Clinton County

COMPREHENSIVE STRATEGIC BROADBAND PLAN

IceMiller Whiteboard Lit Communities DLZ

Executive Summary

Clinton County issued a Request for Proposals (RFP) on August 18, 2021, seeking the services of a consultant or firm to conduct a countywide broadband feasibility study (the Study). According to the RFP, the purpose of the Feasibility Study is to develop short-term and long-term strategies for broadband expansion in Clinton County. Ice Miller Whiteboard, in partnership with Lit Communities and DLZ, was awarded the RFP and began work on the Study that follows in Fall 2021.

"Broadband" is currently defined by the Federal Communications Commission as speeds of 25 megabits per second for downloads (what a user pulls "down" from the internet) and 3 Mbps for uploads (what a user pushes "up" to the internet), but subjective experiences vary and demands for additional speeds continue to augment, especially with the onset of the COVID-19 pandemic. Affordability, both of available service and the devices that connect to the service, has long been a predominant reason why households that have broadband available do not subscribe. Stories of individuals traveling to and from public library facilities in order to apply electronically for jobs and of students doing online homework at fast food restaurants or sitting outside in the parking lots of major retailers in order to have access to high-speed connectivity were commonplace but became increasingly problematic with the onset of the pandemic when such institutions were temporarily or permanently forced to close their doors.

Over the years, broadband access has shifted from a luxury to a necessity, given its role in communication, business, education, health care, socialization, and service delivery. Every household and business needs options for robust, high-speed internet to operate and sustain.

However, we have already reached the tipping point in broadband where, if an area has not already seen service expansion, it is unlikely to do so in the near future due to lack of perceived economic return on investment for private providers.

There are two primary tactics to encourage broadband build-out in such areas in today's ecosystem:

1. Financially incentivize the build-out; or

2. Reduce build-out costs, such as through expedited permitting and access to rights-of-way and easements.

Throughout the development of this Study, several Internet Service Providers ("ISPs") expressed interest in expanding current broadband facilities within or bringing new broadband facilities to Clinton County, and none expressed challenges in working with County leadership. As a result, **financially incentivizing build-out in Clinton County is likely to better yield broadband expansion locally, as opposed to simply reducing build-out costs.**[1]

Additional feedback received during the Needs Assessment/ community engagement portion of the Study identified that **47% of respondents currently do not have broadband access.** Census tracts 9644, 9648, 9650, and 9651 demonstrated the greatest need service. Of those in Clinton County with broadband access, respondents were almost evenly split between satisfied and dissatisfied with broadband service speed and reliability; however, 64% were dissatisfied with price. **One opportunity to reduce price is to enhance local provider competition.** In fact, 95% of respondents indicated that they are willing to sign up for better service, if available. This included nearly all respondents who responded as currently satisfied with speed, reliability, and pricing. **Stated simply, Clinton County residents would like additional broadband options.**

1 A major cost barrier to broadband expansion, particularly wired broadband, is the cost of excavating existing roadways or otherwise digging, boring, or trenching into the ground. In addition to the recommendations herein, recommend that Clinton County consider adopting a dig once policy encouraging conduit to be installed when public rights-of-way are excavated or otherwise opened. A dig-once policy is a commonsense method to reduce broadband deployment costs. However, installation should not be limited to infrastructure for use by broadband providers – Clinton County could also seek to have dedicated conduit installed in the right-of-way for its future broadband needs.

As a result of the above, we recommend:

Step 1:

The Clinton County GIS Department incorporate the Site Analysis information, and all maps provided in the development of this Study, into the existing Clinton County GIS platform for use by broadband providers. These materials have been provided to the County GIS Department.

Step 2:

The Clinton County Commissioners approach other jurisdictions within the county to determine availability and willingness to contribute American Rescue Plan ("ARP") allocations to broadband projects targeting their area. The complete list of ARP allocations is provided in the Grants section of the Study and totals $12,547,774.95 for Clinton County and all its jurisdictions.

Step 3:

Working with the County Prosecutor (and outside counsel as needed), we recommend that the Clinton County Commissioners issue a local procurement for last-mile expansion, aligning with procurements released in neighboring counties, Greene and Warren, for potential strategies and partnerships to expand affordable, high-speed broadband to priority census tracts in the county.

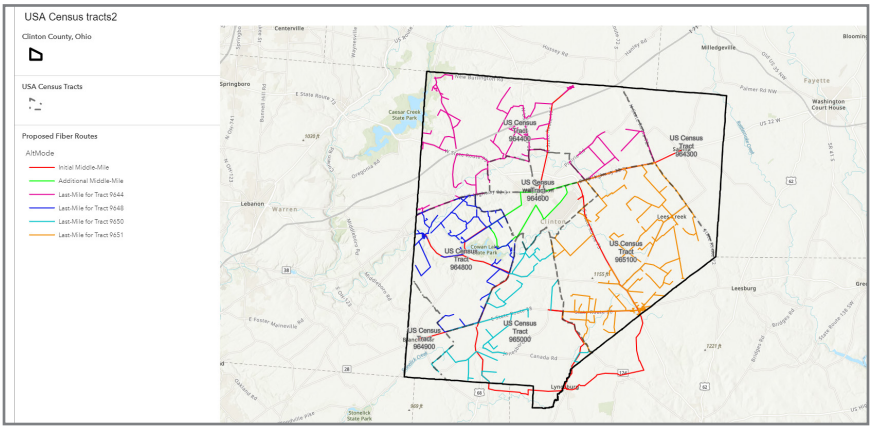
We recommend that the Clinton County Commissioners provide this opportunity to all ISPs that currently offer service within Clinton County or have shown interest in offering service in Clinton County, both wired and wireless,[2] to see which will provide the best option to do all the following:

1. Partner with Clinton County.
2. Build-out broadband at speeds of 100 Mbps download/ 10 Mbps upload, or greater, and scalable to 100 Mbps download/ 100 Mbps upload (i.e., "symmetrical service") in order to comply and align with federal programs, at the most cost-effective construction rate.
3. Provide such service to the greatest number of Clinton County residents, businesses, and community anchor organizations, prioritizing census tracts as identified below.
4. Provide such service at an affordable price to Clinton County residents.
5. Utilize the greatest amount of existing infrastructure within Clinton County - the Site Analysis portion of this Study identifies a variety of assets that may be utilized to better facilitate broadband network construction and operation.

The full list of providers and a summary of their presence in Clinton County is provided in the Partners section of the Study.

We recommend that build-out be targeted to Clinton County census tracts in the following order, with the first four being highest priority, as further provided in the Project Identification section:

1. **Census Tract 9648**
2. **Census Tract 9651**
3. **Census Tract 9650**
4. **Census Tract 9644**
5. Census Tract 9643
6. Census Tract 9649
7. Census Tract 9647
8. Census Tract 9645.01
9. Census Tract 9645.02
10. Census Tract 9646



2 Wireless using unlicensed spectrum can be overbuilt with fiber through the Infrastructure Investment and Jobs Act ("IIJA").

Step 4:

Apply for IIJA Middle Mile funds for middle mile ring construction in partnership with neighboring counties, particularly Greene and Warren, which have previously issued broadband procurements. Expanded last-mile service, fiber or otherwise, will ultimately need to connect into a backhaul/ middle mile network and enhancing such backbone access in Clinton County could encourage future build-out by the partners identified in this Study under IIJA programs, and reduce their costs to do so. We recommend that the local ITC, MVECA, be included in any such broadband partnership.

In developing the recommendations, we considered the following, among others:

- How accessible is broadband by speed and technology type currently? Is current broadband access meeting local needs of residents, businesses, and community groups?
- How many broadband options/ providers are available to end-users in Clinton County?
- What assets already exist that could support additional fixed and wireless broadband expansion and provider choice in Clinton County?
- Of those with access, what are the subscription rates in Clinton County and how do these change among different demographic groups and income levels?

The findings throughout this Study in many ways aligned with what we would expect: those areas with lower population density experience lower broadband availability, and lack of choice/ competition among broadband providers further impacts broadband availability and affordability.

You will often hear the study team say that broadband is not Field of Dreams: it isn't a circumstance of "if you build it, they will come." However, it is a circumstance where, if you don't, build it they will likely leave. Implementing the recommendations in this Study will set a new vision for Clinton County. A vision where connectivity and services are readily available to all who need it, creating new opportunities for community advancement, and economic development, health care, and education and ensuring long-term vitality and growth for Clinton County.

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PROJECT IDENTIFICATION

1 | Project Identification

In this section we identify potential middle-mile and last-mile projects to address the various broadband needs identified by area residents, businesses, and community organizations throughout the Study, and to meet the County's goal of ensuring that high-speed (ideally 100 Mbps download/ 10 Mbps upload, or greater)[1] broadband is available across the County.

In both instances, we recommend a County-led procurement process that allocates a portion of available local funding to the projects identified herein. In addition to its own funds, we recommend that Clinton County leadership revisit the American Rescue Plan allocations made to other units of government within the county, as provided in this Study, and engage with leaders in those jurisdictions to determine whether they would be willing to contribute funds to projects targeting their area.

1 100 Mbps download/ 10 Mbps upload was the desired speed tier identified by the County Commissioners. However, we recommend that all projects are scalable to 100 Mbps download/ 100 Mbps upload so as to align with recent federal broadband funding requirements.

1. MIDDLE-MILE FIBER RING CONSTRUCTION

Clinton County has a small fiber loop that connects the Courthouse, Administrative Building on Sugartree Street, Veterans Building, and County Prosecutor's Office that was installed and is managed by the Miami Valley Educational Computing Center (MVECA). There is also private fiber in the county; however, much of the existing fiber appears limited to commercial/ anchor institution purposes (although additional last-mile fiber expansion is planned/ underway).

Expanded last-mile service, fiber or otherwise, will ultimately need to connect into a backhaul/ middle mile network and enhancing such backbone access in Clinton County could encourage build-out by the Partners identified in this Study, and reduce their costs to do so. We therefore recommend that Clinton County devote financial resources to the construction of a middle mile ring network that connects community anchor institutions and facilitates last-mile service delivery. Such construction could be in the form of (1) the County leasing fiber capacity from existing Partners in the County; or (2) the County owning fiber capacity and partnering with one of more of the Partners identified in this Study through a public-private partnership (P3).

In the first instance, depending on the partner and if structured accordingly, the private entity could own the network and lease it back to the County. If anything were to happen to the private entity's operations, the network could be transferred to the County's ownership.

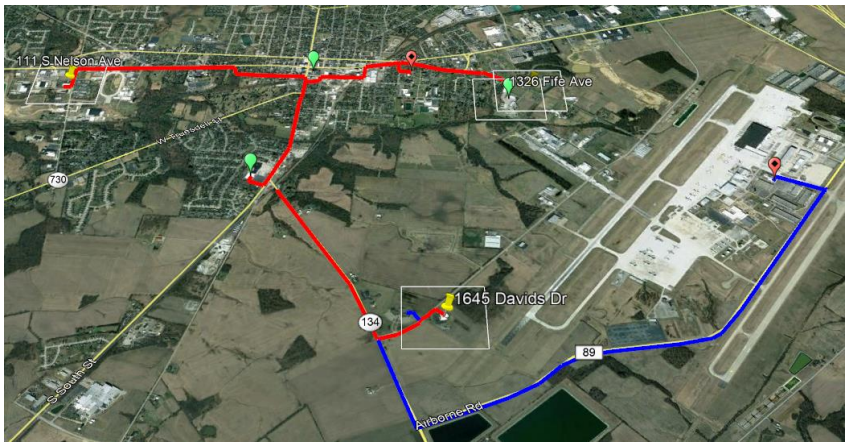
In the latter instance, Clinton County could utilize the Port Authority for publicly owned network components and the partner(s) could perform various factions within the design-build-operate-maintain spectrum. Clinton County could fund the middle mile infrastructure through American Rescue Plan funds and other tools identified in this study and use such network to connect the structures in the Site Analysis. By creating a middle mile network under its ownership, the County can ensure competition, monetize excess capacity, and proactively connect the municipalities in Clinton County.

We recommend that MVECA, be included in any such broadband partnership. MVECA is limited in how it can approach county-wide fiber, but their model (see case study below) could provide opportunity for all private providers to enhance their last-mile service. MVECA is currently the service provider for all but one school in Clinton County. Agreements could be put into place to provide MVECA with additional flexibility in serving local governments and they may be able to commit to private providers for connectivity to local government, schools, and more that may bolster private investment by those companies. In addition, as a nonprofit Information Technology Center (ITC), MVECA may have access to funding opportunities that may not otherwise be available, and the technical capabilities to build and operate a fiber network. If the County were to own the network, MVECA could even serve as the "anchor tenant."

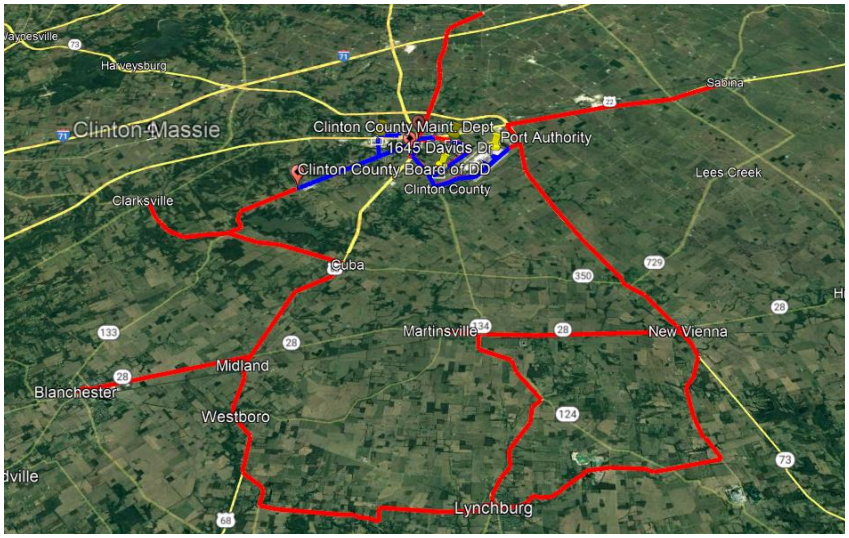
Case Study: In Ohio's Miami Valley, communities and private partners aligned to create Gigabyte Access for Technology and Education (GATEway) Fiber, serving eight communities in Southern Montgomery County. The goal of GATEWay Fiber is to bring a fiber optic network to individuals and businesses in the region. The Miami Valley Communications Council (MVCC), which is comprised of representatives from Southwestern Ohio towns like Centerville, Germantown, Kettering, Moraine, Oakwood, Springboro, and West Carrollton, joined forces with the regional ISP, Independents Fiber Network (IFN).[i] Together, MVCC and IFN have embarked on a $3 million project to install 44 miles of fiber optic network capable of providing businesses and communities in the Miami Valley with high-speed internet access. The MVCC provided the $1.4 million funding for Phase I of the project necessary to install 17 miles of new fiber and conduit. They completed Phase I in 2020. As of April 2021, the partnership had commenced Phase II to replace limited capability existing fiber. IFN reportedly provided $1.8 million in private capital to fund Phase II.[ii] In January 2020, the MVCC was notified they were the recipient of a Smart 50 Award recognizing innovative smart city projects due to their GATEway Fiber Project. The Smart 50 Awards honor the 50 most transformative smart projects each year.

We learned throughout the development of this Study that multiple entities had previously proposed middle mile network construction in Clinton County.

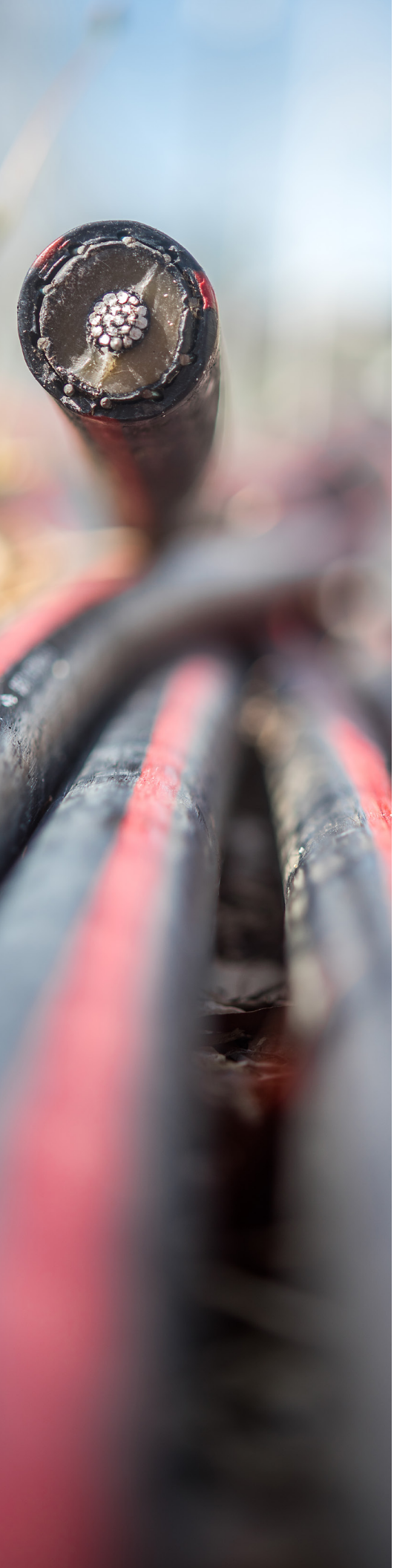
An example of such proposed expansion from MVECA is provided below. Expanding this middle mile design by 18.73 miles would enable it to connect all sites identified in the Site Analysis.



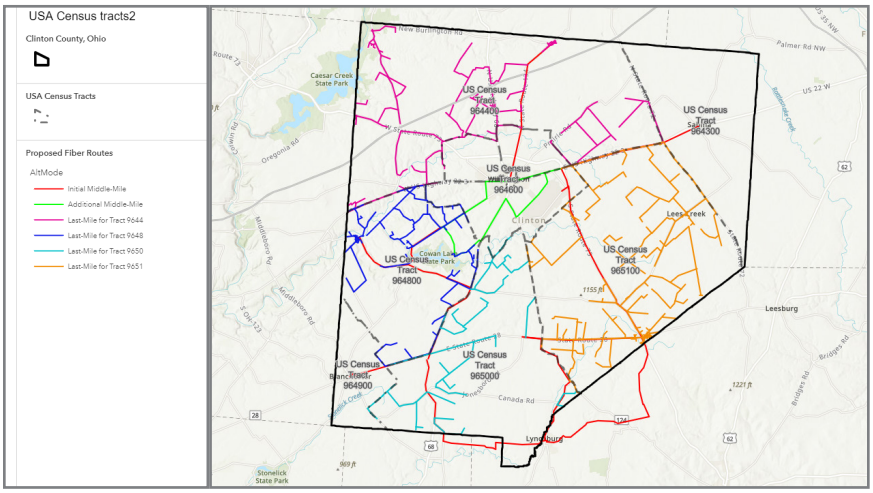
^ Map: Fiber routes



^ Map: Clinton map 1 proposed



An additional middle mile map is below, as well as last mile routes that will be further discussed later in this section.



We estimate the above middle mile route would cost $12,397,008. A financial model is provided in ***Appendix A.*** Funding for this middle mile fiber ring could be provided through ARP funds, as well as the upcoming Middle Mile funds through the IIJA.[2] Both of these programs are discussed further later in this study. The middle mile fiber network could then provide the backhaul network to facilitate last-mile deployments recommended in the section that follows.

2. LAST-MILE CONSTRUCTION PRIORITIES AND PROJECTS

Although middle mile build-out is needed in Clinton County, many constituents need connectivity now in order to work, educate, and receive healthcare treatment from home. The following section provides recommendations to connect folks now while Clinton County explores longer term backbone connectivity needs.

Historically, governments were forced to be reactive as opposed to proactive when it pertained to broadband build-out within their communities – they simply had to wait until the private provider built out. We have already reached the tipping point in broadband access in which, if a large carrier has not yet expanded service to an area, they are unlikely to do so due to a perceived inability to create a return on investment. As a result, and as reflected in the Service and Infrastructure section of the Study, service availability varies in Clinton County - those areas that are more populous show stronger service coverage than less dense, more rural areas of the region. This aligns with the broadband access experience across Ohio and the United States.

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2 Counties are also able to "pool" their ARP dollars for broadband expansion efforts. If of interest, we recommend that Clinton County approach its neighboring counties, particularly Greene and Warren Counties, which have previously released broadband procurements, to explore.

Two approaches that Clinton County can take to encourage local provider expansion and enhance competition among private entities in the shorter term include:

1. subsidizing costs through a procurement, grant/ loan funds, or financing; and/ or
2. reducing costs of build-out through expedited permitting, reduced processes, etc..[3]

As was experienced in the round of the Ohio Residential Broadband Expansion Grant program, Clinton County may be challenged to receive federal and state grant awards as compared to Appalachian areas of Ohio. As a result, to continue to address broadband access and adoption gaps, **we recommend that Clinton County oversee a local procurement process in order to solicit responses for potential strategies and partnerships to expand affordable, high-speed broadband in the County to its census tracts in the order of priority provided.**

Sample procurement processes that have been utilized in other Ohio communities. However, many of these are limited solely to fiber or solely to wireless. Although fiber is one of the more expensive solutions up front, it may be a proportionally lower cost solution in the long-run. Additionally, fiber networks are generally easier to operate and maintain and often require less troubleshooting than other connections. However, fixed wireless' use of airwave transmission alleviates the need for infrastructure- and maintenance-dependent phone or cable lines.

