'drive' of the entire County and visually inspected each unserved area. We believe our data is the most accurate data available because of its multiple validation points.

For the purposes of Lee County, the category of underserved is not our focus. We are laser focused on the unserved households (24,000+) and anchor institutions that need to be addressed first. A complete pdf package of the flat maps is in Appendix G.

## Needs Analysis

The LTPT had an all hands meeting on May 5<sup>th</sup>, 2022, which was led by Christine Brady, Lee County Assistant County Manager. Kiwanis Curry, from the state of Florida's Office of Broadband, participated on the call.

The group shared their goals and concerns and the team began the process of drilling down into the details. Individual meetings were held with the departments listed previously plus the Lee County Department of Transportation and the Lee County Utilities Department. Internet Service Providers that have actively participated include Comcast, Lumen, and Summit Broadband. T-Mobile has offered strong mobile options to address devices and programs.

Multiple follow up meetings were held with Lee Health, Human & Veteran Services, Libraries, Parks & Rec and the Service Providers (Comcast, Lumen, and Summit Broadband).

Each department submitted a Strengths, Weaknesses, Opportunities and Challenges (SWOC) document to help identify critical needs and issues. A scan of all the SWOC documents is included in Appendix C.

Additionally, Lee County's Community Engagement Department created and activated a County-wide campaign to communicate project objectives, to provide instructions for conducting broadband speed tests and to distribute broadband residential and business surveys (both digital and paper versions). Community Engagement reached out to and received support from local organizations to assist with the campaign communication.

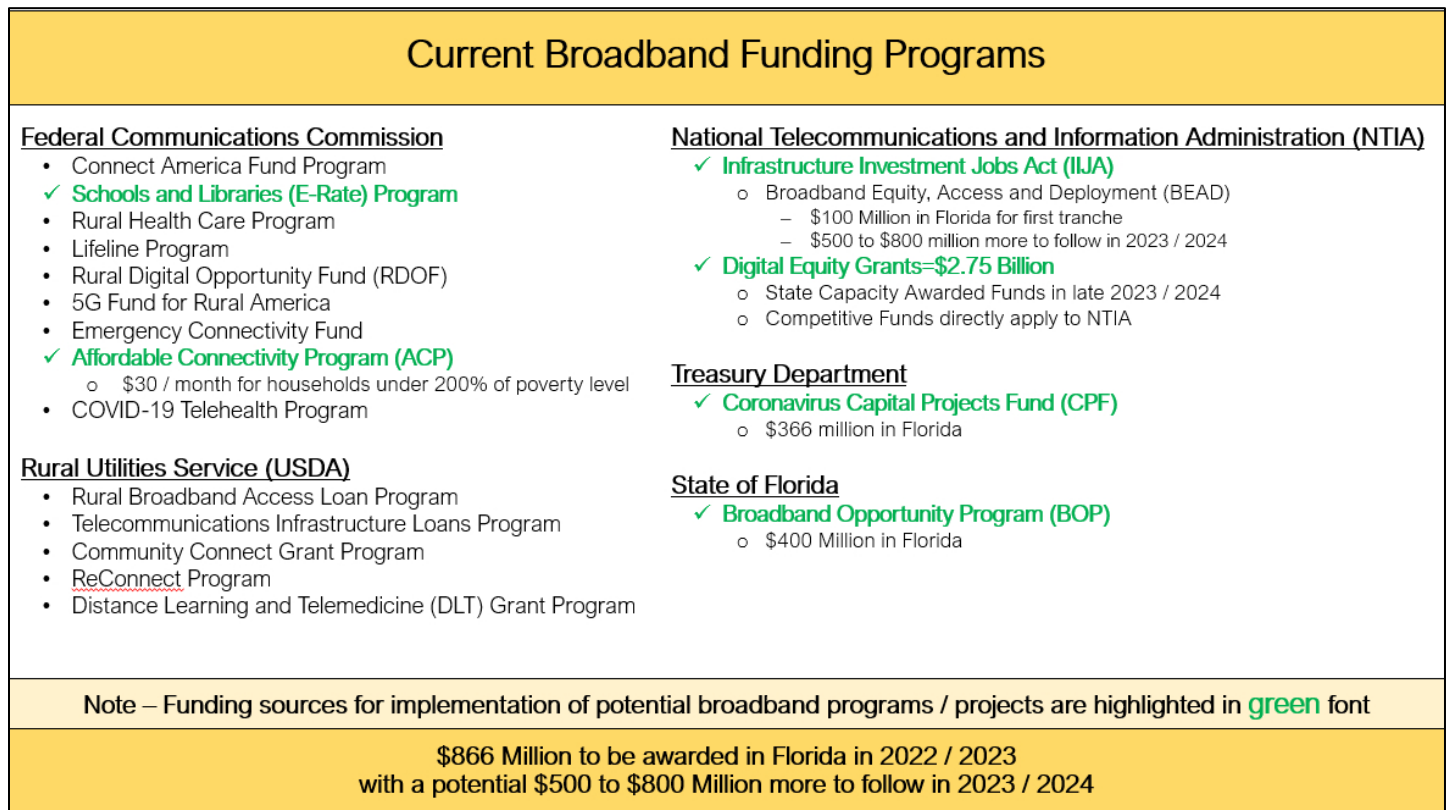
Results from the Broadband Residential and Business Surveys have been incorporated into this document.

# Funding Opportunities

The current list of potential funding sources provides a one-time opportunity to receive Federal and State Funding for Broadband and Digital Equity programs. We recommend that Lee County actively pursue these funds.

The County team has been very engaged in the Florida Office of Broadband’s planning process and has also worked with Dense Networks, Morgan Lewis Bockius and participated in the Pew Charitable Trust program recently held in Cleveland. At the Pew Charitable Trust program, we engaged with the Treasury Department and the NTIA to learn more and to discuss our direction.

The funding sources we have identified as important to the Broadband and Digital Equity Plan required by the State’s Office of Broadband are shown below. The green highlighted areas are the specific targeted funding sources.



**Figure 6**

- **Broadband Opportunity Program (BOP)** – \$400 million in State Funding for infrastructure improvement to areas that are unserved by Broadband (<25 Mbps download and <3 Mbps upload). Applications for this fund are submitted by the Service Provider and the fund requires a 50% match. Comcast has presented a plan that would match up to \$5 million of grant funds for a total of \$10 million in funds to build out a portion of the Lehigh Acres zone. Lumen / CenturyLink and Summit have expressed interest in serving other areas of unserved but have not presented a plan yet.
- **Capital Projects Fund (CPF)** – \$366 million in Federal Funds from the US Treasury ARPA program. The CPF may be used for broadband infrastructure deployment projects, multi-purpose community facility projects and for digital connectivity technology projects. All projects must enable work, education and health monitoring. Funds for digital connectivity technology projects may be used for the purchase and / or installation

of devices and equipment to facilitate broadband. Permitted devices and equipment include laptops, tablets, desktops and equipment installed as part of public wi-fi infrastructure. Funds for multi-purpose projects may be used to construct or improve buildings that are designed to jointly and directly enable work, education and health monitoring.

- **Department of Commerce’s NTIA Broadband, Equity, Access, and Deployment (BEAD)** – \$100 million is available in the first tranche of funds to Florida with up to \$500 to \$800 million more expected to be allocated to Florida over the next 24 months. These funds will have a number of components which will address infrastructure and programs as described above. All programs, except digital equity, will require between a 20% to 30% match. This program will be available to address the Residential Broadband unserved areas and the County’s fiber optic network expansion to include critical facilities for Libraries, Healthcare, Utilities, Transportation and Public Safety.
- **Digital Equity Program (NTIA) – 2 Programs – Capacity Grants (awarded to States) and Competitive Grants (awarded to Counties and Municipalities).**
  - **Capacity Grants** – the target demographic includes households with income no more than 150% above the poverty level, senior citizens, incarcerated individuals, veterans, rural residents, racial or ethnic minorities and individuals with disabilities or that have a language barrier. \$60 million will be split in grants to states that apply to develop a State Digital Equity Plan. 2 years after the planning grants are awarded, \$1.44 billion will be disbursed to implement plans and other digital inclusion activities.
  - **Competitive Grants** – \$1.25 billion in funding to be competitively awarded for adoption, literacy and other programs intended to increase use and understanding of broadband services. This is most likely a 2024 and 2025 award program.
- **FCC Affordable Connectivity Program (ACP)** – provides a \$30 a month benefit to any household below 200% of the poverty level for Broadband and a one-time \$100 credit for a device. This program has over \$14 billion in funding and is expected to last until 2026. All ISP’s that want to receive federal funds must participate in this program. Participants include the 3 major cellular providers in Lee County – Comcast, Lumen and Summit Broadband.
- **E Rate – Annual Program from the FCC targeting Schools and Libraries** – funds discounts for eligible services to schools and libraries. Generally, funding is for two categories: (1) data transmission services and internet access; and (2) internal connections, managed internal broadband services and basic maintenance of internal connections.

# Key Findings

## Strengths, Weaknesses, Opportunities and Challenges (SWOC)

One of the elements of building our plan is based upon the Florida Broadband Office's request for SWOC's (Strengths, Weaknesses, Opportunities and Challenges). Our key points are based upon feedback from members of the LTPT team and their department members which were submitted in writing.

### Strengths

- Lee County is the 9<sup>th</sup> fastest growing County in the United States.
- Lee County's fiber network serves some of the anchor Institutions, including libraries and hospitals.
- 3 Service Providers are eager to expand services into the unserved areas of Lee County (Comcast, Lumen and Summit Broadband).
- Lee Health, Lee County Human & Veteran Services, Libraries, Parks & Rec, Lee County IT and Lee County Schools have an existing collaborative ecosystem.
- Lee County Schools are completing fiber builds to all schools which extends "middle mile" fiber throughout the County.

### Weaknesses

- There are over 24,000 unserved households across 32% of Lee County.
- DSL service is the only access available to a number of key anchor institutions (Healthcare, Libraries, Community Centers) and is unreliable – sometimes being out for days.
- Lee County healthcare programs are negatively impacted by the lack of available residential broadband and poor mobile networks. Home and remote programs often cannot be adequately completed due to connectivity issues.
- Mobile connectivity is poor in general but worse during "Season" (November to April). This impacts reliability but also creates public safety issues when trying to reach 911.
- The Lee County fiber backbone needs additional capacity and upgraded electronics.

### Opportunities

- Comcast has worked with Lee County over the past year to develop a network coverage and capacity plan that connects the unserved areas. The Cape Coral build is under way and the most pressing Eastern zone (Lehigh Acres) has been engineered and budgeted at a high level. Comcast is willing to provide the 50% match to apply for a BOP Grant of \$5 million to service +/- 5,000 households.
- Lumen is investing in the Cape Coral build and in a limited segment of Lehigh Acres, which will address approximately 1,000 homes.
- Lee County and Lee Health are developing a plan that would address telehealth services at Community and Senior Centers. The program would include remote access using tablets that come loaded with the Lee County Human Services app and the Lee Health Telehealth app. We are also investigating potential workforce development and digital literacy integration.
- Lee County Libraries and Lee Health are suffering significant outages due to DSL unreliability. We have identified sites that could be added to the Lee County fiber backbone which would create closed rings and a lower risk of outages for all sites on the



network. The Lee County Utilities data center should be migrated to the County’s diverse fiber network and other key locations should also consider this migration.

- Public Safety has the need to implement new tower infrastructure but does not have all the necessary funding. The coordinated implementation of new towers could be leased to cellular providers and potentially host a fixed private wireless network to residents and stakeholders.

**Challenges**

- Resources – Human and Capital. Total build costs are estimated to be over \$40 million.
- The large size of unserved geography and the # of unserved households.
- Growth is happening faster than projected. The County has ~783k residents and is projected to hit ~978k by 2030.
- The population increases 18% during “Season”, putting stress on networks and resources.
- Managing multiple entities to develop impactful digital programs to the community that comply with the various grant funding compliance rules.

**Mapping – Unserved areas of Lee County**

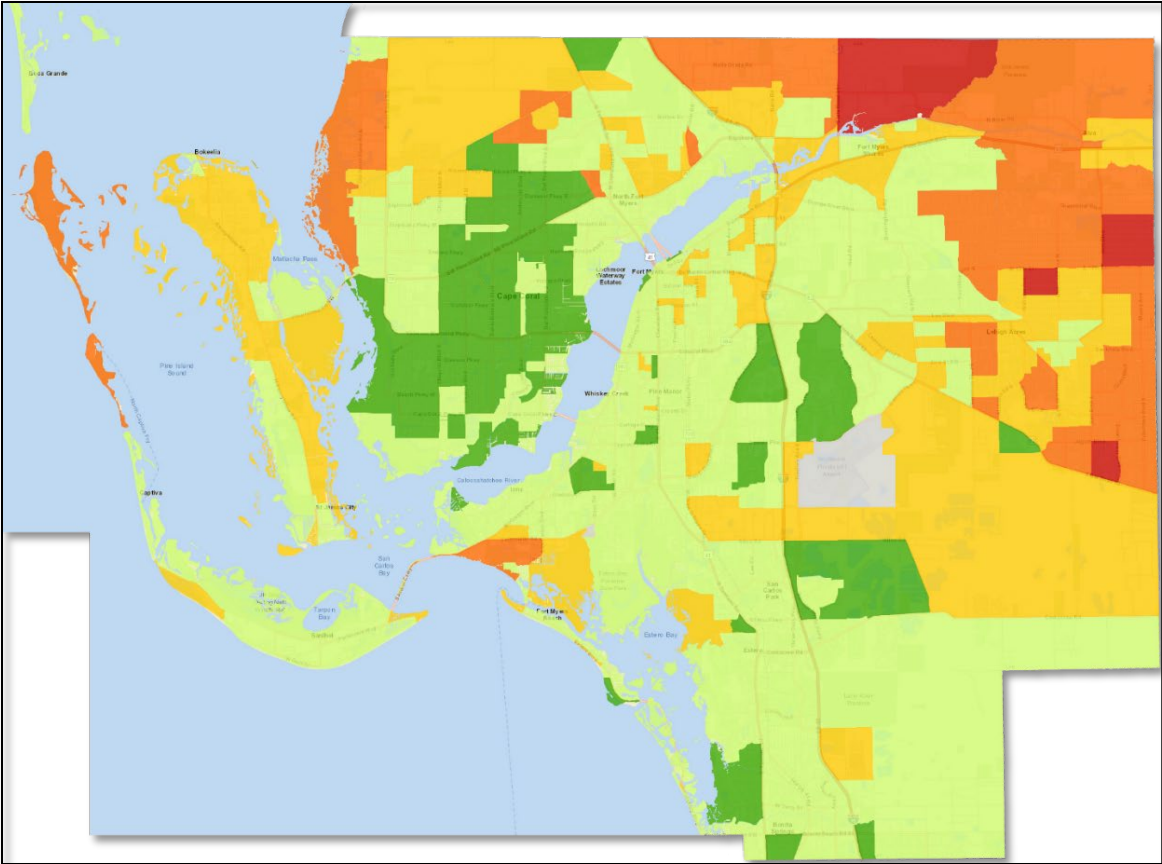
**Residential Study – 371,099 total households of which 24,437 are unserved**

Unserved <25 Mbps / 3Mbps  
 Underserved <100 Mbps / 20 Mbps  
 Served >100 Mbps / 20Mbps

Speed rating	Households		Square miles	
Below 10/1	5,681	2%	58	9%
Below 25/3	24,437	7%	214	32%
Below 50/10	89,808	24%	317	48%
Below 100/20	266,634	72%	511	77%
Above 100/20	104,465	28%	154	23%

**Figure 7**

**Focus on the Red and Orange Areas**  
**There are currently 24,437 households that are unserved**



**Figure 8**

**Unserved**



**Figure 9**

## State Broadband Mapping Details as of 7/27/2022

The current results from the State's Office of Broadband show a total of 2,747 tests for fixed and cellular networks. The number of tests is low but the results support that upload speeds are a critical weakness of existing networks.

**Please note that we used Ookla's speed test database (823,333 records) for our study.**

### Lee County (7/27/2022)

Households	371,099
Population	618,754
Test locations	1,938
Total Tests	2,747
Percent participation	.052%
Participation goal (10%)	37,110

### Fixed 1,727 locations

Download			Upload		
No Service	21	1.2%	No Service	21	1.2%
0-10 Mbps	295	17.1%	<3 Mbps	501	29.0%
10-25 Mbps	241	14%	3-10 Mbps	192	11.1%
25-150 Mbps	600	34.7%	10-25 Mbps	668	38.7%
150+ Mbps	570	33.0%	25-150 Mbps	218	12.6%
			>150 Mbps	127	7.4%

### Cellular 211 locations

Download			Upload		
0-10 Mbps	65	30.8%	<3 Mbps	113	53%
10-25 Mbps	45	21.3%	3-10 Mbps	40	19.0%
25-150 Mbps	81	38.4%	10-25 Mbps	42	19.9%
150+ Mbps	20	9.5%	25-50 Mbps	15	7.1%
			>150 Mbps	1	.05%

### All Download

• No Service	21	1.1%
• 0-10 Mbps	360	18.6%
• 10-25 Mbps	286	14.8%
• 25-150 Mbps	681	35.1%
• 150+ Mbps	590	30.4%

### Min Max Med-Mbps

Download	0.10	943.52	58.46
Upload	0.01	924.20	10.88

<i>No service reasons: may total &gt;100</i>
<i>Too Expensive 11.76%</i>
<i>Not Available 88.24%</i>

### All Upload

No Service	21	1.1%
<3 Mbps	614	31.7%
3-10 Mbps	232	12.0%
10-25 Mbps	710	36.6%
25-150 Mbps	133	12.0%
>150 Mbp	128	6.6%

# Findings by Functional Sector and Departments

## Information Technology

currently provides Lee County facilities and some Lee Health facilities with fiber optic and internet connectivity. There is also an extensive conduit system owned by Crown Castle which is used by these facilities. Lee County currently contains approximately 110 miles of Lee County owned fiber. This is displayed in Figure 10 below.

Administration, Transportation, Healthcare, Libraries and Public Safety have the majority of sites on the Lee County Network. In total there are currently 49 sites on the network with demand for at least 14 more – with locations associated with Healthcare, Libraries, Community Centers and Public Safety being the most pressing.

Based upon the study of the Library's Internet Services (see Figure 16), it is clear that County provided broadband via fiber optics is the most reliable and fastest service available.

Backbone fiber is mostly 48 count strands with 12 strands to each site. Many of the facilities are served via dual entrance and are on diverse path fiber rings.

However, there are several areas where the fiber is not redundant and / or there is not enough dark fiber to expand as the County expands its facilities and services. There is a growing need for ISPs to fill in the broadband gaps. There is also a strong need to upgrade the network infrastructure, particularly wi-fi, in the Libraries, Community and Recreation Centers.

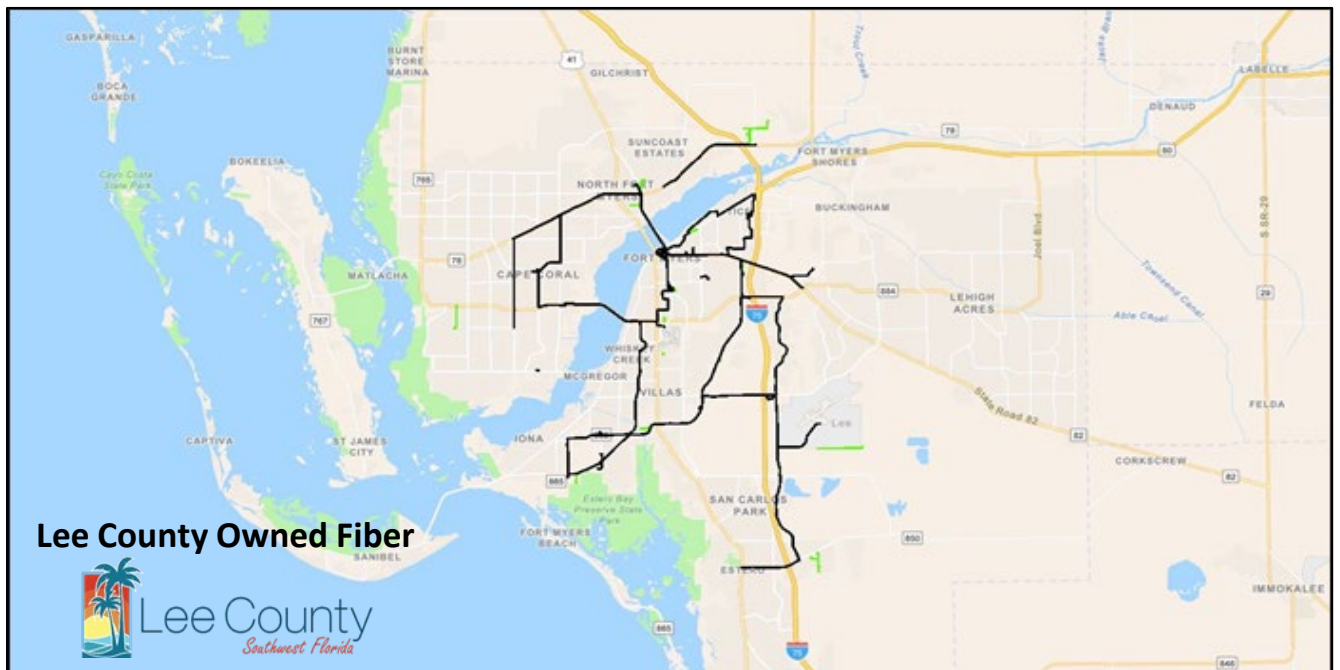


Figure 10

# Fiber Optic Sites in Lee County



Site Name	Address	Site Name	Address
Administration	2115 Second Street ,Ft. Myers, Fl 33901	Lee County Elections	13180 S. Cleveland Avenue, Ft. Myers, Fl 33907
Administration East	2201 Second Street, Ft. Myers, Fl 33901	Lee Health Coconut Point	23450 Via Coconut Point, Estero, Fl 33928
Annex JCA	2000 Main Street, Ft. Myers, Fl 33901	Lee Memorial Hospital	2776 Cleveland Ave, Ft. Myers, Fl, 33901
Cape Coral Elections	1031 S.E. 9th Place, Unit 3, Cape Coral, Fl 33990	Lee Tran Cape Coral Transfer Station	SE 347th Terrace/SE 8th Ct, Cape Coral, Florida
Cape Coral Emergency Operations Center (EOC)	1115 S.E. 9th Avenue, Cape Coral, Fl 33990	LeeTran Beach Park & Ride Station	11101 Summerlin Square Dr, Ft. Myers Beach, Fl, 33931
Cape Coral Hospital	636 Del Prado Blvd, Cape Coral. Fl, 33990	LeeTran Headquarters	3401 Metro Pkwy, Ft. Myers, Fl, 33901
Cape Coral Radio	2088 SW 32nd Street, Cape Coral, Fl	LeeWav	1366 Colonial Blvd, Ft. Myers, Fl, 33907
Cape Coral Tax Office	1031 S.E. 9th Place, Unit 3, Cape Coral, Fl 33990	Level 3	3520 Palm Avenue, Ft. Myers, Fl, 33901
CenturyLink	1520 Lee Street, Ft. Myers, Fl, 33901	Mars	1765 Henderson Street
College-Utilities	7491 College Pkwy, Ft. Myers, Fl, 33907	Medstar	2404 N. Airport Road, Ft. Myers, Fl, 33907
Department of Transportation (DOT)	5650 Enterprise Parkway, Ft. Myers, Fl, 33905	North Ft. Myers Radio Tower	2040 Queen Street, North Ft. Myers, Fl
Department of Transportation (DOT) Operations	5560 Zip Drive, Ft. Myers, Fl, 33905	North Ft. Myers Library	2001 N. Tamiami Trail, North Ft. Myers, Fl 33903
Dunbar Library	2095 Blount Street	North Ft. Myers Recreation Center	2000 N. Recreation Pkwy, North Ft. Myers, Fl 33903
Emergency Operations Center (EOC)	2665 Ortiz Avenue, Ft. Myers , Fl, 33905	Paetec / Windstream	1610 Royal Palm Avenue, Ft. Myers, Fl 33901
EMS Supply Center 7	190 Evergreen Road, North Ft. Myers, Fl	Pine Ridge	15660 Pine Ridge Rd, Ft. Myers, Fl, 33908
Evidence Locker	10070 Intercom Drive, Ft. Myers, Fl, 33912	Port Authority at RSW Airport (LCPA)	11000 Terminal Access Road, Ft. Myers, Fl 33913
FGCU	10501 FGCU Blvd S	Public Safety	Also at the Airport
Fleet	2955 Vn Buren Street, Ft. Myers, Fl 33916	Public Works	1500 Monroe Street, Ft. Myers, Fl, 33912
Gulf Coast Medical Center	13681 Doctor's Way, Ft. Myers, Fl 22912	Safety Lane	10591 Safety Lane, Fl
Hammond Stadium	14100 Six Mile Cypress Pkwy, Ft. Myers, Fl, 22912	Six Mile PS	14750 Six Mile Cypress Pkwy, Ft. Myers, Fl 33912
Health Park Medical Center	9981 S. Health Park Drive, Ft. Myers, Fl 33908	South Library	21100 Three Oaks Pkwy
Hendry	1820 Hendry Street, Ft. Myers, Fl 33901	T3	243 Thompson Street, Ft. Myers, Fl 33901
Justice Center	1700 Monroe Street, Ft. Myers, Fl, 33901	Tax	2480 Thompson Street, Ft. Myers, Fl 33901
Lakes Library	15290 Bass Rd, Ft. Myers, Fl, 33919	Wa-Ke-Hatchee	16730 Bass Road, Ft. Myers, Fl
		Warehouse	1953 Hough Street, Ft. Myers, Fl

Figure 11

## Lee Health

has four medical centers and numerous urgent care sites in the County and also provides community center, home and telehealth services. They have significant need for both anchor institution connectivity and improved community broadband in homes, community centers and non-profits.

## Fixed and Mobile Broadband Limitations

Based upon several meetings with Lee Health and the Lee County Department of Human & Veteran Services (both of which need mobile telehealth services), we found that they have locations in areas which are unserved or have unreliable cellular signal. This lack of service has a major impact on home health and telehealth appointments. The specific areas of unserved overlaps with areas of higher poverty rates and are concentrated in the eastern portion of the County.

The shaded areas (with the cross-hatch pattern) in the map below show locations where greater than 30% of the population is below the poverty rate. Please note that many of these areas are located where broadband service is below 50 Mbps / 10 Mbps or 25 Mbps / 3 Mbps.

## Poverty Zones – where >30% of the population is below poverty level

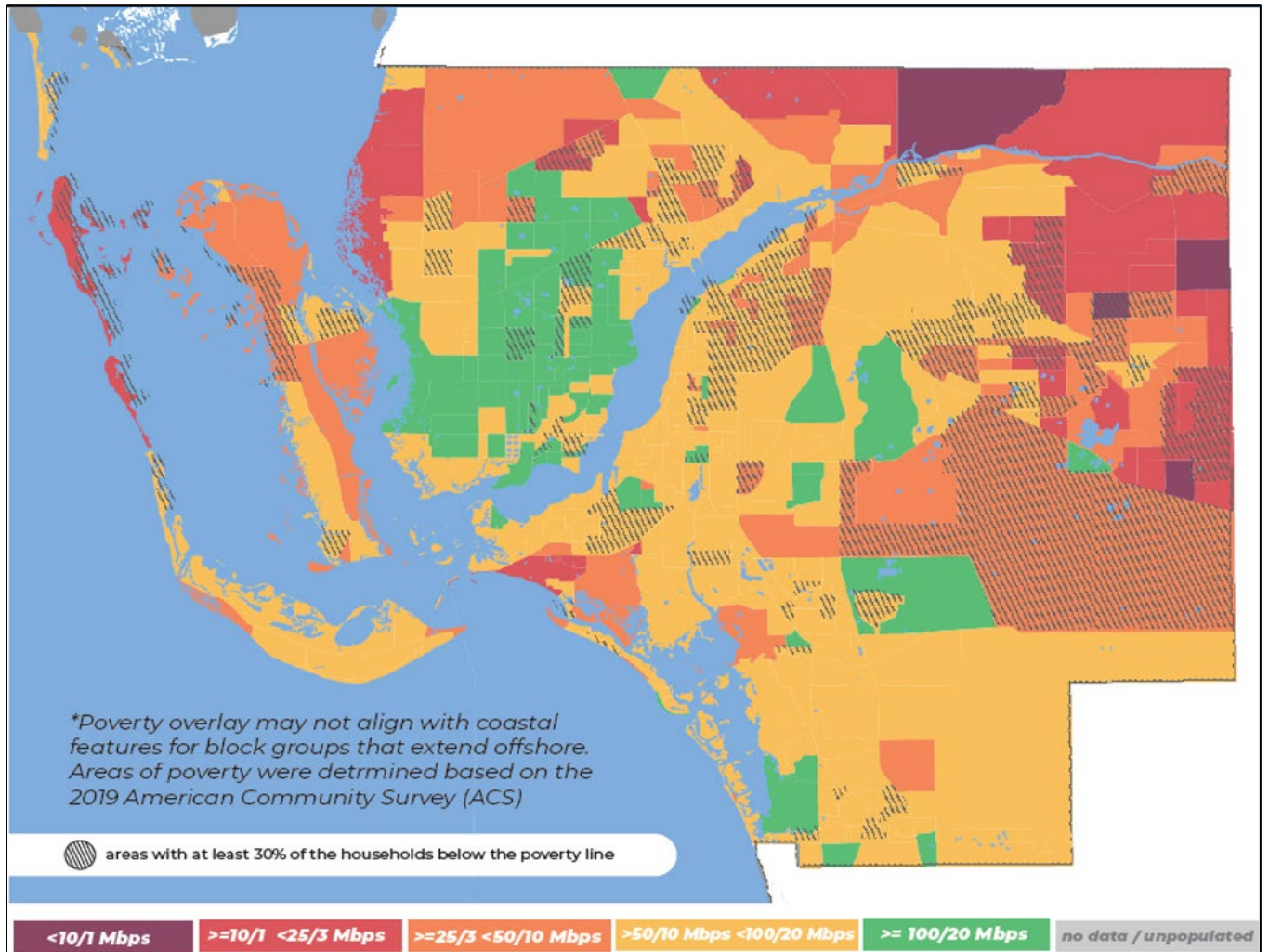


Figure 12

Lee Health does provide its staff with hotspots. However, without reliable coverage, many visits can only offer limited services. For example, to provide a prescription via telehealth, video is required but limited bandwidth (less than 100 Mbps / 20 Mbps) prevents this.