Further, unlike mobile broadband systems, which are limited by the capacity of the system and frequently institute a cap on usage or charge a high premium above a defined usage level, fixed wireless broadband is not as sensitive to capacity issues and monthly plans typically allow for unlimited usage. As a result, it is often a more affordable broadband service option.

We recommend that Clinton County open this opportunity to all area providers to see who will provide the best option to do all of the following:

1. Partner with Clinton County;
2. Build-out broadband service at speeds of 100 Mbps download/ 10 Mbps upload, or greater, at the lowest cost/ most cost-effective construction rate;
3. Provide such service to the greatest number of Clinton County residents, businesses and community anchor organizations, prioritizing census tracts as identified below;
4. Provide such service at an affordable price to Clinton County residents; and
5. Utilize the greatest amount of existing infrastructure within Clinton County.4

We further recommend that Clinton County prioritize build-out to the first four census tracts listed on the following pages.

3 A major cost barrier to broadband expansion, particularly wired broadband, is the cost of excavating existing roadways or otherwise digging, boring, or trenching into the ground. In addition to the recommendations herein, recommend that Clinton County consider adopting a dig once policy encouraging conduit to be installed when public rights-of-way are excavated or otherwise opened. A dig-once policy is a common sense method to reduce broadband deployment costs. However, installation should not be limited to infrastructure for use by broadband providers – Clinton County could also seek to have dedicated conduit installed in the right-of-way for its future broadband needs.

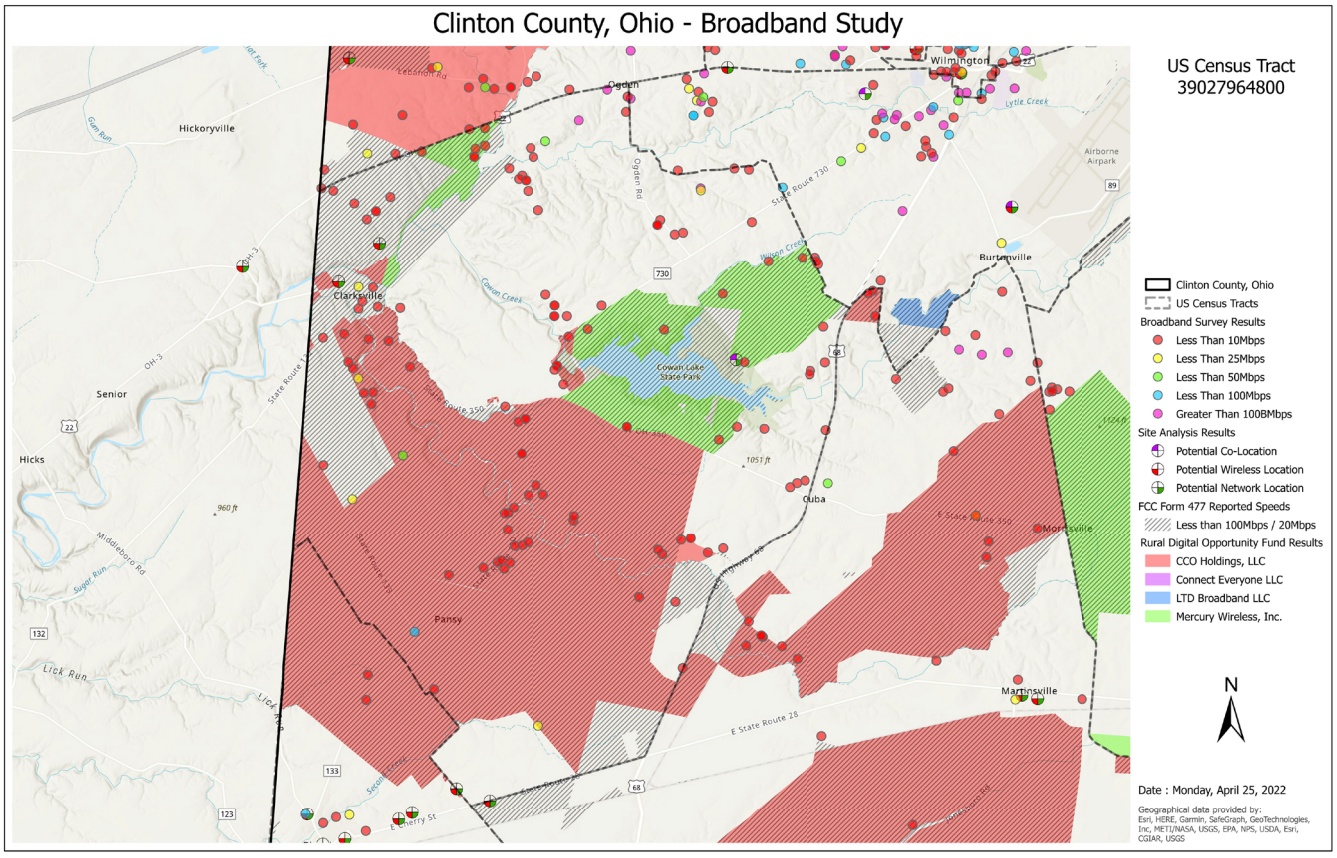
4 The Site Analysis portion of this Study identified a variety of assets that may be utilized to better facilitate broadband network construction and operation. We recommend that this information, and all maps provided in the development of this study, be incorporated into the existing Clinton County GIS platform for use by providers when they seek to expand within Clinton County.

CENSUS TRACT 9648

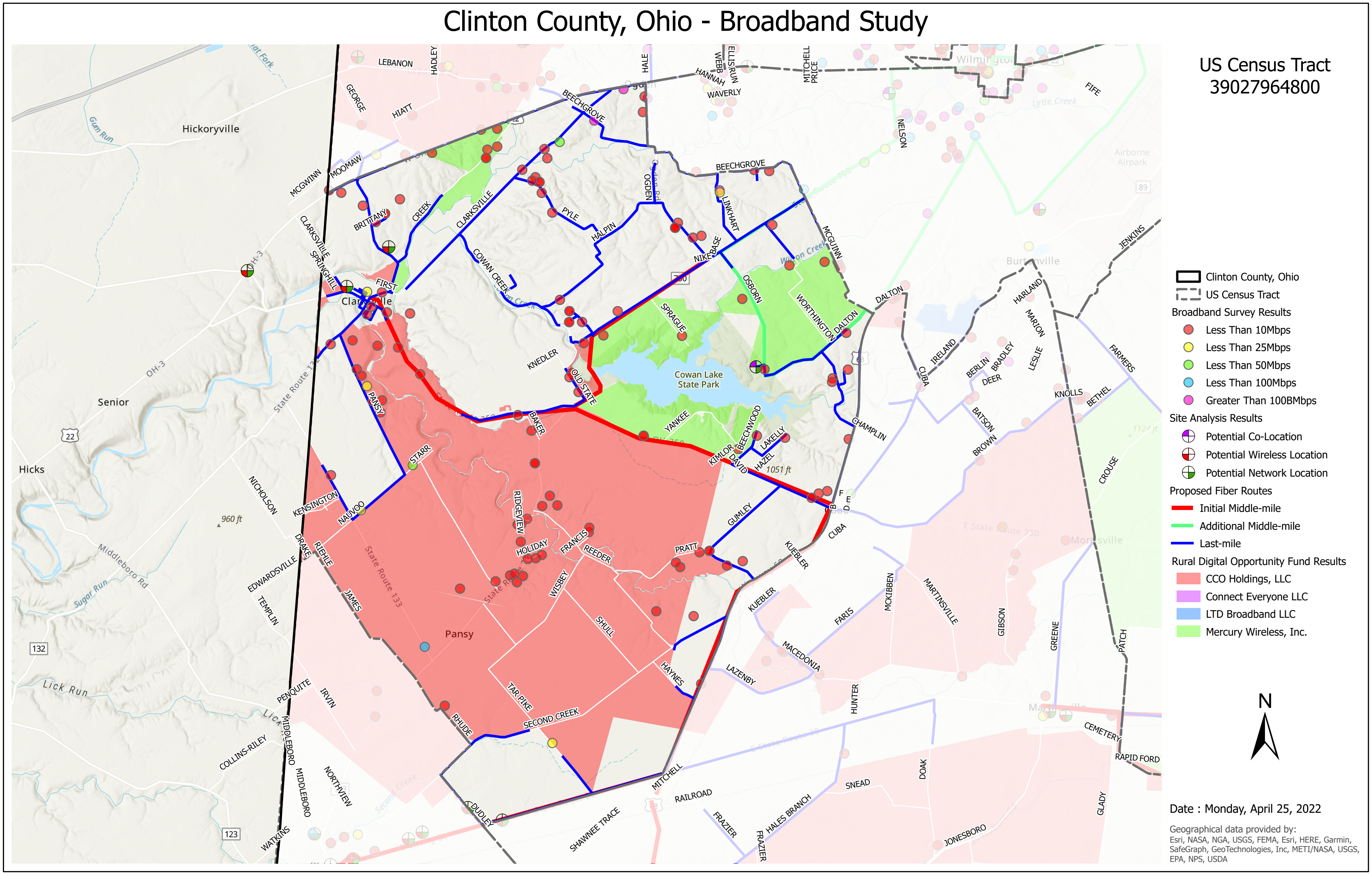
There is no depicted fiber presence currently within this census tract and much of the existing broadband infrastructure is legacy DSL connectivity providing less than a 10 Mbps download/ 1 Mbps upload connection.

Mercury Wireless's and Spectrum's builds under the RDOF program are projected to impact this census tract. However, other than potentially for Spectrum's build, which they have committed to complete within two years, we do not recommend slowing investment in this census tract due to Mercury Wireless's award.

We estimate a capital cost of $7,145,587.56 for the following potential fiber-to-the Premise (FTTP) build in this census tract, using county middle mile.[1]



1 The last mile financial models for the priority census tracts are attached as ***Appendix A*** (financial models). The final provider would need to run its cost projections as well.

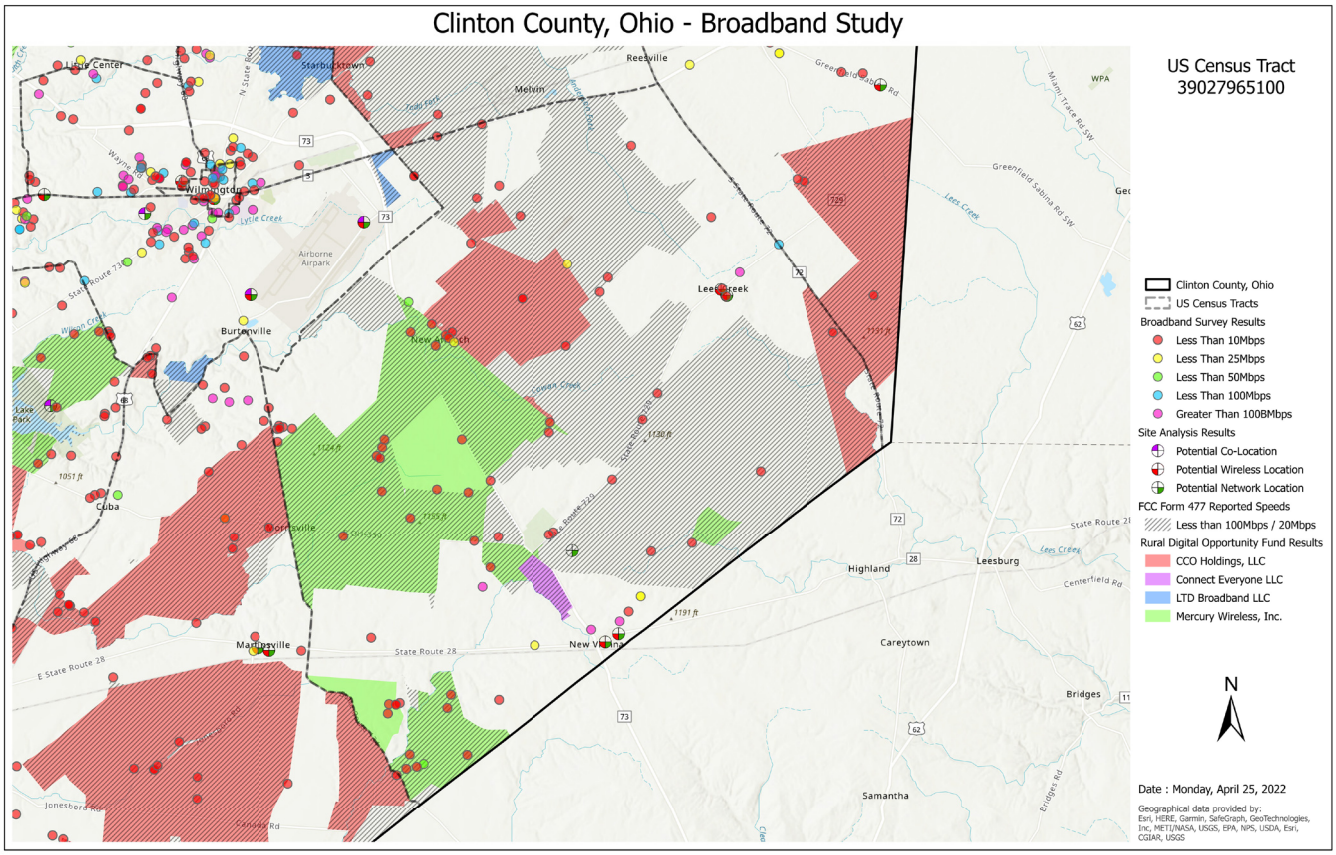

Clinton County, Ohio - Broadband Study
US Census Tract
39027964800
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Hickoryville
Senior
Hicks
Pansy
Cowan Lake State Park
Clarksville
Burtonville
Wilmington
Airborne Airpark
Martinsville
Morrisville
Lick Run
Sugar Run
Middleboro Rd
State Route 133
OH-3
960 ft
1051 ft
LEBANON
HADLEY
GEORGE
HIATT
MOOMAW
MCGWINN
BRITTANY
CREEK
CLARKSVILLE
BEECHGROVE
PYLE
HALPIN
OGDEN
LINKHART
NIKE BASE
OSBORN
WORTHINGTON
DALTON
MCGUINN
SPRAGUE
KNEDLER
OLD STATE
YANKEE
BEECHWOOD
LAKELLY
KIMLOR
DAVID
HAZEL
CHAMPLIN
COWAN CREEK
FIRST
SPRINGHILL
PANSY
BAKER
STARR
KENSINGTON
NAUVOO
RIDGEVIEW
HOLIDAY
FRANCIS
REEDER
PRATT
GUMLEY
KUEBLER
CUBA
WISBEY
SHULL
HAYNES
TAR PIKE
SECOND CREEK
RHUDE
JAMES
RIEHLE
DRAKE
NICHOLSON
EDWARDSVILLE
TEMPLIN
PENQUITE
IRVIN
COLLINS-RILEY
MIDDLEBORO
NORTHVIEW
WATKINS
DUDLEY
SHAWNEE TRACE
MITCHELL
RAILROAD
FRAZIER
HALES BRANCH
SNEAD
DOAK
JONESBORO
HUNTER
LAZENBY
MACEDONIA
FARIS
MCKIBBEN
MARTINSVILLE
GIBSON
GREENE
PATCH
CEMETERY
RAPID FORD
GLADY
CROUSE
BETHEL
KNOLLS
FARMERS
JENKINS
FIFE
HARLAND
MARION
LESLIE
BRADLEY
BERLIN
DEER
IRELAND
BATSON
BROWN
NELSON
HALE
WEBB
HANNAH
WAVERLY
ELLIS RUN
MITCHELL PRICE

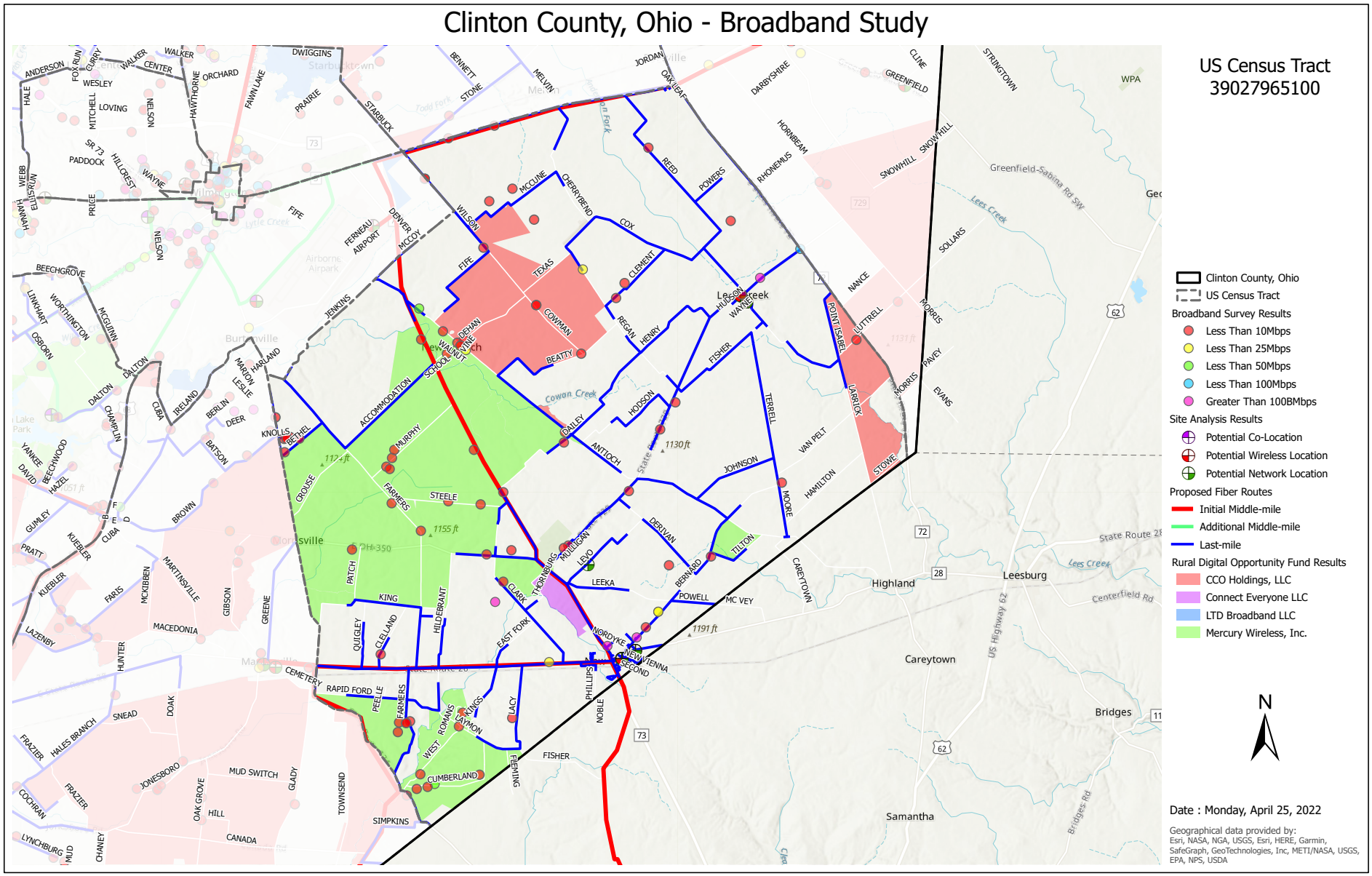
CENSUS TRACT 9651

This is one of two census tracts that contain much of Clinton County's agricultural presence. As detailed in the Technology and Trends section of the report, high-speed connectivity facilitates "smart" agriculture, enabling GPS soil mapping; seed and fertilizer counts; irrigation and grain-bin monitoring; and precision farming. As a result, broadband expansion to the tract is of key importance and, from a funding perspective, USDA grants may be contributable to the area.

Three providers' builds under the RDOF program will impact this census tract: LTD Broadband, Mercury Wireless, and Spectrum. However, other than potentially for Spectrum's build, which they have committed to complete within two years, we do not recommend slowing investment in this census tract due to Mercury Wireless's and LTD Broadband's awards.

We estimate a capital cost of $14,679,522.27 for the following potential fiber-to-the Premise (FTTP) build in this census tract, using county middle mile.