There is a desire to have telehealth services in community centers, at health fairs and in mobile units as well. These services will be a special focus area for our team. We expect to include telehealth components in our Capital Projects Fund (CPF), Broadband, Equity, Affordability and Deployment (BEAD) and Digital Equity grant applications.

Our vision is to have community centers, non-profit housing sites (such as United Way houses) and personal residences using both fixed and mobile technologies. This will enable our senior, handicapped and socio-economic disadvantaged citizens to receive better healthcare closer to home.

### Lee Health Anchor Institutions

Lee Health has 6 sites on the County's fiber backbone network. This includes 5 Hospitals / Medical Centers along with their main Corporate Center. Lee Health is planning for a new hospital and data center to be built near I75 and Colonial Blvd (on

Challenger Blvd). The data center is to be complete in 2025 and the hospital to follow in 2027.

All sites are on fully diverse ring technology with dual entrances, except for Lee Health Village (in the far southeast portion of the County) which is on a spur. The Corporate Center has dual entrances but shares the same path back to the main ring and is exposed if a cut were to occur.

### Lee Health Network Map – Entire

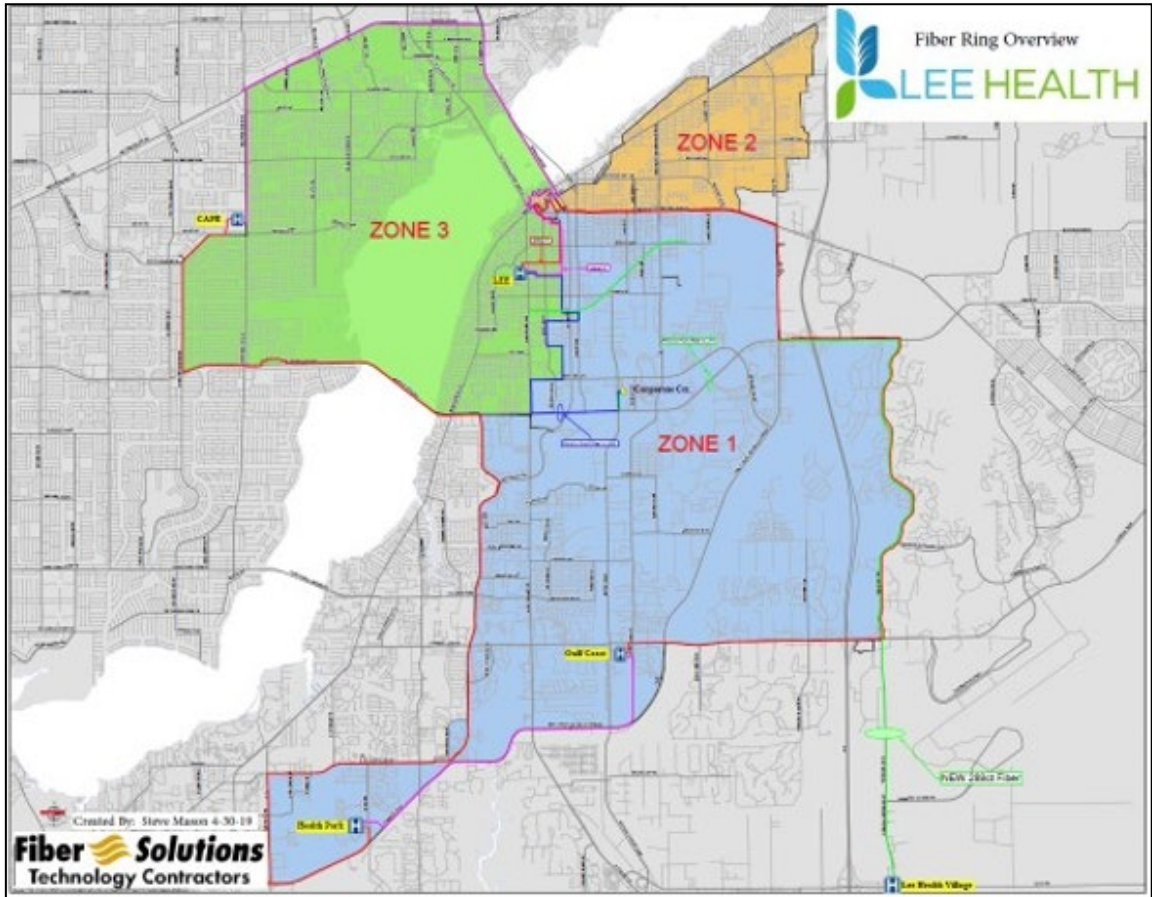


Figure 13

The map below shows the Corporate Center with blue and green lines. The new Hospital and Data Center will be located where the small green circle is shown (on Challenger Boulevard).

### Lee Health Zone 1 Exposed Corporate Site and New Hospital and Data Center

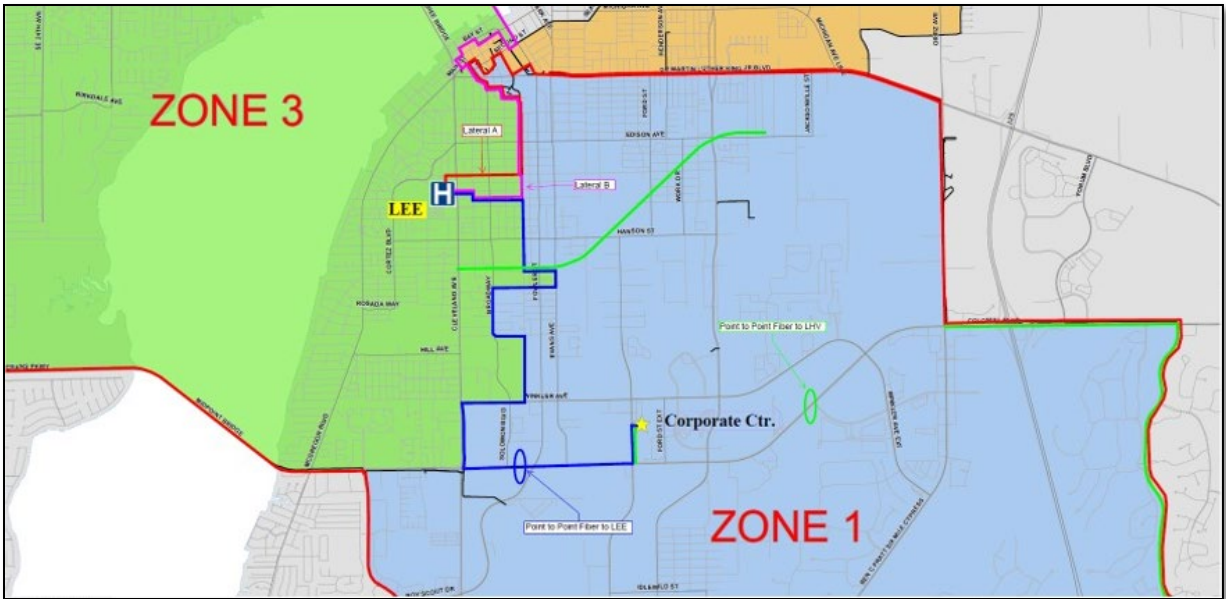


Figure 14

It is recommended that grant funding be requested to complete the fiber ring along Challenger Boulevard between the Corporate Center, the New Hospital and Data Center and Colonial Boulevard.

The spur to the southeast that connects Lee Health Village is completely exposed and will require both a new fiber entrance and a route to connect to the backbone. Our preferred route is west along Alico Road and then northwest along Tamiami Trail which has aerial routes and buried conduit available. This could also be part of a grant funding request to be submitted for the CPF and BEAD programs. It would be part of a larger program which would also connect libraries and community centers.



## Lee Health Village Spur plus Ring Protected Sites – Gulf Coast and Health Park

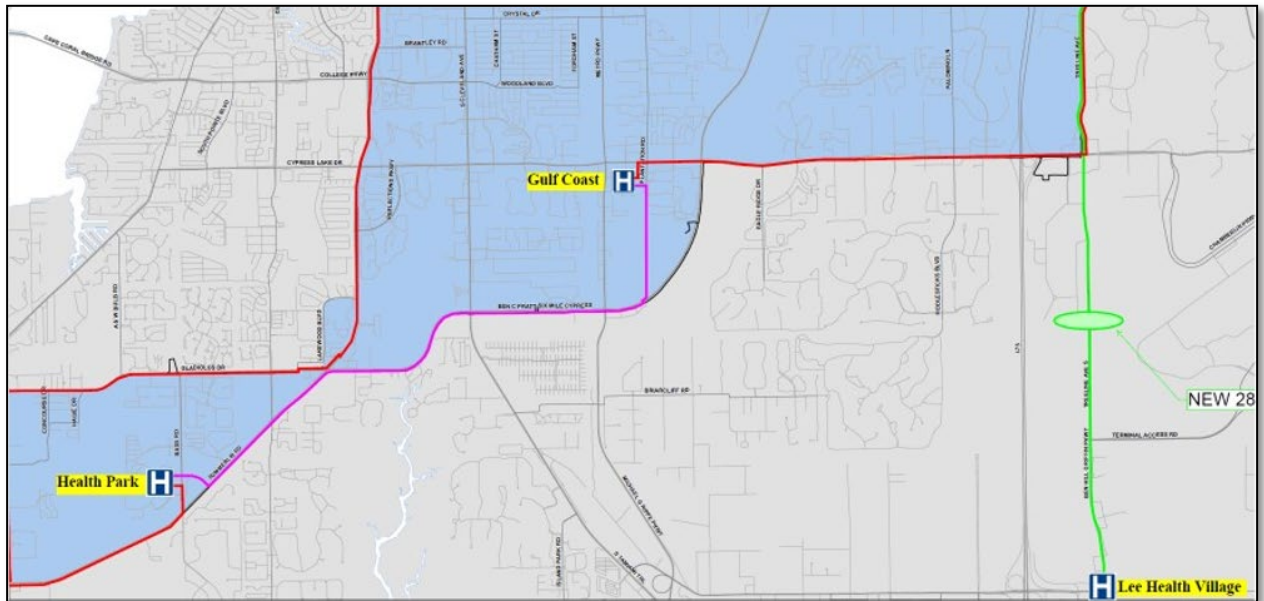


Figure 15

### Human & Veteran Services

has target neighborhoods with facilities that can be used for on-site programs. These facilities serve as community hubs. Working with Impower Organization Services, these facilities can offer behavioral health and telehealth services within them. The key facilities are:

- Page Park
- Pine Manor
- Suncoast Estates
- Charleston Park
- Palmona Park

Additionally, we are working closely with the United Way which has 15 houses that house a varying number of people in each. We are targeting 3 houses for improved internet and mobile services for the residents. They are:

- Cape Coral
- Pine Island
- Lehigh Acres

Our vision would be to integrate the Lee Health and the Lee County Human & Veteran Services apps to ensure residents can access healthcare, workforce development and general internet services such as driver's license applications, job applications, job training and other critical digitally enabled services and information.

Currently, Human & Veteran Services has an outreach vehicle for the homeless, which is experiencing unreliable wireless connectivity. This also applies to Lee Health's mobile vehicles. It is recommended that a plan be developed to provide better connectivity via improved cellular or citizens band radio system technology.

## Libraries

currently has 6 locations that receive Lee County fiber, 5 locations that receive Lumen fiber and 3 locations that receive Crown Castle fiber. The Director of Libraries would like to convert all Library locations to Lee County fiber. Feedback from non-Lee County fiber locations indicates lower bandwidth and some connectivity issues. Routers, switches, and servers are required to support these sites. There is a strong need to upgrade the wi-fi infrastructure to support students that are provided personal devices but do not have broadband wireless at home and therefore utilize libraries for wireless access.

A speed study was conducted at the library locations. Below are the findings which demonstrate that the fastest and most reliable internet service is supplied by the County fiber backbone network. It was also determined that the wi-fi services in the South County and Bonita Springs Libraries are past end of life and are significantly restricting throughput to end user devices. Upgrades to these locations are recommended.

Library Broadband - Inventory and Speeds											
Branch	Bandwidth per IT	Staff PC - Download	Staff PC - Upload	Public PC - Download	Public PC - Upload	Staff Wi-Fi - Download	Staff Wi-Fi - Upload	Public Wi-Fi - Download	Public Wi-Fi - Upload	Provider	Result from PC Test
Boca Grande	20M	17.37	18.2	16.89	17.34	10.71	17.87	10.62	10.18	Lumen	
Bonita Springs	100M	35.17	73.22	53.75	71.86	17.59	37.91	23.53	22.89	Lumen	85
Cape Coral	50M	20.05	39.11	13.14	37.81	15.71	41.83	26.49	26.9	Lumen	120
Captiva	10M	8.58	8.1	9.02	8.05	8.1	7.43	4.78	7.71	Lumen	15
Dunbar	50M	86.48	88.78	45.81	41.43	131.9	163.03	75.9	74.15	Lee County	40
East County	50M	86.69	95.46	78.6	87.96	64.12	62.68	10.85	10.07	Crown Castle	115
Fort Myers	100M	619.84	530.37	620.02	400	190.26	187.84	182.73	187.63	Lee County	160
Lakes	100M	658.1	489.71	89.15	78.14	66.63	62.37	68.98	72.4	Lee County	100
North Fort Myers	150M	68.28	77.47	53.73	88.21	77.21	84.32	80.78	77.89	Lee County	80
Northwest	100M	44.87	86.52	44.09	86.02	35.61	83.09	42.11	75.37	Crown Castle	110
Pine Island	50M	48.33	47.14	49.54	46.05	46.44	38.48	47.6	41.64	Crown Castle	20
Riverdale (Closed)	50M	-	-	-	-	-	-	-	-	-	-
Alva (RL Temp Site)	200M	n/a	n/a	n/a	n/a	234.34	22.74	234.34	22.74		
South County	100M	790.41	295.25	91.87	92.23	10.56	10.4	10.74	10.23	Lee County	85
Library Admin	1G	699.37	238.78	n/a	n/a	177.64	208.27	146.52	197.49	Lee County	35
			Legend ==>	Strong	Moderate	Weak					

Figure 16

## Education

Summit Broadband has contracted with the Lee County School District to provide fiber optic connectivity to all schools in the County. Summit is 80% - 90% complete with the fiber build out.

Each student has a Chromebook and for those that need access at home, T-Mobile is providing over 5,000 devices (including tablets, phones and hotspots). While the hotspots do provide some coverage, it is not reliable and has limited minutes. Some schools are co-located with Lee County facilities (such as some Parks locations). In those cases, it will be more cost effective to purchase dark fiber rather than construct new fiber.

## Parks & Recreation

has over 100 parks and land preserves in the County. This includes 4 large recreation centers (2 are co-located with schools). They also have many community centers – some that are in unserved areas and may not have sufficient technology services available. In addition, there is a Senior Center in Lehigh Acres. These centers are often the only gathering areas for the communities they serve. With broadband services,

these centers, as well as the parks, could be gathering places for residents to use their personal devices or they could be provided access to a computer.

Additionally, critical services such as telehealth and workforce development could be implemented if the proper fiber and wi-fi infrastructure were available.

The outside areas would benefit from both wi-fi and SMART benches which provide power via solar panels and extend wireless coverage. In the open areas, security could be improved with cameras on which additional lightning detectors could be connected.

It is recommended to include the targeted recreation centers, community centers and parks in a plan for improved connectivity.

**Parks & Rec Recreation Centers:**

- Wa-Ke Hatchee Recreation Center (co-located with a Lee County School)
- Veterans Park Recreation Center (co-located with a Lee County School)
- North Fort Myers Recreation Center
- Estero Recreation Center

**Parks & Rec Community Centers:**

- Alva Community Center
- Boca Grande Community Center
- Buckingham Community Center
- Karl J. Drews Community Center
- Lehigh Acres Senior Center
- Matlacha Community Center
- Olga Community Center
- Six Mile Cypress Slough Interpretive Center

**Economic Development Office**

has discussed connectivity with its members on multiple occasions. Generally, the consensus is that the County needs a broader choice of Internet Service Providers. When drilling down on the specifics, there is a fixed broadband issue in the eastern portion of the County and on the islands. There is a County-wide issue when it comes to cellular coverage.

**Public Safety**

manages 4 towers in the County and has 1 more coming on-line. They also have wireless network radios on leased sites and buildings, including water towers. They have 1 site connected to the County's backbone fiber network and require additional towers to be connected. 2 of their Radio Towers are not structurally sound and need to be replaced.

In the event of a disaster, if cellular towers go down, which has happened before, we need wi-fi capabilities to communicate properly to address disaster activities.

**Department of Transportation (DOT)**

has a significant amount of fiber provided by FDOT. DOT has the main arteries of the County covered. However, in rural areas, there is no broadband to support DOT services such as traffic monitoring or management. The goal is to have all traffic lights / cameras controlled by a central monitoring system which will connect with Public Safety EMS to decrease ambulance unit response time especially in rural areas where

there is no broadband. It is recommended that “Dig Once” policies and procedures are implemented.

## **Utilities**

has an extensive network of leased services from Lumen for fixed broadband and from Verizon for Cellular / IoT. Currently, their data center is on a 2 gigabit non-diverse service from Lumen and should be considered for connectivity to the County’s fiber backbone network through diverse entrances and ring technology.

## **Visitor & Convention Bureau**

the Outer Islands have poor cell service which restricts the services that hospitality industries can offer, e.g., wi-fi. Beach Parking functions showing how many parking spots are still open for the beach would provide information early to citizens leading to reduced congestion for those traveling to the islands where parking is a premium and bridge access is required.

## **Community Engagement**

department could use broadband services for ribbon cutting ceremonies and strategic planning meetings. They currently setup hotspots using cell phones to provide wi-fi at these events. When supporting County Commissioners for Town Hall type meetings, they could use improved bandwidth at the recreation centers, community centers and library locations where these meetings are held.

## **Agriculture**

is predominantly located in North Fort Myers, North Cape Coral and East Lee County with some agricultural production in more populated residential and urban areas. Because of the need for mobility, broadband access would best serve the agricultural area using wireless (5G). Broadband access would help with field visits and consultations with constituents to ascertain which crops to grow and how best to deal with pest / disease / fertilization / water issues. The United States Department of Agriculture (USDA) is increasing funding for Urban Agriculture.

# Lee County Residential and Business Broadband Survey Results

Lee County, in cooperation with the Florida Department of Economic Opportunity's Office of Broadband, asked residents and visitors to take a survey and an internet speed test to evaluate current broadband capabilities and determine areas in need of added service. Participation in the survey and speed test helps identify local gaps in high-speed internet service and will help advance the State's overall broadband infrastructure expansion goals. The speed test will assist in further developing Florida's Broadband Availability Map.

The survey opened to the public on July 1<sup>st</sup>, 2022, with a deadline for submitting a survey response of 4:00 PM ET on August 1st, 2022. The survey is now closed. This report analyzes survey response data for both Residential and Business Survey submittals received. Copies of the residential and commercial survey questions and results are contained in Appendix B.

Please note that the State's Speed Test can still be taken using this link ([Office of Broadband's Speed Test](#)).

Survey Results are highlighted below:

## Responses received from July 1<sup>st</sup>, 2022 – August 1<sup>st</sup>, 2022

Total number of Residential responses: 1,636

Total number of Business responses: 70

Total number of Responses: 1,706

Total number of Online responses: 1,515

Total number of Paper responses: 191

Please note – Responses were not required for all questions.

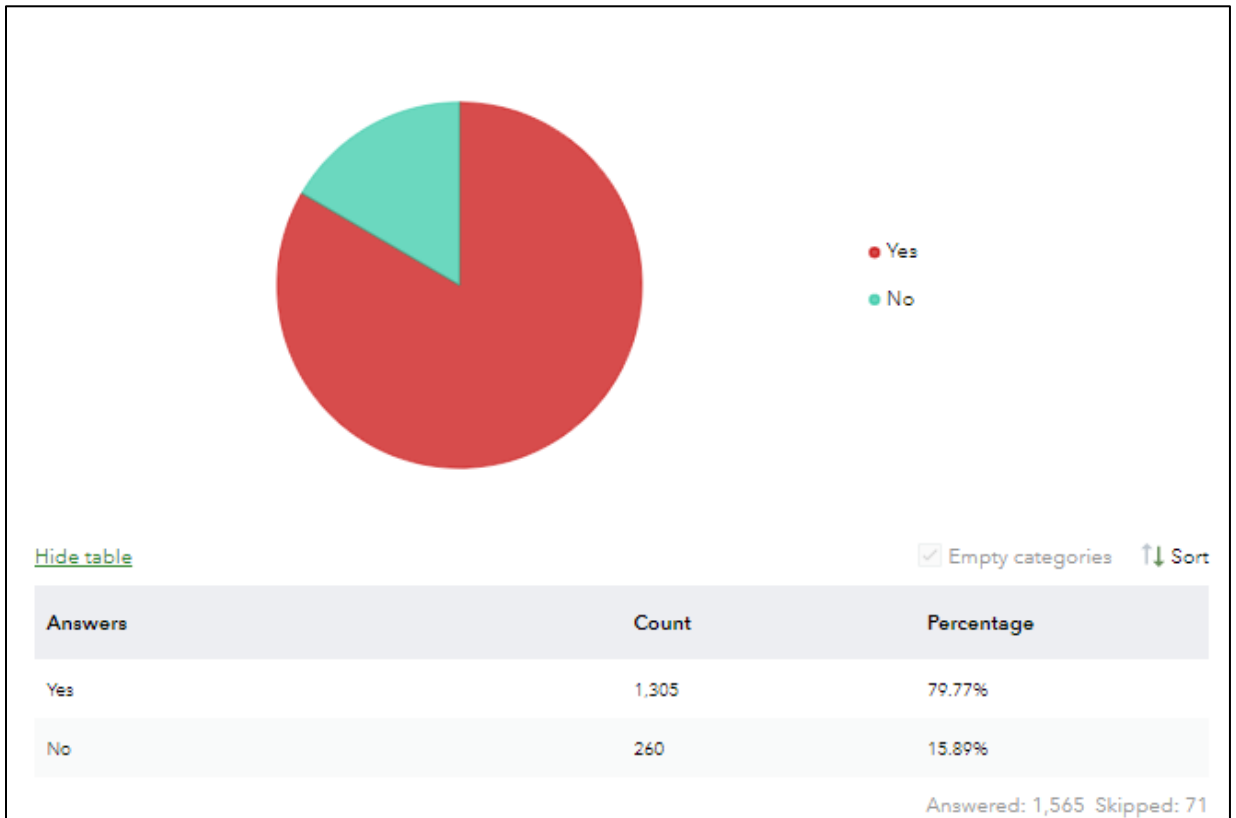
**To facilitate survey distribution and participation, Communications Toolkits related to the Survey website and the State's Speed Test link were distributed to citizens and businesses via:**

- **Postings on the Lee County website's Homepage**
- **Broadcast emails to Lee County employees**
- **Posts on Lee County's Social Media Accounts**
- **Lee County Newsletters**
- **External Department Newsletters**
- **Emails to Lee County Partner Agencies and Organizations**
- **Emails to Lee County Constitutional Offices and Municipalities**
- **Paper Survey copies were provided to Library, Park and Community Development locations**

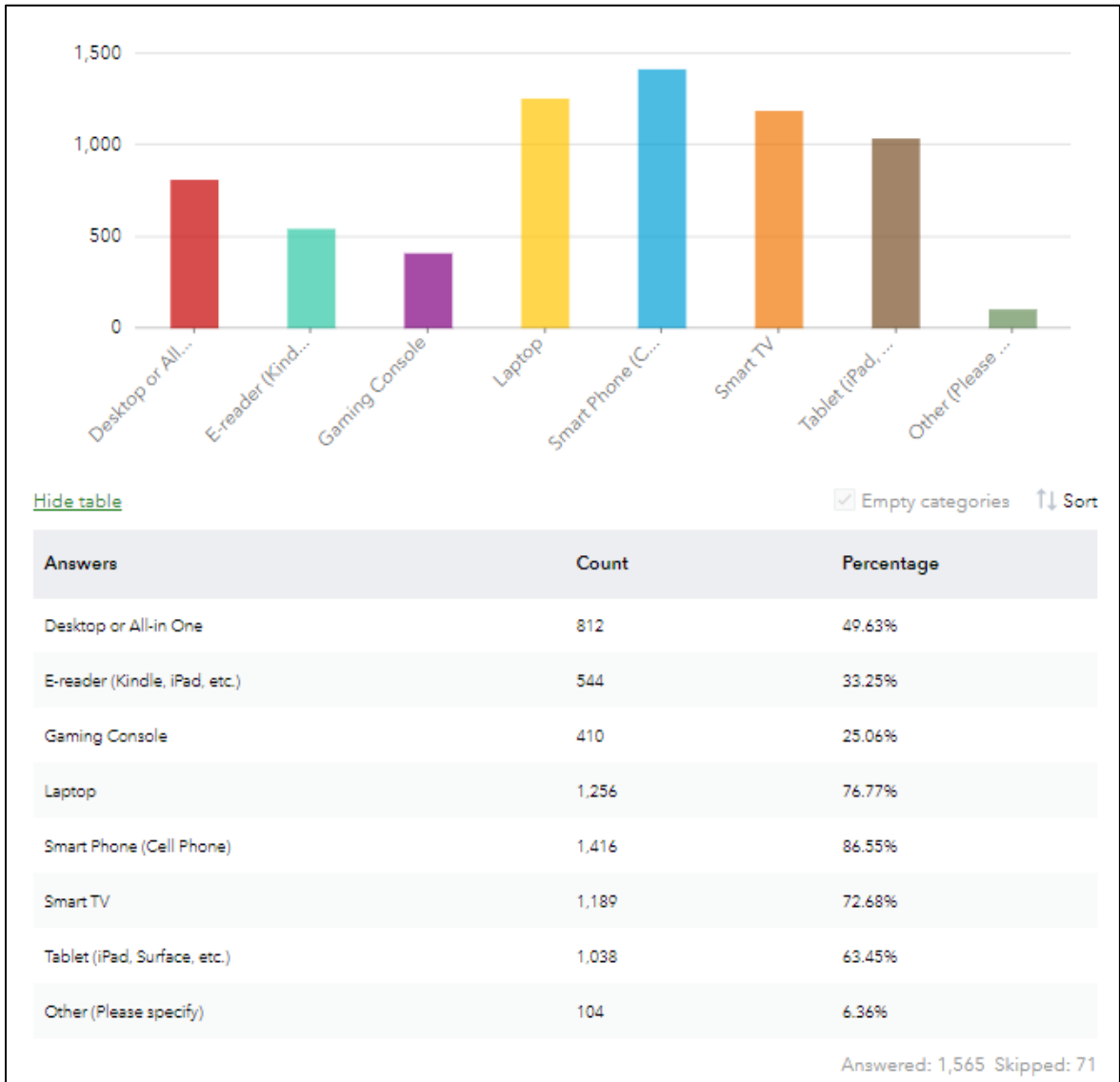
**Please note that for a population of 783,000 (current Lee County estimate), to achieve a 95% Confidence level with a Margin of Error +/- 3%, you will need a sample size of at least 1,066. Submittals are above that threshold.**

## Residential Survey Findings Summary

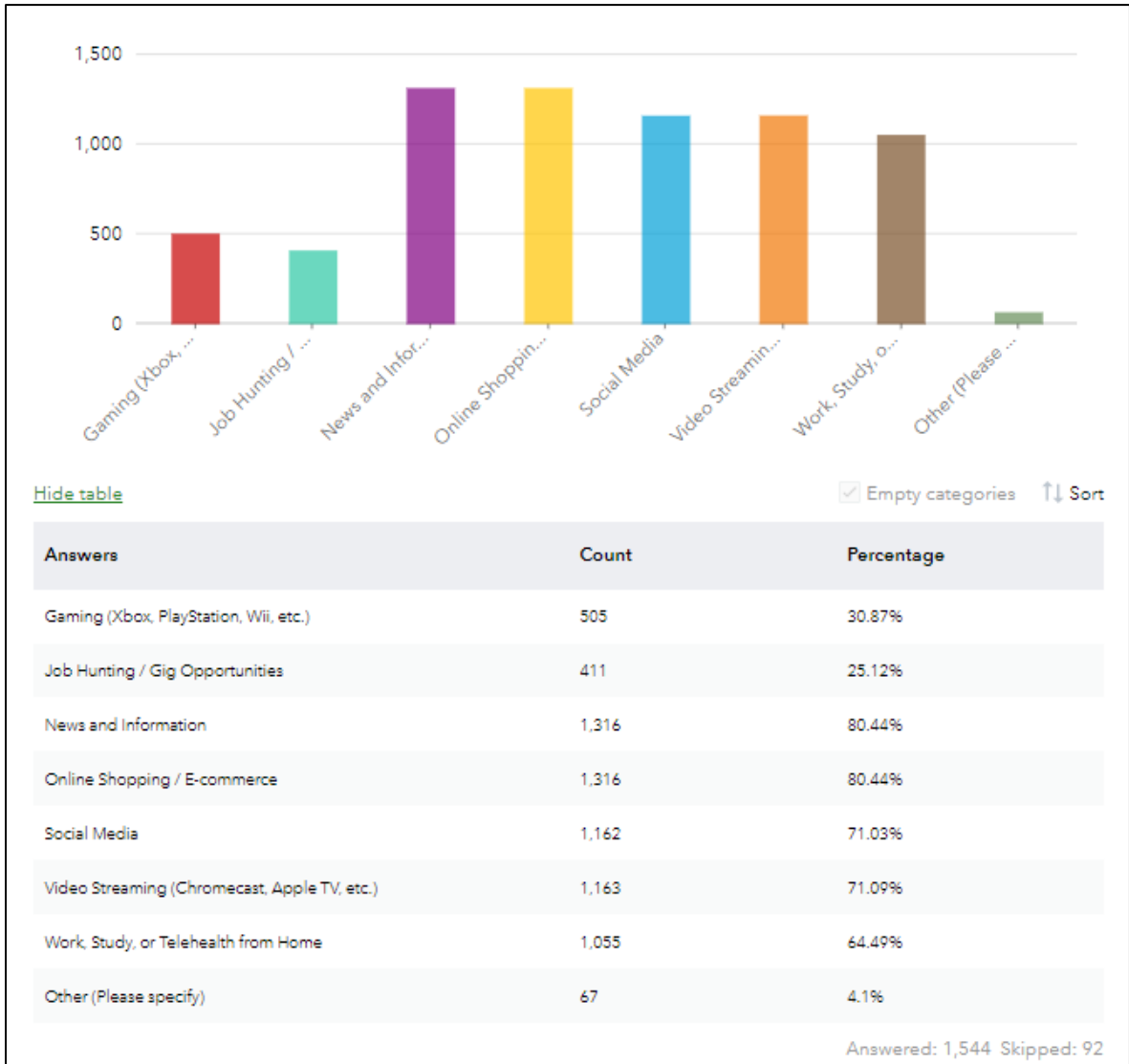
- Of the 38 zip codes in Lee County, responses have been received from 35 (92%).
- 96% of the 1,636 respondents had internet at home.
- 54% (of those responding to the question) were unsatisfied with their broadband service.
- 39% of Households have at least 1 Internet User over 65.
- 25% of Households have K-12 students using the Internet.
- Fixed Standalone Broadband is the most common method for homes to access broadband (55%).
- Only 7% use Satellite or Cellular as the primary Broadband source.
- 72% of households pay between \$50 and \$200 a month for Broadband.
- Only 3.7% believe cost is a barrier for access to Broadband.
- Library locations are most frequently utilized for public internet access.
- 80% of respondents would use broadband for telehealth, school / training or work if it was available at the appropriate quality:



- What device(s) do you use to access the internet?