Clinton County, Ohio - Broadband Study
US Census Tract
39027965100
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
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Initial Middle-mile
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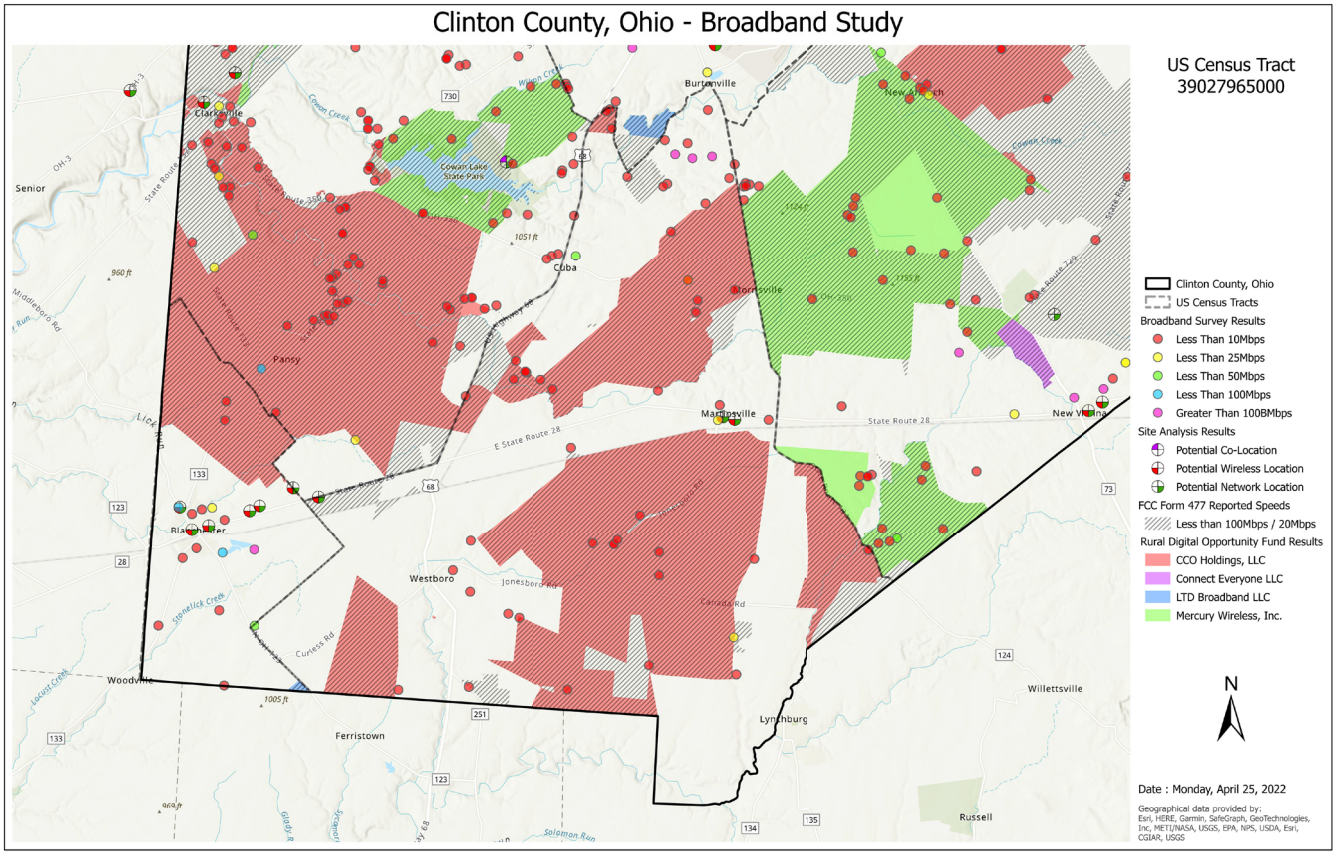
Highland
Leesburg
Careytown
Bridges
Samantha
Greenfield-Sabina Rd SW
Lees Creek
Centerfield Rd
US Highway 62
State Route 28

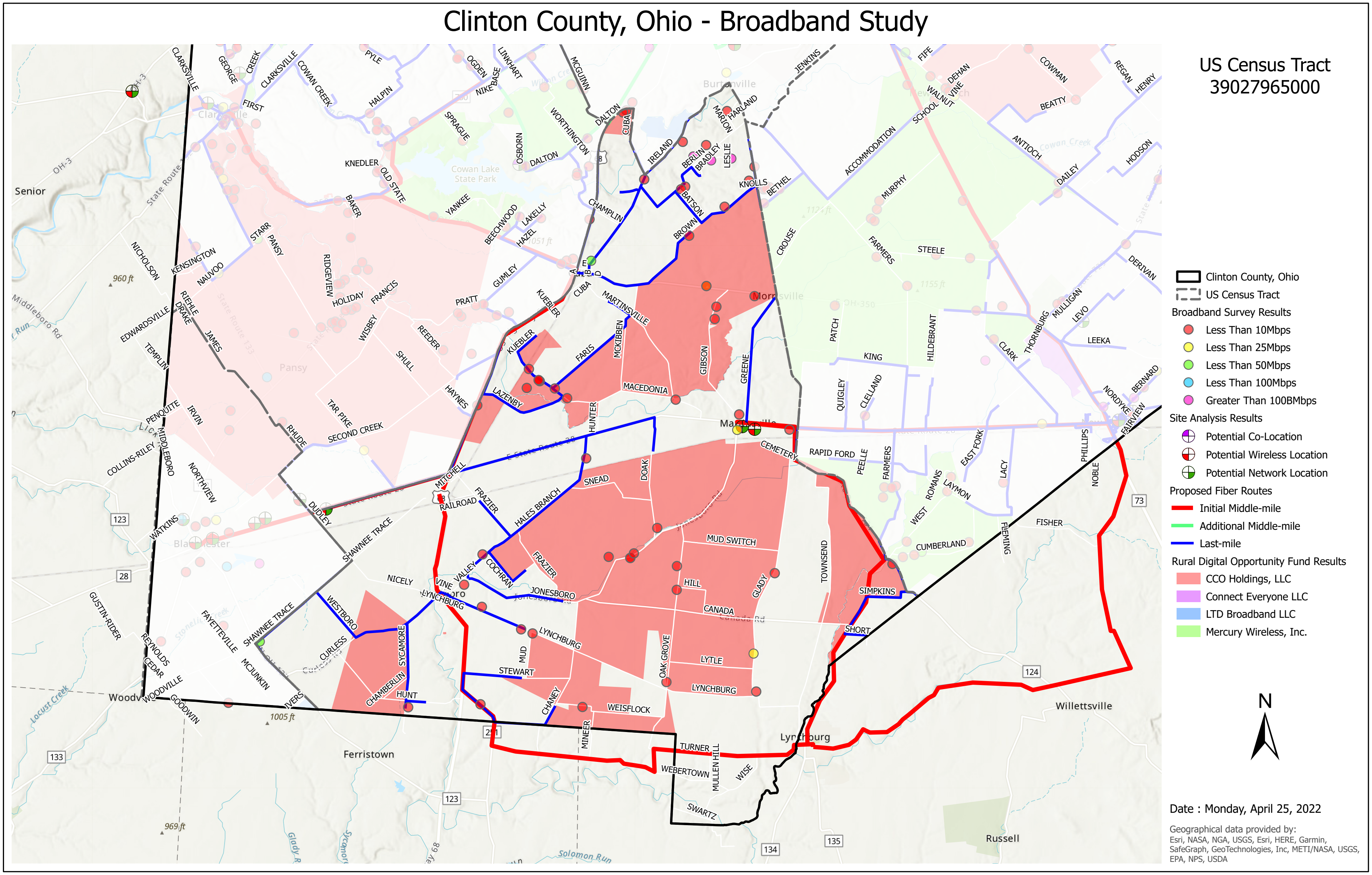
CENSUS TRACT 9650

This is the other of the two census tracts that contain much of Clinton County's agricultural presence. As detailed in the Technology and Trends section of the report, high-speed connectivity facilitates "smart" agriculture, enabling GPS soil mapping; seed and fertilizer counts; irrigation and grain-bin monitoring; and precision farming. As a result, broadband expansion to the tract is of key importance and, from a funding perspective, USDA grants may be contributable to the area.

From a fiber perspective, Spectrum's RDOF build will impact much of this census tract.

We estimate a capital cost of $6,097,050.26 for the following potential fiber-to-the Premise (FTTP) build in this census tract, using county middle mile.

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Mercury Wireless, Inc.
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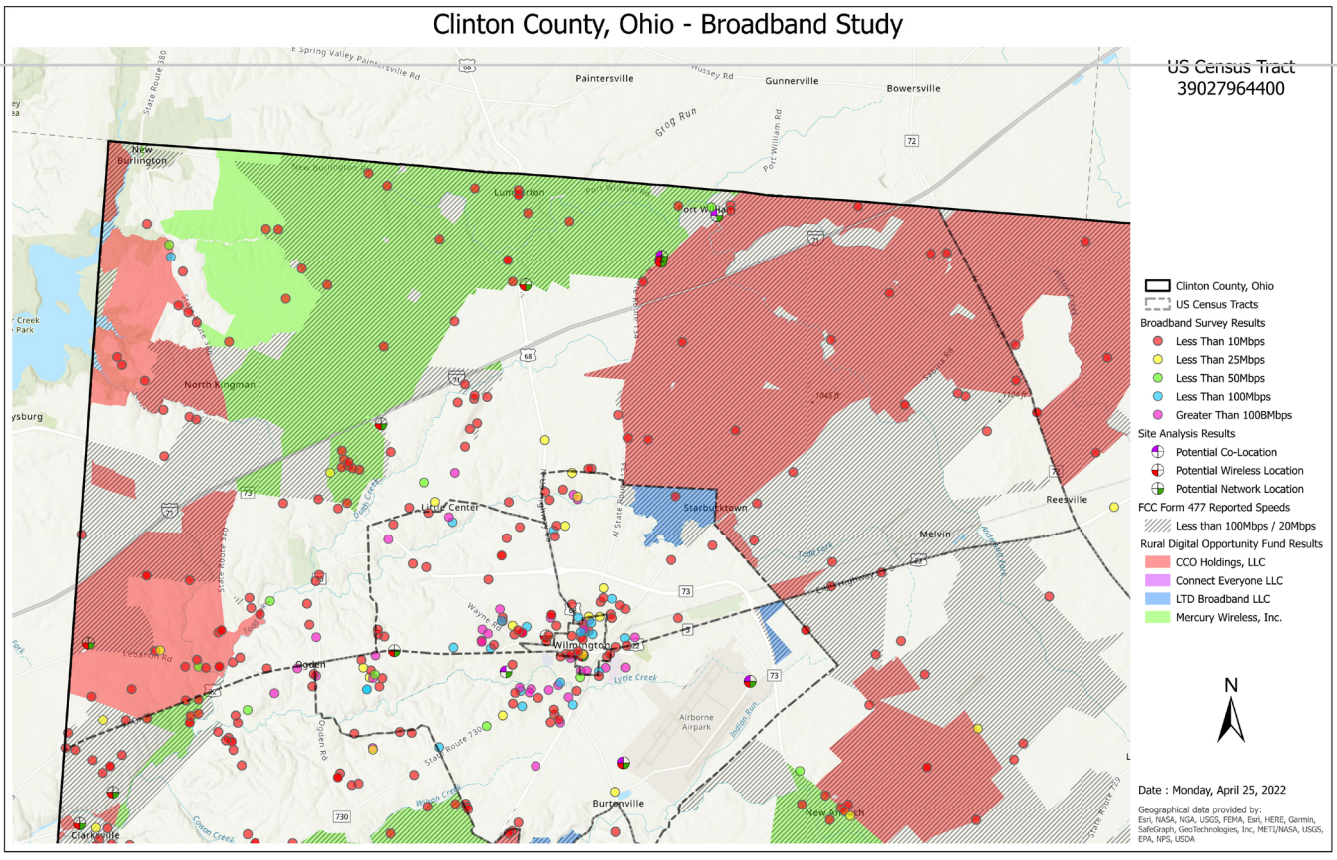
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Senior
Cowan Lake State Park
Pansy
Ferristown
Lynchburg
Willettsville
Russell
Burtonville

CENSUS TRACT 9644 [5]

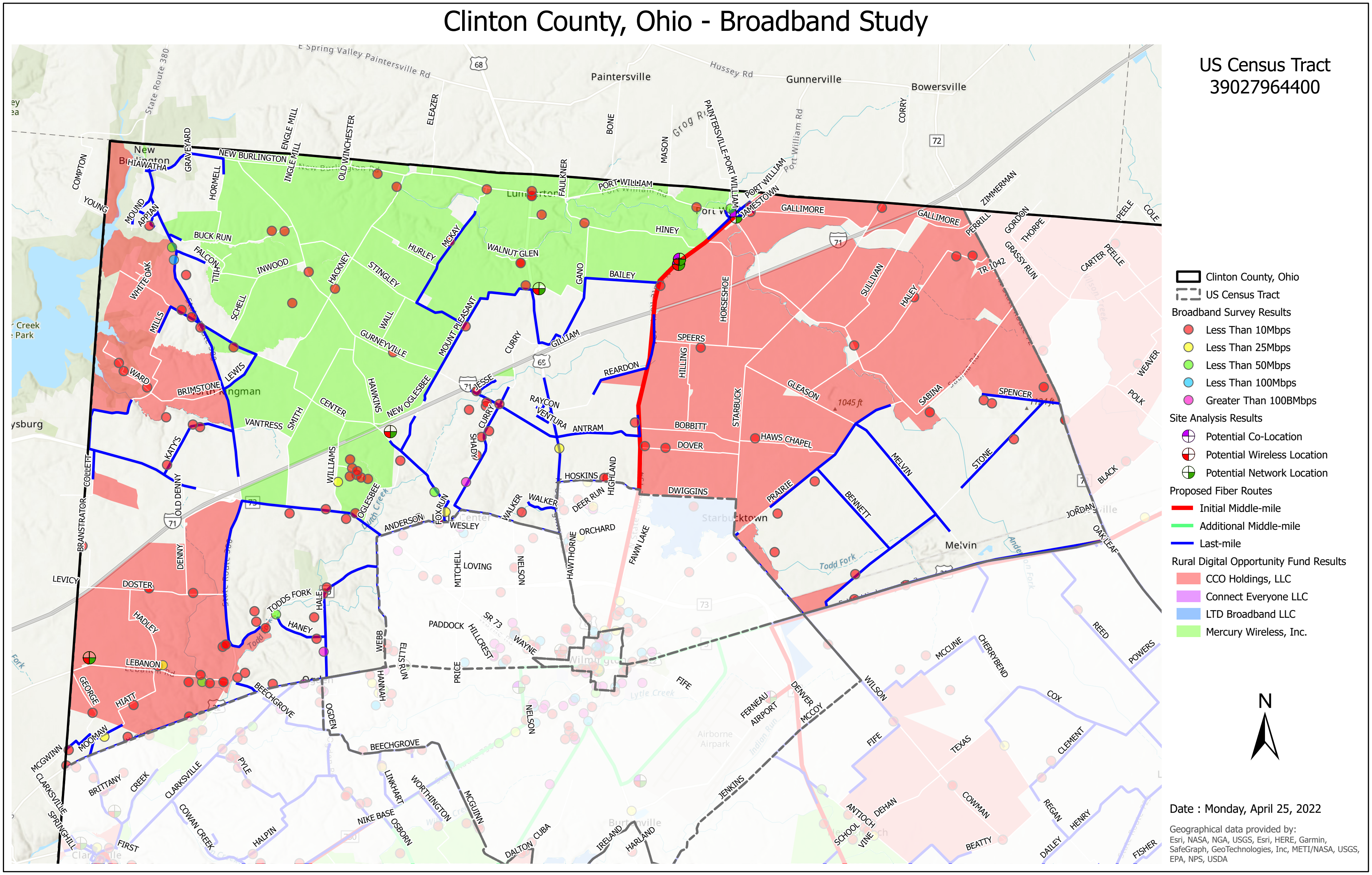
From a fiber perspective, both Bridgewired and Little Miami Gig are shown to have a fiber presence in this census tract. However, much of the existing broadband infrastructure is legacy DSL connectivity providing less than a 10 Mbps download/ 1 Mbps upload connection.

Mercury Wireless's and Spectrum's builds under the RDOF program will also impact this census tract. However, other than potentially for Spectrum's build, which they have committed to complete within two years, we do not recommend slowing investment in this census tract due to Mercury Wireless's award (which is the award targeted to residual areas of the census tract lacking even 10 Mbps download/ 1 Mbps upload service).

We estimate a capital cost of $10,912,554.92 for the following potential fiber-to-the Premise (FTTP) build in this census tract, using county middle mile.



5 Each of the census tracts with an asterisks have a higher INFA score than SE score. As a reminder, if a community has a higher INFA score than SE score, PCRD recommends that the community take steps to improve broadband infrastructure; if a community has a higher SE score than INFA score, PCRD recommends that the county take steps to improve increase digital literacy and exposure to the benefits of technology.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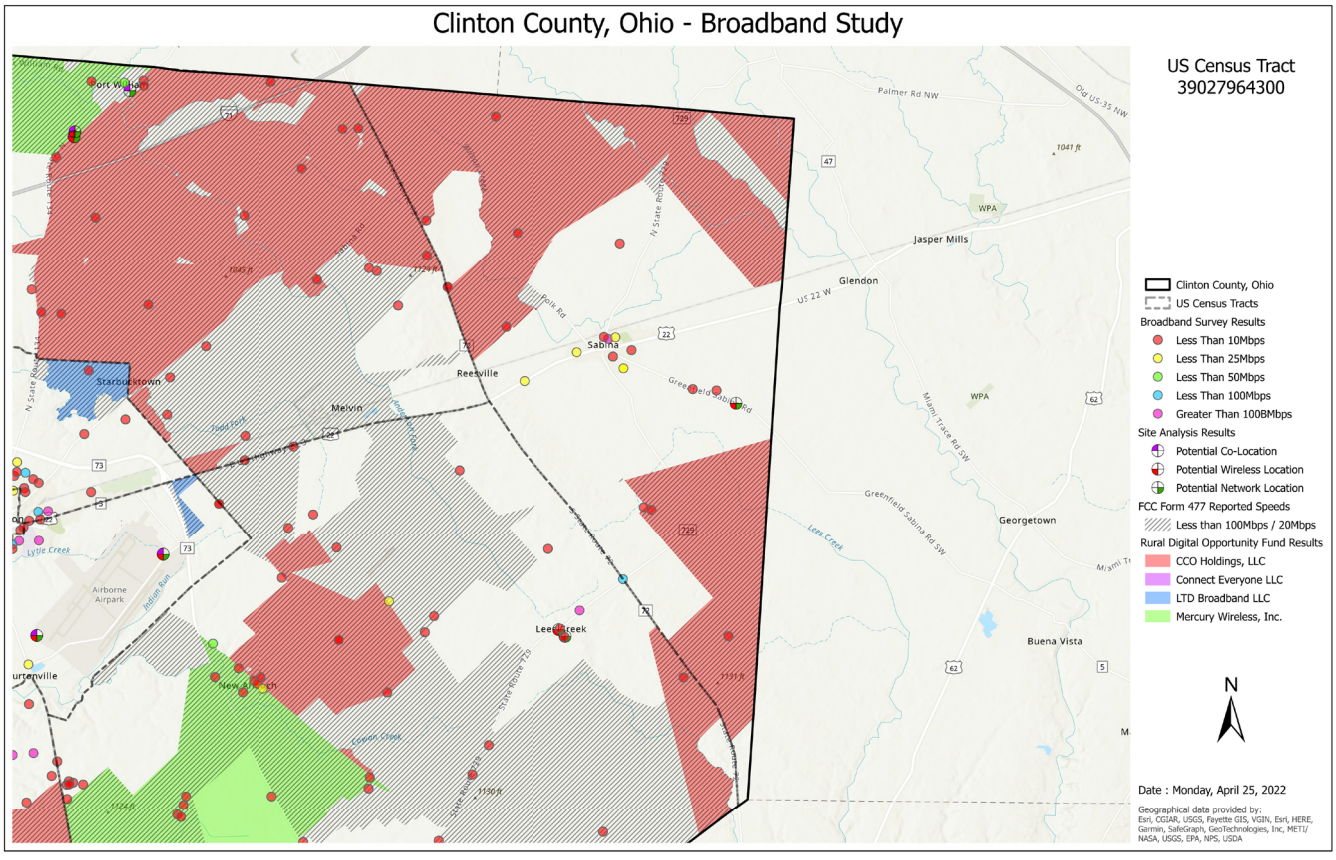
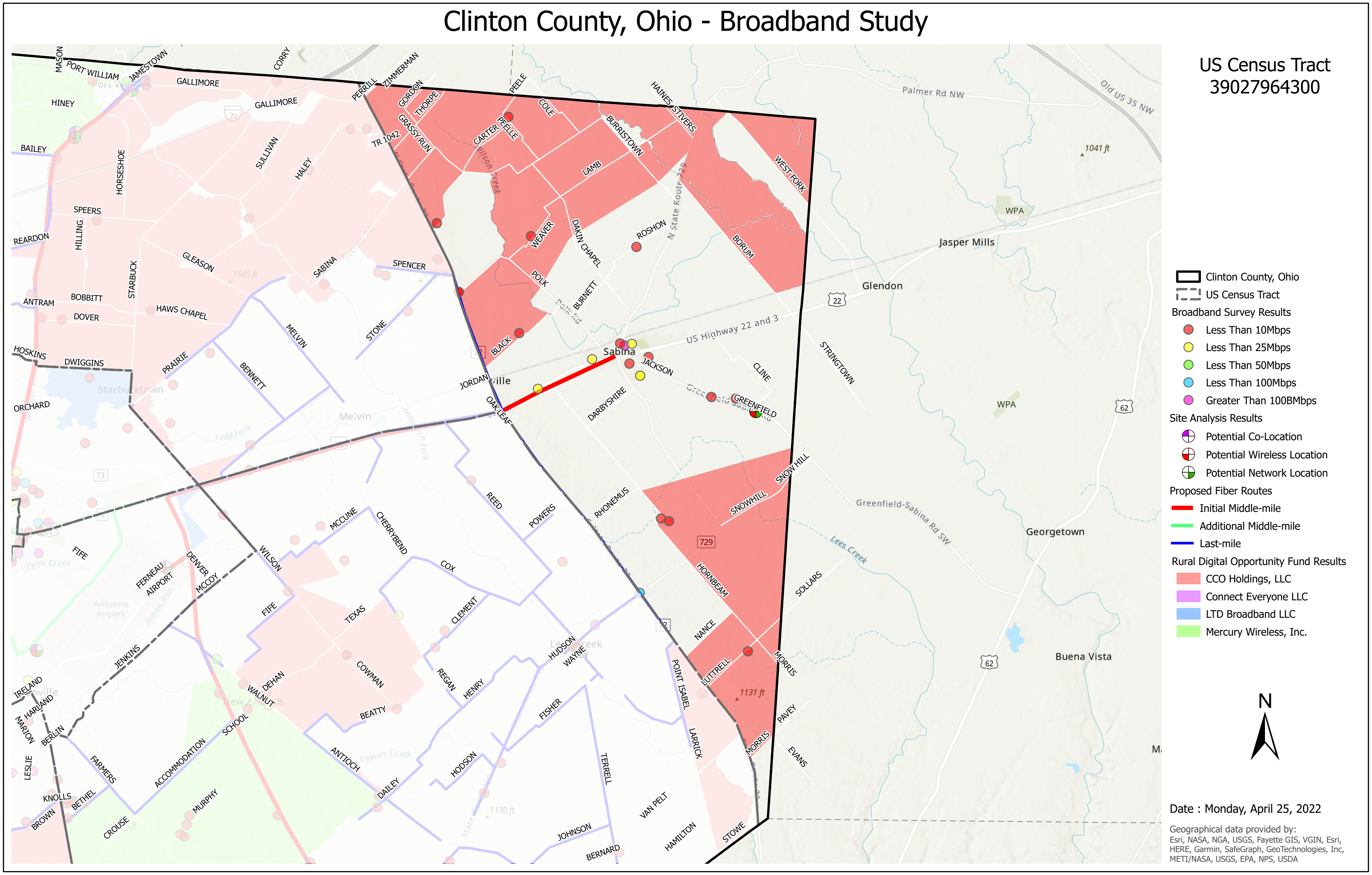
39027964400
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Paintersville
Gunnerville
Bowersville
Melvin
Starbucktown

CENSUS TRACT 9643

There is no depicted fiber presence currently within this census tract and a portion of the existing broadband infrastructure is legacy DSL connectivity providing less than a 10 Mbps download/ 1 Mbps upload connection.

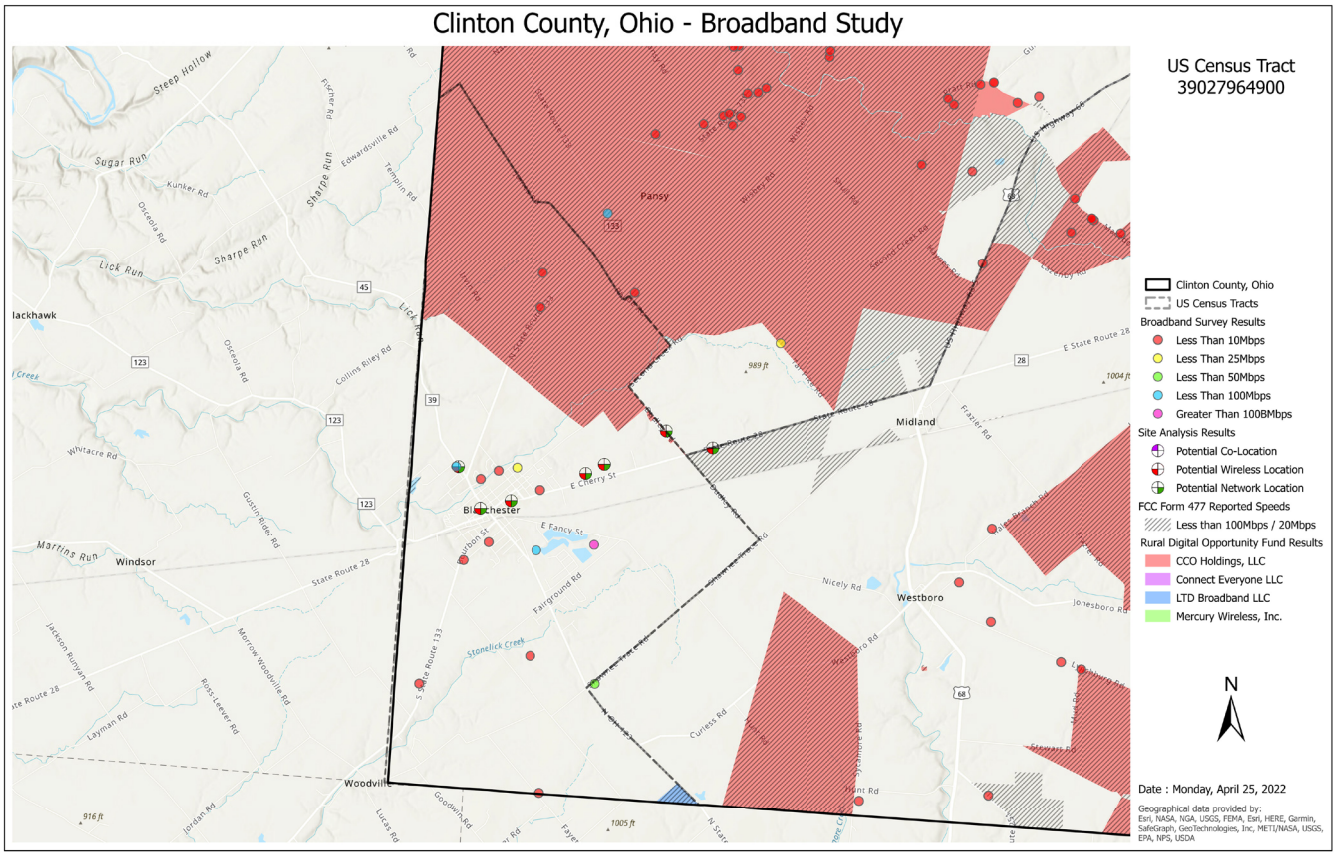
However, from a fiber perspective, Spectrum's build under the RDOF program, which they have committed to complete within two years, will significantly impact this census tract.

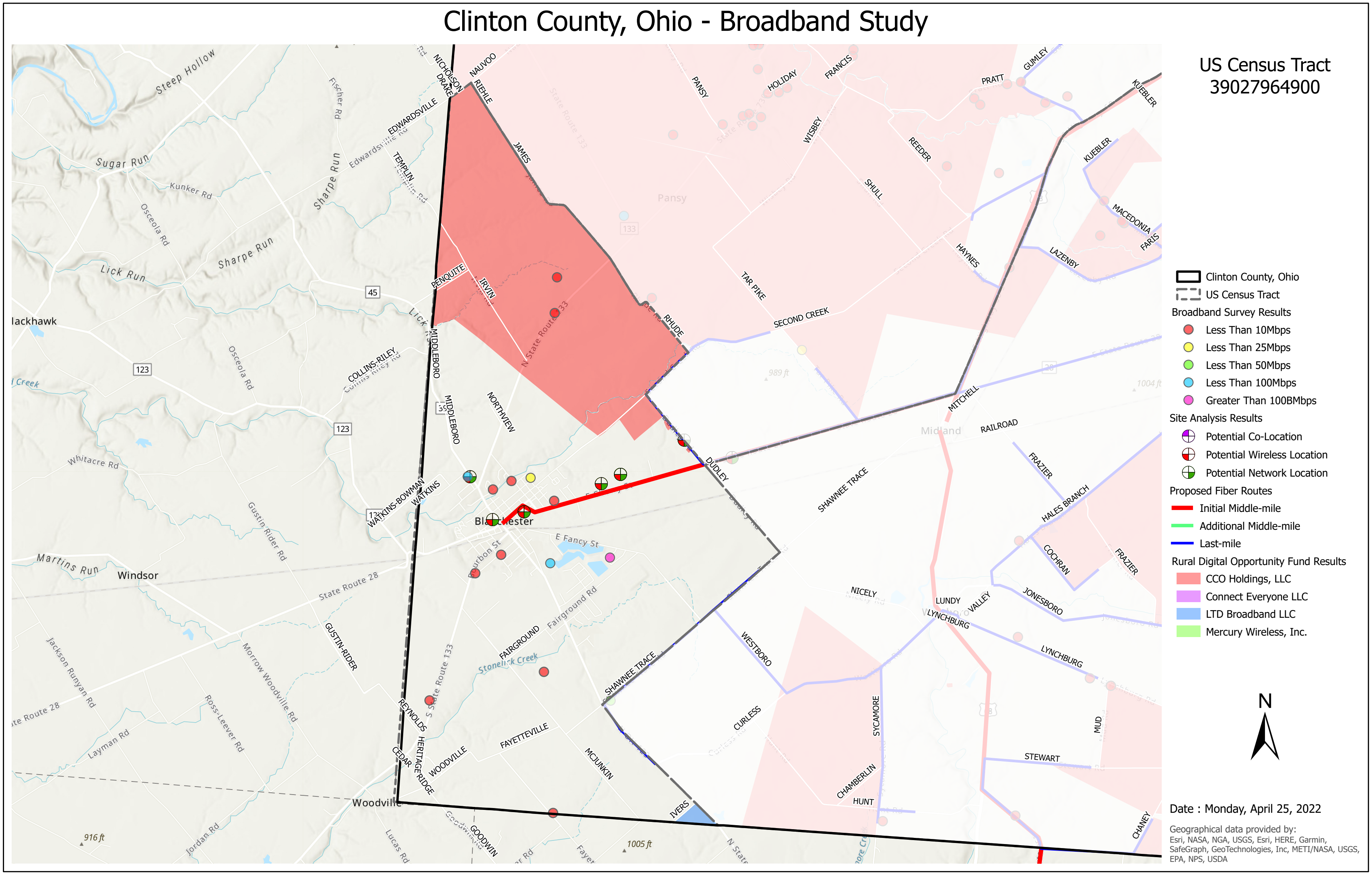



Clinton County, Ohio - Broadband Study
US Census Tract
39027964300
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, Fayette GIS, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Sabina
Glendon
Jasper Mills
Georgetown
Buena Vista
Melvin
US Highway 22 and 3
Greenfield-Sabina Rd SW
Palmer Rd NW
Old US 35 NW
N State Route 729
WPA
1041 ft
1131 ft
1130 ft

CENSUS TRACT 9649

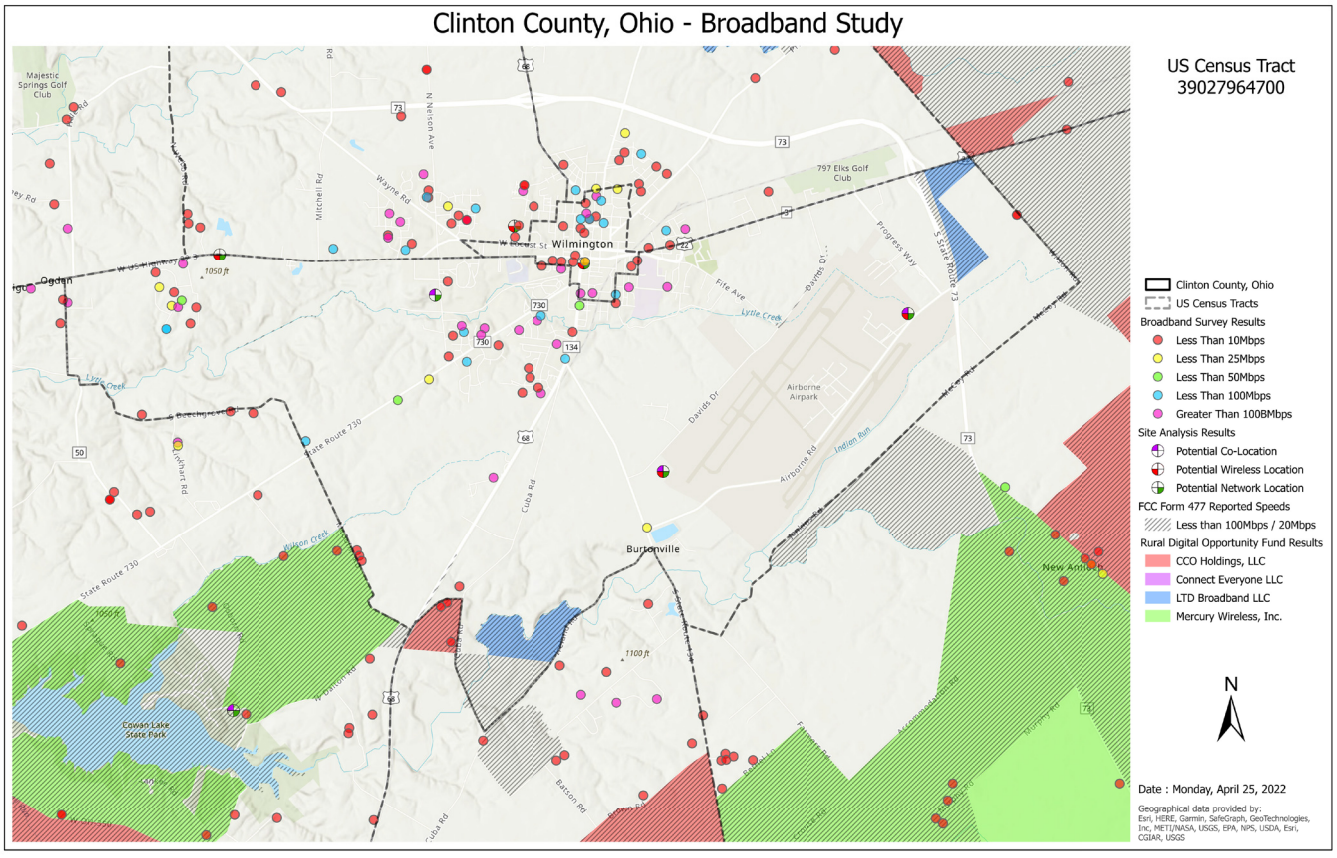
This census tract contains the Village of Blanchester. On the fiber side, Little Miami Gig has begun a FTTH home project in the area and Spectrum's RDOF build will impact the northeastern point of the census tract. The existence of vertical infrastructure through the public power operator and other wireless assets identified in the Site Analysis provides a strong opportunity for an aerial fiber and/ or fixed wireless solution. There may also be significant dig-once opportunities for underground fiber deployment given a municipal electric company's existing easements and infrastructure, should they be willing to partner in such manner.

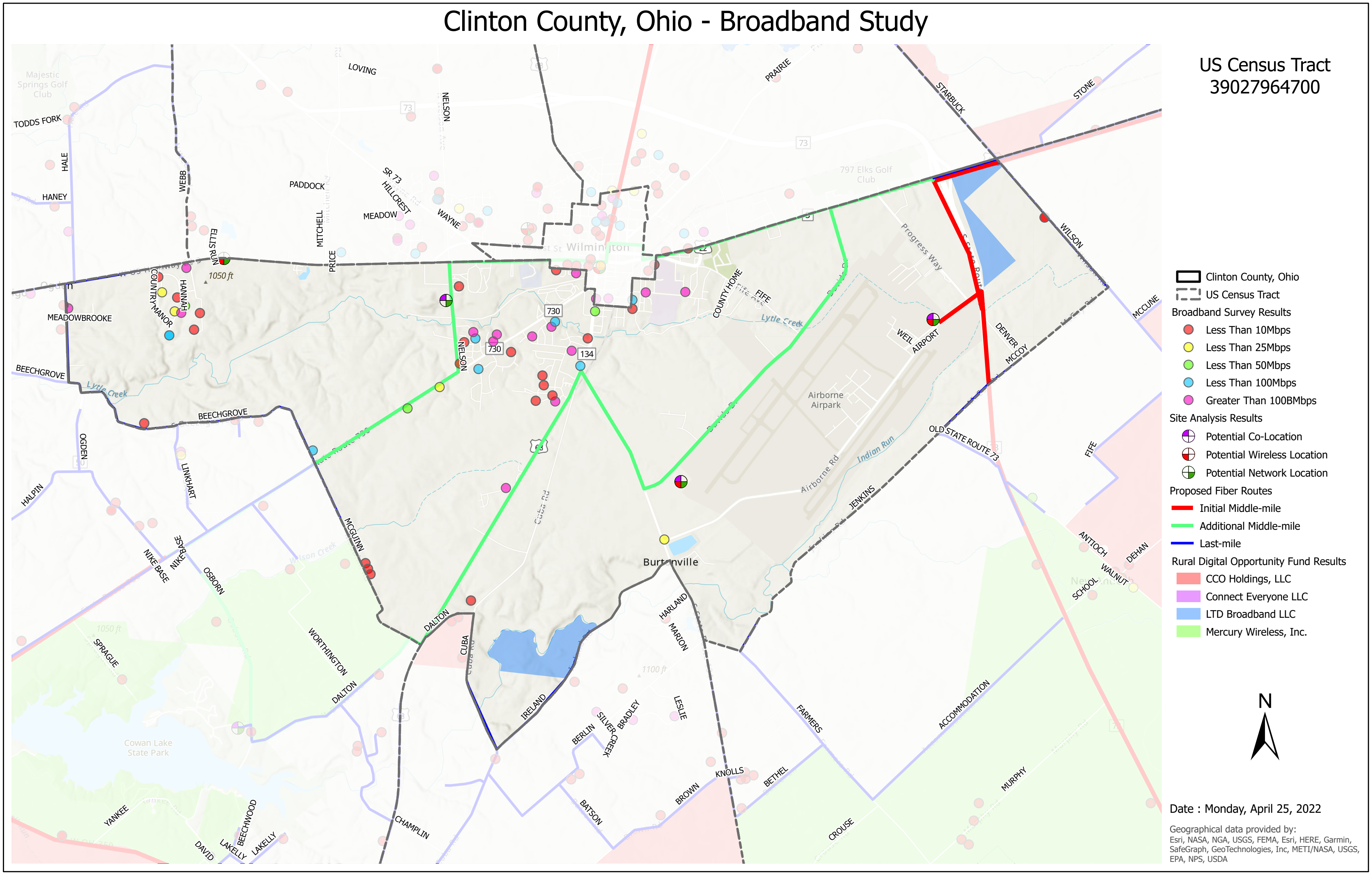



Clinton County, Ohio - Broadband Study
US Census Tract
39027964900
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Windsor
Woodville
Midland
Pansy

CENSUS TRACT 9647

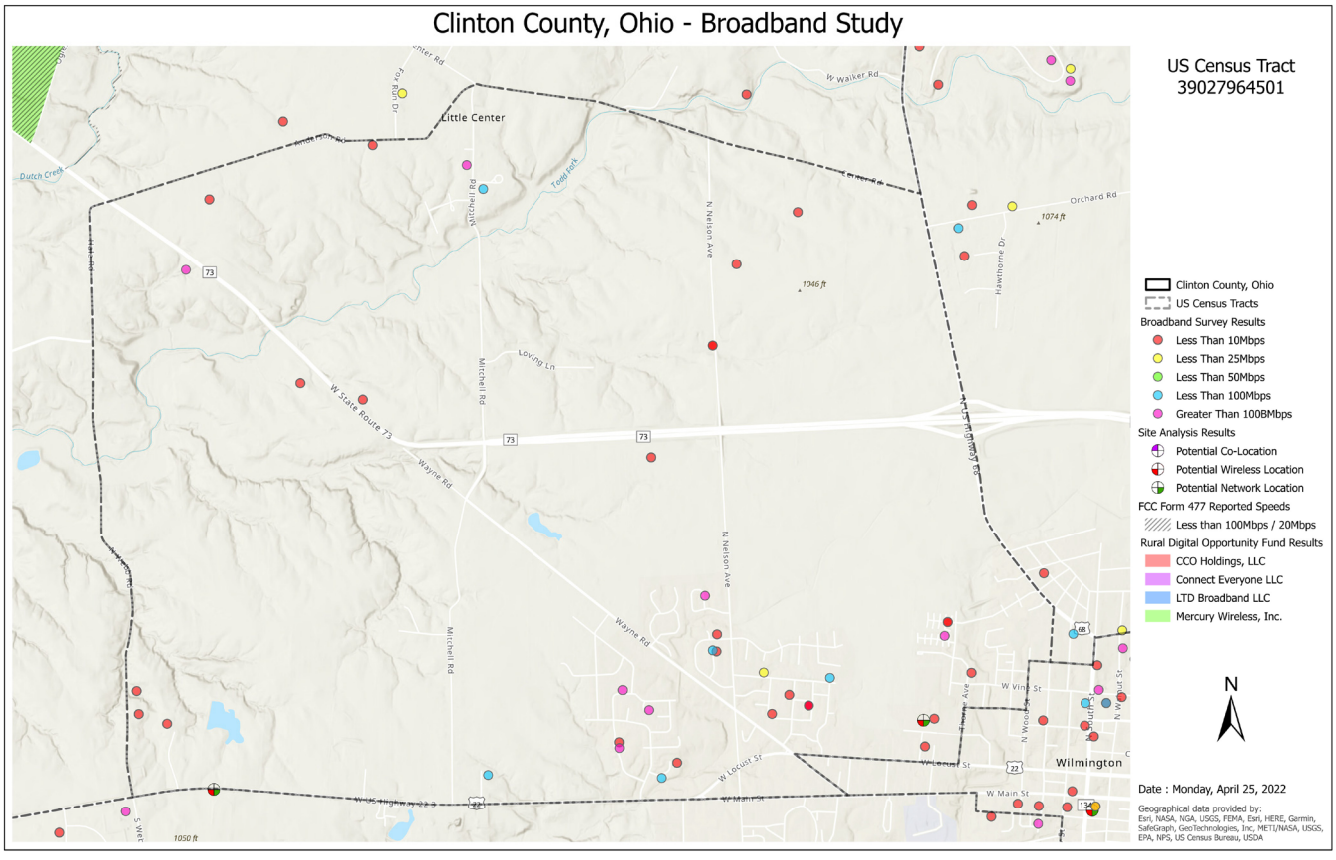
This is one of multiple census tracts that surround the City of Wilmington and, as is the case in many communities, the closer the proximity to the county seat, the better the connectivity.