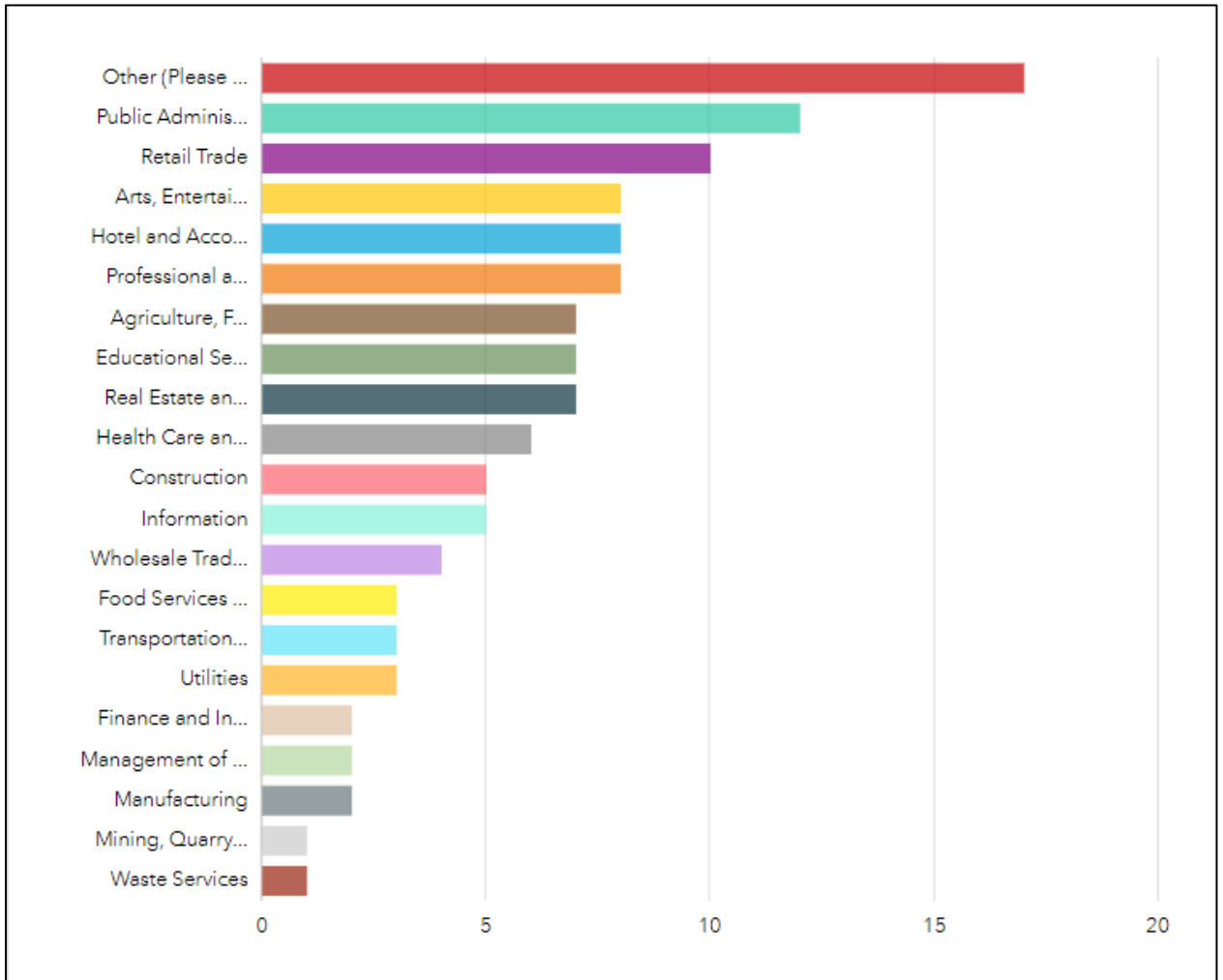
- Please identify the digital services you access, or would like to access, on the internet from your home.



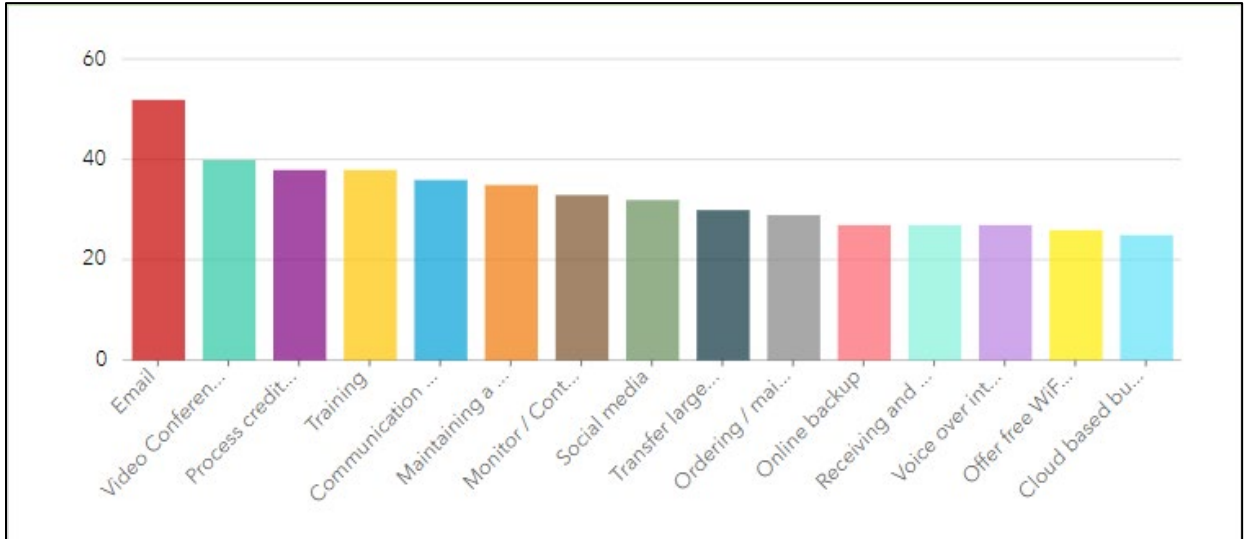


## Business Survey Findings Summary

- 24 out of 38 Zip Codes were represented in responses (63%).
- 33% of the businesses were home based.
- 37% of the businesses had <6 employees and 47% had <16 employees.
- 86% had internet access at their business location and 44% use standalone broadband service.
- 53% (of those responding to the question) were unsatisfied with their broadband service.
- 27% pay between \$50 and \$200 monthly and 13% pay >\$200 monthly.
- Industry Sectors represented included:



- If sufficient high-speed internet services were available and affordable, what Business Practices / Applications would businesses use?



# Service Providers

## Infrastructure

- a. **Fixed** – 5 Service Providers have been active in the fixed residential and / or commercial broadband market in the County:
  - Comcast – residential and commercial
  - Lumen – residential and commercial
  - Summit Broadband – residential, commercial and wholesale
  - Crown Castle – commercial and wholesale (including conduit)
  - Others (Hotwire, Bluestream, Breezeline) – residential
- b. **Mobile** – 4 Providers of mobile service are operating in the County:
  - AT&T
  - Verizon
  - T-Mobile
  - Comcast – Mobile Virtual Network Operator (MVNO)

## Service Provider Plans (Adoption, Affordability, Digital Literacy, Devices):

### Comcast

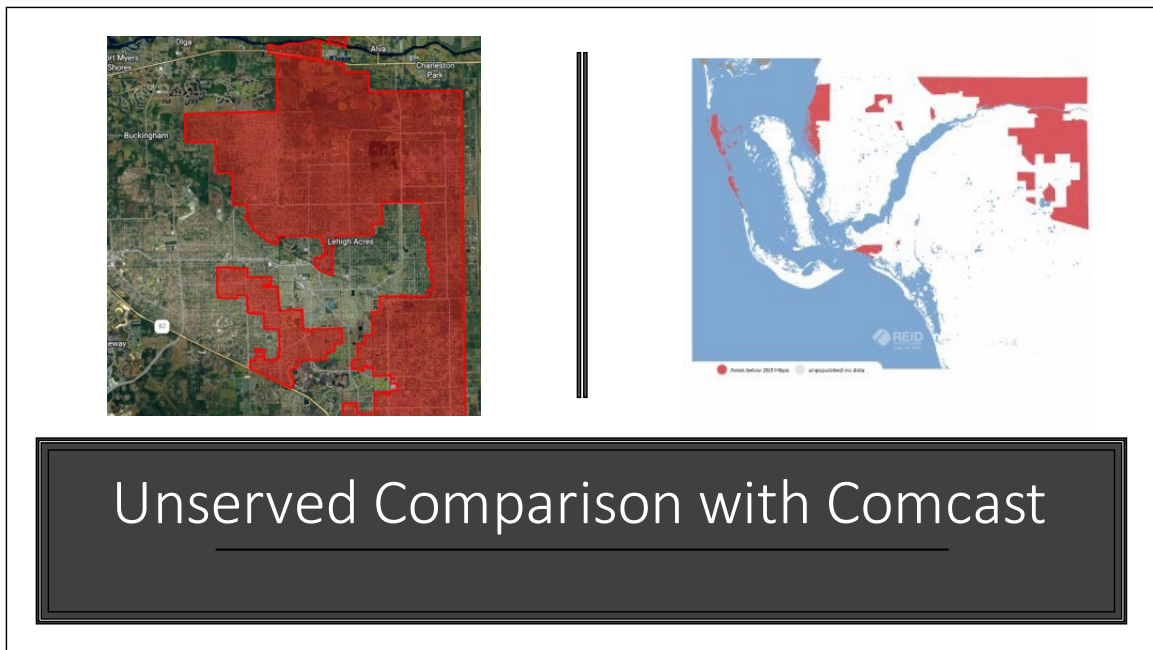
they are the dominant ISP in the County and have been active in providing digital equity programs and lower cost internet to our residents through their Internet Essentials program ([Internet Essentials from Comcast](#)). They have also provided free wi-fi to non-profits focused on youth through their Lift Zones Program ([Lift Zones at comcast.com](#)).

The 3 examples are:

- Fort Myers PAL
- Fort Myers Quality of Life Center
- Boys & Girls Club Bonita Springs

As part of the data analysis process, we compared our data set to the existing providers in the County. Comcast was very helpful and specific on the unserved areas and their capability to build networks to the unserved.

We shared address data for the areas we identified as unserved. Below is a visual image of Comcast's and Lee County's analysis of unserved in the most unserved and lowest income sections of the County. Note the similar pattern in both maps.



**Figure 17**

The pattern is almost identical. When the addresses are compared, we match over 12,000 households that require service in both the eastern portion of the County and south of the river. Lumen is servicing a portion of this area with DSL, but otherwise the eastern portion of the County accounts for more than 70% of unserved households and the majority of low-income households.

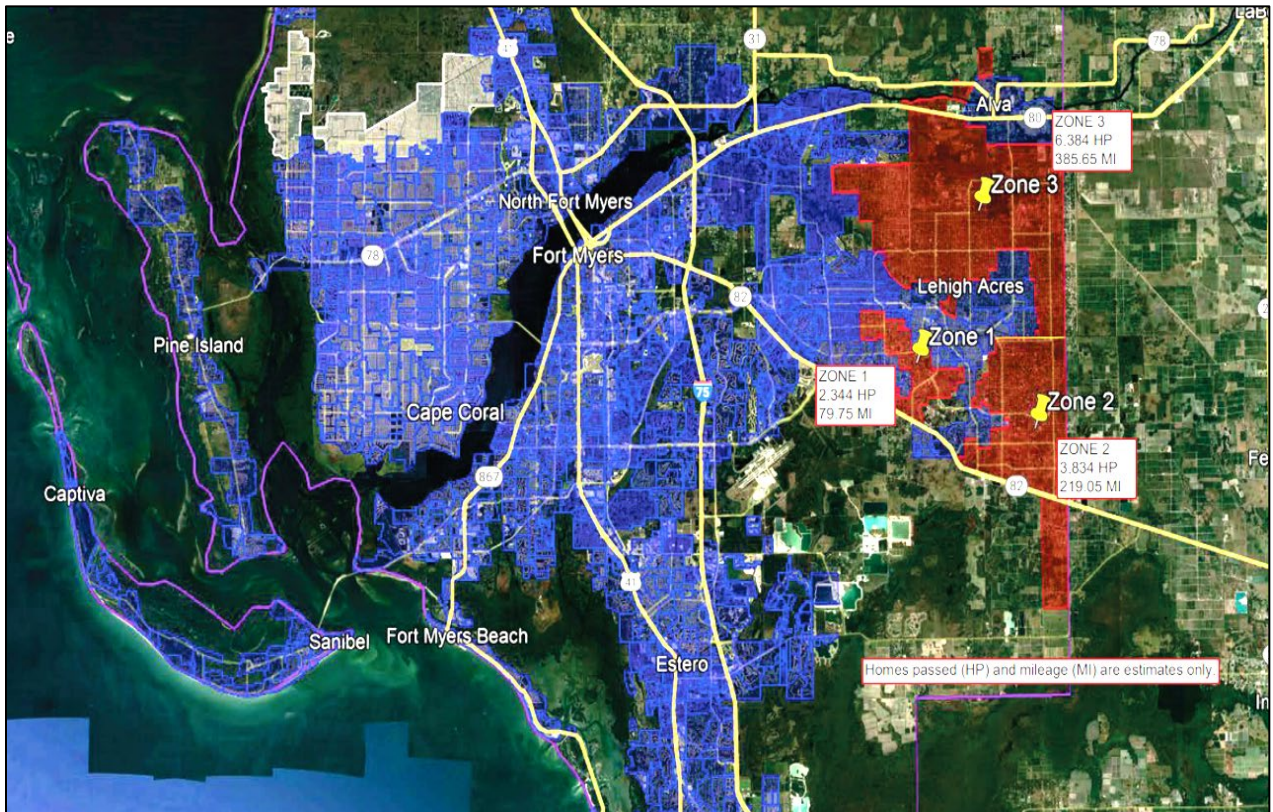
Comcast has proposed a build that would require approximately \$30 million in funds to construct a 3-zone network that covers over 50% of the County's current unserved households. The project would serve east Lee County. Comcast has committed at least \$5 million in matching funds and have indicated they would match up to \$10 million if it were available.

The 3 zones are shown in the map below.

- **Zone 1** would pass 2,344 households and require 79.75 miles of fiber. This part of the network would require approximately \$5.8 million to complete.
- **Zone 2** would pass 3,834 households and require 219.05 miles of fiber. This part of the network would require approximately \$10 million to complete due to the higher ratio of miles to households.
- **Zone 3** would pass 6,384 households and require 385.65 miles of fiber.
- **Anchor Institutions** – sites should be evaluated to determine if they might benefit if they are passed during construction of the new network. Comcast does not offer dark fiber as an option, which is our preferred method to serve these sites.
- **Digital Equity** – in addition to its lower priced Internet Essentials program and the FCC Affordable Connectivity discount, Comcast has committed to providing free wi-fi and other Digital Equity benefits including potential cellular and device options, where appropriate.

- **Affordability** – Comcast has confirmed they will offer a rate of \$29.95 per month for 100/10 Mbps service. This would, in effect, provide free internet services for households that are <200% of the poverty level and are eligible for the ACP \$30 discount.

**Comcast served (Blue). New build required (Red) = 12,562 Households in 3 Zones**



**Figure 18**

**Lumen**

is the incumbent Telco in the County and provides high speed fiber optic broadband services in Cape Coral and some other core areas of the County but is mostly a DSL option in most locations.

Lumen has limited digital equity experience but does administer the FCC ACP program, which is helpful. Dense Networks has executed a non-Disclosure agreement and has begun a deep dive on potential areas for Lumen to address in the eastern portion of the County.

They have aggressively built their fiber network in Cape Coral and this may eliminate any unserved areas in that part of the County. They have also begun some fiber builds in the east County area and have added a few hundred residences in 2022.

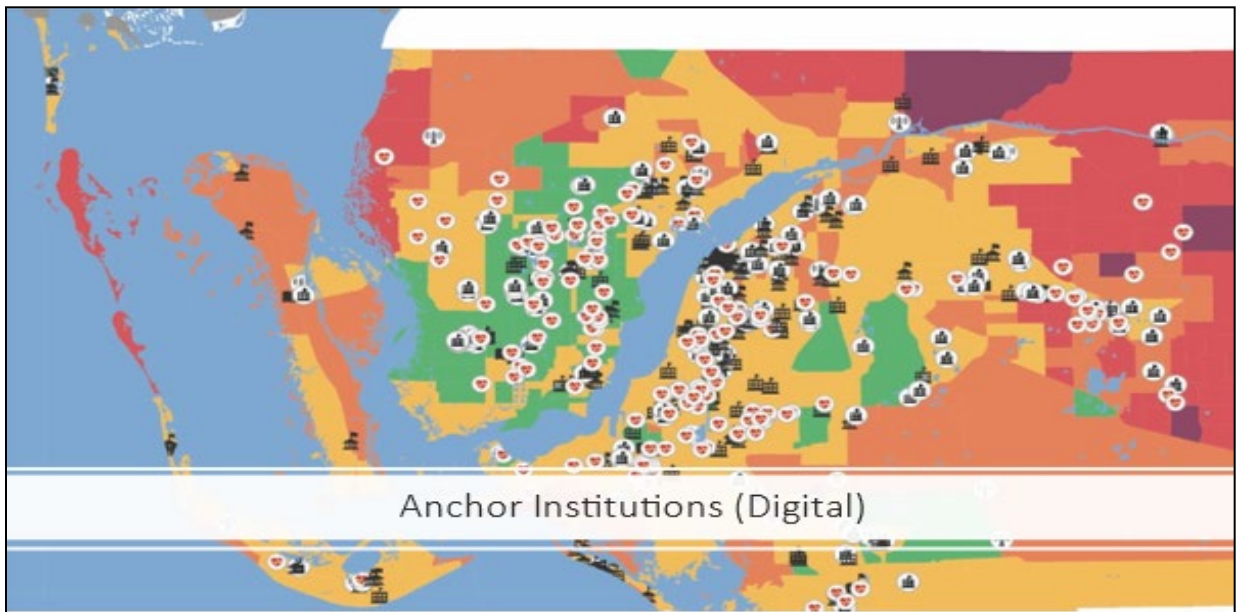
They have expressed an interest in a BOP application in Lee County. Our initial meetings indicate they are interested in the unserved areas and would also like to build over existing Comcast territory, which would set up residential competition in this part of the County for the first time.

### **Summit Broadband**

has been active in Lee County for a number of years and operates a data center in Bonita Springs and has a few hundred miles of fiber optics in the County. They won the broadband contract for all Lee County schools and are over 80% finished building into every school in the County.

They have provided us with a KMZ digital map which we have added to our digital map. This map is very helpful as it shows the fiber routes to every school and adds a new potential option throughout the County for other services. They provide residential services to a number of gated communities in the County with Pelican Bay being the largest (~6,000 households). They do not offer digital equity or special pricing for lower income households but have applied to participate in the FCC's ACP program.

They are a viable candidate to help with the multiple requirements identified for anchor institutions such as Lee Health, Community Centers and Libraries as they could provide us with dark fiber. The County currently leases dark fiber from Summit to supplement its network. The image below shows the anchor institution sites and how they are connected and is best viewed using our web based digital map where the user can zoom into each site.



**Figure 19**

### **T-Mobile**

provides over 5,000 devices to the Lee County School System. They have proposed some programs that target low income and disadvantaged citizens including a \$10 a month program for unlimited data and a tablet for a one-time cost of \$99.

### **Crown Castle**

provides wholesale and commercial services in the County and has an extensive conduit system which we utilize for our fiber backbone network. They provide adequate broadband services to our libraries but the cost is high.

**Others (Hotwire, Bluestream, Breezeline)**

these providers are focused on our highly lucrative mixed use gated communities along the Gulf Coast, Cape Coral and mid-County. They have not responded to our requests to participate in our broadband initiative.

## **Growth**

### **Population**

as stated earlier in this document, Lee County is the 9<sup>th</sup> fastest growing County in the United States. Its resident population is estimated to be close to 1,000,000 by the year 2030. Please note that these population estimates do not include “Season” residents (part-time residents that increase the County population by 18% from November – April). Existing broadband and mobile network infrastructure does not have the capacity to service this growth.

### **Housing**

the Lee County Economic Development Office (EDO) estimates that 68,000 housing units are either currently being built or are in the building permit / planning stage within Lee County.

### **Business**

there are ~25,000 businesses in Lee County that produce a Gross Domestic Product of almost \$30 billion annually. The number of businesses has increased by 38% since 2010 and is expected to reach ~30,200 businesses by 2024 (using an annual growth rate of 5.07%). The largest industries in the County are Retail Trade with 39,000 employees, Construction with 32,000 employees and Hotel Accommodation and Food Services with 30,000 employees.

# Recommendations for a Strategic Action Plan

## Summary

Lee County has completed the first phase of an exhaustive planning process and has recommended the following activities for additional investigation. All recommendations are contingent on cross-departmental agreement, BoCC approval, grant applications being accepted and funding approved by the State or Federal government and may include some percentage of matching cost to Lee County.

*(Appendix D provides timeframes and deadlines required for each grant listed below. The initial grant for which we will apply does not open for application submittal until early to mid-2023.)*

- Submit the first draft of the Lee County Broadband Plan to the State’s Office of Broadband.
- Address the 24,000 Unserved Homes in the County by working with Service Providers.
- Develop programs with Lee Health, Lee County Human & Veteran Services, non-profits such as United Way to deliver broadband via fixed and mobile technologies that include their existing telehealth and “client” apps for Seniors, Disabled, Homeless and other socially and economically disadvantaged citizens. These programs would target remote use from residences and anywhere in the County.
- Pilot a Digital Super Center as a model for digital skills and literacy training, telehealth uses and workforce development programs targeting the same disadvantaged populations but through a fixed County facility. We will identify potential sites and work with Lee Health and Human & Veteran Services and Parks & Rec to determine feasibility of a project and what functionality will be included. Detailed solutioning would then take place and with Board approval would culminate in an application for grant funding for CPF and BEAD grant programs. The process for grant application would include:
  - Meeting with the key stakeholders to develop needs assessment
  - Board approval
  - Application for grant funding for CPF and BEAD grant programs
  - Detailed costs to add or remodel a room to be used as the Super Center ‘center’ which could include:
    - telehealth booth
    - job training
    - remote learning
  - Details of the infrastructure and staffing costs for the Super Center
- Establish programs for helpdesk, literacy and device acquisition through partners.
- Ensure all departments are engaged in the roll out of the new fiber infrastructure to ensure “Dig Once” and that proper conduits are used to limit disruption to our roadways and to ensure timely delivery of new Broadband Services.
- Accelerate our Public Safety Cell Tower plans to bring services to a broader geographic area. We would work with service providers to lease them tower space. A Cell Tower can be considered an anchor institution – this would be the basis for any grant applications pursued. Applications for grant funding would require matching



funds. Repairing and rebuilding existing towers would not be covered by grant funds unless we introduce a method where the towers could be used for Broadband. The technology being used on towers today is CBRS (Citizens Band Radio Service) and not necessarily fiber

- Provide grant applications to the Florida Broadband Office and Federal Agencies as appropriate. Specific areas to pursue grant funding include:
  - i. Planning Grants – further planning and analysis of specific issues and solutions.
  - ii. BOP and BEAD – East County Residential fiber build for 12,000+ households. Comcast has agreed to the 50% matching requirements as needed.
  - iii. BOP and BEAD – East County Residential fiber build for 6,000+ households. (Lumen)
  - iv. BEAD – Adoption, Affordability (ACP) and Literacy Campaign to new households added in East County as well as existing areas in East County.
  - v. CPF, BEAD, and Digital Equity (Capacity and Competitive) – Lee Health, 5 County Community Centers, 1 Senior Center and 3 United Way Houses – Anchor Institution fiber and wi-fi connectivity to enable telehealth, workforce development and digital equity programs.
  - vi. CPF, E-Rate and BEAD – 8 County Libraries to be connected to the County’s fiber backbone to improve connectivity and enable workforce development programs.
  - vii. BEAD, Digital Equity and Telehealth – Digital Adoption & Literacy programs and Telehealth & Workforce programs can be accessed at a Digital Super Center or with mobile devices that have Lee Health and Human & Veteran Services apps installed. Human & Veteran Services is working with suppliers to develop the proper blend of hardware and software and is very focused on privacy requirements and have evaluated both custom and off the shelf solutions. Below is a solution provided by Jabrrbox.



**Figure 20**



**Figure 21**

# Timelines and Milestones

Broadband Services Timelines and Milestones	2022		2023				2024			
	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Complete Survey Data Collection	x									
Tabulate Survey Results and Revise Stage 1 Plan	x									
Submit Plan to Commission	x									
Gain Approval to Move forward with BOP Applications	x									
Submit Plan to State DEO	x									
Review Mapping and Plan with DEO	x									
Refine Network Plans with Comcast	x									
Refine Network Plans with Lumen	x									
Form Grants Team	x									
Provide Required information and approvals for BOP Applications	x									
Review Digital Equity and Literacy Programs with LTPT	x									
Review Library Solutions with Library Team	x									
Review Telehealth and Social Services programs with Lee Health and H&VS	x									
Meet with Procurement to define potential Bids and RFP's	x									
Convene Full LTPT Meeting	x									
Hold bi-weekly meetings for Grants Team		x								
Service Providers submit BOP Applications		x								
Meet with OEM's and solutions providers to refine solutions		x								
Define specifics of Anchor Institution Network Augmentation with Lee Health		x								
Define specifics of Library Network Augmentation Fiber and Wi-fi		x								
Issue Formal RFI to all Service Providers for Anchor Institutions		x								
Design first Community Super Center		x								
Convene Full LTPT Meeting		x								
Hold monthly meetings of Grants Team		x								
Submit Appropriate Grants for Capital Projects Fund (CPF) to DEO			x							
Support E-Rate application with Libraries			x							
Evaluate Anchor Institution Responses and prepare solutions for funding			x							
Work with Community Engagement on Communications Strategy and tactics for adoption, affordability, literacy and equity programs			x							
Convene Full LTPT Meeting			x							
Hold monthly meetings of Grants Team			x							
Launch Affordability Campaign throughout the County			x							
Hold planning meeting with Comcast and Lumen and other Service Providers				x						
Prepare Grants for BEAD				x						
Convene Full LTPT Meeting				x						
Kick-off BOP builds if Grant funding is awarded					x					
Convene Full LTPT Meeting					x					
Hold monthly meetings of Grants Team					x					
Convene Full LTPT Meeting						x				
Kick-off CPF builds if Grant funding is awarded						x				
Kick-off Adoption Programs for new Broadband builds with Service Provider					x					
Hold monthly meetings of Grants Team						x				
Prepare grants for Digital Equity Capacity (State)							x			
Convene Full LTPT Meeting							x			
Support E-Rate application with Libraries							x			
Hold monthly meetings of Grants Team							x			
Submit First BEAD Grant Application to State							x			
Convene Full LTPT Meeting								x		
Hold monthly meetings of Grants Team								x		
Submit Digital Equity Capacity Grant to State								x		
Hold monthly meetings of Grants Team									x	
Convene Full LTPT Meeting									x	
Prepare Grants for Digital Equity - Competitive Grants (Federal)										x

# Appendices

## Appendix A – Local Technology Planning Team Members

Lee County - Local Technology Planning Team - Member List				
Last Name	First Name	Organization	Email	Phone
Alton	Dwayne	Lee County School District	<a href="mailto:dwayne@leeschools.net">dwayne@leeschools.net</a>	239-335-1439
Baucom	Warren	Lee County - Economic Development Office	<a href="mailto:wbaucom@leegov.com">wbaucom@leegov.com</a>	239-533-6817
Brady	Christine	Lee County - Office of the County Manager	<a href="mailto:cbrady@leegov.com">cbrady@leegov.com</a>	239-533-2348
Filla	Paul	Lee County - Public Safety	<a href="mailto:pfilla@leegov.com">pfilla@leegov.com</a>	239-770-0385
Grant	Nick	Lee Health System	<a href="mailto:nicholas.grant@leehealth.org">nicholas.grant@leehealth.org</a>	941-661-7945
Larsen	Katie	Lee Health System	<a href="mailto:katie.larsen@leehealth.org">katie.larsen@leehealth.org</a>	239-776-6060
Lavender	Jesse	Lee County - Parks & Recreation	<a href="mailto:jlavender@leegov.com">jlavender@leegov.com</a>	239-533-7443
Loucks	Kevin	Lee County - Performance Management	<a href="mailto:kloucks@leegov.com">kloucks@leegov.com</a>	239-270-0475
Mason	Ashley	Lee County - Innovation & Technology	<a href="mailto:amason@leegov.com">amason@leegov.com</a>	239-826-8875
Mercado	Roger	Lee County - Human & Veteran Services	<a href="mailto:rmercado@leegov.com">rmercado@leegov.com</a>	239-533-7920
Murray	Peter	Dense Networks	<a href="mailto:petermurray@densenetworks.com">petermurray@densenetworks.com</a>	267-237-5907
Nachef	Michael	Lee Health System	<a href="mailto:michael.nachef@leehealth.org">michael.nachef@leehealth.org</a>	239-343-6509
O'Malley	Kevin	Lee County - Innovation & Technology	<a href="mailto:komalley@leegov.com">komalley@leegov.com</a>	239-533-7339
Outerbridge	David	University of Florida - Institute of Food and Agricultural Sciences	<a href="mailto:douterbridge@ufl.edu">douterbridge@ufl.edu</a>	941-323-0017
Pigott	Tamara	Lee County - Visitor & Convention Bureau	<a href="mailto:tpigott@leegov.com">tpigott@leegov.com</a>	239-533-6715
Riedisser	Abbigayle	Florida Department of Health - Lee County	<a href="mailto:abbigayle.riedisser@flhealth.gov">abbigayle.riedisser@flhealth.gov</a>	239-461-6144
Ryan	Dianna	Greater Fort Myers Chamber of Commerce	<a href="mailto:dianna@fortmyers.org">dianna@fortmyers.org</a>	239-332-2930
Savage	Ken	Lee County School District	<a href="mailto:kennethAS@leeschools.net">kennethAS@leeschools.net</a>	239-939-6863
Simon	Mindi	Lee County - Library	<a href="mailto:msimon@leegov.com">msimon@leegov.com</a>	239-533-4810
Welton	Katie	Lee County - Community Engagement	<a href="mailto:kwelton@leegov.com">kwelton@leegov.com</a>	239-533-2282
Wood	Patricia	Lee Health System	<a href="mailto:patricia.wood@leehealth.org">patricia.wood@leehealth.org</a>	239-343-7750

## Appendix B – Broadband Services Surveys



### Broadband Services Residential & Business Survey Summary Report

Lee County, in cooperation with the Florida Department of Economic Opportunity's Office of Broadband, asked residents and visitors to take a survey and an internet speed test to evaluate current broadband capabilities and determine areas in need of added service. Participation in the survey and speed test helps identify local gaps in high-speed internet service and will help advance the State's overall broadband infrastructure expansion goals. The speed test will assist in further developing Florida's Broadband Availability Map.

The survey opened to the public on July 1<sup>st</sup>, 2022, with a deadline for submitting a survey response of 4:00 PM ET on August 1st, 2022. The survey is now closed. This report analyzes survey response data for both Residential and Business Survey submittals received. Copies of the residential and commercial survey questions and results are contained in Appendix B.

Please note that the State's Speed Test can still be taken using this link ([Office of Broadband's Speed Test](#)).

Survey Results are highlighted below:

**Responses received from July 1<sup>st</sup>, 2022 – August 1<sup>st</sup>, 2022**  
**Total number of Residential responses: 1,636**  
**Total number of Business responses: 70**  
**Total number of Responses: 1,706**  
**Total number of Online responses: 1,515**  
**Total number of Paper responses: 191**  
**Please note – Responses were not required for all questions.**

To facilitate survey distribution and participation, Communications Toolkits related to the Survey website and the State's Speed Test link were distributed to citizens and businesses via:

- Postings on the Lee County website's Homepage
- Broadcast emails to Lee County employees
- Posts on Lee County's Social Media Accounts
- Lee County Newsletters
- External Department Newsletters
- Emails to Lee County Partner Agencies and Organizations
- Emails to Lee County Constitutional Offices and Municipalities
- Paper Survey copies were provided to Library, Park and Community Development locations

Please note that for a population of 783,000 (current Lee County estimate), to achieve a 95% Confidence level with a Margin of Error +/- 3%, you will need a sample size of at least 1,066. Submittals to date are already above that threshold.

# Residential Survey



## Broadband Services Survey (Residential)

Lee County, in cooperation with the Florida Department of Economic Opportunity's Office of Broadband, is asking residents and visitors to take a survey and an internet speed test to evaluate current broadband capabilities and determine areas in need of added service. For more information visit [leegov.com/broadband](http://leegov.com/broadband).

1. What is the zip code for your home address?  
 Zip Code: \_\_\_\_\_
  
2. Do you currently have internet access at home?  
 Yes  
 No  
If you answered 'No', please skip to Question #9.
  
3. What are the age ranges of the primary users of the internet service at your home? (Select all that apply)  
 School Age Child(ren) K-8<sup>th</sup> grade  
 High School Age Child(ren) 9<sup>th</sup> – 12<sup>th</sup>  
 Ages 19-25  
 Ages 26-45  
 Ages 46-65  
 Ages 66 and older  
 Don't know
  
4. How do you access the internet at home?  
 Bundled Services (TV / Phone)  
 Cellular Data Plan (e.g., using your Cell Phone for Internet Access)  
 Stand-alone Internet / Modem  
 Satellite Internet Service  
 Not Sure
  
5. What device(s) do you use to access the internet? (Select all that apply)  

<input type="checkbox"/> Desktop or All-in One	<input type="checkbox"/> Smart Phone (Cell Phone)
<input type="checkbox"/> E-reader (Kindle, iPad, etc.)	<input type="checkbox"/> Smart TV
<input type="checkbox"/> Gaming Console	<input type="checkbox"/> Tablet (iPad, Surface, etc.)
<input type="checkbox"/> Laptop	<input type="checkbox"/> Other (Please specify): _____
  
6. Please identify the digital services you access, or would like to access, on the internet from your home. (Select all that apply)  

<input type="checkbox"/> Gaming (Xbox, PlayStation, Wii, etc.)	<input type="checkbox"/> Social Media
<input type="checkbox"/> Job Hunting / Gig Opportunities	<input type="checkbox"/> Video Streaming (Chromecast, Apple TV, etc.)
<input type="checkbox"/> News and Information	<input type="checkbox"/> Work, Study, or Telehealth from Home
<input type="checkbox"/> Online Shopping / E-commerce	<input type="checkbox"/> Other (Please specify): _____
  
7. What do you pay monthly for your internet service?  
 Less than \$50  
 Between \$50 - \$100  
 Between \$101 - \$200  
 Over \$200

- Don't know
8. How satisfied are you with your current internet service?
- Satisfied
  - Unsatisfied
9. What is the main reason you don't have internet access at your home?
- Concerns about online privacy
  - Don't see the need for it
  - I use the internet somewhere else
  - Internet is too slow
  - Not available in my area
  - Too expensive
  - Not applicable – I have internet access
  - Other (Please specify): \_\_\_\_\_
10. Would anyone at your residence work, attend school, or use telehealth services from home if sufficient high-speed internet services were available and affordable?
- Yes
  - No
11. Which public locations in Lee County have you used for internet access? (Select all that apply)
- Community Centers
  - Libraries
  - Parks
  - Senior Centers
  - Not applicable – I have not used Lee County public locations for internet access
  - Other (Please specify): \_\_\_\_\_

The **deadline** for survey submittal is 4 pm on **August 1, 2022**. Completed surveys can be dropped off at the following locations:

**Lee County Library System**

- |   |  |
|---|--|
| Bonita Springs Public Library, 10560 Reynolds, St, Bonita Springs, FL 34135 | Cape Coral Regional Library, 921 SW 39th Terrace, Cape Coral, FL 33914   |
| Captiva Memorial Library, 11560 Chapin Lane, Captiva, FL 33924              | Dunbar Library, 3095 Blount St, Fort Myers, FL 33916                     |
| East County Regional Library, 881 Gunnery, Road N, Lehigh Acres, FL 33971   | Fort Myers Regional / Talking Books, 2450 First St, Fort Myers, FL 33901 |
| Johann Fust Community Library, 1040 West 10th Street, Boca Grande, FL 33921 | Lakes Regional Library, 15290 Bass Road, Fort Myers, FL 33919            |
| North Fort Myers Library, 2001 N. Tamiami Trail, North Fort Myers, FL 33903 | Northwest Regional Library, 519 Chiquita Blvd N, Cape Coral, FL 33993    |
| Pine Island Public Library, 10701 Russell Road, Bokeelia, FL 33922          | Riverdale Branch Library, 21471 N. River Road, Alva, FL 33920            |
| South County Library, 21100 Three Oaks Parkway, Estero, FL 33928            |  |

**Lee County Parks & Recreation**

- |  |  |
|--|--|
| Estero Recreation Center, 9200 Corkscrew Palms Blvd, Estero, FL 33928                          | Lehigh Acres Senior Center, 219 Plaza Drive, Lehigh Acres, FL 33936    |
| North Fort Myers Recreation Center, 2000 North Recreation Park Way, North Fort Myers, FL 33903 | Terry Park, 3410 Palm Beach Blvd, Fort Myers, FL 33916                 |
| Veterans Park Recreation Center, 55 Homestead Road S., Lehigh Acres, FL 33936                  | Wa-Ke Hatchee Recreation Center, 16760 Bass Road, Fort Myers, FL 33908 |

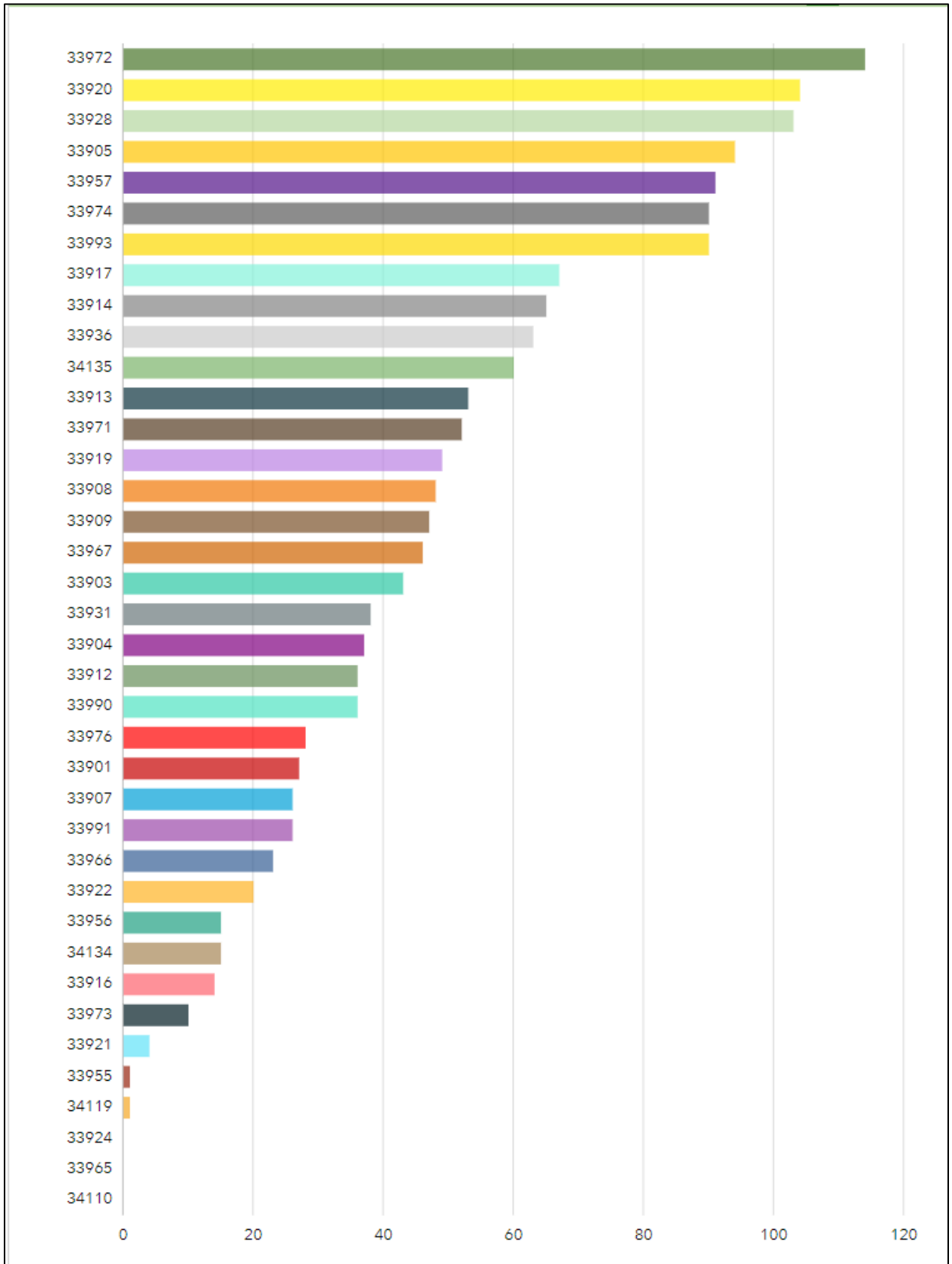
**Additional Lee County Locations**

- Lee County Department of Community Development, 1500 Monroe St, Fort Myers, FL 33901

# Residential Survey Data Review

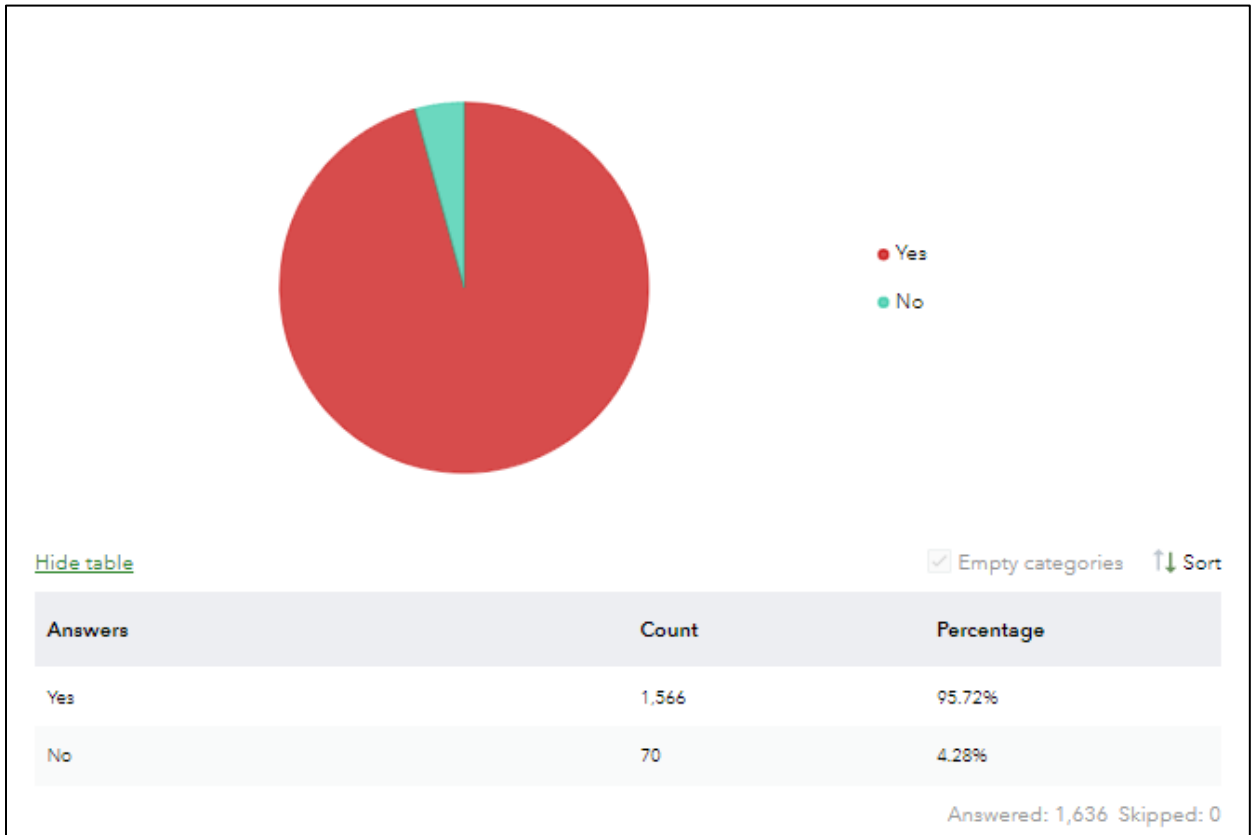
## 1. What is the zip code for your home address?

Of the 38 zip codes in Lee County, responses have been received from 35 (92%).



## 2. Do you currently have internet access at home?

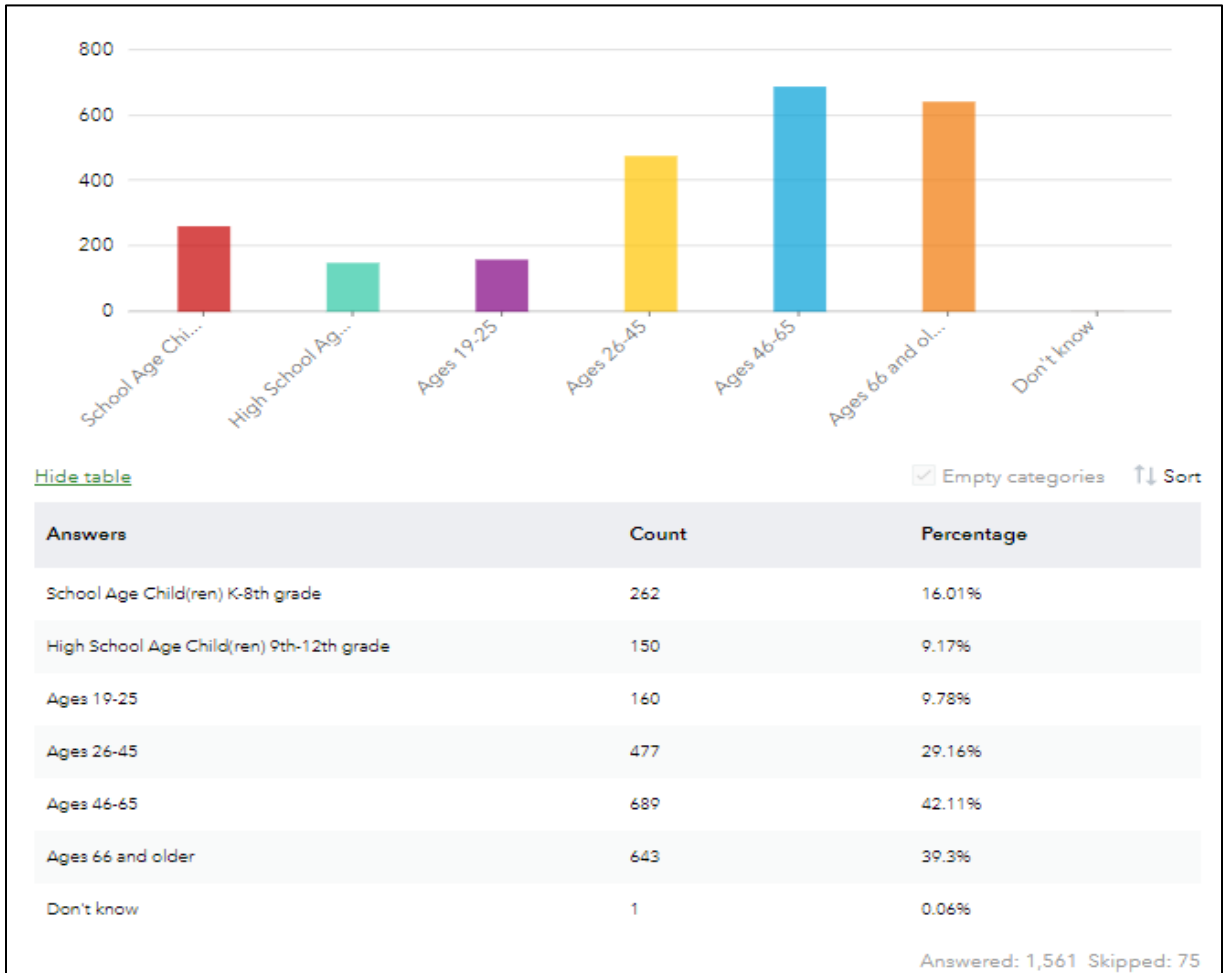
96% of the respondents said Yes.





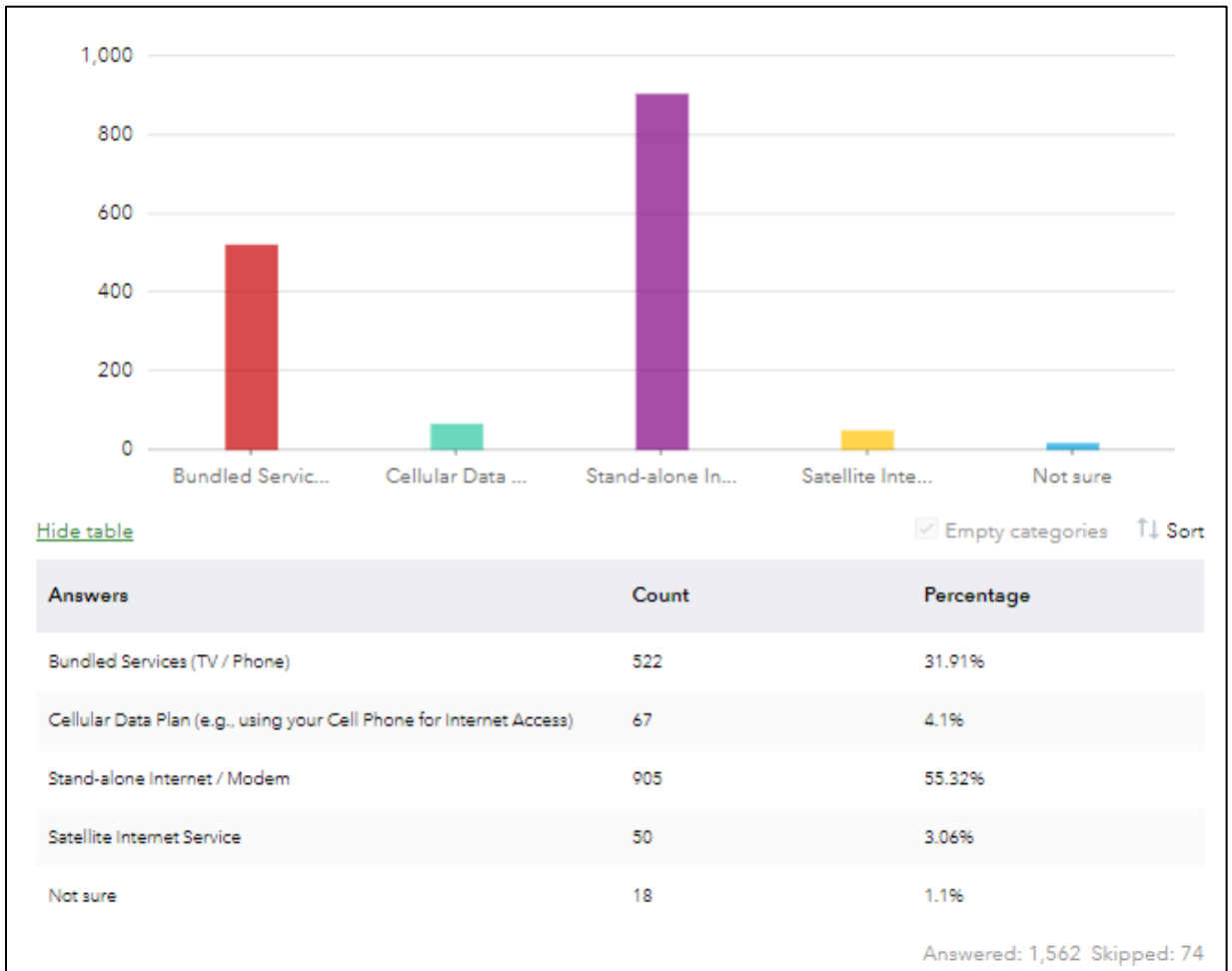
### 3. What are the age ranges of the primary users of the internet service at your home?

Not knowing the total number for each age group in a home, it's hard to determine actual percentages. However, from the data gathered, it appears that Ages 26 and Above make up the majority of household internet users.



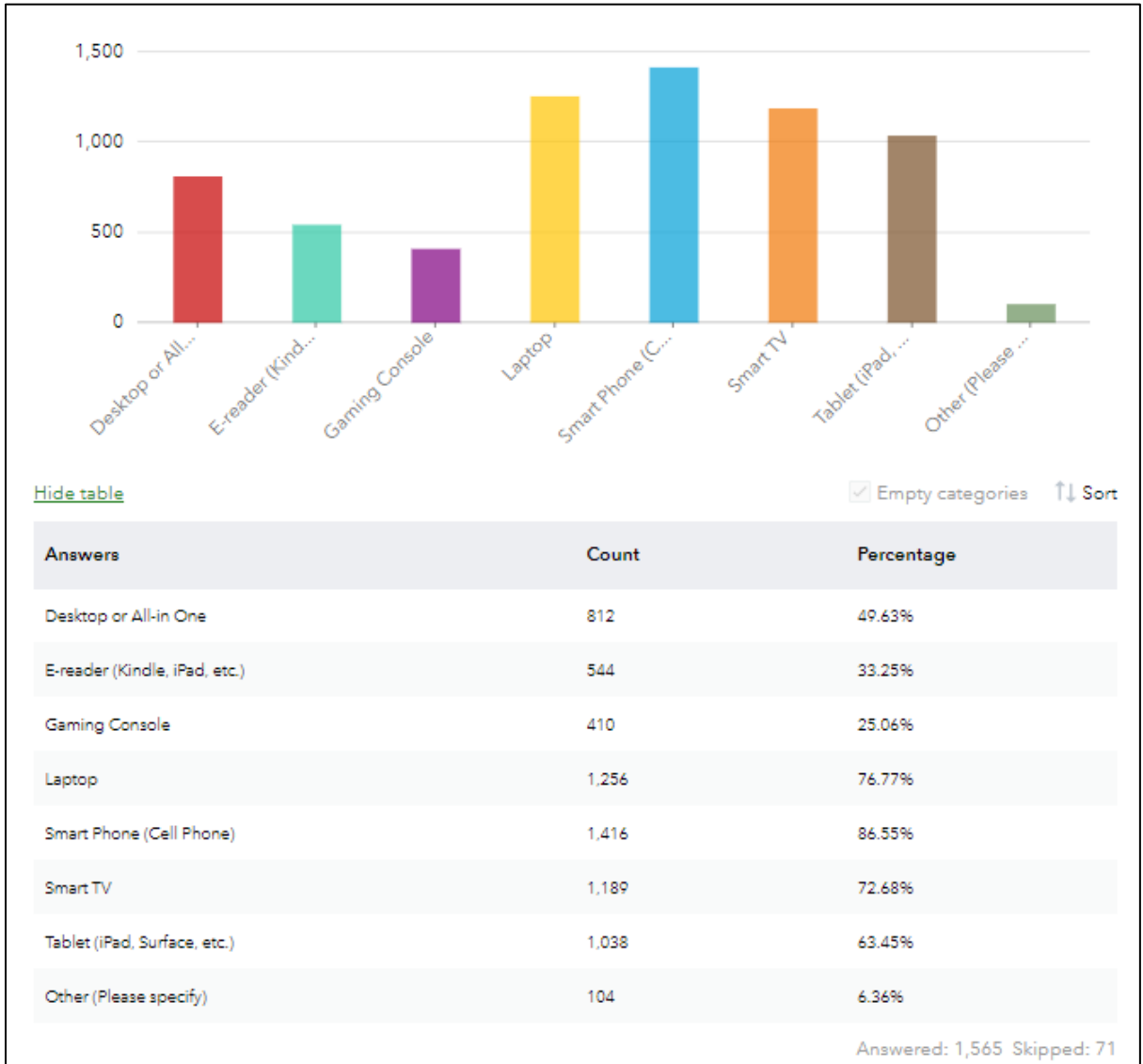
#### 4. How do you access the internet at home?

Stand-alone Internet and Bundled Services are the methods utilized by the majority of respondents to access the internet.