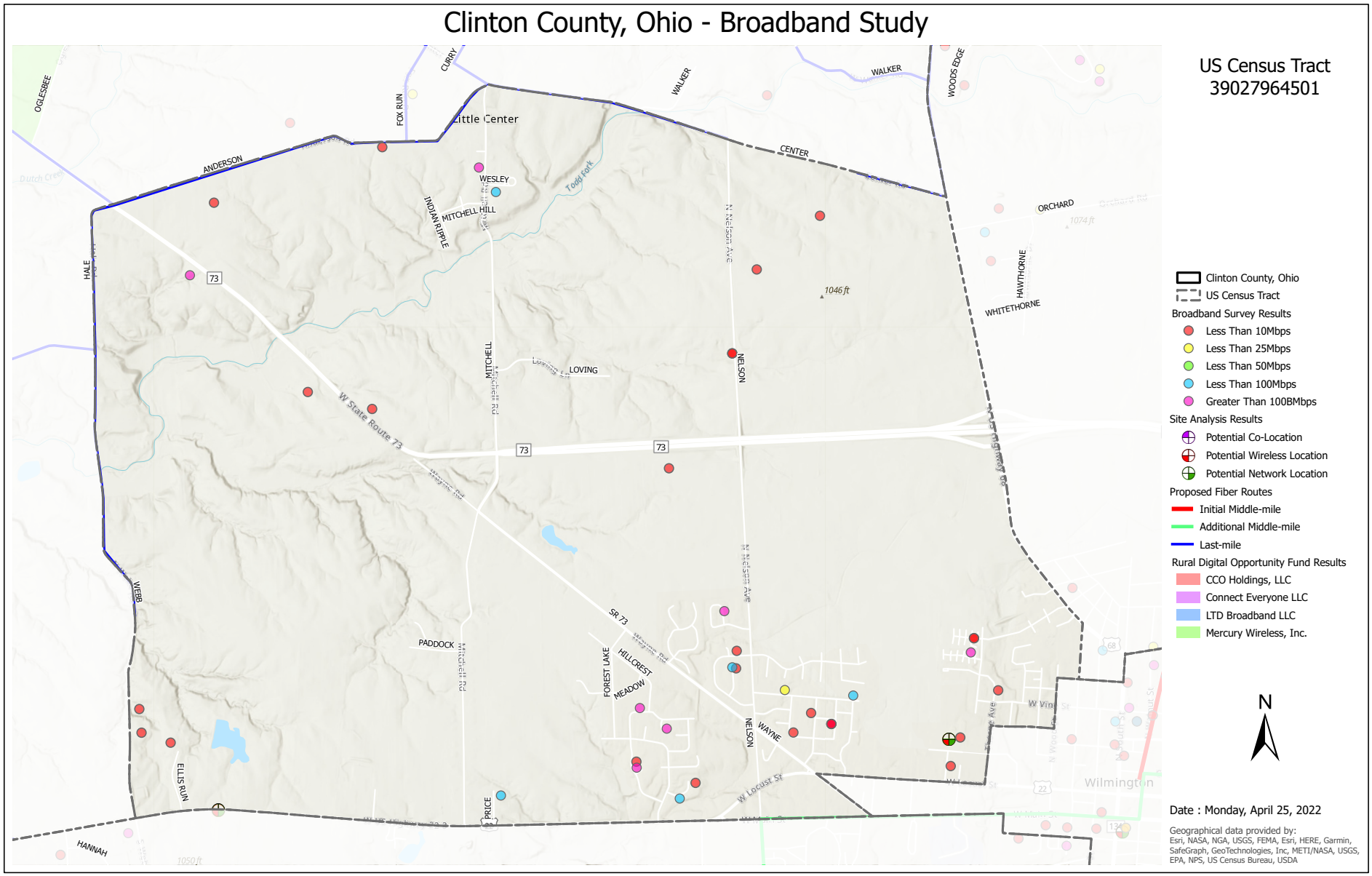



Clinton County, Ohio - Broadband Study
US Census Tract
39027964700
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA
Wilmington
Burtonville
Airborne Airpark
797 Elks Golf Club
Majestic Springs Golf Club
Cowan Lake State Park
Lytle Creek
Indian Run
Wilson Creek
TODDS FORK
HALE
HANEY
WEBB
PADDOCK
LOVING
NELSON
PRAIRIE
STARBUCK
STONE
WILSON
MCCUNE
MEADOWBROOKE
BEECHGROVE
COUNTRY MANOR
HANNAH
ELLIS RUN
MITCHELL
PRICE
MEADOW
HILLCREST
WAYNE
COUNTY HOME
FIFE
WEIL
AIRPORT
DENVER
MCCOY
OLD STATE ROUTE 73
JENKINS
OGDEN
LINKHART
HALPIN
NIKE BASE
OSBORN
MCGUINN
DALTON
WORTHINGTON
CUBA
IRELAND
HARLAND
MARION
LESLIE
BERLIN
SILVER CREEK
BRADLEY
BATSON
BROWN
KNOLLS
BETHEL
FARMERS
CROUSE
ACCOMMODATION
MURPHY
ANTIOCH
WALNUT
SCHOOL
DEHAN
SPRAGUE
YANKEE
BEECHWOOD
LAKELLY
DAVID
CHAMPLIN
Progress Way
Airborne Rd

CENSUS TRACT 9645.01

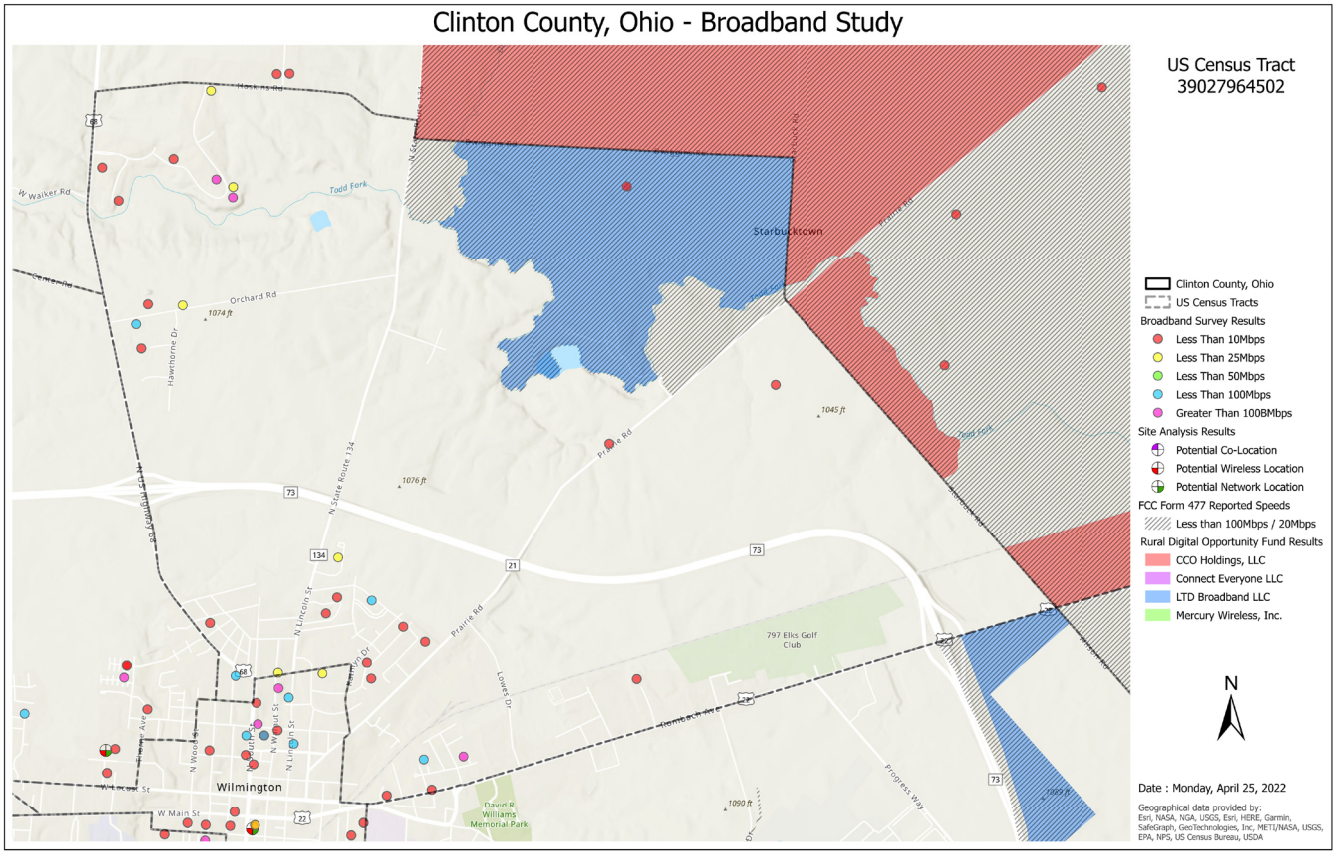
This is one of multiple census tracts that surround the City of Wilmington and, as is the case in many communities, the closer the proximity to the county seat, the better the connectivity.

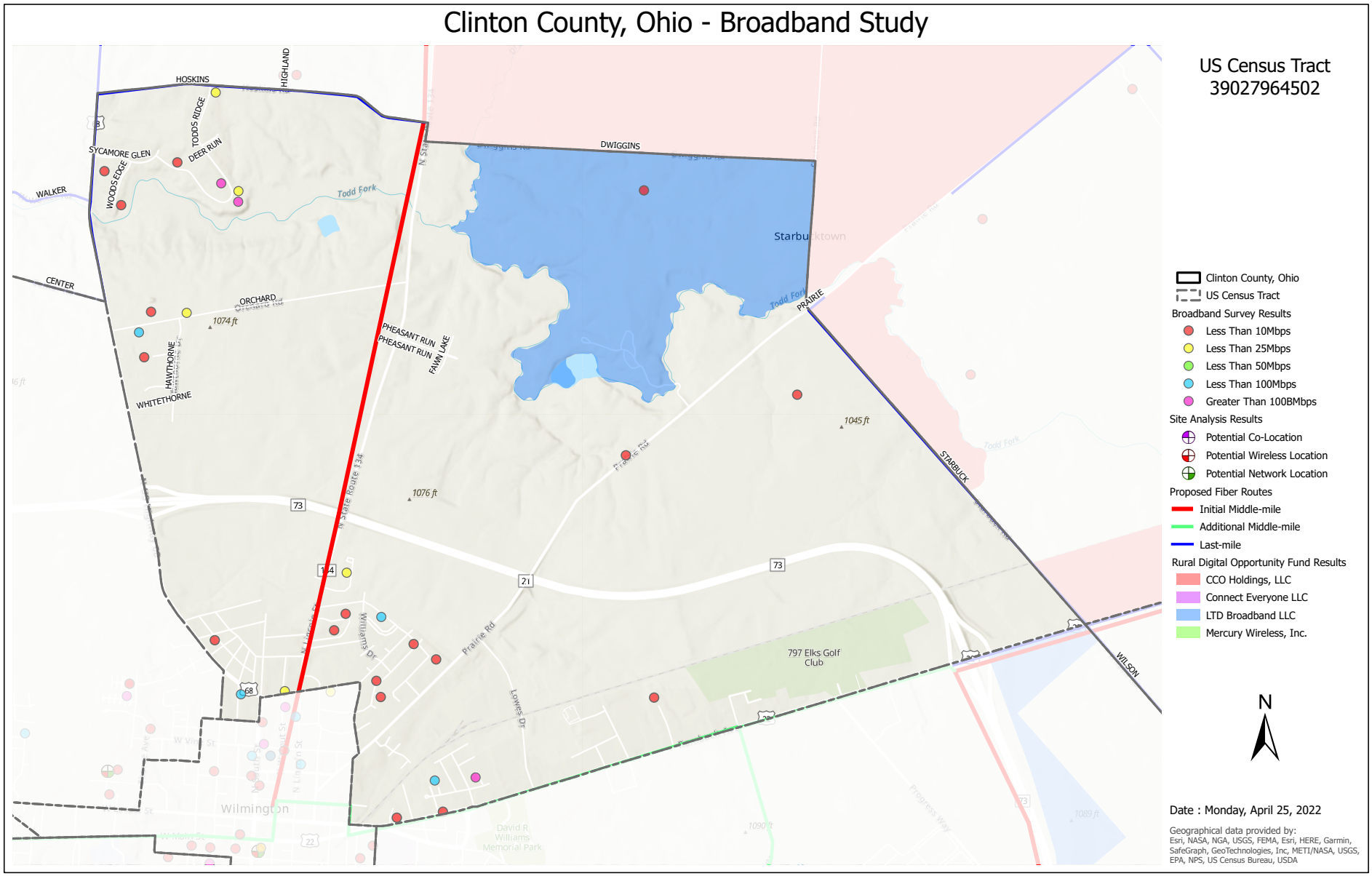



Clinton County, Ohio - Broadband Study
US Census Tract
39027964501
Little Center
WESLEY
MITCHELL HILL
INDIAN RIPPLE
ANDERSON
CENTER
WALKER
WOODS EDGE
ORCHARD
HAWTHORNE
WHITETHORNE
LOVING
MITCHELL
NELSON
W State Route 73
SR 73
PADDOCK
FOREST LAKE
HILLCREST
MEADOW
WAYNE
W Locust St
Wilmington
HALE
WEBB
ELLIS RUN
PRICE
HANNAH
CURRY
FOX RUN
OGLESBEE
1046 ft
1074 ft
1050 ft
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

CENSUS TRACT 9645.02

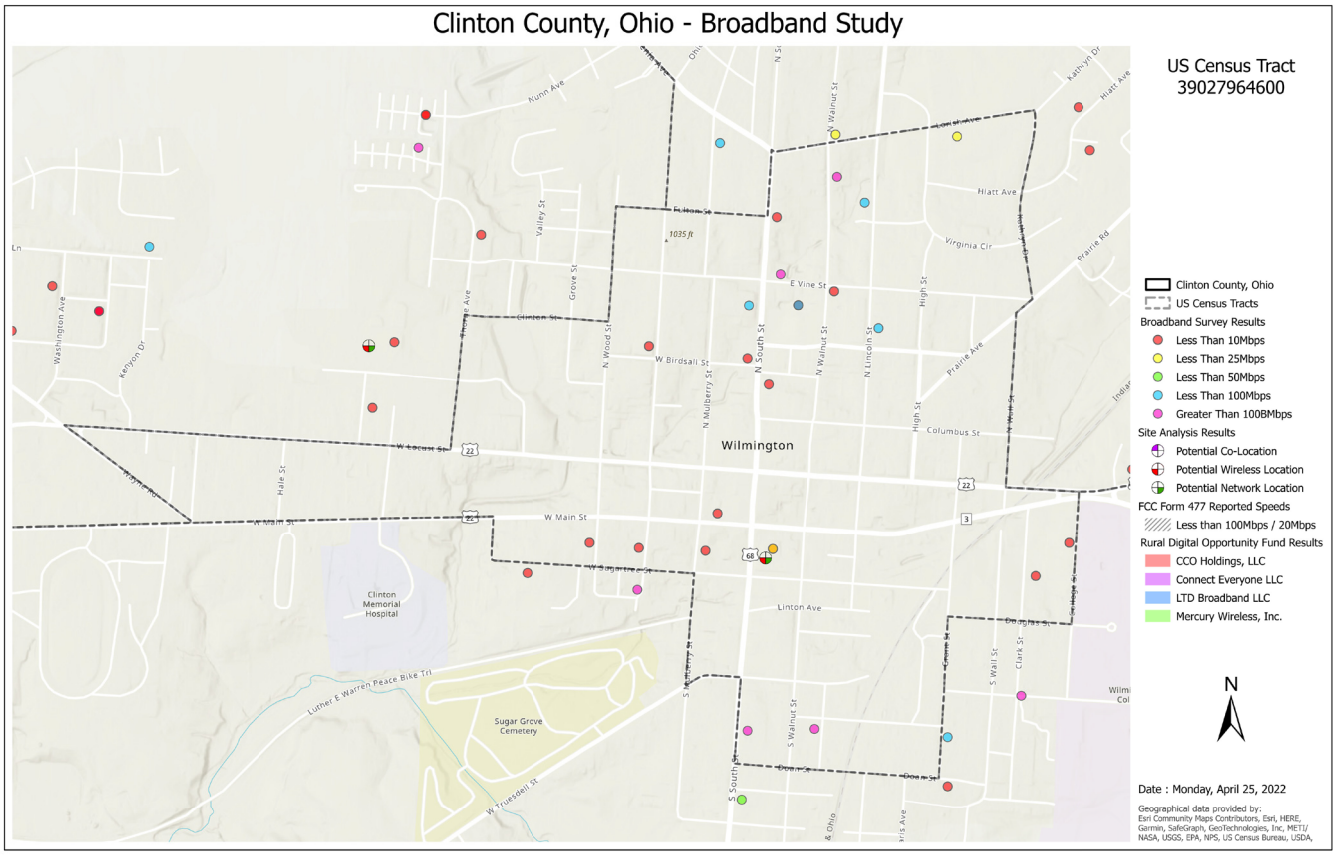
This is one of multiple census tracts that surround the City of Wilmington and, as is the case in many communities, the closer the proximity to the county seat, the better the connectivity.



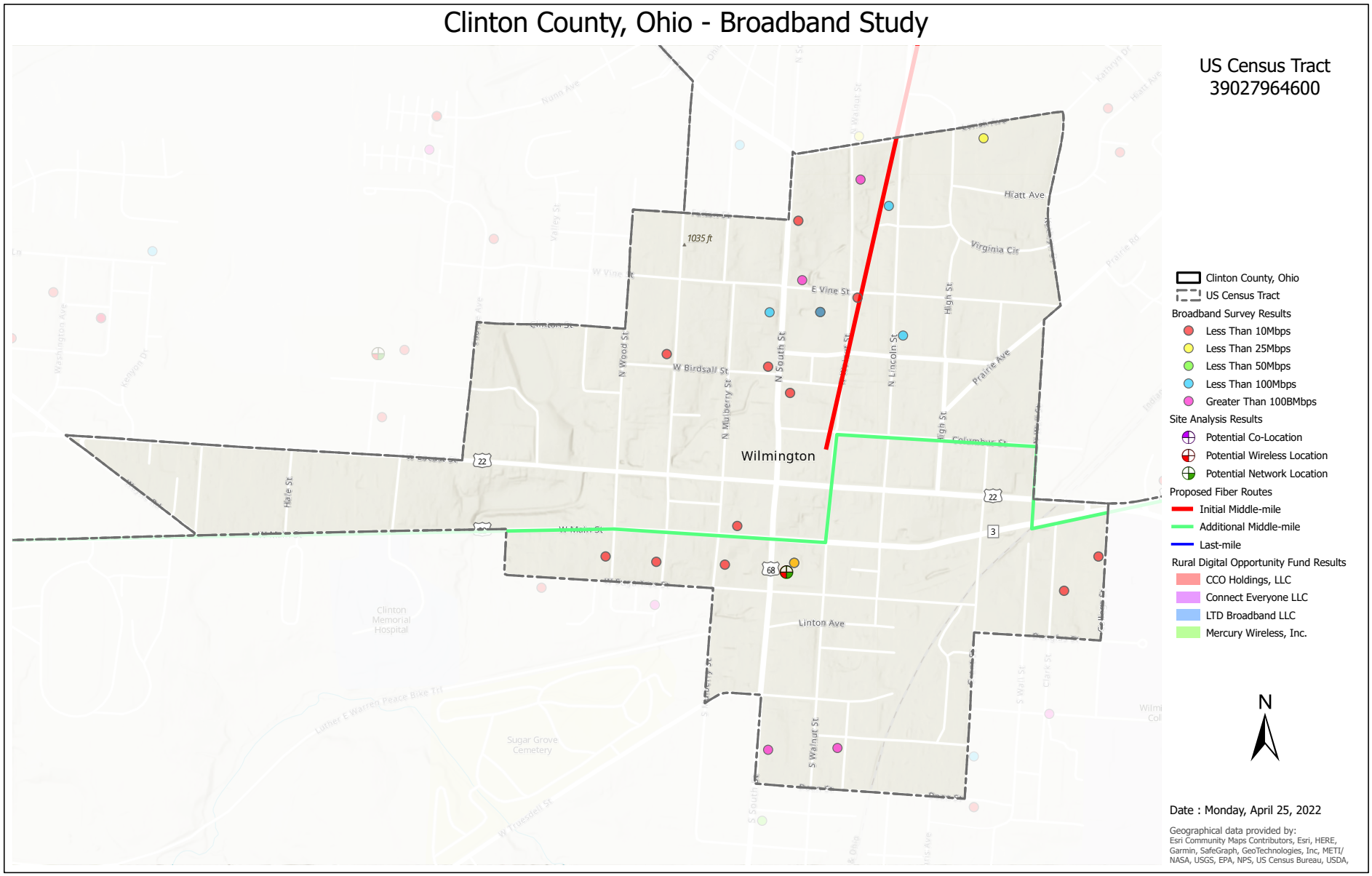

Clinton County, Ohio - Broadband Study
US Census Tract
39027964502
HOSKINS
HIGHLAND
TODDS RIDGE
SYCAMORE GLEN
DEER RUN
WOODS EDGE
WALKER
Todd Fork
DWIGGINS
CENTER
ORCHARD
1074 ft
HAWTHORNE
WHITETHORNE
PHEASANT RUN
PHEASANT RUN
FAWN LAKE
PRAIRIE
1045 ft
STARBUCK
1076 ft
73
4 State Route 134
Prairie Rd
Williams Dr
Lowes Dr
797 Elks Golf Club
WILSON
Wilmington
David R Williams Memorial Park
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

CENSUS TRACT 9646

This census tract contains the City of Wilmington and is unquestionably the "best" served census tract within the County to-date. From a fiber perspective, there is a need for additional lateral connectivity to facilities in and around the Wilmington area. These connections could be provided directly off of the middle mile network contemplated in the first recommendation, should Clinton County proceed with that approach.