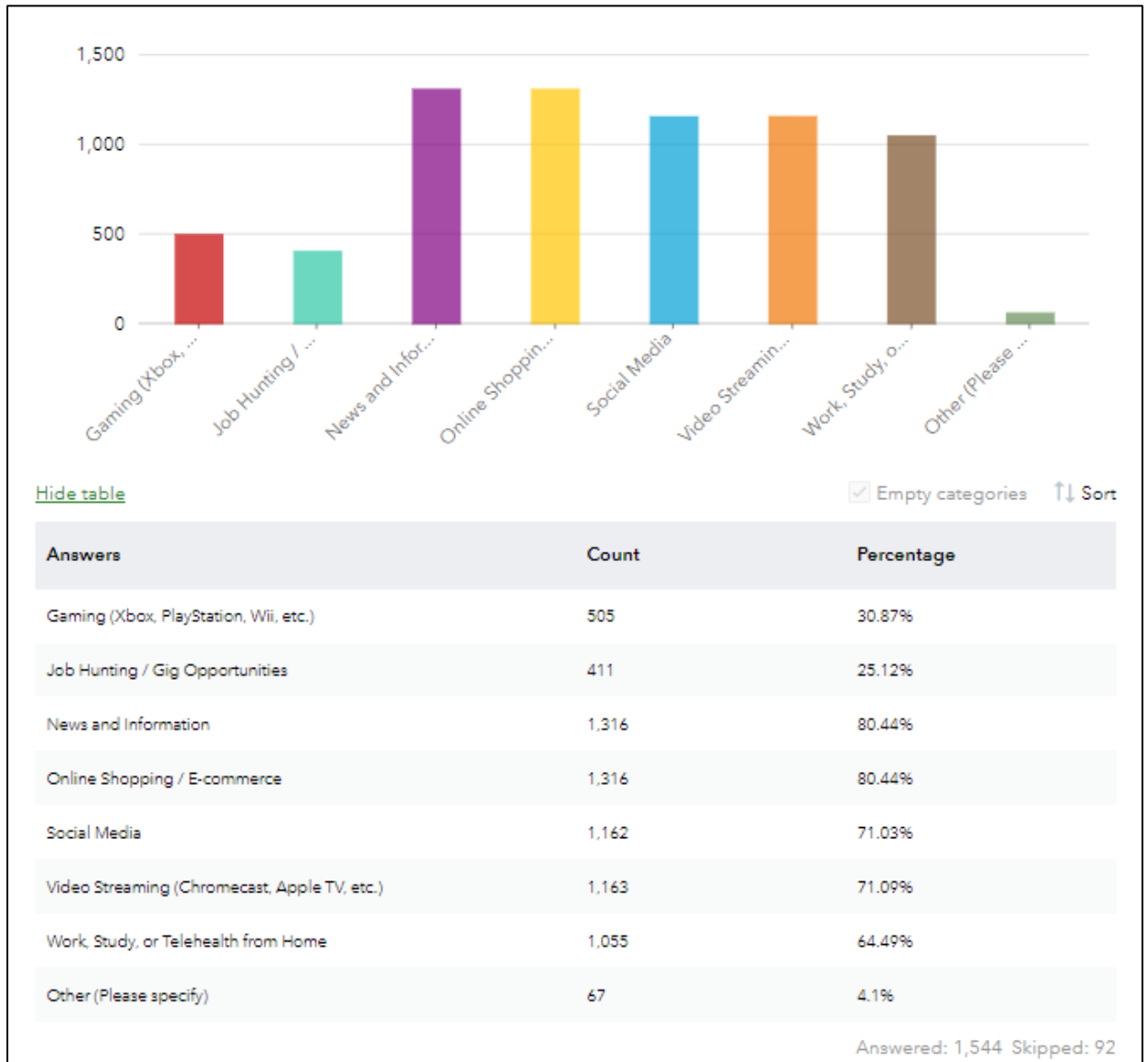
## 5. What device(s) do you use to access the internet?

Many different devices are used to access the internet – with Smart Phones, Computers (PCs and Laptops), Smart TVs and Tablets being the most common.



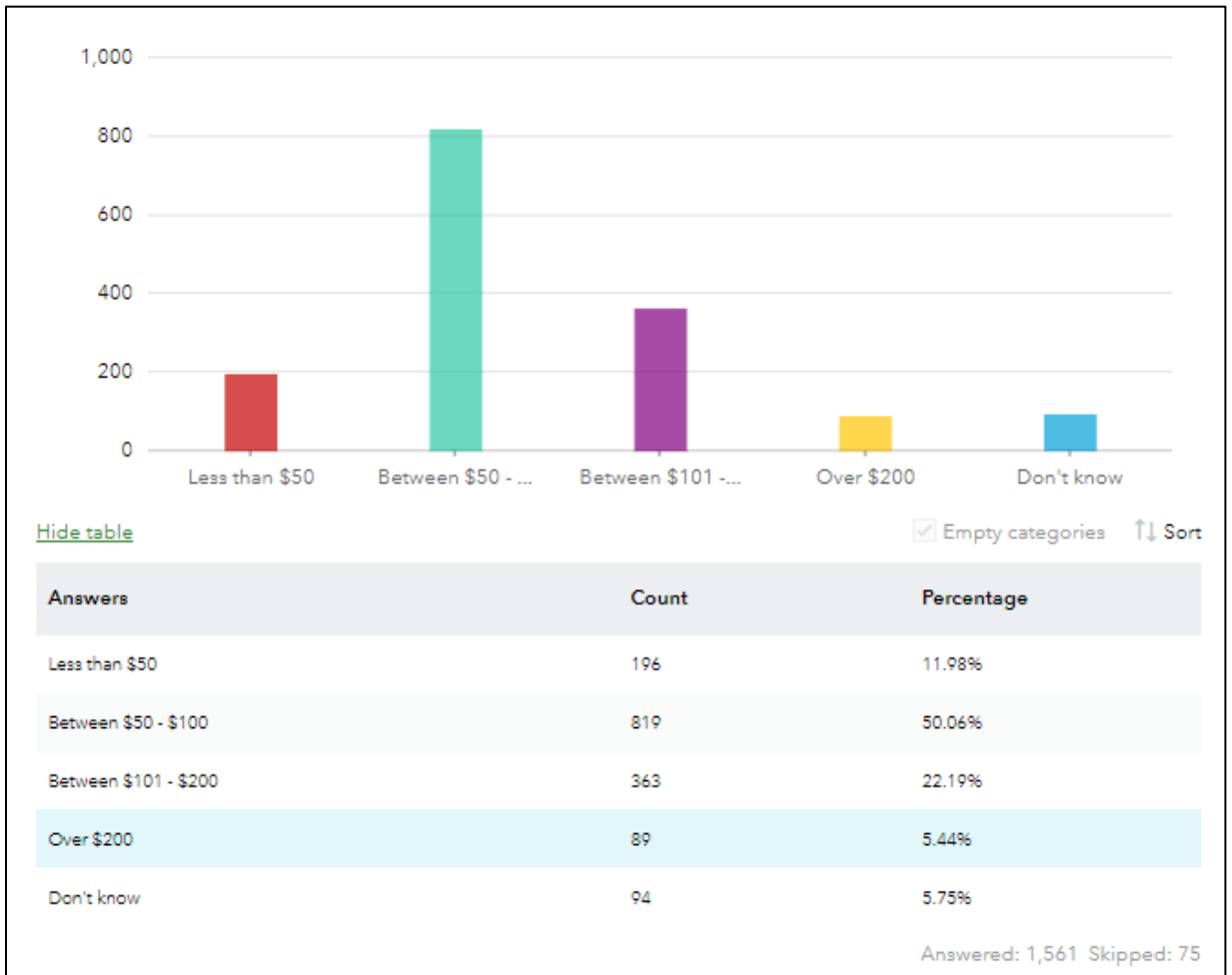
**6. Please identify the digital services you access, or would like to access, on the internet from your home.**

Digital Services access preference appears to be spread evenly across most of the choices provided.



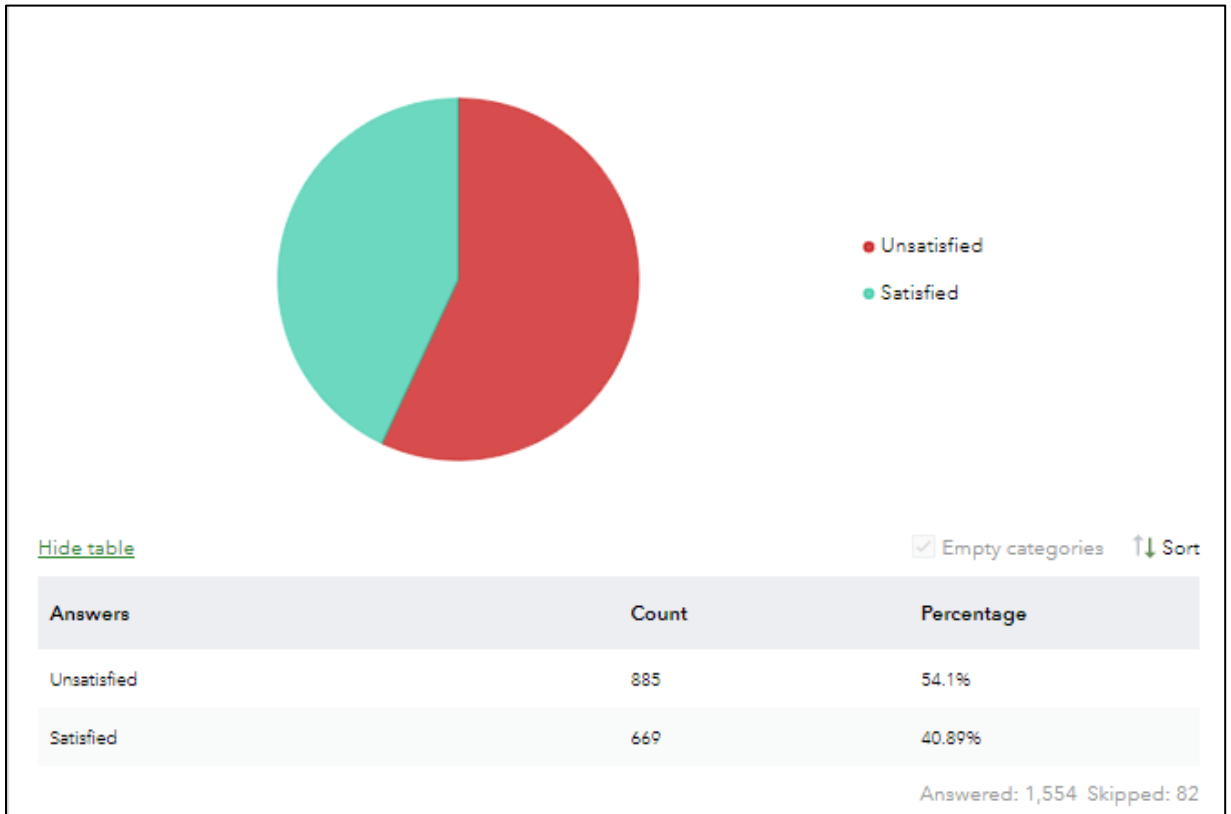
### 7. What do you pay monthly for your internet service?

50% of the respondents pay between \$50 - \$100 for their internet access. 22% pay between \$101 - \$200, while 12% pay less than \$50.



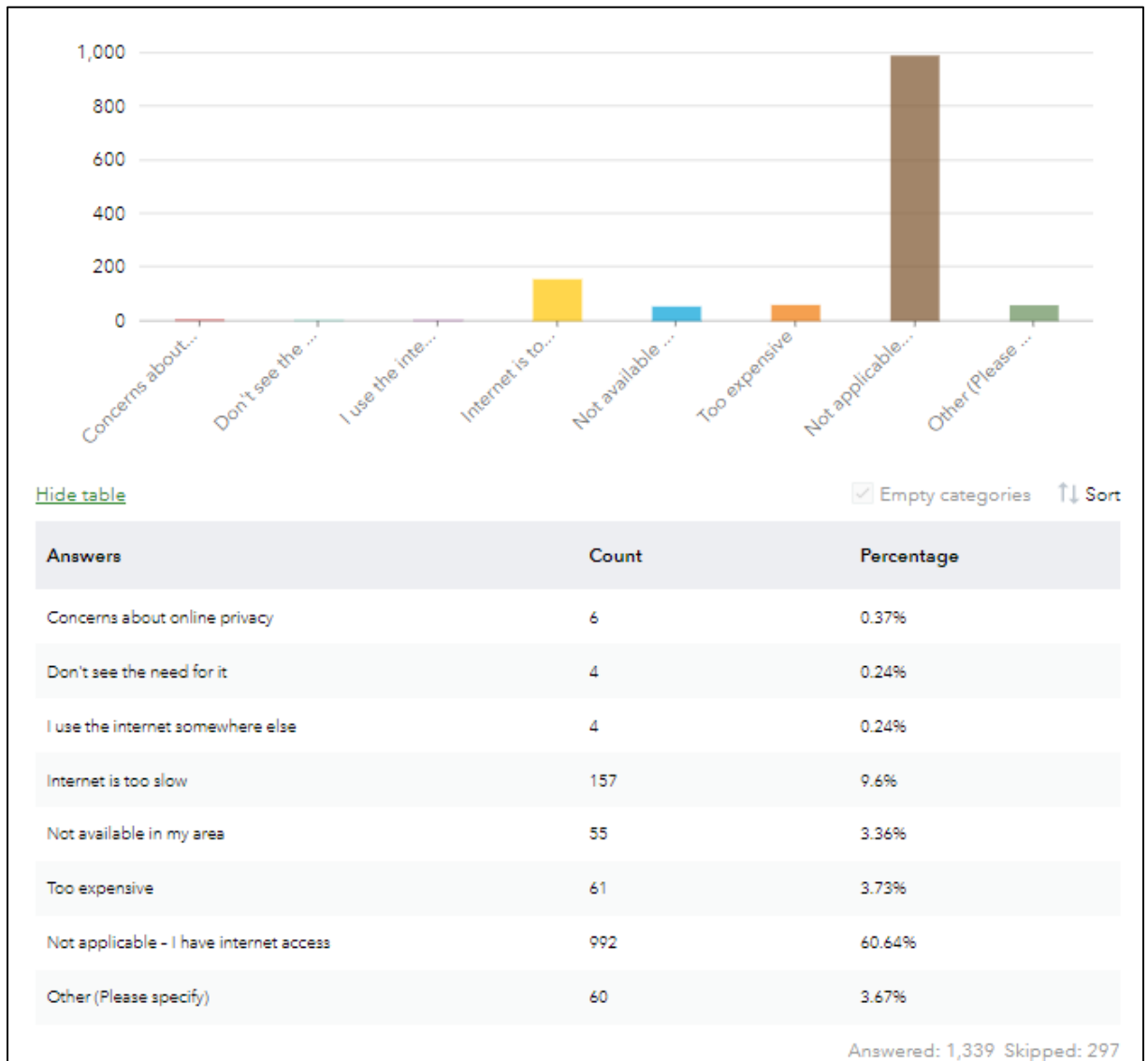
### 8. How satisfied are you with your current internet service?

The majority of respondents are not satisfied with their current service.



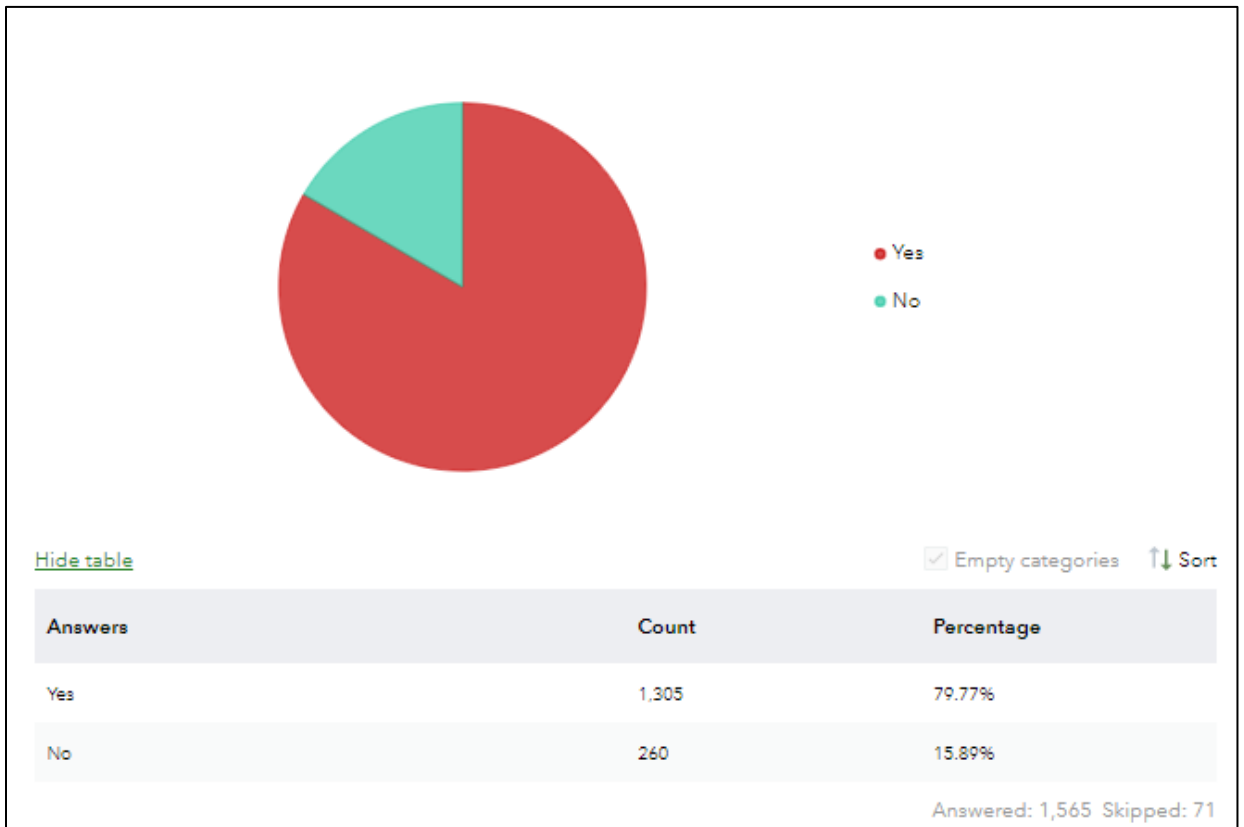
### 9. What is the main reason you don't have internet access at your home?

For those that don't have internet access at home, the primary reason they don't is due to the internet being too slow, which is followed by the internet service not being available and then being too expensive.



**10. Would anyone at your residence work, attend school or use telehealth services from home if sufficient high-speed internet services were available and affordable?**

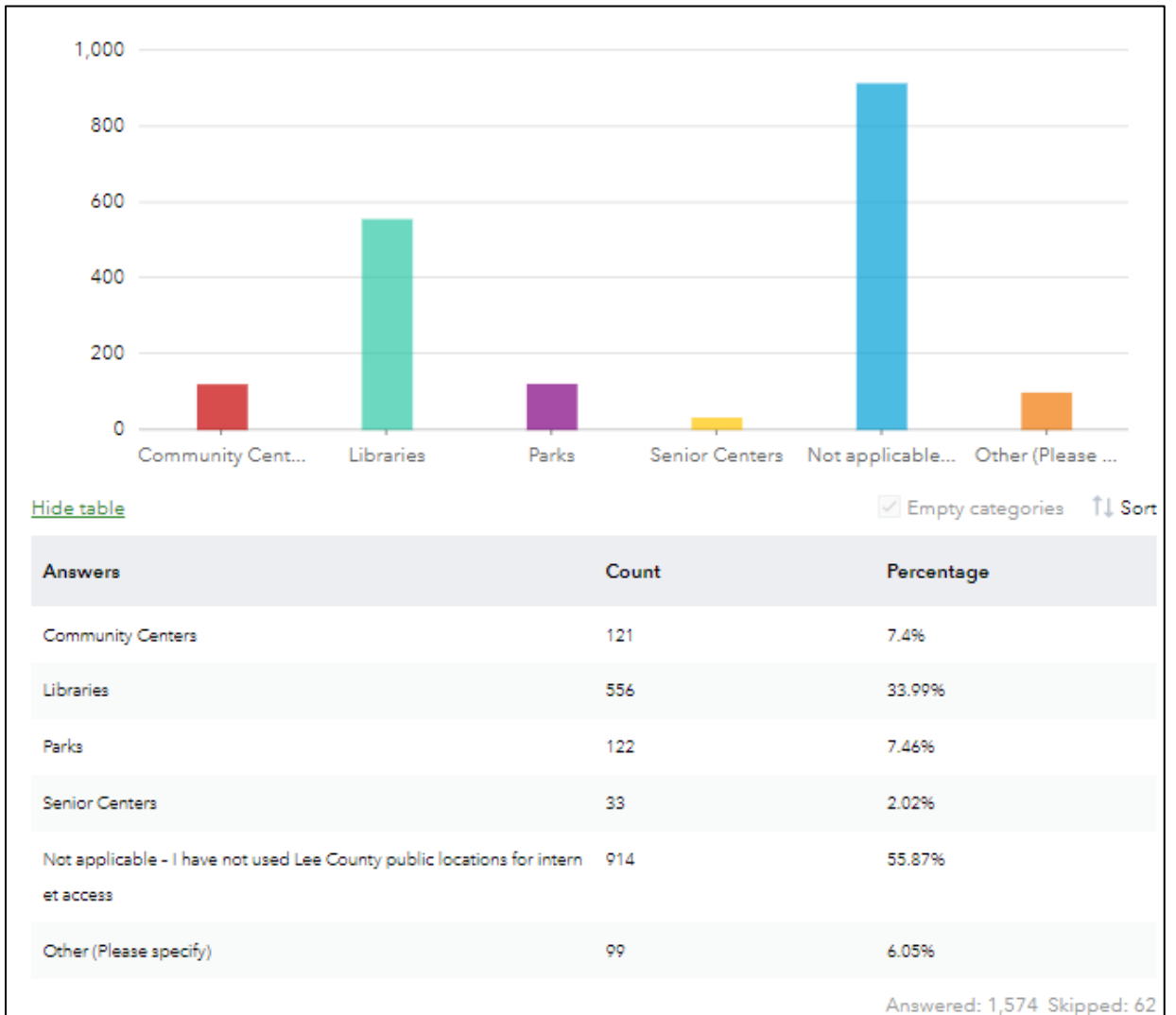
80% of the respondents would use at least one of these services if high-speed internet services were available and affordable.





### 11. Which public locations in Lee County have you used for internet access?

For those respondents that have used public locations for internet access, the Library locations were used most frequently, followed by Parks and Community Center locations.



# Business Survey



## Broadband Services Survey (Business)

Lee County, in cooperation with the Florida Department of Economic Opportunity's Office of Broadband, is asking residents and visitors to take a survey and an internet speed test to evaluate current broadband capabilities and determine areas in need of added service. For more information visit [leegov.com/broadband](http://leegov.com/broadband).

1. What is the zip code for your business address?  
 Zip Code: \_\_\_\_\_
2. Is this a home-based business?  
 Yes  
 No
3. What Business / Industry Sector does your company serve? (Select all that apply)  

<input type="checkbox"/> Agriculture, Forestry, Fishing and Hunting	<input type="checkbox"/> Manufacturing
<input type="checkbox"/> Arts, Entertainment, and Recreation	<input type="checkbox"/> Mining, Quarrying, and Oil and Gas Extraction
<input type="checkbox"/> Construction	<input type="checkbox"/> Professional and Technical Services
<input type="checkbox"/> Educational Services	<input type="checkbox"/> Public Administration
<input type="checkbox"/> Finance and Insurance	<input type="checkbox"/> Real Estate and Rental and Leasing
<input type="checkbox"/> Food Services and Drinking Places	<input type="checkbox"/> Retail Trade
<input type="checkbox"/> Health Care and Social Assistance	<input type="checkbox"/> Transportation and Warehousing
<input type="checkbox"/> Hotel and Accommodation	<input type="checkbox"/> Utilities
<input type="checkbox"/> Information	<input type="checkbox"/> Waste Services
<input type="checkbox"/> Management of Companies and Enterprises	<input type="checkbox"/> Wholesale Trade
<input type="checkbox"/> Other (Please specify): _____	
4. How many employees does your business have?  
 None (Self-employed)  
 1-5  
 6-15  
 16-50  
 51-100  
 101-500  
 500+
5. Do you currently have internet access at your business?  
 Yes  
 No  
If you answered 'No', please skip to Question #9
6. How do you access the internet at your business?  
 Bundled Services (TV / Phone)  
 Cellular Data Plan (e.g., using your Cell Phone for Internet Access)  
 Stand-alone Internet / Modem  
 Satellite Internet Service  
 Not Sure
7. What do you pay monthly for your internet service?  
 Less than \$50  
 Between \$50 - \$100  
 Between \$101 - \$200

- Over \$200
  - Don't know
8. How satisfied are you with your current internet access?
- Satisfied
  - Unsatisfied
9. What is the main reason you don't have internet access at your business?
- Concerns about online privacy
  - Don't see the need for it
  - We use the internet somewhere else
  - Internet too slow
  - Not available in our area
  - Too expensive
  - Not applicable – we have internet access
  - Other (Please specify): \_\_\_\_\_
10. If sufficient high-speed internet services were available and affordable, what Business Practices / Applications would your business use? (Select all that apply)
- Cloud based business
  - Communication between main office and other sites
  - Email
  - Maintaining a website – blog
  - Monitor / Control security, alarms, health, processes
  - Offer free WiFi service
  - Online backup
  - Ordering / maintaining inventory
  - Process credit card / debit card transactions
  - Receiving and processing online orders
  - Social media
  - Training
  - Transfer large files
  - Video Conferencing
  - Voice over internet protocol or internet phone

The **deadline** for survey submittal is 4 pm on **August 1, 2022**. Completed surveys can be dropped off at the following locations:

**Lee County Library System**

- |   |  |
|---|--|
| Bonita Springs Public Library, 10560 Reynolds, St, Bonita Springs, FL 34135             | Cape Coral Regional Library, 921 SW 39 <sup>th</sup> Terrace, Cape Coral, FL 33914 |
| Captiva Memorial Library, 11560 Chapin Lane, Captiva, FL 33924                          | Dunbar Library, 3095 Blount St, Fort Myers, FL 33916                               |
| East County Regional Library, 881 Gunnery, Road N, Lehigh Acres, FL 33971               | Fort Myers Regional / Talking Books, 2450 First St, Fort Myers, FL 33901           |
| Johann Fust Community Library, 1040 West 10 <sup>th</sup> Street, Boca Grande, FL 33921 | Lakes Regional Library, 15290 Bass Road, Fort Myers, FL 33919                      |
| North Fort Myers Library, 2001 N. Tamiami Trail, North Fort Myers, FL 33903             | Northwest Regional Library, 519 Chiquita Blvd N, Cape Coral, FL 33993              |
| Pine Island Public Library, 10701 Russell Road, Bokeelia, FL 33922                      | Riverdale Branch Library, 21471 N. River Road, Alva, FL 33920                      |
| South County Library, 21100 Three Oaks Parkway, Estero, FL 33928                        |  |

**Lee County Parks & Recreation**

- |  |  |
|--|--|
| Estero Recreation Center, 9200 Corkscrew Palms Blvd, Estero, FL 33928                          | Lehigh Acres Senior Center, 219 Plaza Drive, Lehigh Acres, FL 33936    |
| North Fort Myers Recreation Center, 2000 North Recreation Park Way, North Fort Myers, FL 33903 | Terry Park, 3410 Palm Beach Blvd, Fort Myers, FL 33916                 |
| Veterans Park Recreation Center, 55 Homestead Road S., Lehigh Acres, FL 33936                  | Wa-Ke Hatchee Recreation Center, 16760 Bass Road, Fort Myers, FL 33908 |

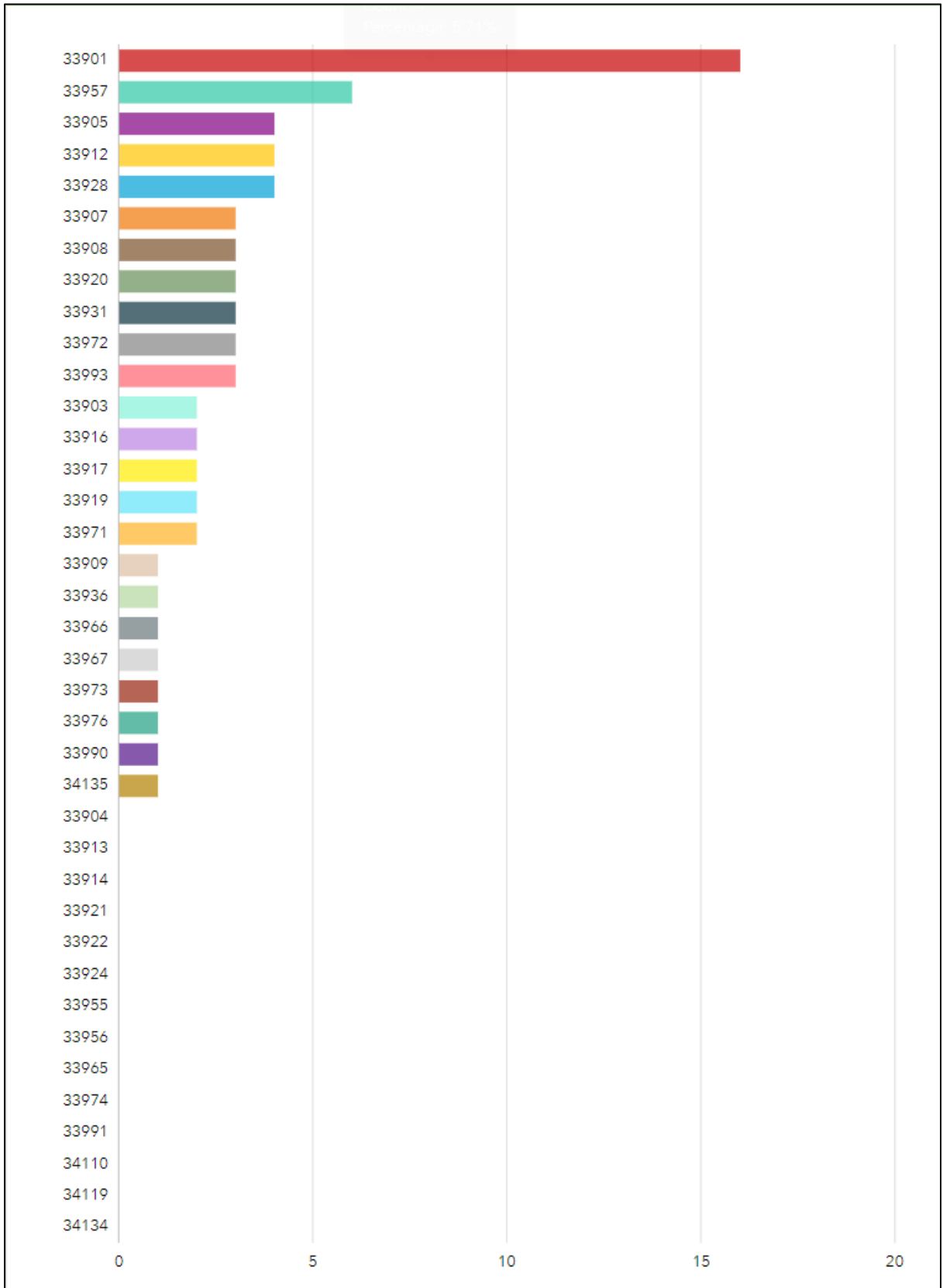
**Additional Lee County Locations**

Lee County Department of Community Development, 1500 Monroe St, Fort Myers, FL 33901

# Business Survey Data Review

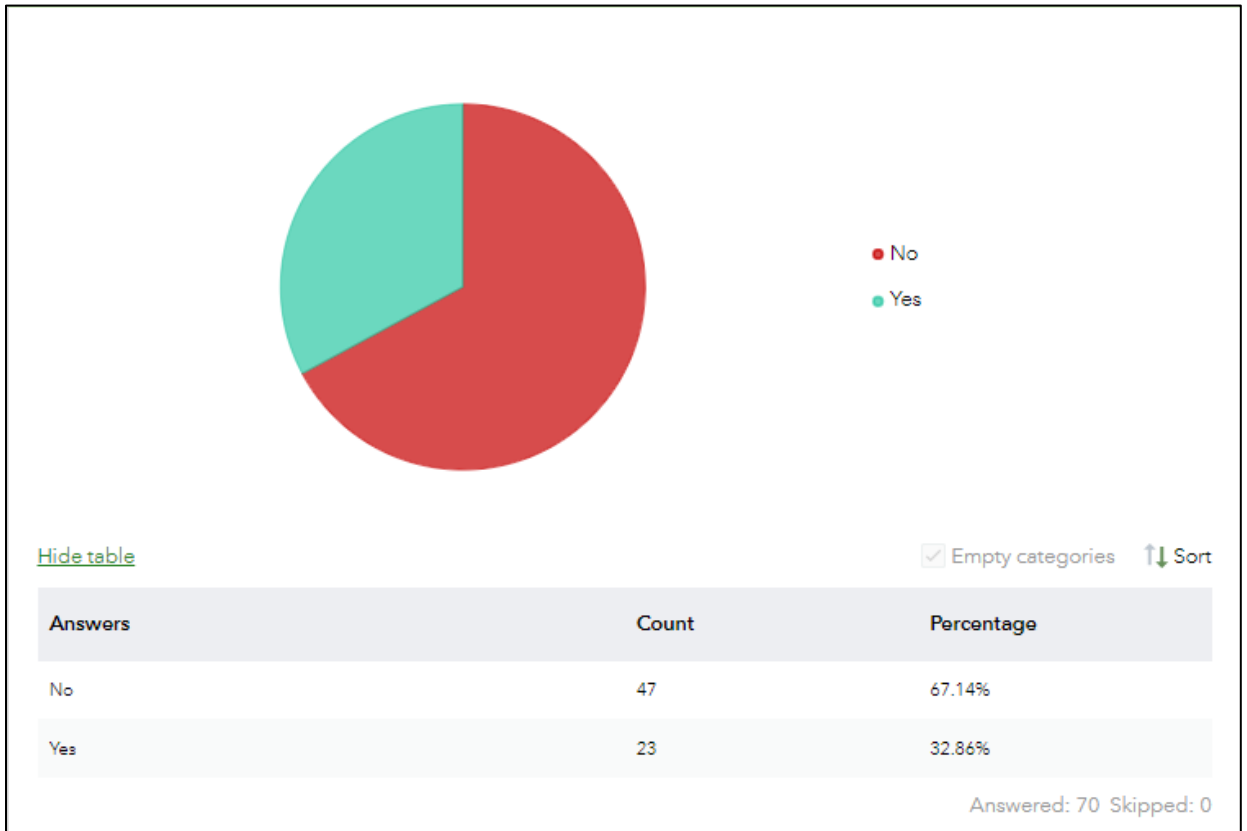
## 1. What is the zip code for your business address?

Of the 38 zip codes in Lee County, responses have been received from 24 (63%).



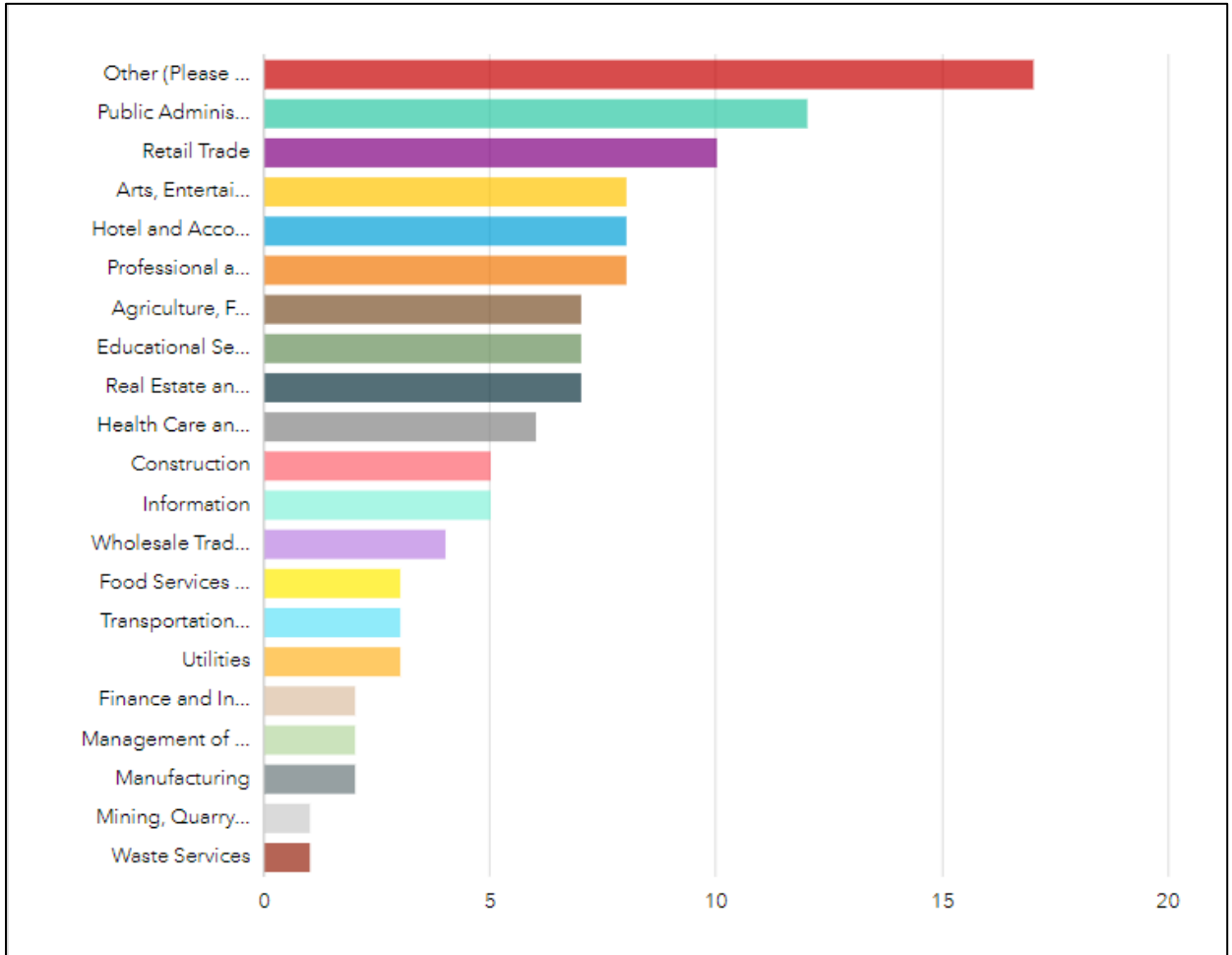
## 2. Is this a home-based business?

33% of the respondents said Yes.



### 3. What Business / Industry Sector does your company serve?

Public Administration and Retail Trade are the largest sectors served.



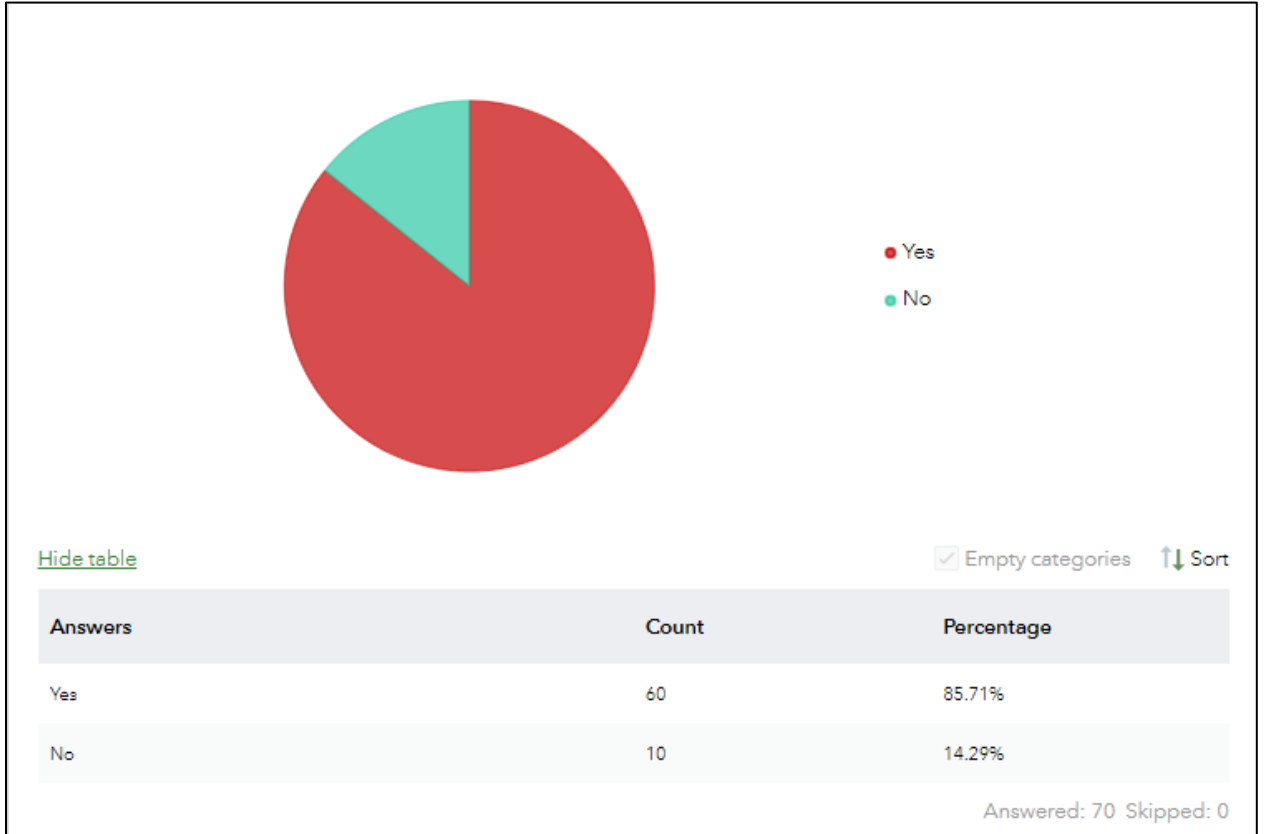
#### 4. How many employees does your business have?

Many responses were from small businesses. 20% of the businesses responding were self-employed (only 1 employee) while 37% had 5 employees or less.



**5. Do you currently have internet access at your business?**

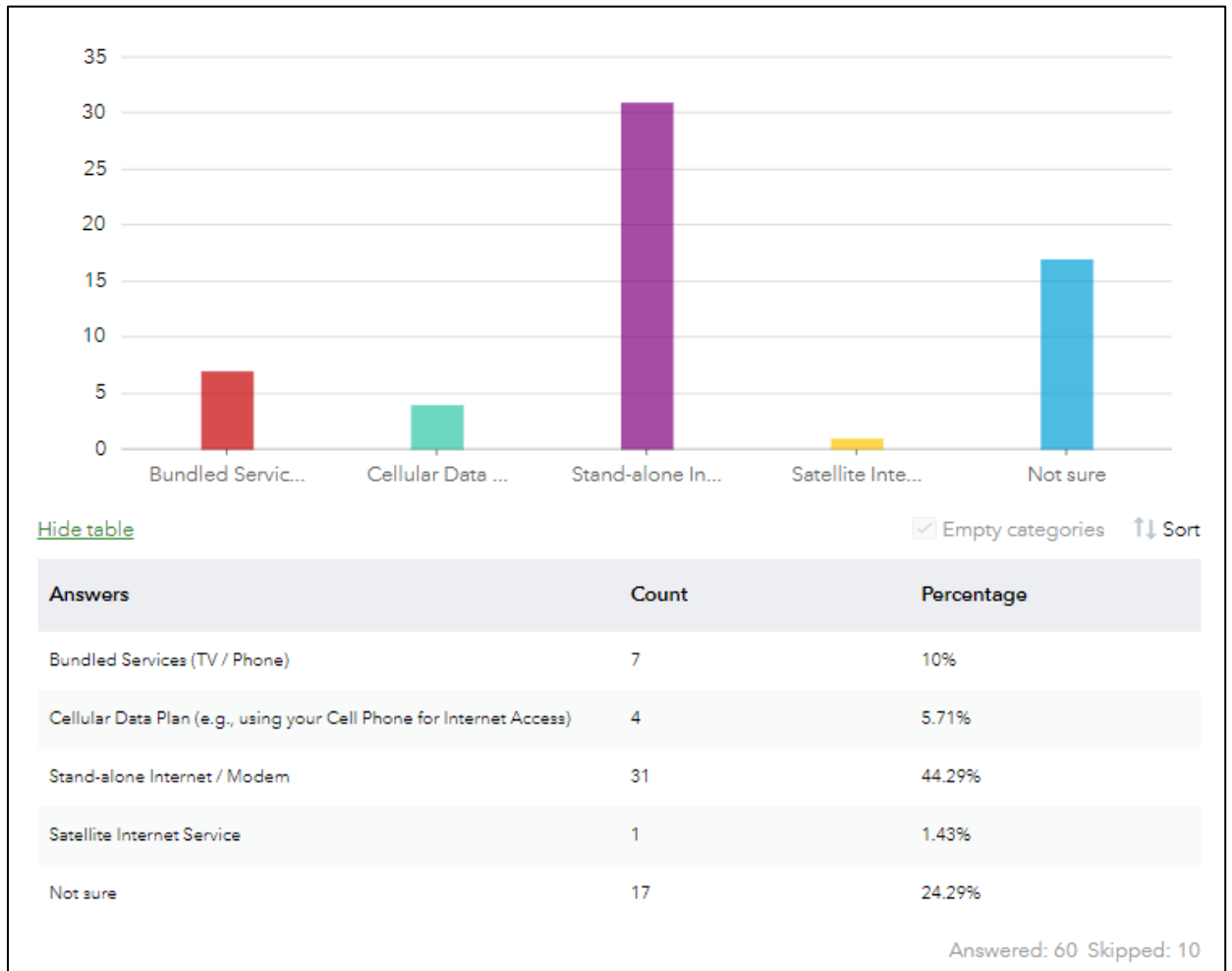
86% of the respondents said Yes.





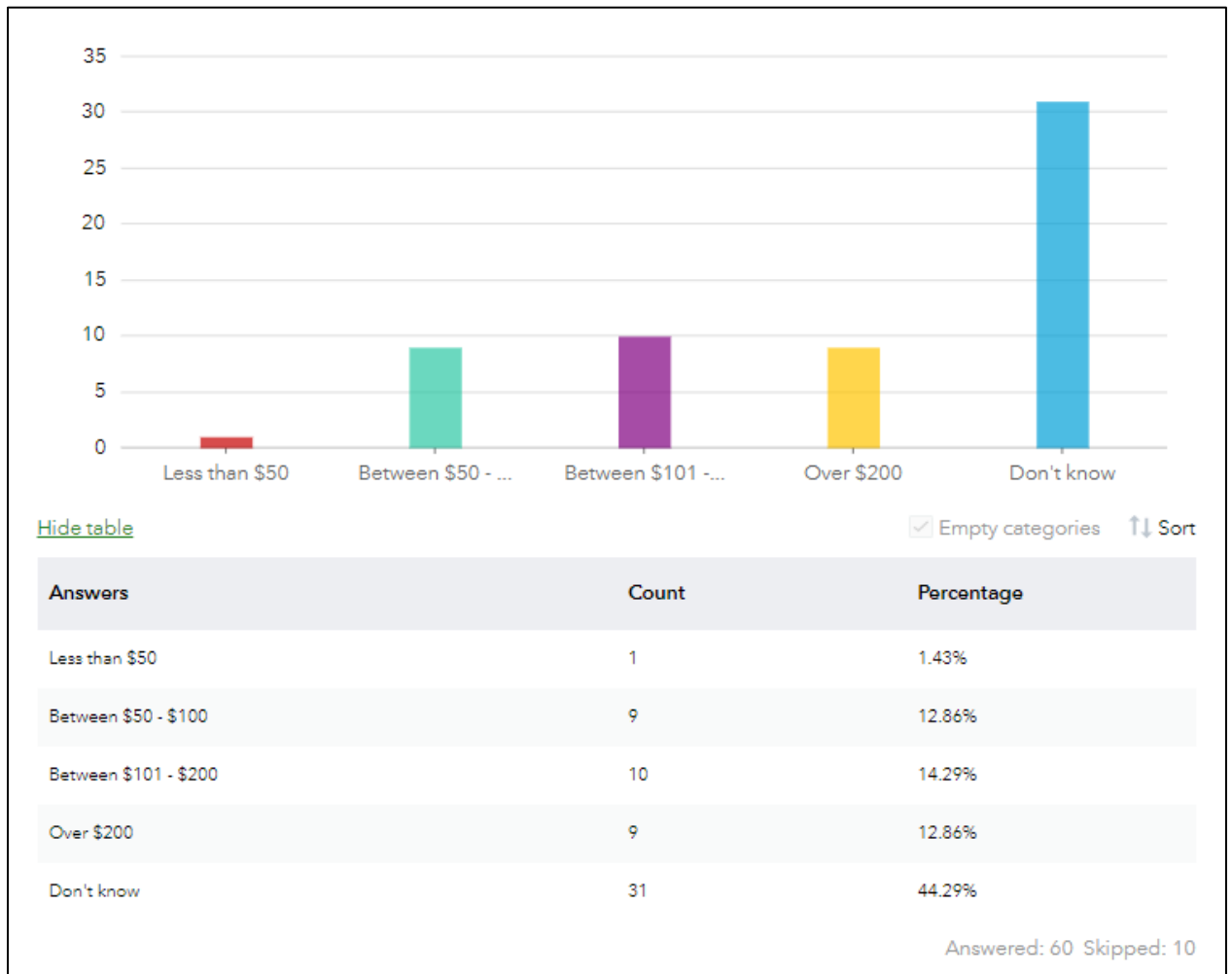
## 6. How do you access the internet at your business?

Stand-alone Internet and Bundled Services are the methods utilized by the majority of respondents to access the internet.



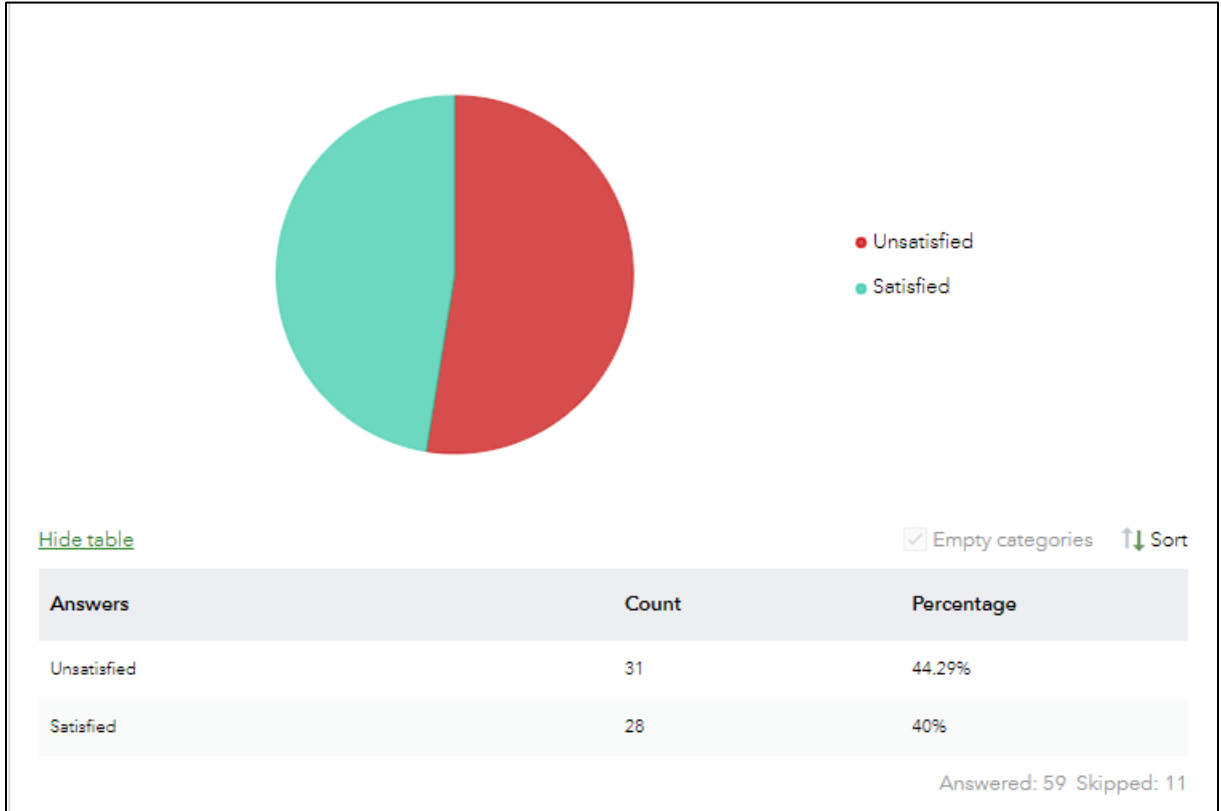
## 7. What do you pay monthly for your internet service?

Responses show an equal spread of payments for internet access. 13% of the respondents pay between \$50 - \$100 for their internet access, while 14% pay between \$101 - \$200 and 13% pay over \$200.



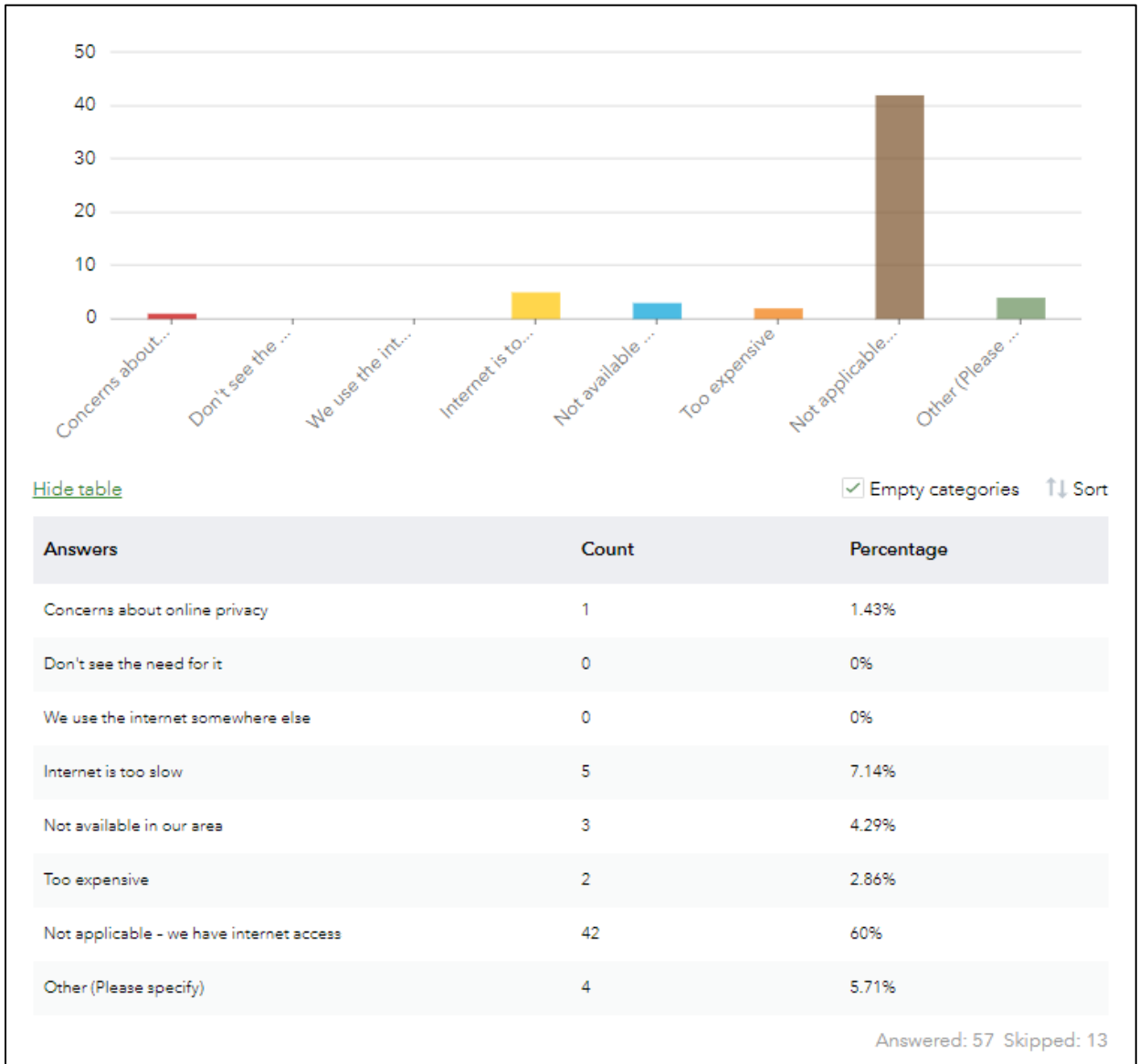
### 8. How satisfied are you with your current internet service?

53% of respondents to this question are not satisfied with their current service.



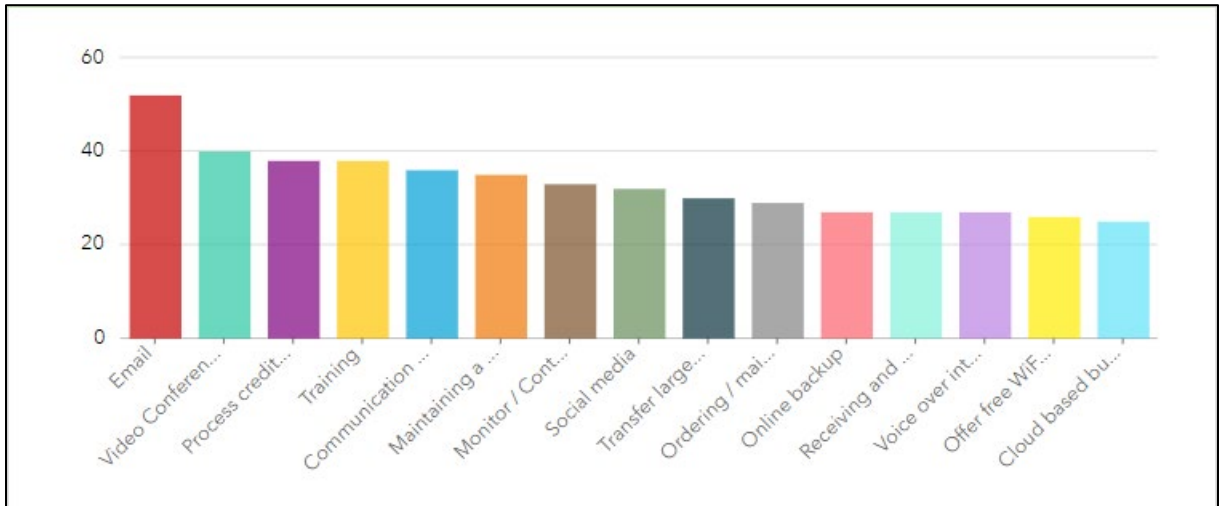
### 9. What is the main reason you don't have internet access at your business?

For those that don't have internet access at their business, the primary reason they don't is due to the internet being too slow, which is followed by the internet service not being available and then too expensive.