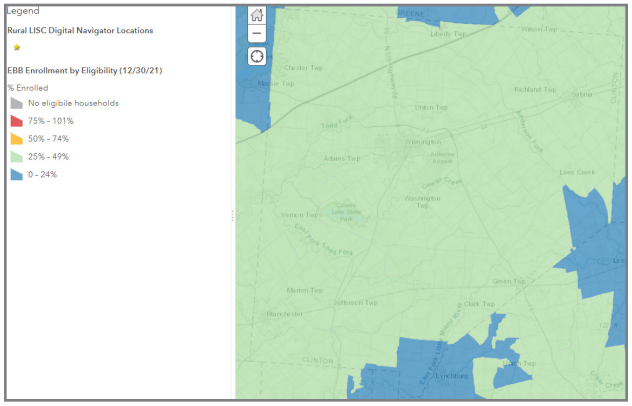
Further details on each of these census tract is provided in **Appendix A.**


Clinton County, Ohio - Broadband Study
US Census Tract
39027964600
Wilmington
Clinton County, Ohio
US Census Tract
Broadband Survey Results
Less Than 10Mbps
Less Than 25Mbps
Less Than 50Mbps
Less Than 100Mbps
Greater Than 100BMbps
Site Analysis Results
Potential Co-Location
Potential Wireless Location
Potential Network Location
Proposed Fiber Routes
Initial Middle-mile
Additional Middle-mile
Last-mile
Rural Digital Opportunity Fund Results
CCO Holdings, LLC
Connect Everyone LLC
LTD Broadband LLC
Mercury Wireless, Inc.
N
Date : Monday, April 25, 2022
Geographical data provided by:
Esri Community Maps Contributors, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, EPA, NPS, US Census Bureau, USDA,
Hiatt Ave
Virginia Cir
E Vine St
W Vine St
W Birdsall St
N Wood St
N Mulberry St
N South St
N Lincoln St
High St
Prairie Ave
Columbus St
Linton Ave
S Walnut St
Hale St
Clinton Memorial Hospital
Sugar Grove Cemetery
Luther E Warren Peace Bike Trl
W Truesdell St
1035 ft
22
3
68

3. ENSURING AFFORDABLE CONNECTIVITY

As previously provided, the Project Team recommends that providers ensure service affordability in future build-outs within Clinton County, and there are several avenues to doing so:

Affordable Connectivity Program: The Affordable Connectivity Program (ACP) was created under the Federal Infrastructure Investment and Jobs Act (IIJA). Formerly the FCC's Emergency Broadband Benefit Program (EBB), the ACP subsidizes broadband service for eligible households—defined as those that suffered income loss during the pandemic or meet other need-based criteria, such as eligibility for school lunch programs. The subsidy is provided at a lower rate than the EBB program (down to $30 from an original of $50 per month) to extend its longevity across the 5-year budget window. **As of March 2022, there were 1,938 subscribers to the Affordable Connectivity Program in Clinton County.**



^ *Map: Clinton County Participation in the Emergency Broadband Benefit Program*

The National Digital Inclusion Alliance (NDIA)—an organization that provides a collaborative voice for home broadband access, public broadband access, personal devices and local technology training and support programs—provides a list of current low-cost offers, including available locations and application instructions, to aid low-income families.[iii] NDIA intends for the list to inform community leaders, service providers, libraries, media, and others who may give guidance to individuals.

The following low-cost provider offerings are also available in Ohio. Additional information on Provider low-cost offerings are provided in **Appendix A.**

AT&T: AT&T offers "Access" providing low-cost internet service for eligible households.[iv] This includes free installation and in-home Wi-Fi with internet service charged at $10 per month or less based on the maximum speed available at the household up to 25 Mbps. No contract or deposit is required. To qualify, applicants must participate in the Supplemental Nutrition Assistance Program (SNAP) or receive Supplemental Security Income (SSI).

SPECTRUM: Spectrum participates in federal low-cost offers and offers ***Spectrum Internet® Assist*** to provide internet access and assistance for qualified households in need.[v] This includes free internet modem, high-speed internet at 30 Mbps, no data caps, and no contracts. For eligibility, at least one member of the household must be a recipient of the National School Lunch Program, Community Eligibility Provision, or SSI. Spectrum recently launched a new product called Spectrum Internet 100 in which eligible households can subscribe to 100 Mbps download for $29.99 per month.[vi]

Spectrum also offers ***Stay Connected K-12***, which allows schools to offer at-home high-speed, cable broadband access direct to students, educators, and staff, and ***Community Solutions***, which offers discounted rates on bulk services to apartments, senior living properties, RV parks, and more.

PC's for People: PCs for People is a nonprofit that primarily provides used electronics to people in need. However, it has also helped over 96,000 families connect to the internet. PCs for People partnered with Mobile Beacon to create a program called "Bridging the Gap" that brings access to families under the 200% poverty level.

AGING CONNECTED: Aging Connected is a national campaign to bridge the digital divide and assist older adults access essential public health information and more through affordable, accessible internet.[vii] Aging Connected's tool[5], offers a simple three-step process from providing location information, to comparing and selecting providers.

5 This tool is available at: https://oats.org/agingconnected.

2 TECHNOLOGY + TRENDS REVIEW

2 | Technology + Trends Review

Broadband Technologies Overview

"Broadband" is not a single technology, but a term that describes a range of technologies that provide reliable high-speed internet access, including fixed service, such as fiber optics (fiber), digital subscriber line (DSL), cable, and fixed wireless; cellular/mobile wireless; and satellite.

The Federal Communications Commission (FCC) currently defines broadband as internet connectivity at speeds of 25 megabits per second (Mbps) for downloads (i.e., what a user "pulls" from the internet) and 3 Mbps for uploads (i.e., what a user "pushes" to the internet).

The State of Ohio has not codified a definition of broadband; however, the Ohio Broadband Strategy report defined underserved as any region that typically has access to speeds less than the FCC definition of broadband internet access, and broadband programs launched under Governor DeWine's Administration use the federal definition as a benchmark for service delivery.[i]

Despite these definitions, a user's true broadband needs will be dependent upon the number of devices connected to the internet within the location, as well as the type of internet use.

i. Fiber Broadband

While early broadband network deployments utilized digital subscriber lines (DSL) or cable, ensuring sufficient fiber and wireless availability has become a nationwide priority.[ii] Anticipating that demand will continue to increase above the federal definition, several communities are targeting local service delivery at speeds that exceed a gigabit per second (Gbps), which has only been shown to be possible in real world conditions through fiber.

Fiber is often described as "future-proof" infrastructure. In practical terms, this means that once the infrastructure is buried or strung aerially, it does not need to be replaced in order to enhance download/ upload speeds. Instead, only the electronics that transmit or receive the data need changed in order to meet increased demands. This differs from predecessor wired networks.

Fiber then transmits data by pulsating light through insulated glass tubes, which enables the transmission of massive amounts of data at superfast speeds.[iii] Fiber is also able to offer "symmetrical" (i.e., same download and upload speeds) service. Other options, such as wireless broadband, addressed in the following section, must often sacrifice download speed for upload and are subject to signal interference. Historically, fiber deployments were mostly limited to dense urban areas with high incomes and in closer proximity to existing networks; however, this has changed significantly since the onset of the COVID-19 pandemic and resulting federal funding.

ii. Wireless Broadband

Wireless broadband includes fixed and mobile/cellular service, both of which are supported by fiber backhaul. Backhaul will be discussed further in the Service and Infrastructure Analysis.

1. FIFTH GENERATION (5G) MOBILE WIRELESS

Mobile wireless networks are receiving significant attention, predominantly due to the upcoming "5G revolution." The "fifth generation" mobile wireless, or 5G, will be the next mobile wireless telecommunications standard. While much of the population has heard the promise of 5G through television commercials and headlines, what has not been made clear to the general public is that there are different types of 5G deployments — low-, mid-, and mmWave/ ultra-wide band high-band — and providers will be offering varying "5G" speeds through a variety of spectrum:

Low-band 5G — uses a similar frequency range to 4G (between 600-850 megahertz (MHz)) and provides a "nationwide 5G" experience.[iv]

Mid-band 5G — the most widely deployed band, it often operates between 2.5-3.7 gigahertz (GHz) at download speeds of around 100-900 Mbps. Transmissions in the mid-band spectrum can travel several miles, depending on how equipment is configured.

High-band/ mmWave 5G — is an ultra-high frequency that can achieve download speeds in gigabits per second,[v] and will provide unprecedented bandwidth and speed. Unlike the other "types" of 5G, mmWave has limited distances (currently only 200 to 350 yards/ a few thousand feet in optimal conditions) and limited ability to pass through certain material, affecting its deployment in partitioned environments.

Many mobile providers attempt to make "5G" synonymous with mmWave deployments; however, the economics of mmWave require dense traffic environments and specific use cases. To that end, mobile providers will focus mmWave deployments on major metropolitan areas, downtown areas, entertainment districts, hospitals, manufacturing facilities, convention centers, school campuses, sporting venues, shopping areas and targeted business locations.

Some have suggested that 5G will "solve" broadband access issues, but, as highlighted above, there are varying 5G deployments and mmWave deployment is limited. Further, even if/ when 5G service is deployed, users will need a 5G-supported device. Issues with device affordability already permeate broadband adoption, addressed in more detail later in this study.

One way to think of mmWave deployments is to envision holding a flashlight above the ground. The higher the flashlight is raised, the wider the beam, but the dimmer the light. mmWave 5G deployments need to maintain a very narrow "beam." To do so, it will require numerous pieces of infrastructure, including smaller towers and antennas (small cells),[vii] which have to be placed closer together. As a result, its service territory is limited. However, low-band 5G mimics a higher raised flashlight – it can serve more people, but its signal strength is limited compared to mmWave.

> *But the millimeter wave and the propagation properties of that . . . is really not going to fulfill a coverage layer need for 5G. So 5G in terms of coverage and when you get 5G on your phone is really going to come from the more traditional side of the wireless networks.*
>
> **- Scott Mair, AT&T's president of technology and operations[vi]**

Some have said that Verizon is "winning" the mmWave 5G race as AT&T has been focusing on transmitting 5G signals in its low-band spectrum.[viii] In 2019, T-Mobile made enforceable commitments to the FCC as part of its acquisition of Sprint to deploy 5G service covering 85% of the population in rural areas and 97% of all Americans within three years, with coverage rising to 90% of the population in rural areas and 99% nationwide within six years. T-Mobile committed to deploy 5G service meeting minimum download speed performance benchmarks of at least 50 Mbps available to 90% of the rural population, with two-thirds of rural Americans able to receive download speeds of at least 100 Mbps.[ix] T-Mobile's stated end goal "is to deploy a "layer cake" 5G network across the US. That layer cake will include low-band spectrum for coverage, mid-band spectrum for capacity inside cities, and high-band, mmWave spectrum for extra-fast speeds in dense urban areas."[x] DISH Network also recently announced its intent to bring 5G online in select cities by the end of the third quarter of 2021.[xi]

2. FIXED WIRELESS

It has been said that "[b]etween [wired] broadband and mobile broadband sits fixed-wireless broadband technology."[xii] Fixed wireless systems broadcast high-speed internet using radio frequencies/ spectrum from a vertical asset, such as a tower, which is connected to a wired backhaul network, to receivers, such as rooftop dishes or a fixed antenna connected to a router, installed on the user's property.[xiii] Generally, fixed wireless operates by communicating between two endpoints, otherwise referred to as point-to-point (P2P) telecommunication. A signal transmitted from one tower communicating with multiple antennas—i.e., point-to-multi-point telecommunication (P2MP)—is also available, but is generally more limited in range due to the widely fanned beam. Traditional fixed wireless solutions require "line-of-sight" between the broadcast radio and the receiver (i.e., the radio can "see" the receiver without interference) and topography and interferences such as rain or haze can challenge this line-of-sight. However, newer iterations of fixed wireless networks are finding solutions to "line-of-sight" requirements and a growing number of communities, particularly in rural areas where fewer fixed service provider options exist, have recognized the potential of fixed wireless to bridge the last mile connectivity gap. Although larger carriers are showing interest in fixed wireless, frequently this service is provided by a smaller wireless internet service provider (WISP).

> *Many of these WISPs are founded by scrappy entrepreneurs who simply got so frustrated about the lack of internet in their area that they set up their own companies to provide it via [fixed wireless]. This involves finding some vertical infrastructure, such as a water tower, to set up point-to-point or point-to-multipoint antennas to serve a several-mile area.*[xiv]

iii. Satellite

Historically, satellite broadband service was selected only when a fixed broadband solution was not available. More recently, however, low-orbit satellite initiatives, such as SpaceX's Starlink, have been garnering attention as another solution for rural connectivity issues.[xv]

Case Study: In December 2020, the State of Ohio initiated a 12-month pilot program with 100 initial subject-customers in Union County to test SpaceX Starlink's ability to serve rural areas with broadband access.[xvi] Outside of the State's program, some Muskingum County residents have been able to sign up for Starlink's beta program.[xvii] While Starlink can bring service to those currently without broadband, the service price currently includes a $499 equipment charge.

SpaceX Founder and CEO, Elon Musk, has indicated that the service is designed to complement other broadband options rather than compete with them.[xviii] Other low-orbit satellite providers include OneWeb and Amazon's Project Kuiper.

Trends

The COVID-19 pandemic has highlighted the need for, and in many locations persisting lack of, broadband access and digital inclusion to support remote work, telehealth, distance learning, e-government, entertainment, and more. In response, we anticipate that all levels of government will start or enhance their investments in broadband and intelligent infrastructure.

Communities of all size increasingly find themselves in the precarious balancing act of trying to streamline costs for utilities, water and waste management, economic development, transportation, and telecommunications, while simultaneously trying to improve services. While there is no one, unified definition, generally a "smart city" initiative is one in which a community seeks to improve efficiencies and enhance service delivery, and ideally reduce costs, through integration of technology. Examples of such projects are below and thoughtful roll-out of any smart city initiative is important as there may be privacy concerns among members of the community.

Energy and Utilities: The private sector has begun to offer digital and automated solutions to for energy and utility monitoring functions. Such technology enables utility operators to become more efficient with supervisory control and data acquisition (SCADA) systems and real-time reporting, ultimately reducing cost to provide residential utility services (in turn saving consumers money as well). High-speed connectivity also enables faster communication between operations centers and production sites, remote generation monitoring, energy savings sensors, grid and supply service management.

Transportation and Parking: Intelligent transportation systems, including connected/autonomous vehicles (CAVs), smart parking meters, and more, can provide convenience, enhanced safety, and reduce local carbon footprint. High-speed connectivity also enables for just-in-time supply chain management, traffic data collection, and more.

Case Study: The US-33 Smart Mobility Corridor is a 35-mile stretch of U.S. 33 between Dublin and Marysville, Ohio, serving as a real-world proving ground for connected/ autonomous vehicles.[xix] The project's public and private sector partners include the Cities of Dublin and Marysville, Ohio; Union County, Ohio; Logan County Economic Development; the Ohio Department of Transportation (ODOT); Honda; Battelle; and Michael Baker International. Project funds include over $3.4 million in public and private match dollars, which are used to install a fiber ring and Roadside Units (RSUs)/ sensors, to install communications devices/ Wi-Fi in fleets, to implement warning systems and smart traffic signals and generate data. Public sector partners benefit from new economic development opportunities along the corridor, and private sector partners benefit from expedited approvals for permitting, rights-of-way usage, and more for CAV testing.

Public Safety: There are many "smart city" implementations available in public safety including police body and in-car cameras, cloud storage of video data, crime prevention through data mining, and contact tracing and other disease prevention.

Health: Access to healthcare can vary due to a variety of factors, such as distance to medical facilities and time and travel constraints. Broadband access and the ability to utilize live video conferencing, remote patient monitoring, and mobile health, has transformed the way healthcare services are provided to patients. New avenues created by telehealth and telemedicine services, especially with the onset of the COVID-19 pandemic, have resulted in faster treatment and better service.[xx]

Agriculture: High-speed connectivity enables GPS soil mapping; seed and fertilizer counts; irrigation and grain-bin monitoring; precision farming/ agriculture. A study released by the FCC at the end of 2020 showed positive impacts of rural broadband on farm productivity.xxi The analysis found that a 1% increase in the number of 25 Mbps or better broadband connections per 1,000 households is associated with a 3.6% increase in corn yields, as measured in bushels per acre.

Communication Infrastructure: Infrastructure such as digital billboards, signage, and kiosks facilitates efficient information sharing between local governments and their constituents and enhanced service delivery.

Manufacturing: High-speed connectivity enables 3D printing; design simulation; agile scheduling; real-time inventory management; optimal material handling; training (e-learning); sales management; social media product-marketing.

Access to Food & Retail: High-speed connectivity enables access to food and grocers; access to retail and increased retail & e-retail activity.

> *Telehealth services depend on reliable, high-speed internet options and are only as good as the internet connection behind them.*
>
> **-The Ohio Broadband Strategy**

5

SERVICE + INFRASTRUCTURE ANALYSIS

3 | Service + Infrastructure Analysis

Federal and State Broadband Data and Mapping

It is important to note at the outset of this analysis that federal broadband data to-date has been notoriously flawed, leading to inaccurate, overstated coverage. Although a variety of organizations have released broadband maps and analyses, the source of these maps is predominantly the providers' FCC Form 477 data.

Broadband providers are required to file their fixed broadband coverage data with the FCC twice each year using the FCC's Form 477.[i] In their Form 477 submissions, so long as the reporting provider "does or could . . . without an extraordinary commitment of resources"[ii] serve at least one location within a census block, the provider can depict the entire census block as served by broadband at the reported speed.[iii]

Census blocks are the smallest unit of geography defined by the United States Census Bureau (the Census Bureau). In urban areas, a census block may be smaller than a tenth of a square mile; however, in rural areas, such as Clinton County, a census block can encompass many square miles. With simply one location being the determining factor as to whether an entire area is "served," overstated coverage—particularly in the larger census blocks—is inevitable.[iv] Not only does this inflate coverage, but it creates uncertainty as to local broadband competition, perpetuates broadband access and affordability issues, and exacerbates digital divides.

> *Accurate connectivity data is the foundation for investments in our nation's broadband infrastructure as Congress and federal agencies use data collected by the Federal Communications Commission to determine gaps in connectivity and the level of funding needed to address these disparities. Unfortunately, connectivity data provided to the FCC is often inaccurate and inflated — leaving many communities overlooked and disconnected.*
>
> **-National Association of Counties**

While efforts are underway at the FCC to improve national broadband data, detailed in **Appendix B,** recognizing the current limitations of FCC data, we analyzed and compared multiple datasets for as accurate of an estimate of fixed broadband coverage in Clinton County:

State of Ohio Broadband Inventory Maps:
Utilizing the FCC Form 477 data as a baseline, supplemented with more granular information derived from direct provider outreach and data collection from across the state, Connected Nation Ohio released Ohio broadband inventory maps in March 2020 for public use.[v] These maps depict fixed broadband coverage, although mobile and/ or satellite service may also be available in an areas. Further, not all fixed broadband providers were willing or able to supply more granular data to Connected Nation. As a result, the maps depict broadband coverage in two shades – the darker shaded areas are those in which more granular information was made available (Detailed Service Areas), while the lighter shaded areas depict provider information available through the Form 477 (FCC Service Availability).

Indicators of Broadband Need map created by the United States Department of Commerce, National Telecommunications and Information Administration (NTIA):[vi]
This map incorporates multiple data sources to depict U.S. broadband availability including the American Community Survey (ACS) collected by the U.S. Census Bureau (the Census), speed test organizations Ookla and Measurement Lab (M-Lab), and Microsoft.

Purdue Center for Regional Development (PCRD) Digital Divide Index (DDI):[vii]
The DDI consolidates data from the 5-year American Community survey and the FCC Form 477. The DDI measures the physical broadband access, adoption, and socioeconomic characteristics that may limit use, skills, and motivation for internet use. The DDI is composed of two scores: the infrastructure/adoption (INFA) score and the socioeconomic score (SE).

The INFA score consists of variables related to broadband adoption and infrastructure. These variables include the percentage of the population in 2019 without access to 100 Mbps download/ 20 Mbps upload fixed broadband, median advertised upload and download speeds, percentage of homes without internet access or non-subscription, and percentage of homes with no computing device. When computing the INFA, more weight is given to broadband access, percent of homes without internet access or not subscribing (NIA), and percent of homes with no computing devices (NCD) than upload and download speeds.

The SE score groups five variables that are known to impact the adoption of technology. These variables include the percentage of the population who is 65 or older, percentage of the population 25 and over with less than a high school degree, individual poverty rate, percentage of noninstitutionalized population with a disability, and a new digital inequality indicator called the internet income ratio (IIR) measure. The IIR is calculated by dividing the number of homes that make less than $35,000 per year without internet access by the number of homes making $75,000 or more per year without internet access. To put it simply, the greater the IIR, the greater the inequality on internet access based on household income.