**10. If sufficient high-speed internet services were available and affordable, what Business Practices / Applications would your business use?**

The most common Business Practice / Application to be utilized was Email. After Email, the popularity was spread pretty evenly across the remaining choices.



# Appendix C – Strengths, Weaknesses, Opportunities and Challenges Analysis (SWOC)

## SWOC Analysis – Agriculture



<b>SWOC Analysis</b>		
<b>Department:</b> University of Florida – Institute of Food and Agricultural Sciences		
<b>Stakeholders:</b> David Outerbridge		
<b>(High/Medium/Low)</b>		
Strengths	Importance (H/M/L)	
S1.		
S2.		
S3.		
S4.		
Weaknesses	Importance (H/M/L)	
W1.		
W2.		
W3.		
W4.		
W5.		
Opportunities	Importance (H/M/L)	
O1.	<ul style="list-style-type: none"> <li>• Areas of connectivity (mobile / fixed) where the Agriculture Industry could see some benefits</li> <li>• Spraying and Scouting for Weeds, Pests, and Diseases.</li> <li>• Point of Sale opportunities from Farm locations.</li> <li>• ‘Right to Farm’ Act                             <ul style="list-style-type: none"> <li>○ Events</li> <li>○ Product Sales</li> </ul> </li> <li>• Less than 100 farms of over 100 acres in Lee with 706 1-99 acres would be involved in this</li> </ul>	M
O2.	<ul style="list-style-type: none"> <li>• Wireless connectivity would be helpful for:</li> <li>• Larger producers that would use precision agriculture (US Sugar, Lipman, Farmers Alliance etc.).</li> <li>• Drone usage</li> </ul>	M
O3.		
O4.		
O5.		
Challenges	Importance (H/M/L)	
C1.		
C2.		
C3.		
C4.		
Potential Programs Moving Forward	Importance (H/M/L)	
1.	Tele-AG would be a program where homeowners and farmers would have a virtual field visit and consultation to help them ascertain which crops to grow, help identify certain pests with suggestions for eradication. Could be part of USDA push for Urban Agriculture.	H
2.		

# SWOC Analysis – Community Engagement



<b>SWOC Analysis</b>		
<b>Department:</b> Community Engagement		
<b>Stakeholders:</b> Katie Welton		
<b>(High/Medium/Low)</b>		
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.		
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	County Commissioners' Town Hall type meetings often are held in areas where there is no coverage or weak coverage. Often use hotspots or film with phone for later broadcast.	H
W2.	Ribbon Cutting Ceremonies / Strategic Planning Meeting are often held outside or in community centers where there is no connection or weak coverage. Currently using county hotspots or film equipment for later broadcast	H
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	County Commissioners' Town Hall type meetings with broadband access would allow for live streaming of events from at the Rec Centers, Community Centers, and Library locations where these meeting are held	H
O2.	Ribbon Cutting Ceremonies / Strategic Planning Meeting with strong mobile broadband access would allow for live streaming of events.	h
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.		
C2.		
C3.		
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.		
2.		
3.		
4.		

# SWOC Analysis – Department of Transportation



<b>SWOC Analysis</b>		
<b>Department:</b> Department of Transportation		
<b>Stakeholders:</b> Randy Cerchie, Rob Radford, Rob Price		
		<b>(High/Medium/Low)</b>
Strengths		Importance (H/M/L)
S1.	Lee County DOT has been putting fiber in the ground since 2006.	M
S2.	200 miles of fiber across the County.	H
S3.	Agreements with Summit and the City of Cape Coral (Shared conduit and Fiber)	M
S4.		
Weaknesses		Importance (H/M/L)
W1.		
W2.		
W3.		
W4.		
W5.		
Opportunities		Importance (H/M/L)
O1.		
O2.		
O3.		
O4.		
O5.		
Challenges		Importance (H/M/L)
C1.	FDOT installed fiber that LC DOT maintains is not shareable fiber. We can share LC owned fiber, but not the state's fiber.	M
C2.	Palm Beach and out East (past River Hall Blvd) – this is a long run (about 8 miles).	M
C3.	"One off" (single traffic light) locations are now the issue to integrate into the current system due to cost.	H
C4.		
Potential Programs Moving Forward		Importance (H/M/L)
1.	Alico Road to State Rte 82 – potential conduit to be run in the future	M
2.	Tie the TOC to the EOC/EMS system in order to safely and efficiently maneuver Ambulance units through stop lights to get to their calls quicker.	H
3.		
4.		



# SWOC Analysis – Economic Development Office



<b>SWOC Analysis</b>		
<b>Department:</b> Warren Baucom		
<b>Stakeholders:</b> Economic Development		
		<b>(High/Medium/Low)</b>
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	County Government Buy-in	
S2.	Local Technology professional Association (SWFLtech.com)	
S3.	Strong local delegation to state legislature and leadership	
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Wide Socio-economic gaps	
W2.	Fiber connectivity primarily in commercial corridors and gated communities.	
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Commercial and Industrial growth driving demand	
O2.	Road and infrastructure projects planned that can be adapted to include broadband	
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	People would like to see a broader choice of Internet Service Providers.	
C2.	Telehealth needs are increasing.	
C3.	Growing number of remote workers need broadband at home	
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.		
2.		
3.		
4.		

# SWOC Analysis – Lee County School District (Education)



<b>SWOC Analysis</b>		
<b>Department:</b> Education		
<b>Stakeholders:</b> Dwayne Alton, Dr. Adam Molloy		
<b>Strengths</b>		<b>Importance (High/Medium/Low)</b>
S1.	Public School District has Fiber / Broadband to all schools in the county	H
S2.	Deployed over 5,000 devices including Chrome Books and hotspots	H
S3.	Strong Core infrastructure in the district	H
S4.	Wi-Fi is available throughout schools in the district	H
S5.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Free hotspots are limited to 100GB per year	H
W2.	Paid hotspots are limited to 100GB per month	H
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Use school channels to extend outreach to homes for Broadband Projects (Surveys, etc.)	H
O2.		
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Lack of infrastructure to the homes	H
C2.		
C3.		
C4.		
C5.		
<b>Possible Projects Moving Forward</b>		<b>Importance (H/M/L)</b>
1.		
2.		
3.		
4.		
5.		

# SWOC Analysis – Lee Health / Human & Veteran Services



<b>SWOC Analysis</b>		
<b>Department:</b> HealthCare - Telehealth		
<b>Stakeholders:</b> Roger Mercado, Patricia Wood, Michael Nacheff, Nicholas Grant, Katie Larsen, Abbigayle Riedisser		
<b>Strengths</b>		<b>Importance (High/Medium/Low)</b>
S1.	Have support desk staff to accommodate the 'from Home' activities.	
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Home Healthcare Nurses must carry hotspots and IT equipment.	M
W2.	Hotspots do not supply the appropriate bandwidth and reliability to provide necessary services, e.g., imaging, video, large documents.	M
W3.	There currently is not enough healthcare staff to provide timely service. This will become even more difficult as Lee County continues to grow.	H
W4.	Healthcare services for outpatients' sites experience frequent fiber cuts.	M
W5.	Residents can't afford Internet access; or the access is so slow it keeps freezing	M
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Health Fairs as part of community outreach both physical and virtual	
O2.	Community Centers (like Lehigh Acres) with telehealth booths	
O3.	Urgent Care Service locations expansion could reduce current load on Health System's facilities and home healthcare providers	
O4.	Places of worship could be expanded for healthcare service	
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.		
C2.		
C3.		
C4.		
<b>Possible Projects Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Mobile Truck with a Satellite on top that can navigate through the various neighborhoods to provide connectivity.	
2.	Telehealth Booth in a room at a Senior Center.	
3.		
4.		

# SWOC Analysis – Lee Health



SWOC Analysis		
Department: HealthCare - Telehealth		
Stakeholders: Patricia Wood		
Strengths		Importance (High/Medium/Low)
S1.	Have support desk staff to accommodate the 'from Home' activities.	
Weaknesses		Importance (H/M/L)
W1.	Home Healthcare Nurses must carry hotspots and IT equipment.	M
W2.	Hotspots do not supply the appropriate bandwidth and reliability to provide necessary services, e.g., imaging, video, large documents.	M
W3.	There currently is not enough healthcare staff to provide timely service. This will become even more difficult as Lee County continues to grow.	H
W4.	Healthcare services for outpatients' sites experience frequent fiber cuts.	M
W5.	Residents can't afford Internet access; or the access is so slow it keeps freezing	M
Opportunities		Importance (H/M/L)
O1.	Health Fairs as part of community outreach both physical and virtual	
O2.	Community Centers (like Lehigh Acres) with telehealth booths	
O3.	Urgent Care Service locations expansion could reduce current load on Health System's facilities and home healthcare providers	
O4.	Places of worship could be expanded for healthcare service	
O5.	Could help close the fiber loop using county dark fiber but must build out to areas now with low bandwidth issues.	
O6.	New Hospital with data center is slated to be built 2025. Optimal broadband solution would be to build out county dark fiber.	
Challenges		Importance (H/M/L)
C1.	Seniors are a major group with outreach needs and simple apps – important to have video	
C2.	Lee County is having a difficult time recruiting Radiologist and are having outsource from other parts of the states and other states. The images for this type of work require broadband speeds to get timely diagnostics.	
C3.	Issue with constant fiber cuts with one hospital with only one option of a carrier at this point and time.	
C4.	The growth in population (especially seniors) is requiring a need for more face-to-face health care visits. LeeHealth has future plans for more facilities but the need for broadband in some of these areas is required.	
Possible Projects Moving Forward		Importance (H/M/L)
1.	Mobile Truck with a Satellite on top that can navigate through the various neighborhoods to provide connectivity.	
2.	Telehealth Booth in a room at a Senior Center.	
3.	Telehealth kiosk which are easy to use with self-help documentation	

# SWOC Analysis – Human & Veteran Services



<b>SWOC Analysis</b>		
<b>Department:</b> Human and Veterans Services (HVS)		
<b>Stakeholders:</b> Roger Mercado		
<b>(High/Medium/Low)</b>		
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	Have some strong physical presence and alliances but not much digital services to offer due to lack of broadband	
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Broadband access to both neighborhoods and community centers	H
W2.		
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	6 target neighborhoods that serve as community hubs/centers	H
O2.	Each of these neighborhoods is run by Neighborhood Associations which server as conduits for specific neighborhoods.	M
O3.	United Way ‘Houses’ are used for Human and Veteran Services.	H
O4.	Human and Veteran Services partner with Partnering for Results and Boys and Girls Clubs.	H
O5.	Homeless and domestic violence centers	H
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Most people have phones but have limited minutes and spotty coverage (Assurance Wireless is the Carrier)	L
C2.	There will be a need to be help desk type help offered for services include hardware, e.g., tablets, computer (1,000)	H
C3.	Hope to grow hardware devices with specific apps on them (4,000)	M
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Telehealth centers and Telehealth mobile vehicles for Seniors and Homeless.	H
2.	Behavioral health center both physical and mobile or as part of community centers; Impower Organization for low-income telehealth	H
3.	Upgrade old Passport bus used for homeless services	M
4.	Non-Profits, such as Goodwill, have their own buses that we could help them expand upon on fleet of one.	M

# SWOC Analysis – Innovation & Technology



<b>SWOC Analysis</b>		
<b>Department:</b> Innovation and Technology		
<b>Stakeholder:</b> Ashley Mason		
<b>(High/Medium/Low)</b>		
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	Disaster Recovery – have a process in place to pull PC’s from Libraries or Community Centers to support Disaster Recovery efforts.	H
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Mobile services is limited to one reliable carrier - Verizon	M
W2.		
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Would like to cover all county facilities with Lee County fiber	H
O2.		
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Challenges to connectivity are: <ul style="list-style-type: none"> <li>in the Eastern Portion of the County (Lehigh Acres).</li> <li>at the Solid Waste site located at the Lee County Landfill which is located in Hendry County (partnership with Hendry County).</li> <li>at the Barrier Islands (ie – Pine Island, Captiva Island, Boco Grand, etc.)</li> </ul>	H
C2.	Parks and Recreation need new infrastructure as part of the overall broadband project.	M
C3.	Budget does not have ability to supply devices in community centers.	M
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.		
2.		
3.		
4.		

# SWOC Analysis – Libraries



<b>SWOC Analysis</b>		
<b>Department:</b> Libraries		
<b>Stakeholders:</b> Mindi Simon		
		<b>(High/Medium/Low)</b>
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	There is a phased approach to Wi-Fi upgrade in the libraries but it is over a long period of time.	H
S2.	Six library locations receive Lee County fiber but Director of Libraries would like to put all libraries on Lee County Fiber. Current carriers lack capacity in some locations.	M
S3.	Libraries are popular areas for Lee County residents for internet access.	H
S4.	Libraries have a lot of computers and have ben approved to for replacements.	H
S5.	Resume building and partnering with Workforce Development for additional programs.	
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Aging infrastructure (routers, switches, server, wireless) need to be replaced to make full use of broadband solutions. Phased replacements can't keep up with demand.	H
W2.	Students who have school Chromebooks have trouble connecting with to older wireless systems.	H
W3.	Public computers have older versions of MS Office and need to be updated.	L
W4.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.		
O2.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Unreliable Wi-Fi makes wired the attractive option but students with Chromebooks and users with laptops need to use their devices.	H
C2.		
C3.		
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Workforce Development: Additional trainers would help expand the workforce development program.	H
2.	Collaborative effort with Parks and Recreation to have Migrant Camps and Senior Centers to offer library services to these facilities	H
3.	Wi-Fi enabled mobile services	M
4.		

# SWOC Analysis – Parks & Recreation



<b>SWOC Analysis</b>		
<b>Department:</b> Parks and Recreation		
<b>Stakeholders:</b> Jesse Lavender		
		<b>(High/Medium/Low)</b>
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	~100 Parks in the County (this includes preserved Lands)	H
S2.	Four large Recreation Centers (two are co-located with Schools). All of them have Security Cameras.	H
S3.	Many small Community Centers are available.	H
S4.	Two stadiums (JetBlue Stadium and CenturyLink Stadium)	M
S5.	Nine boat ramps (1 is Commercial)	L
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Most parks do not have broadband access which is needed as visitors expect to have access and it is an added safety asset.	H
W2.	Many of the small community centers are old and do not have any internal infrastructure (routers, switches) or access to broadband. As many students have Chromebooks which are mostly dependent on wireless need internet to be functional.	H
W3.	Parks are areas where kids go after school and have Chromebooks issued by schools and need Wi-Fi to be functional.	H
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	22 parks have lightning detectors which are connected to Parks web pages. Increasing the number of these detectors would help safety for those inside or coming to parks.	
O2.		
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.		
C2.		
C3.		
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Solar Powered benches for charging devices and providing wifi would be a nice fit for the parks.	
2.		
3.		
4.		



# SWOC Analysis – Public Safety



<b>SWOC Analysis</b>		
<b>Department:</b> Public Safety IT		
<b>Stakeholders:</b> Paul Filla		
		<b>(High/Medium/Low)</b>
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.		
S2.		
S3.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	If cellular towers go down Wi-Fi capabilities need to communicate properly to address disaster activities.	H
W2.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Could we build Public Safety 'grade' (ie – hurricane resilient) Towers and have Carriers put their panels on them to help with costs. County-owned towers would eliminate existing lease fees (Lehigh Acres tower saw 366% increase in lease fees; Alva 299% increase) for radio equipment and could also provide revenue from carriers needing space. Lehigh Acres tower lease costs \$1.2 million for 15 years; Alva nearly \$1.5 million for 15 years.	H
O2.	If we had these Public Safety Towers and had the Carrier's presence on them; if the Towers go down, then we can start up the Cell Towers so that people can call 911, etc. via Wi-Fi from those towers. With cellular carrier collocated at key locations, County can expedite/prioritize resources (fuel, repairs, network) to these locations for radio and cellular/911 services in the case of natural disaster. Fiber would be required to those towers.	H
O3.	Towers connected to broadband access and carries could fill a gap while the wired options are being built out. Towers will also provide access to areas/residences not currently constructed that can be reached by wireless technologies.	M
O4.	New radio system used by Public Safety, radios can be configured via Wi-Fi. An ambulance can pull up to a Library, a Park, locations and use Wi-Fi to configure a radio – when needed.	M
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Lehigh Acres is a focus for Public Safety. This is an area with significant poverty and a larger area of unserved.	H
C2.	Several County owned towers are not structurally sound and need to be replaced.	H
C3.	The cost of leasing tower space for the radio system on commercially available towers is expensive so adding wireless solution on leased tower less appealing.	
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.		

# SWOC Analysis – Utilities



<b>SWOC Analysis</b>		
<b>Department:</b> Utilities		
<b>Stakeholders:</b> Sean Gosling, Brendan Buckley		
<b>(High/Medium/Low)</b>		
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.	Lumen service has been adequate. Not disruptive, very responsive to issues.	H
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Lumen is the sole fiber provider and will cover any new sites.	H
W2.	There currently is no redundancy from a fiber perspective.	H
W3.	The Green Meadows Reverse Osmosis (RO) location does not have adequate broadband speed.	
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Pulling Surveillance Video system could use a higher broadband speed.	M
O2.	700 Pumping Stations use Verizon Wireless for coverage. Fiber would be helpful for the Lift Stations.	
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.		
C2.		
C3.		
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Water Reclaim Plant and the Water Plant located in North Fort Myers and Lehigh Acres could be considered for Anchor Institution and qualify for broadband funding as they move from FGUA to Lee County Utilities purview.	M
2.		
3.		
4.		

# SWOC Analysis – Visitor & Convention Bureau



<b>SWOC Analysis</b>		
<b>Department:</b> Visitor & Convention Bureau		
<b>Stakeholders:</b> Tam Pigott		
		<b>(High/Medium/Low)</b>
<b>Strengths</b>		<b>Importance (H/M/L)</b>
S1.		
S2.		
S3.		
S4.		
<b>Weaknesses</b>		<b>Importance (H/M/L)</b>
W1.	Outer Islands have poor cell service (Sanibel and Captiva)	L
W2.		
W3.		
W4.		
W5.		
<b>Opportunities</b>		<b>Importance (H/M/L)</b>
O1.	Work with Hotels on these islands to see how we might collaborate on making a case for better service (economic development)	L
O2.	Wi-Fi for Preserved Lands w/Facilities co-located	M
O3.		
O4.		
O5.		
<b>Challenges</b>		<b>Importance (H/M/L)</b>
C1.	Rural parks having access to WI-Fi	M
C2.	Work from home and visitors needing to connect to work is becoming more common and requires more bandwidth.	M
C3.		
C4.		
<b>Potential Programs Moving Forward</b>		<b>Importance (H/M/L)</b>
1.	Beach Parking functions that show how many parking spots are still open for the beach. This would reduce congestion.	
2.	Solar Powered Benches with Lee County Branding	H
3.		
4.		

# Appendix D – Grant Fund Matrix

Broadband Services Grant Fund Information									
Grant Name	Description	Source	Total \$ Available	Matching?	Matching %	Grant Submitter	Key Submittal Information	Comments	August 2, 2022
Broadband Opportunity Program (BOP)	Funding for infrastructure improvements to areas unserved by Broadband (<25 Mbps Download and <3 Mbps Upload speeds).	State	\$ 400,000,000	Yes	50%	Internet Service Provider to State	The timeframe for the Service Provider to submit the Grant Application is expected in the 4th quarter of 2022.	<ul style="list-style-type: none"> <li>- This grant fund requires a 50% match.</li> <li>- A single project may not be awarded a grant in excess of \$5 million.</li> <li>- Comcast has presented a plan that would match up to \$5 million of grant funds for a total of \$10 million in funds to build out a portion of the unserved Lehigh Acres Zone.</li> <li>- Lumen / Centurylink and Summit have expressed interest in pursuing other unserved areas but have not presented a plan yet.</li> <li>- Lee County will be asked by the provider for a letter of support and a prioritized list of areas to build out. The prioritized list will need to go to the Board for approval.</li> </ul>	
Capital Projects Fund (CPF)	<ul style="list-style-type: none"> <li>- Funding may be used for broadband infrastructure deployment projects, multi-purpose community facility projects and for digital connectivity technology projects.</li> <li>- All projects must enable work, education and health monitoring.</li> </ul>								
NTIA's Broadband, Equity, Access and Deployment Fund (BEAD)	<ul style="list-style-type: none"> <li>- Funds for digital connectivity technology projects may be used for the purchase and / or installation of devices and equipment to facilitate broadband. Permitted devices and equipment include laptops, tablets, desktops and equipment installed as part of public Wi-Fi infrastructure.</li> <li>- Funds for multi-purpose projects may be used to construct or improve buildings that are designed to jointly and directly enable work, education and health monitoring.</li> </ul>	Federal through the State	\$ 366,036,869	No	N/A	State submits to Federal and Lee County submits to State	<ul style="list-style-type: none"> <li>- The deadline for the State to submit its Grant Plan is September 24, 2022.</li> <li>- Rules for Lee County's Grant Application to the State?</li> <li>- The anticipated timeframe for Lee County to submit a Grant Application is in the next 4 - 7 months.</li> </ul>	<ul style="list-style-type: none"> <li>- \$366,036,869 has been allocated to Florida.</li> <li>- the State will need to apply to the Feds for their allocation. To date, 8 States have been awarded funds.</li> <li>- These funds are from the US Treasury's ARPA program.</li> <li>- States are the eligible entities to apply for the CPF and may award the funds to subrecipients (such as local governments).</li> <li>- No matching funds are required.</li> </ul>	
NTIA's Broadband, Equity, Access and Deployment Fund (BEAD)	<ul style="list-style-type: none"> <li>- These funds will have a number of components which will address broadband infrastructure and programs.</li> <li>- This funding will be available to address a Lee County Fiber Optic Network expansion that could include critical facilities for Libraries, Healthcare, Utilities, Transportation and Public Safety.</li> </ul>	Federal through the State	\$ 100,000,000	All programs except Digital Equity (which will not require a match) will require a match between 20% and 30%.	20% - 30% (if a match is required)	Lee County submits to State. This program will receive additional funds of up to \$800 million in 2024.	The anticipated timeframe for Lee County to submit a Grant Application for the first phase is mid to late 2023.	<ul style="list-style-type: none"> <li>- Funds are from the Department of Commerce's National Telecommunications and Information Administration.</li> <li>- \$100,000,000 is in the first tranche of funds to the State; with up to \$1 billion more expected to be allocated to Florida over the next 24 months.</li> </ul>	
NTIA's Digital Equity Capacity Grant	Funding for broadband and digital connectivity programs that target disadvantaged citizens from groups such as Seniors, Veterans, Racial or Ethnic Minorities, Disabled and the incarcerated.	Federal through the State	\$1,440,000,000	No	N/A	Lee County submits to State after Federal Allocation to State	These programs kick off 1 year after the state submits its Digital Equity Plan. Expected in early to mid 2024.	<ul style="list-style-type: none"> <li>- The Federal Government has \$1.4B to allocate to the States.</li> <li>- Florida has been allocated \$2.4 million for planning this program and it is expected to be awarded in 2023. The state has 1 year to submit its plan and then administer grants within the following year.</li> </ul>	
NTIA's Digital Equity Competitive Grant	Funding for broadband and digital connectivity programs that target disadvantaged citizens from groups such as Seniors, Veterans, Racial or Ethnic Minorities, Disabled and the incarcerated.	Federal NTIA	\$1,250,000,000	No	N/A	Lee County submits to the NTIA	This program will begin 30 days after the Capacity grants start to be awarded. Likely to be submitted in 2025.	<ul style="list-style-type: none"> <li>- The Federal Government has \$1.25B to allocate to the States.</li> <li>- This program is direct to the NTIA and follows the same guidelines as the Capacity Grants.</li> </ul>	

# Appendix E – Resource Links

## **Florida Broadband Program**

Website DEO	<a href="https://www.floridajobs.org/office-of-broadband">Office of Broadband - FloridaJobs.org</a>
Planning Toolkit	<a href="https://www.floridajobs.org/broadband-planning-toolkit_finalc59932a4cbbb61cbb02aff01004f56df.pdf">broadband-planning-toolkit_finalc59932a4cbbb61cbb02aff01004f56df.pdf (floridajobs.org)</a>
Presentation	<a href="https://www.floridajobs.org/powerpoint-presentation">PowerPoint Presentation (floridajobs.org)</a>
Broadband Plan	<a href="https://floridajobs.org/community-planning-and-development/broadband/office-of-broadband">https://floridajobs.org/community-planning-and-development/broadband/office-of-broadband</a>
Speed Map	<a href="https://www.expressooptimizer.net/speedtestmap">speedtestmap (expressoptimizer.net)</a>
REACH ACT	<a href="https://www.careersourceflorida.com/reach-act">CareerSource Florida REACH Act</a>
REACH at a Glance	<a href="https://www.careersourceflorida.com/reach-act-at-a-glance">REACH Act At-a-Glance (careersourceflorida.com)</a>

## **Fed Funding**

Treasury Capital Projects Fund (CPF)	<a href="https://www.treasury.gov/capital-projects-fund">Capital Projects Fund   U.S. Department of the Treasury</a>
CPF Fact Sheet	<a href="https://www.treasury.gov/fact-sheet-grant-agreements-announcement">Fact-Sheet-Grant-Agreements-Announcement.pdf (treasury.gov)</a>
NTIA BEAD	<a href="https://www.ntia.gov/broadband-equity-access-and-deployment-bead-program">Broadband Equity, Access, and Deployment (BEAD) Program   BroadbandUSA (ntia.gov)</a>
BEAD Fact Sheet	<a href="https://www.ntia.gov/microsoft-powerpoint-state-local-2-pager-final-01-27-2022">Microsoft PowerPoint - State Local 2-Pager Final 01.27.2022 (doc.gov)</a>
NTIA Digital Equity (DE)	<a href="https://www.ntia.gov/digital-equity-programs">Digital Equity Programs   BroadbandUSA (ntia.gov)</a>
DE Fact Sheet	<a href="https://www.internetforall.gov/de-info-sheet-ifa-launch-final">DE Info Sheet - IFA Launch- Final.pdf (internetforall.gov)</a>

## **Broadband Overview**

Types of Broadband	<a href="https://www.fcc.gov/types-of-broadband-connections">Types of Broadband Connections   Federal Communications Commission (fcc.gov)</a>
Broadband Resources	<a href="https://www.broadbandusa.gov/broadband-resources-for-state-and-local-governments">Broadband Resources for State and Local Governments   BroadbandUSA (doc.gov)</a>
Internet Speeds and Capabilities	<a href="https://www.highspeedinternet.com/resources/the-consumers-guide-to-internet-speed">https://www.highspeedinternet.com/resources/the-consumers-guide-to-internet-speed</a>

## **Digital Equity & Inclusion**

National Digital Inclusion Alliance	<a href="https://www.nationaldigitalinclusionalliance.org">Home - National Digital Inclusion Alliance</a>
Digital Equity and Inclusion Overview	<a href="https://www.broadbandusa.gov/digital-inclusion">Digital Inclusion   BroadbandUSA (doc.gov)</a>
Digital Equity Funding	<a href="https://www.nationaldigitalinclusionalliance.org/digital-inclusion-funding">Digital Inclusion Funding in the Infrastructure Investment &amp; Jobs Act - National Digital Inclusion Alliance</a>
Digital Training and Jobs	<a href="https://www.connectednation.org/digital-training-and-job-placement">Digital Training and Job Placement   Connected Nation</a>
Digital Equity and Inclusion Overview	<a href="https://www.connectednation.org/digital-inclusion">Digital Inclusion   Connected Nation</a>

## **Telehealth**

AARP Telehealth Overview	<a href="https://www.aarp.org/telehealth-resources-for-seniors-during-coronavirus">Telehealth Resources for Seniors During Coronavirus (aarp.org)</a>
Telehealth and Broadband	<a href="https://www.connectednation.org/telehealth">Telehealth   Connected Nation</a>
Telehealth Legal Update	<a href="https://www.healthcarelawtoday.com/congress-extends-telehealth-flexibilities-7-things-you-need-to-know">Congress Extends Telehealth Flexibilities: 7 Things You Need to Know   Blogs   Health Care Law Today   Foley &amp;</a>

## **ACP**

Details on ACP	<a href="https://www.broadbandnow.org/understanding-the-affordable-connectivity-program">Understanding the Affordable Connectivity Program - BroadbandNow</a>
Affordable Connectivity Program (ACP)	<a href="https://www.affordableconnectivity.gov">Home - ACP - Universal Service Administrative Company (affordableconnectivity.gov)</a>

## **Map**

National Map	<a href="https://www.fcc.gov/fixed-broadband-deployment-data">Home   Fixed Broadband Deployment Data   Federal Communications Commission (fcc.gov)</a>
Florida Speed Map	<a href="https://www.expressooptimizer.net/speedtestmap">speedtestmap (expressoptimizer.net)</a>

# Appendix F – Glossary and Key Terms (from the State’s Broadband Plan)

## Glossary

**2021 Act:** See the Glossary entry for Florida Broadband Deployment Act of 2021.

**Adoption:** The subscription of consumers — residents or businesses — to high-speed Internet service.

**Anchor institutions or community anchor institutions:** Industrial, commercial and office park worksites, schools, libraries, medical and health care points of access, housing providers, public safety entities, institutes of higher education, and other community support organizations that provide outreach, access, equipment, and support services to facilitate greater use of broadband Internet service by the entire population and local governments.

**Availability:** Whether or not an internet connection point exists and in what manner. A precondition for connecting to the Internet, but the availability of a connection alone does not guarantee Internet use, nor sufficiency of the internet available.

**Broadband:** High-speed Internet access.

**Broadband Internet service (sometimes referred to as “broadband service”):** A service that offers a connection to the Internet with a capacity for transmission at a consistent speed of at least 25 megabits per second downstream and 3 megabits per second upstream. (§ 288.9961(2)(a), Fla. Stat. and § 288.9963(2)(b), Fla. Stat.).

**Broadband speeds:** Speeds expressed with two numbers separated by a diagonal line “/” and a designation of the amount of data, such as “100/20 Mbps.” The first number represents the amount of data users receive (download), and the second number represents the amount of data users can send (upload).

**Mbps:** Megabits per second refers to millions of bits of binary information—zeros and ones—that are passed in a second.

**Gbps:** Gigabits per second refers to the number of bits in billions.

**Crowdsourcing:** The online collection of data. In this document, specifically Internet speed data.

**Digital divide:** The gap between people who have access to broadband services, have adopted it, and know how to use digital content (digital literacy) and those who do not.

**Digital equity:** The condition in which individuals and communities have the information technology capacity needed for full participation in the society and economy of the United States (Infrastructure Investment and Jobs Act, Title III, Digital Equity Act of 2021).

**Digital literacy:** The ability to use a variety of broadband Internet-enabled devices to engage in online services. One formal definition is “[t]he ability to leverage current technologies, such as smartphones and laptops, and Internet access to perform research, create content and interact with the world” (NTIA, 2016, p. 5).

**Download:** To copy (data) from one computer system to another, typically over the Internet.

**Florida Broadband Deployment Act of 2021 “2021 Act”:** Ch. 24, 2021 Fla. Laws, codified at §§ 288.9961-288.9963, Fla. Stat.

**Funding Opportunity Announcement:** A document used by federal agencies to announce the availability of grant funds to the public.

**Gbps:** Gigabits per second refers to the number of bits in billions.

**Grant:** The funding provided by the federal, state, or local government. Grant agreements take different forms, including partial project funding (i.e., requiring a match), and are contracts between the granting entity and the grantee.

**Last Mile:** The final leg of a network that provides service to the home, business, or community institution.

**Local Technology Planning Team:** Local teams built and facilitated by the Office of Broadband and composed of members representing cross-sections of the communities in which they are formed. Local Technology Planning Teams (LTPTs) work with rural communities to help them understand their current broadband Internet availability, locate unserved and underserved businesses and residents, identify assets relevant to broadband Internet deployment, build partnerships with broadband Internet service providers, and identify opportunities to leverage assets and reduce barriers to the deployment of broadband Internet service in the community. LTPTs must be proactive in fiscally constrained counties in identifying and providing assistance with applying for federal grants for broadband Internet service.

**Middle Mile:** The middle mile is the physical mid-section of the infrastructure required to enable internet connectivity for homes, businesses, and community institutions. The middle mile is made up of high-capacity fiber lines that carry large amounts of data at high speeds over long distances between local networks and global internet networks.

**Mbps:** Megabits per second refers to millions of bits of binary information — zeros and ones — that are passed in a second.

**Notice of Funding Availability:** Also referred to as a Notice of Funding Opportunity (NOFO), is the document used by federal agencies to announce the availability of grant funds to the public.

**Office of Broadband:** The Florida Office of Broadband established within the Division of Community Development in the Department of Economic Opportunity in 2020. (§ 288.9961(4), Fla. Stat.).

**Premises Passed:** the number of end user locations, residential homes or otherwise, passed when installing fiber technology.

**Request for Quotes:** An oral, electronic, or written request for written pricing or services information from a state term contract vendor for commodities or contractual services available on a state term contract from that vendor. (§ 287.012(24), Fla. Stat.).

**Request for Proposal (RFP):** A written or electronically posted solicitation for competitive sealed proposals. (§ 287.012(23), Fla. Stat.).

**Sustainable adoption:** The ability for communications service providers to offer broadband Internet services in all areas of this state by encouraging adoption and use levels that allow for these services to be offered in the free market absent the need for governmental subsidy. (§ 288.9961(2)(e), Fla. Stat.).

**Underserved:** A geographic area of this state in which there is no provider of broadband Internet service that offers a connection to the Internet with a capacity for transmission at a consistent speed of at least 100 megabits per second downstream and at least 10 megabits per second upstream. (§ 288.9961(2)(f), Fla. Stat.).

**Unserved:** 1. A geographic area of Florida in which there is no provider of broadband Internet service. (§ 288.9961(2)(g), Fla. Stat.); or 2. In the context of Attachment of Broadband Facilities to municipal electric poles, no retail access to the Internet at speeds of at least 10 megabits per second for downloading and 1 megabit per second for uploading. (§ 288.9963(e), Fla. Stat.).

**Upload:** To transfer (data) from one computer to another, typically over to one that is larger or remote from the user or functioning as a server.

## **Acronyms and Abbreviations (from the State’s Broadband Plan)**

### **Acronyms and Abbreviations**

**ADSL** – Asymmetric Digital Subscriber Line

**BEAD** – Broadband Equity, Access, and Deployment

**BIP** – Broadband Initiatives Program

**BTOP** – Broadband Technology Opportunities Program

**CAF** – Connect America Fund

**CBRS** – Citizens Broadband Radio Service

**CLEC** – Competitive Local Exchange Carriers

**CPF** – Capital Projects Fund

**CTC** – Community Technology Centers

**DBO** – Design-Build-Own

**DEO** – Department of Economic Opportunity

**DOCSIS** – Data Over Cable Service Interface Specifications

**DSL** – Digital Subscriber Line

**FCC** – Federal Communications Commission

**Gbps** – Gigabits per second

**HFC** – Hybrid Fiber-Coax

**IJA** – Infrastructure Investment and Jobs Act

**IOU** – Investor-owned utility

**ISP** – Internet service provider

**LTPT** – Local Technology Planning Team



**Mbps** – Megabits per second

**NTIA** – National Telecommunications and Information Administration

**PCC** – Public Computer Centers

**PSC** – Florida Public Service Commission

**PURC** – Public Utility Research Center in the Warrington College of Business of the University of Florida

**RAO** – Rural Areas of Opportunity

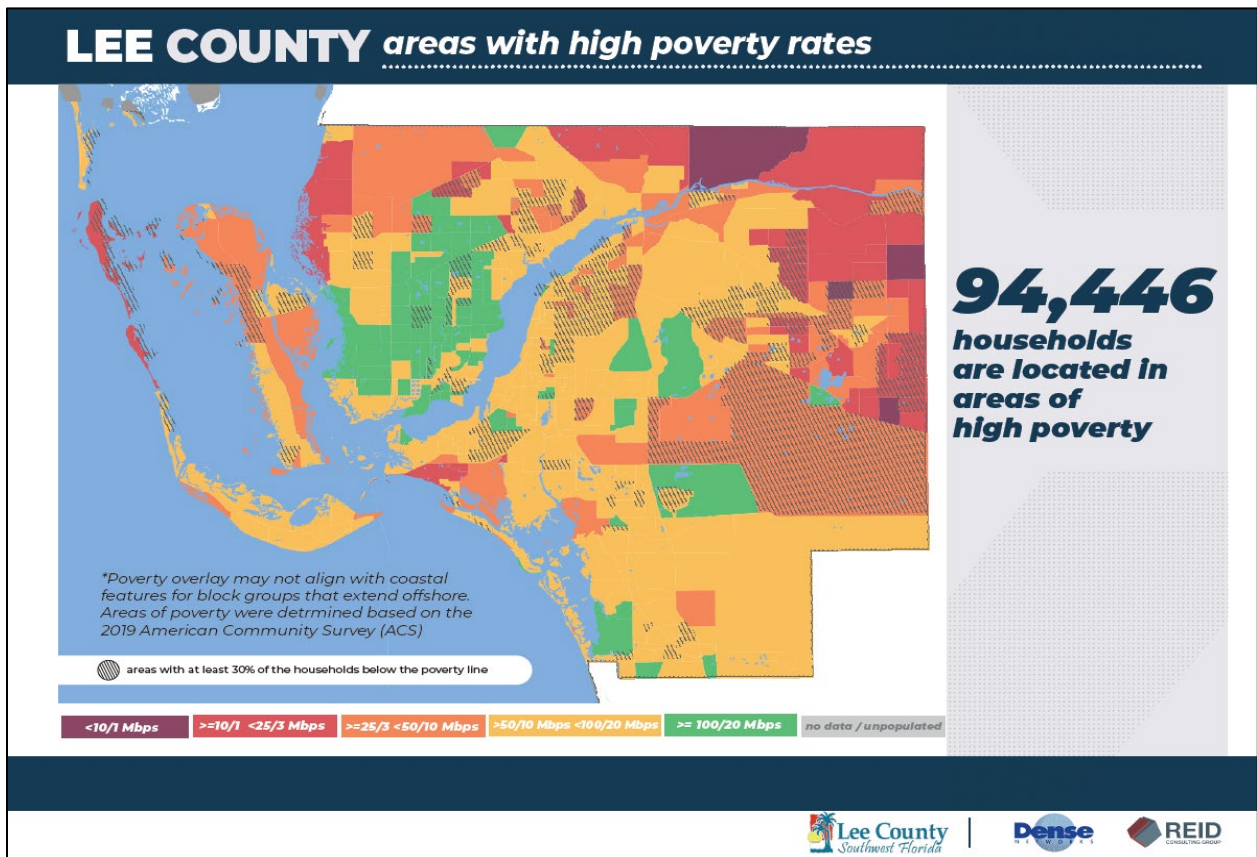
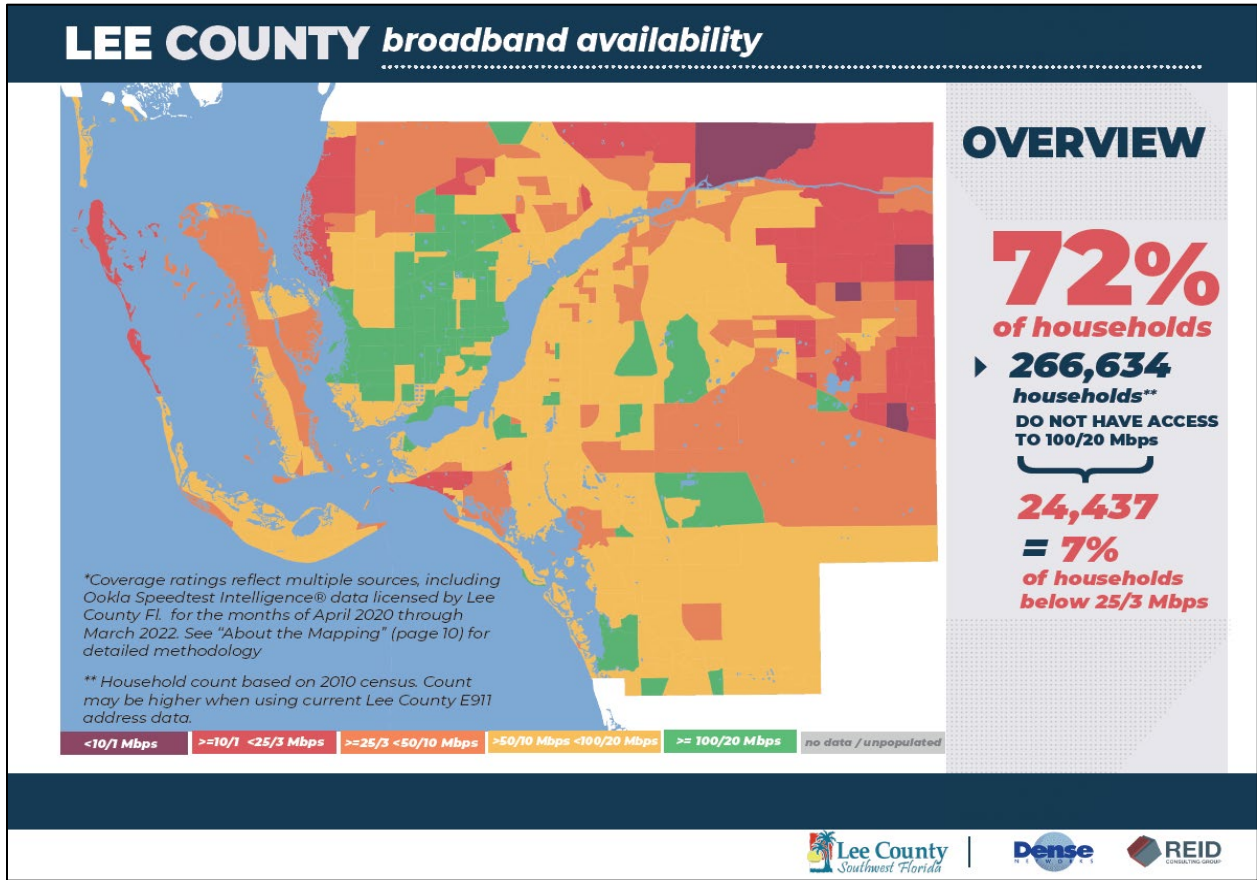
**RDOF** – Rural Digital Opportunity Fund

**REC** – Rural electric cooperative

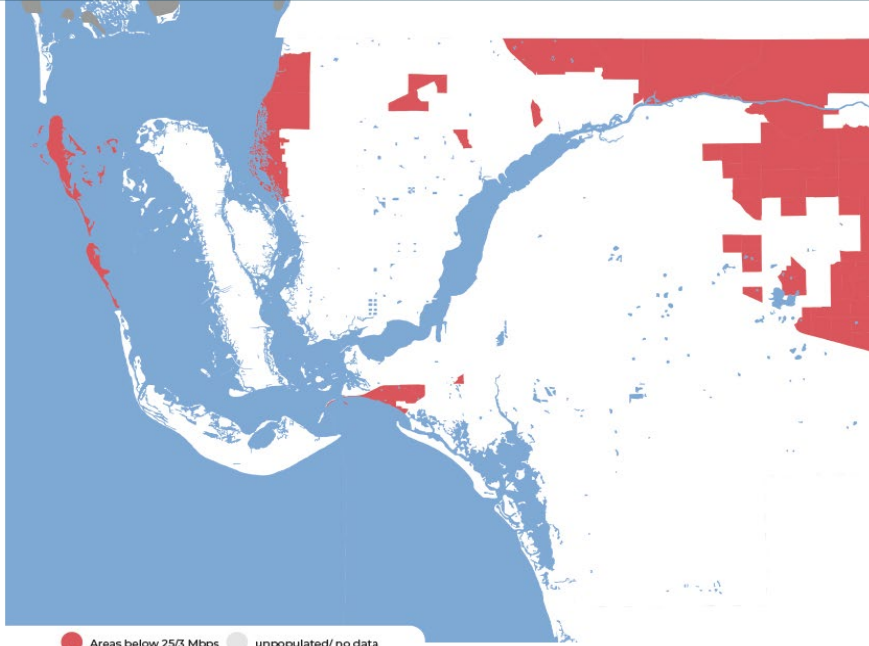
**RFP** – Request for Proposal

**WISP** – Wireless Internet Service Provider

# Appendix G – Broadband Mapping Package



## LEE COUNTY *federally unserved areas*

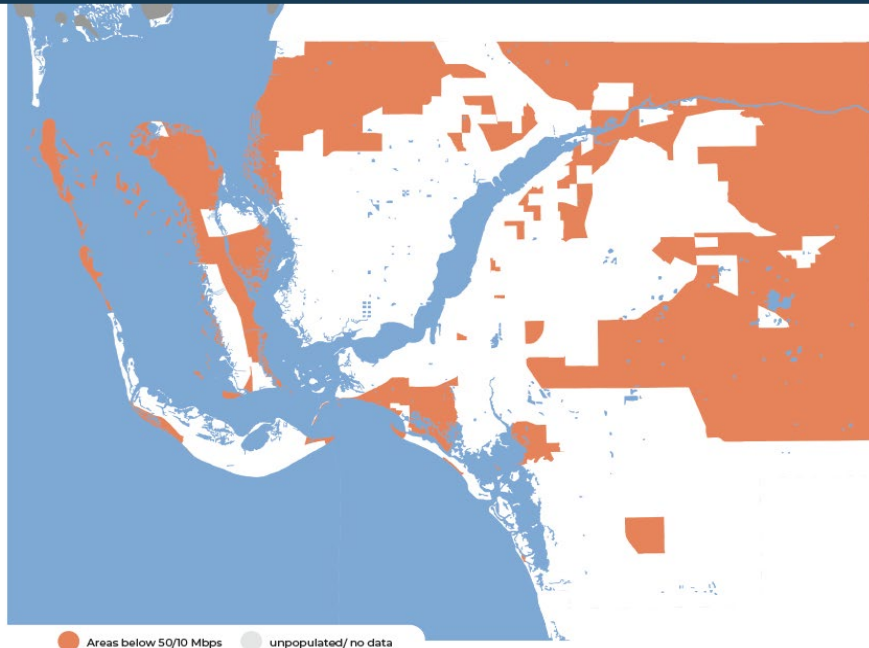


**24,437**  
households  
below 25/3 Mbps

**32% = 214 miles<sup>2</sup>** of the populated area is unserved



## LEE COUNTY *federally underserved areas*

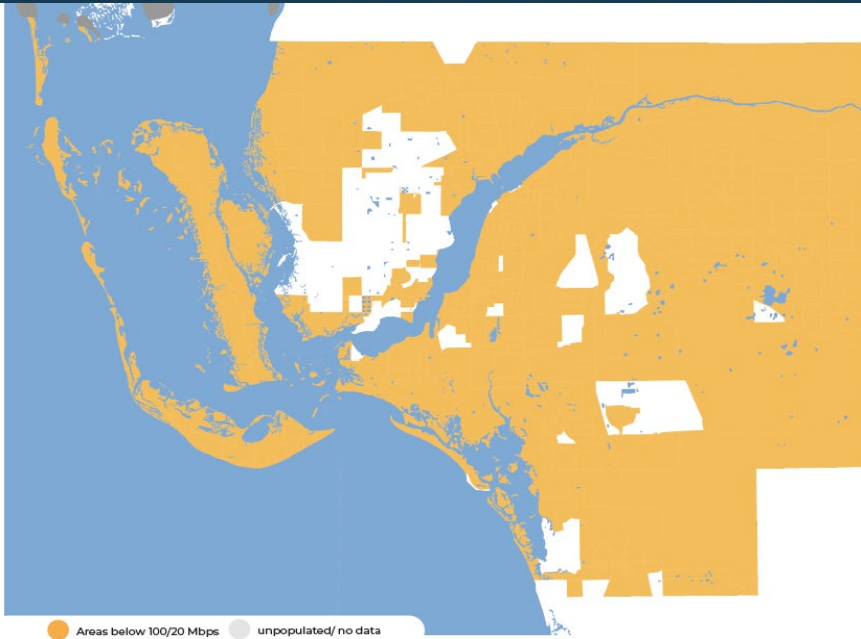


**89,808**  
households  
below 50/10 Mbps

**48% = 317 miles<sup>2</sup>** of the populated area is below 50/10 Mbps



# LEE COUNTY *federally underserved*

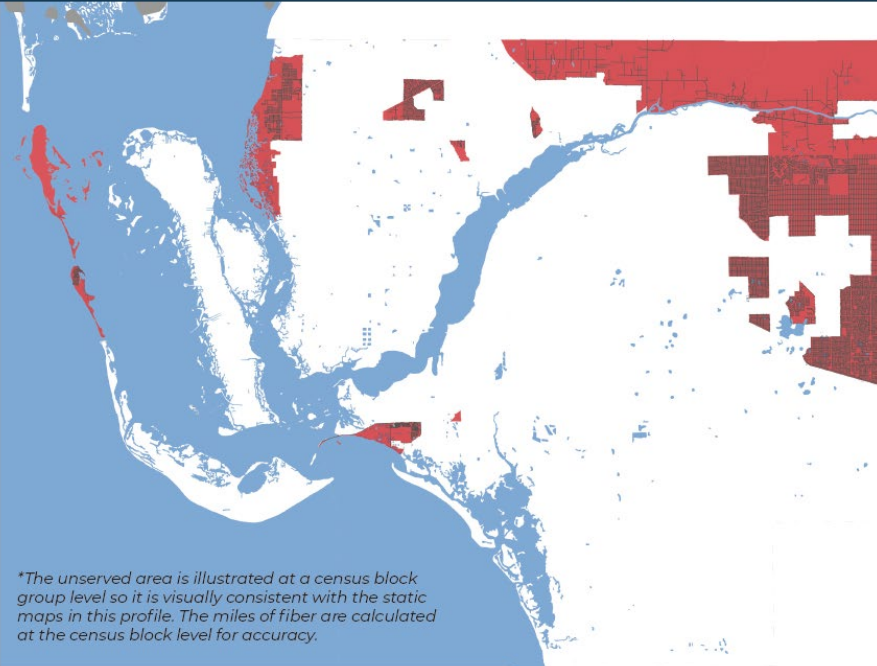


**266,634**  
households  
below 100/20 Mbps

**77% = 511 miles<sup>2</sup>** of the populated area is below 100/20 Mbps



# UNSERVED ROADS *below 25/3 Mbps*



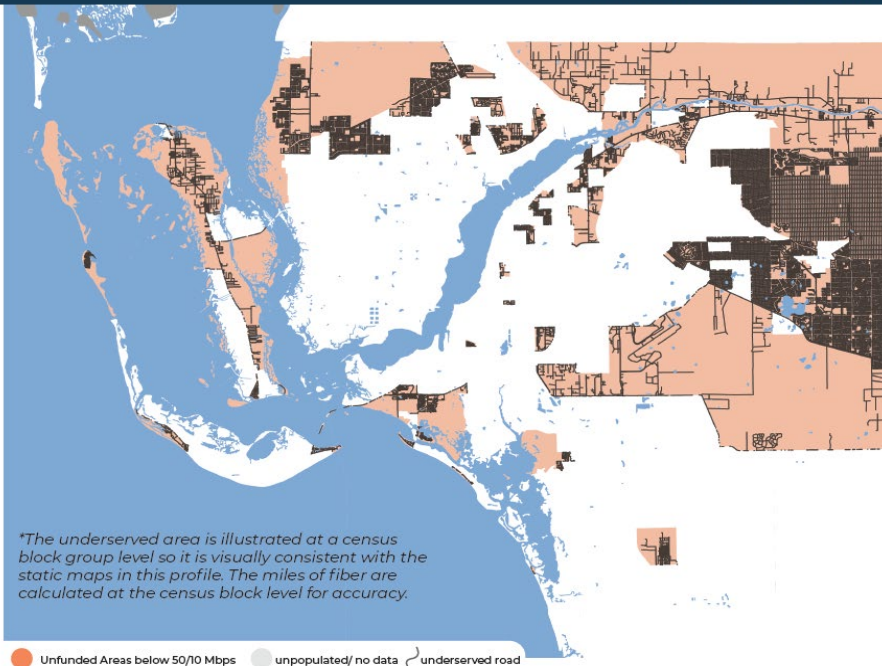
**788**  
miles of fiber  
to deploy  
fiber-to-the-home  
in areas below  
25/3 Mbps

*\*The unserved area is illustrated at a census block group level so it is visually consistent with the static maps in this profile. The miles of fiber are calculated at the census block level for accuracy.*

**24,437** households below 25/3 Mbps



## UNDERSERVED ROADS *below 50/10 Mbps*

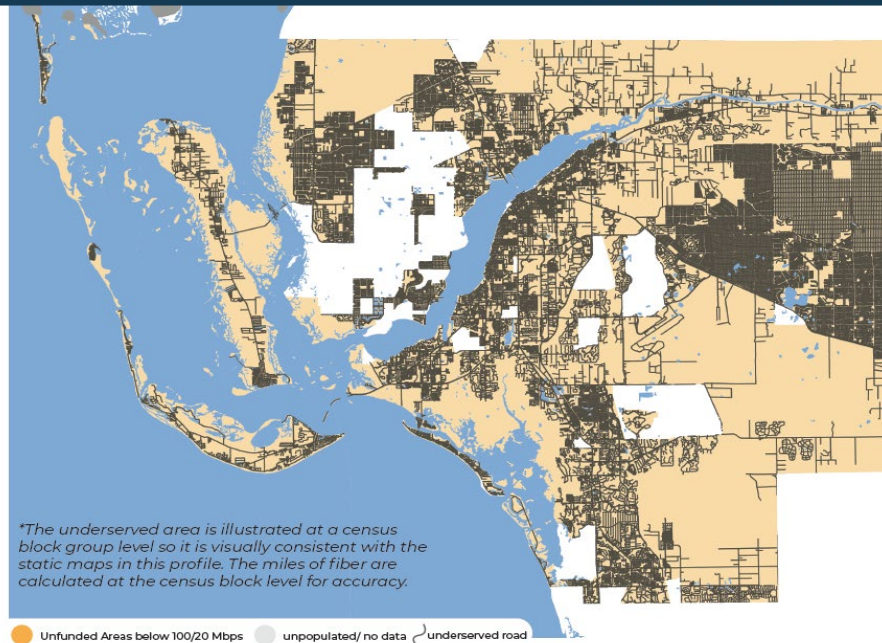


**1,742**  
miles of fiber  
to deploy  
fiber-to-the-home  
in areas below  
50/10 Mbps

**89,808** households below 50/10 Mbps



## UNDERSERVED ROADS *below 100/20 Mbps*



**3,833**  
miles of fiber  
to deploy  
fiber-to-the-home  
in areas below  
100/20 Mbps

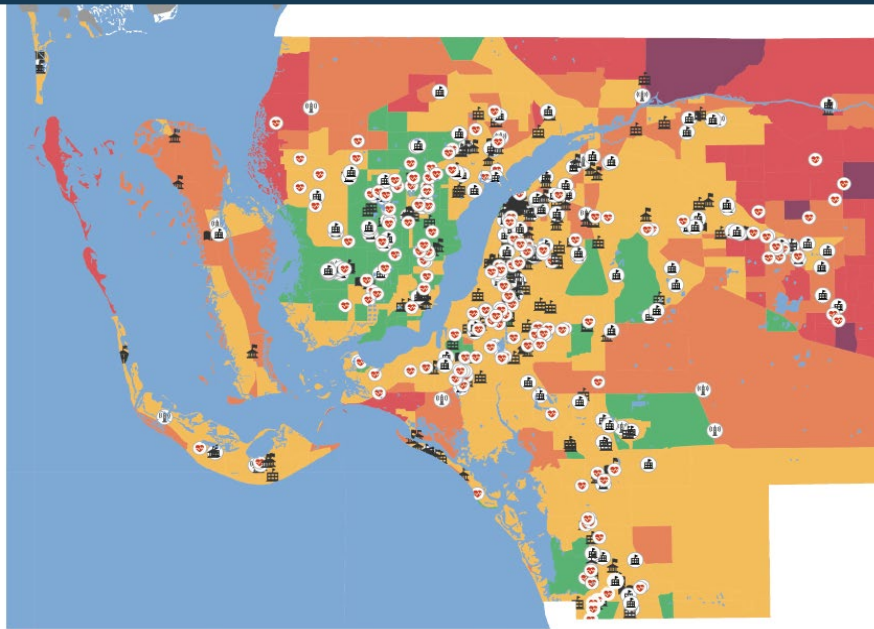
Many of the areas rated above 50/10 but below 100/20 are served by cable providers who offer greater than 100 Mbps download speeds but routinely fall short of the 20 Mbps upload threshold.

In areas where upload speed is the only problem, providers could deploy a "high-split" upgrade.

**266,634** households below 100/20 Mbps



# LEE COUNTY *critical facilities*



health care
 radio tower
 government building
 library
 school
 private school

<10/1 Mbps
>=10/1 <25/3 Mbps
>=25/3 <50/10 Mbps
>50/10 Mbps <100/20 Mbps
>= 100/20 Mbps
no data / unpopulated

**80%**  
*of critical facilities*  
**▶ 426 locations**  
**DO NOT HAVE ACCESS**  
**TO 100/20 Mbps**

*There are over 500 critical facilities in Lee County. Nearly 200 of them are healthcare facilities.*



# THE METHODOLOGY *breaking down the data*

## About the Mapping

This profile was created under contract by Reid Consulting Group, LLC. for Dense Networks and Lee County, Florida.

Broadband coverage maps are based on a rating system developed by Reid Consulting Group, LLC. Data sources include Ookla Speedtest Intelligence® data licensed by Lee County, Florida for the months of April 2020 through March 2022, carrier filings of available speeds with the FCC (Form 477), carrier reports of actual broadband deployments to USAC (HUBB), RDOF Phase 1 eligibility, and population density.

Unserved and underserved ratings are color coded at the census block group level:

<10/1 Mbps	Maroon: Less than 10/1 Mbps
>=10/1 <25/3 Mbps	Red: At least 10/1 Mbps and less than 25/3 Mbps
>=25/3 <50/10 Mbps	Orange: At least 25/3 Mbps less than 50/10 Mbps
>50/10 Mbps <100/20 Mbps	Yellow: At least 50/10 Mbps and less than 100/20 Mbps
>= 100/20 Mbps	Green: Above 100/20 Mbps defined as served
no data / unpopulated	Gray: Areas with no data/ speedtests submitted- unpopulated

We conducted analysis of the raw Ookla® data for the months of April 2020 through March 2022, applying the following filters:

### Filter

Include desktop, iOS, and Android app results\*

Exclude results with GPS precision of greater than 200 meters\*\*

Include only results from fixed broadband providers

*\*iOS and Android results were included only if the device was connected to wi-fi during the speed test.*

*\*\*To protect consumer privacy, Ookla® limits location precision to +/-100 meters. As a result, a single location may include multiple households and many individual tests.*

Using the Ookla® results we rated each location based on the average of up/down speeds for all tests at that location. We then graded census blocks based on the median up/down speed of all locations within each block. Block-by-block ratings were further refined based on RDOF eligibility, past HUBB deployments, and Form 477 data. For blocks with no Ookla test results, extrapolated ratings were assigned where possible via comparative analysis of population density, Form 477 coverage, HUBB data, and RDOF Phase 1 awards. Areas that could not be assigned an extrapolated rating are shown in gray on the map.