The scores of both the SE and INFA are combined to calculate the overall DDI score. A score of 100 indicates the highest digital divide. If a county has a higher INFA score than a SE score, PCRD recommends that the county take steps to improve broadband infrastructure; if a county has a higher SE score than INFA score, PCRD recommends that the county take steps to improve increase digital literacy and exposure to the benefits of technology. As previously stated in the Project identification section, **the SE and INFA scores vary by census tracts, with some indicating a greater need to improve broadband infrastructure and others indicating a greater need to increase digital literacy and exposure to the benefits of technology.**

Purdue's Center for Regional Development's Digital Divide Index

TRACT #	DEMOGRAPHICS					BROADBAND			COST		
	age 65+	less than hs degree	poverty rate	disability	internet income ratio	Median Download (Mbps)	Median Upload (Mbps)	Pop. No Access 100/20	Digital Divide Score	Socioeconomic Score	Infrastructure Score*
39027964900	16.3%	16.1%	20.3%	15.6%	16.3	18	1	4.3%	21.3	24.2	20.3
39027964300	16.5%	16.3%	18.4%	18.1%	28.7	18	2	11.0%	23.3	27.4	20.5
39027964400	15.5%	7.6%	5.9%	10.8%	8.7	10	1	76.2%	19.1	14.8	27.2
39027964500	24.1%	10.5%	18.2%	19.7%	6	18	1	1.0%	21.4	24.6	20
39027964600	20.6%	10.9%	24.9%	25.2%	44.2	18	1	0.0%	27.9	35.1	21.1
39027964700	12.7%	15.1%	12.5%	15.0%	4.3	18	1	0.1%	17.2	18.3	18.7
39027964800	14.4%	9.1%	10.8%	16.8%	5.9	10	1	60.4%	21.2	18.2	27.6
39027965000	14.7%	14.2%	12.6%	19.4%	5	18	1	23.2%	21.6	20.9	24.9
39027965100	13.9%	7.4%	14.6%	17.2%	1.9	18	1	39.2%	20.2	17.8	25.8

NTIA - Indicators of Broadband Need Map

TRACT #	DEMOGRAPHICS					BROADBAND			
	Pop. (FCC 2019 Estimate)	Total Households*	% of Pop. Whose income in the past 12 months is below poverty level*	ACS % Households w/o Internet Access*	ACS % Households w/o Computer, Smartphone, or Tablet*	Form 477 All Terrestrial Broadband: Max Advertised Consumer Download Speed	Form 477 All Terrestrial Broadband: Max Advertised Consumer Upload Speed	Ookla Speedtest Download (Mbps)	Ookla Speedtest Upload (Mbps)
39027964900	4973	1871	20.3%	20.3%	11.4%	940	35	75.182	11.115
39027964300	3716	1489	18.4%	18.4%	10.5%	940	35	80.682	11.181
39027964400	5110	1983	5.9%	5.9%	7.3%	1000	1000	22.573	6.056
39027964500	6275	2835	18.2%	18.2%	14.1%	1000	1000	78.509	11.136
39027964600	2968	1212	24.9%	24.9%	14.5%	1000	1000	79.728	11.068
39027964700	5559	2086	12.5%	12.5%	11.1%	940	115	67.503	11.42
39027964800	4927	1971	10.8%	10.8%	8.8%	940	35	13.264	3.634
39027965000	4154	1424	12.6%	12.6%	12.6%	1000	250	30.188	6.371
39027965100	4286	1657	14.6%	14.6%	12.4%	940	35	12.204	3.747

** Fields contain a margin of error percentage that is not included*

Broadband Providers in Clinton County

ZIP CODES	PROVIDER	AVAIL. %	RESIDENTIAL BROADBAND SPEEDS	PRICING	CONNECTION TYPE	CONTRACT TIMELINES
45148	T-Mobile Home Internet	5.80%	115 mbps	$50 - $55	Fixed Wireless	None required
	TDS	0.20%	5 mbps	$29.95 - $67.95	DSL	Not Listed
	Ultra Home Internet	5.80%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	Viasat	100.00%	100 mbps	$49.99-$199.99	Satellite	2 Years required
	Frontier Communications	77.60%	115 mbps	$49.99-$149.99	DSL	Not Listed
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Spectrum	74.10%	200-1000 mbps	$49.99 - $164.97	Cable	None required
45146	Spectrum	61.20%	200-1000 mbps	$49.99-$152.97	Cable	None required
	T-Mobile Home Internet	34.80%	115 mbps	$50-$55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	Frontier Communications	93.40%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Ultra Home Internet	34.80%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
45107	Spectrum	80%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	T-Mobile Home Internet	48.40%	115-115 mbps	$50 - $55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Ultra Home Internet	48.40%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	TDS	10.40%	25-100 mbps	$29.95 - $67.95	DSL	Not Listed
	Heavenwire.net	7.40%	4-30 mbps	$44.95 - $169.95	Fixed Wireless	2 Years required
	Frontier Communications	83.90%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Little Miami Gig	6.90%	250-1000 mbps	$79.95-$149.95	Fiber	Not Listed
	Cincinnati Bell	6.60%	10-1000 mbps	$44.99 - $69.99	Fiber and DSL	Not Listed
45113	T-Mobile Home Internet	79.20%	115 mbps	$50 - $55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Ultra Home Internet	79.20%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	Spectrum	14.70%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	CenturyLink	7.20%	100 mbps	50	DSL	None required
	Intelliwave	48.00%	10 mbps	-	Fixed Wireless	-
	Frontier Communications	90.90%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Little Miami Gig	17.60%	250-1000 mbps	$79.95-$149.95	Fiber	-
	Heavenwire	10.90%	4-30 mbps	$44.95 - $169.95	Fixed Wireless	2 Years required
45159	Spectrum	76.60%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	T-Mobile Home Internet	82.10%	115 mbps	$50 - $55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Frontier Communications	82.10%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Ultra Home Internet	82.10%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	Intelliwave	11.60%	25 Mbps	Not Listed	Fixed Wireless	Not Listed

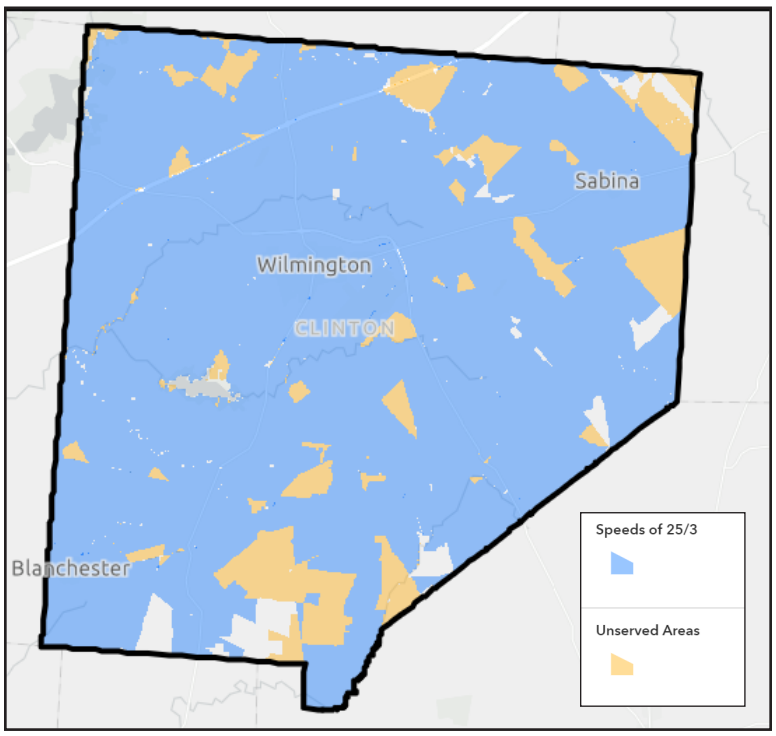
ZIP CODES	PROVIDER	AVAIL. %	RESIDENTIAL BROADBAND SPEEDS	PRICING	CONNECTION TYPE	CONTRACT TIMELINES
45164	T-Mobile Home Internet	49.80%	115 mbps	$50 - $55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Frontier Communications	100.00%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Ultra Home Internet	49.80%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
45166	Spectrum	100.00%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	Frontier Communications	100.00%	115 mbps	$49.99-$149.99	DSL	Not Listed
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Intelliwave	100.00%	10 Mbps	Not Listed	Fixed Wireless	Not Listed
45169	Spectrum	76.70%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	T-Mobile Home Internet	20.50%	115 mbps	$50 - $55	Fixed Wireless	None required
	Ultra Home Internet	20.50%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	AT&T Internet	8.50%	25-100 mbps	$55 - $154.99	IPBB and Fixed	Not Listed
	Frontier Communications	84.90%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Intelliwave	54.60%	50 Mbps	Not Listed	Fixed Wireless	Not Listed
	Point Broadband	6.20%	5-50 mbps	$51 - $81	Fixed Wireless	None required
45177	Spectrum	81.00%	200-1000 mbps	$49.99 - $164.97	Cable	None required
	T-Mobile Home Internet	45.50%	115 mbps	$50 - $55	Fixed Wireless	None required
	Viasat	100.00%	12-100 mbps	$49.99-$199.99	Satellite	2 Years required
	HughesNet	100.00%	25 mbps	$39.99-$149.99	Satellite	2 Years required
	Ultra Home Internet	45.50%	100 mbps	$59.99 - $289.99	Fixed Wireless	None required
	Intelliwave	18.50%	50 Mbps	Not Listed	Fixed Wireless	Not Listed
	Point Broadband	15.40%	5-50 mbps	$51 - $81	Fixed Wireless	None required
	Frontier Communications	98.40%	115 mbps	$49.99-$149.99	DSL	Not Listed
	Cincinnati Bell	14.40%	10-50 mbps	$44.99	DSL	Not Listed
	Little Miami Gig	6.00%	250-1000 mbps	$79.95-$149.95	Fiber	Not Listed
	Bridgewired	5.10%	200-1000mbps	$74.99 - $104.99	Fiber	Not Listed
45114	Not listed on Broadbandnow.com and Broadbandsearch.net					
Other Providers Per the FCC	DISH	Not listed on Broadbandnow.com and Broadbandsearch.net				
	SAL Spectrum					
	WATCH Communications					
	Starry Communications					
	Chillicothe Telephone Company (dba Horizon Telecom)					
	WATCH Communications					

^ Chart: Clinton County OH Incumbent Analysis[1]

1 Intelliwave has been acquired by Point Broadband (https://point-broadband.com/internet/).

Ultra Home Internet is backed by T-Mobile's 5G and LTE network, and shares T-Mobile's coverage and availability. It is a "newcomer" in the residential internet market as more mobile providers begin using 5G spectrum to provide home internet over their current networks.

The Project Team's spatial data analysis considering the broadband coverage and address information provided by Clinton County found that, overall, 70.7% of the County has broadband coverage of at least 25 Mbps download/ 3 Mbps upload, and various enhanced download and upload speeds of 100 Mbps download/ 10 Mbps upload, 50 Mbps download/ 5 Mbps upload, etc., depending on location within the County. The majority of service at or above the FCC's definition of 25 Mbps download/ 3 Mbps upload in Clinton County is currently provided via a cable connection. However, download and upload speeds are not symmetrical (i.e., the same), which creates limitations for data transference, virtual meetings, business purposes, livestream, remote work, and more.



^ Map: Number of Fixed Residential Broadband Providers offering Fiber above 25 Mbps download/ 3 Mbps upload

BROADBAND COVERAGE (DOWNLOAD X UPLOAD)	NUMBER OF ADDRESSES	COVERAGE PERCENTAGE (%)
(100 x 10) or/and (50 x 5) or/and (25 x 3) ⟶ areas that overlap	15,096 unique addresses with broadband coverage (< 25 x 3)	707% unique addresses with broadband coverage (< 25 x 3)
100 x 10	*13,819 (addresses that overlap with 50 x 5 or/and 25 x 3 broadband coverage areas)*	*64.7% (addresses that overlap with 50 x 5 or/and 25 x 3 broadband coverage areas)*
50 x 5	*13,858 (addresses that overlap with 100 x 10 or/and 25 x 3 broadband coverage areas)*	*64.9% (addresses that overlap with 100 x 10 or/and 25 x 3 broadband coverage area)*
25 x 3	*15,035 (addresses that overlap with 100 x 10 or/and 50 x 5 broadband coverage areas)*	*70.4% (addresses that overlap with 100 x 10 or/and 50 x 5 broadband coverage areas)*
No Broadband Coverage	6,269 unique addresses with broadband coverage (< 25 x 3)	29.3% unique addresses with broadband coverage (< 25 x 3)
10 x 1	*42,698*	*20.1%*
No registration data	*1,871*	*9.2%*
TOTAL	**21,365**	**100%**

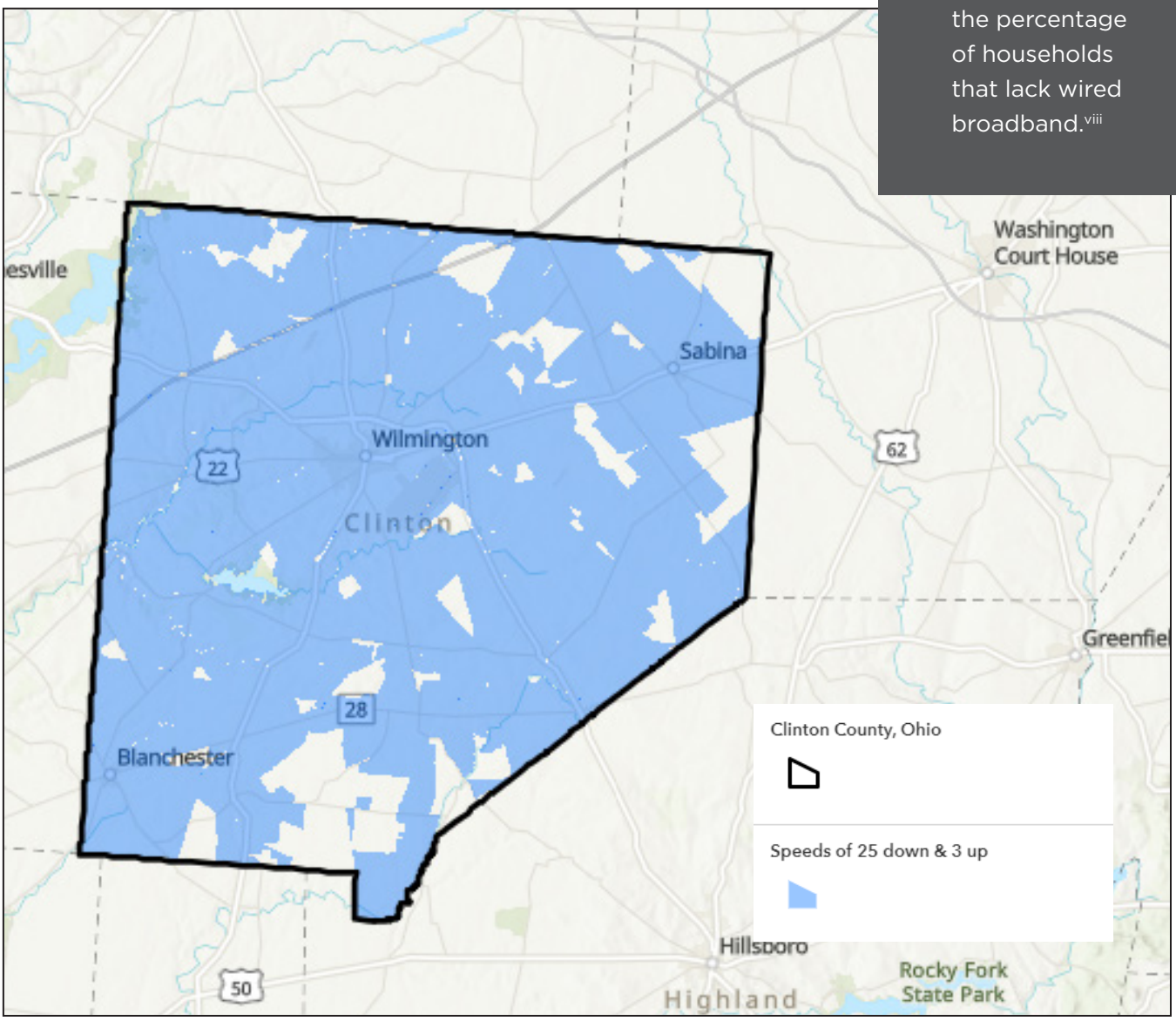
Broadband Access in the Clinton County

a. Fixed Broadband Speeds in Clinton County

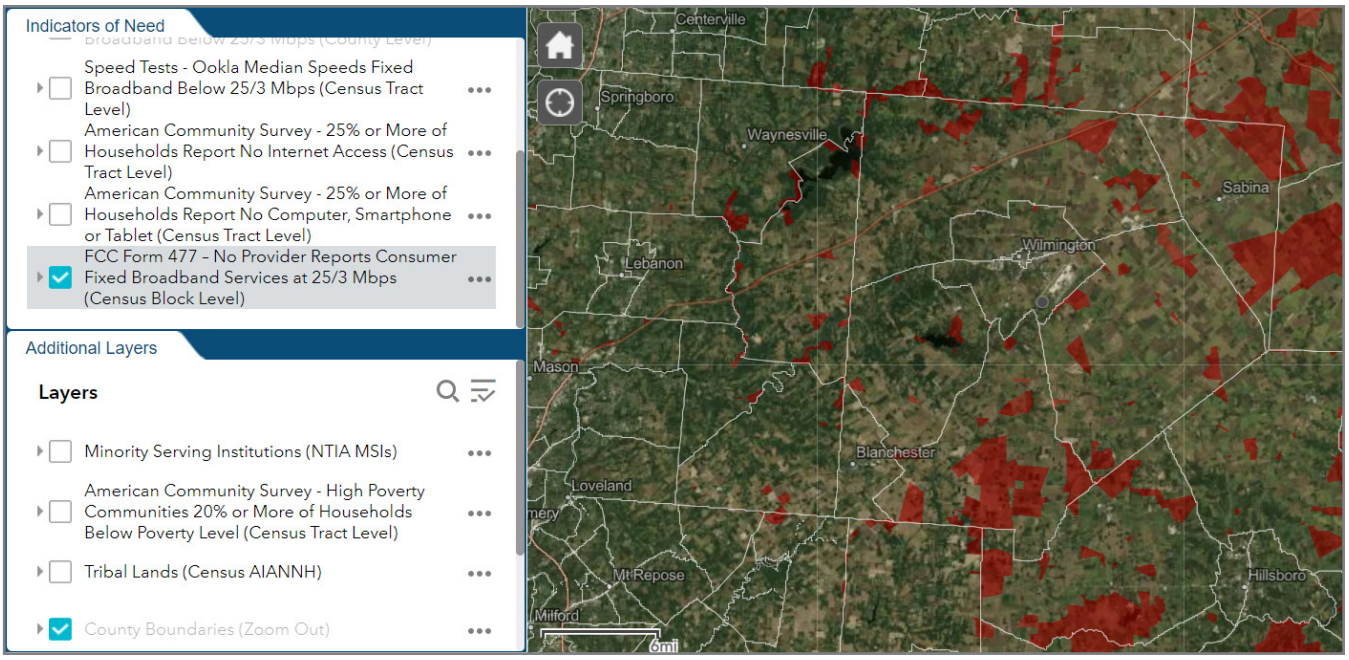
i. Residential Fixed Broadband Speeds

As discussed previously, the FCC's current definition of "broadband" is 25 Mbps download/ 3 Mbps upload. Coverage in the County at this speed tier is depicted in the following maps.

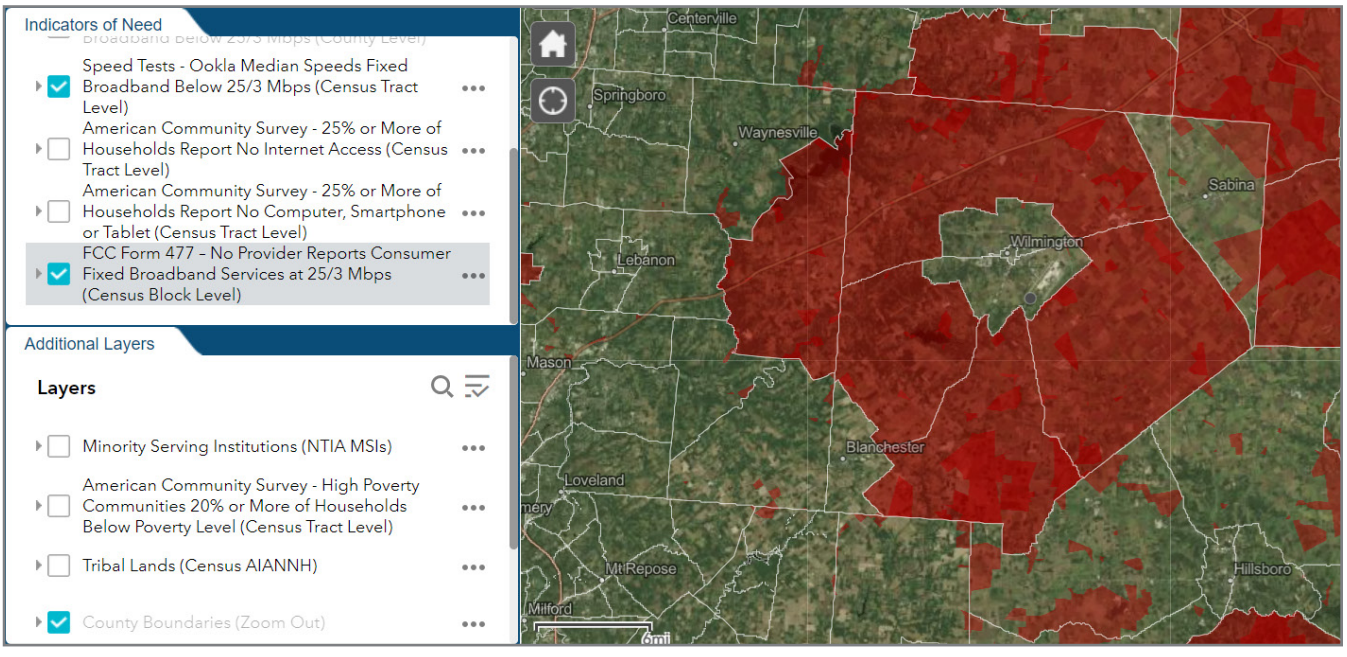
Wilmington is ranked as one of the 50 worst connected cities with populations over 5,000 in Ohio due to the percentage of households that lack wired broadband.[viii]



^ Current coverage in Clinton County at 25 Mbps download/ 3 Mbps upload according to FCC Form 477

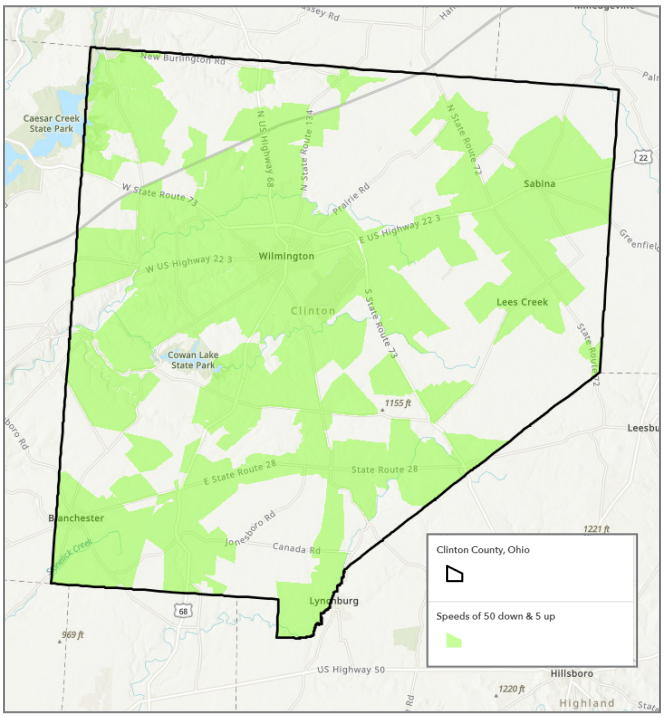


^ NTIA Indicators of Broadband Need – FCC Form 477 No Provider Reports Consumer Fixed Broadband Services at 25/3 Current coverage in Clinton County below 25 Mbps download/ 3 Mbps upload according to NTIA Indicators of Broadband Need Map

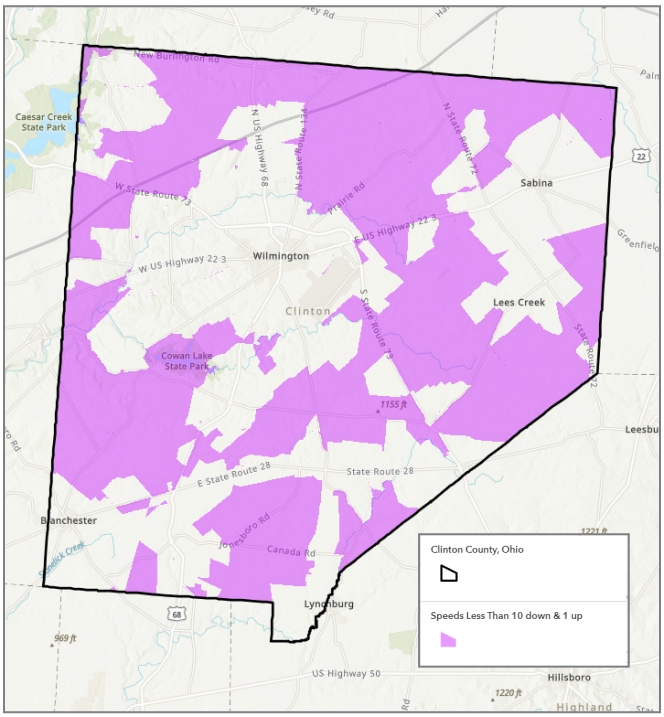


^ Current coverage in Clinton County below 25 Mbps download/ 3 Mbps upload according to NTIA Indicators of Broadband Need Map

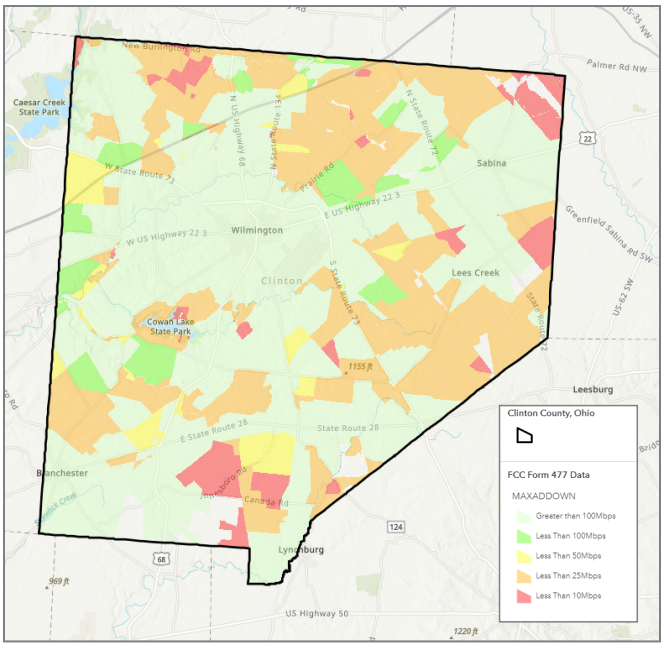
However, as would be expected, depicted coverage decreases as speed tiers increase:



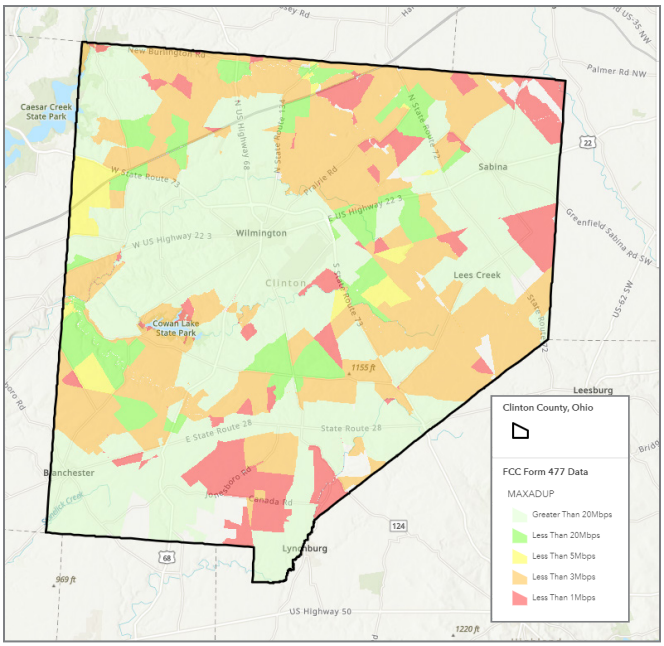
^ Current coverage in Clinton County at 50 Mbps download/ 5 Mbps upload according to FCC Form 477



^ Current coverage in Clinton County at 100 Mbps download/ 10 Mbps upload according to FCC Form 477



^ Maximum Advertised Available Download Speed for Fixed Residential Access

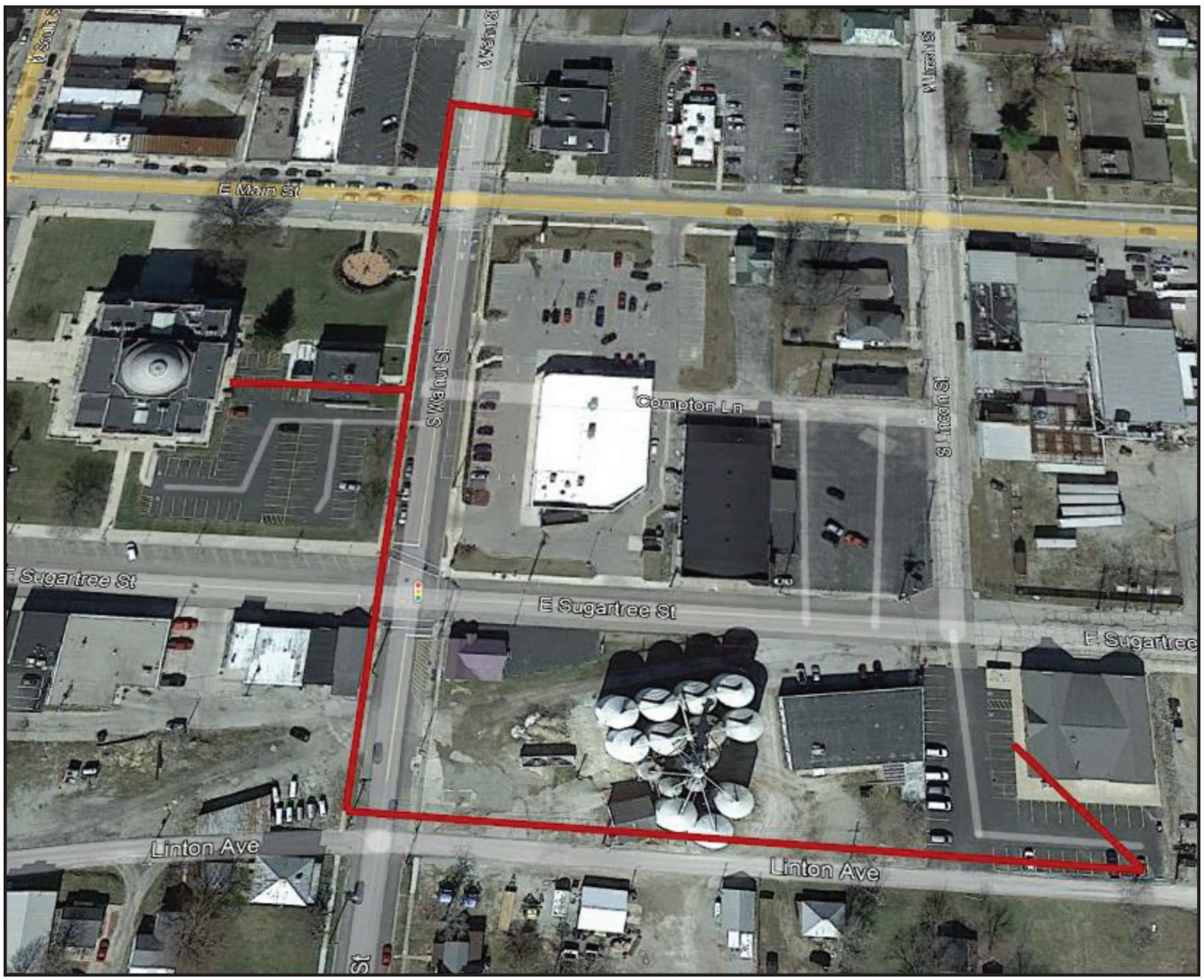


^ Maximum Advertised Available Upload Speed for Fixed Residential Access

4

SITE ANALYSIS

4 | Site Analysis



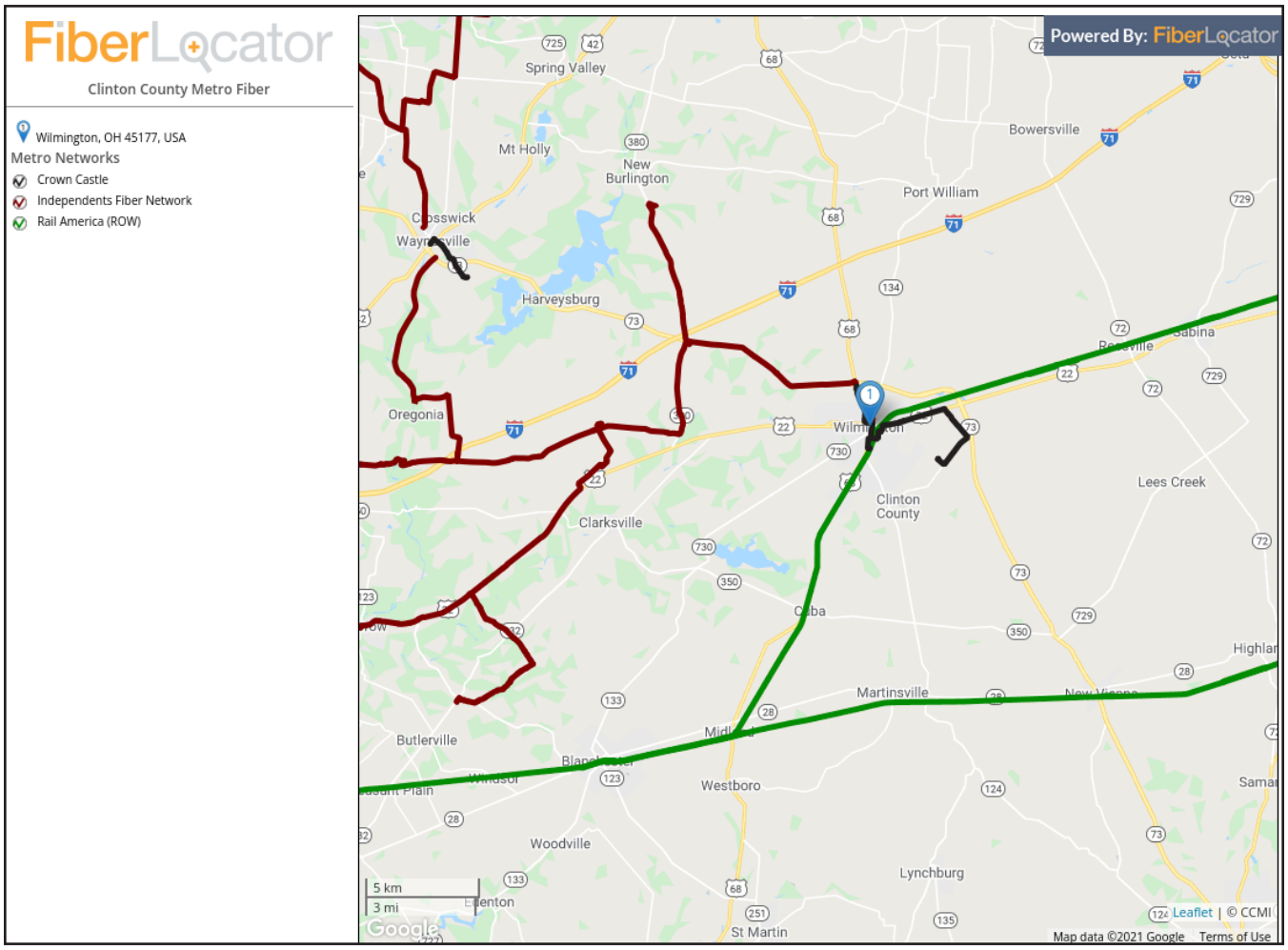
^ *Map: Existing County Fiber*

Broadband Infrastructure in Clinton County

i. Fiber Infrastructure

Clinton County has a small fiber loop that connects the Courthouse, Administrative Building on Sugartree Street, Veterans Building, and County Prosecutor's Office. This fiber ring was installed and is managed by the Miami Valley Educational Computing Center (MVECA).

Private provider middle mile fiber in Clinton County is depicted in the following maps.



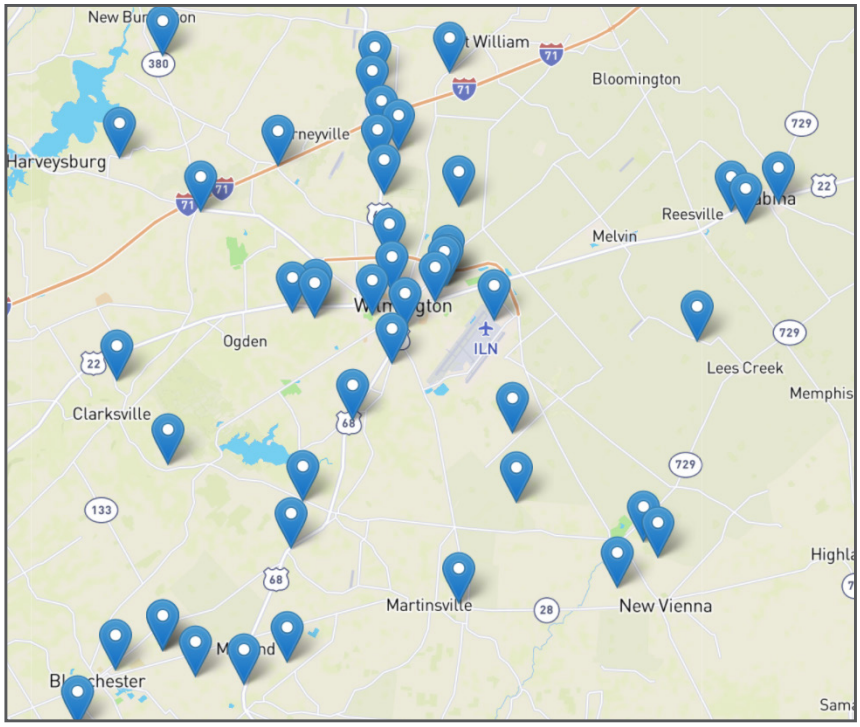
^ Map: Fiber Locator Metro Fiber[1]

FiberLocator allows for the visualization of metro fiber networks, corresponding to middle mile fiber. As depicted above, even where fiber is currently available within Clinton County, there is a lack of fiber redundancy guaranteeing the connectivity when hazards occur. As we previously discussed in the Project Identification section, ***it is recommended that middle mile closed rings are built to solve the potential aforementioned risks.***

1 Providers are not required to submit their coverage information to the above maps and, as a result, not all do so.

ii. Wireless Infrastructure in Clinton County

The following fixed and mobile wireless infrastructure is deployed in Clinton County:



^ FCC registered towers

Middle-mile often refers to the network connection between the last-mile and Internet. For example, in a rural area, the middle mile would connect the town's network to a larger metropolitan area where it interconnects with major broadband carriers.[i]

Last-mile is the final leg of an internet connection between a service provider and the customer.[ii] For example, the last-mile is the connectivity (from a service provider) that comes into someone's home or business that allows them to use the internet.

FCC Registered Towers Chart

Hoco Num	Hoco Final
130077	AT&T Inc.
420013	Bridgewired LLC
130235	Charter Communications
130254	Cincinnati Bell Inc.
130316	Combined Technologies, Inc.
130258	Frontier Communications Corporation
420073	Little Miami Gig, LLC
130228	Lumen Technologies, Inc.
340070	Point Broadband Fiber Holding, LLC
130403	T-Mobile USA, Inc.

*In addition, the Blanchester Public Library, Sabina Public Library, and Wilmington Public Library offer Wi-Fi hotspots.

County Asset Inventory

A cost-effective tactic for communities to encourage and facilitate enhanced broadband expansion is to reduce build-out costs.

One approach to doing so is to utilize existing infrastructure and dig-once opportunities. With a clearer picture provided as to broadband access, or in certain locations lack thereof in Clinton County, it is next important to determine whether existing assets could be used to better facilitate local broadband expansion. This was further explored earlier, in the Project Identification section.

In December 2021 and January 2022, Lit Communities compiled a list of possible Network Locations and Anchor Institutions for the Clinton County Feasibility Study. The list comprises municipal sites, emergency first responders, and educational facilities. These locations can be used for network equipment for fixed wireless or colocation facilities. Below are the requirements for wireless and colocation facilities.

Wireless Requirements

☑	The Site should be centrally located for the desired coverage area and not have a similar height or taller buildings or obstructions to the signal.
☑	Minimum Height of 2x local tree height
☑	Indoor Floor Space 6' x 6' for two communications racks
☑	**Power (minimum)-** Single-phase 120 VAC, 50 amps, Generator or battery UPS
☑	**Grounding-** Exposed building steel near equipment racks and antennae, available ground buss bars are preferred. Resistance of the grounding system should be < 5 ohms
☑	**Environmental Requirements-** Adequate climate control and air circulation are required to maintain. The air inlet temperature at the front of the racks to be 70º F ± 5º F."
☑	**Physical security-** Access to the rack room and roof area should be controlled to prevent damage to the equipment and unsupervised personnel. 24/7/365 access to the rack room and antenna area for network personnel.
☑	**Antenna locations-** Minimum of 1m clearance to any other antennae. If no antenna mounts exist, a minimum space of 10'x10' will be needed for each roof mount.
☑	**Cabling paths-** Should be short (<100') and easily accessible for future troubleshooting. Conduit in place from rack location to antenna location is preferred.
☑	**Roof Access-** There needs to be ample room to move antennae and mounts from the parking lot to the roof (roof mount assembly pieces can be 10' long).
☑	Service elevator.

Colocation Facility Requirements

☑	Minimum of 150 sq ft of floor space.
☑	Air Conditioned.
☑	Redundant AC or DC Power (2 circuits on separate breakers).
☑	Backup Generator OR Battery Backup with a minimum of 24 hours run time.
☑	No Sprinklers or water lines in the colocation space.
☑	Minimum Battery Backup/UPS of 8 Hours.
☑	EX4600 Wattage = 365 W.
☑	Smart-UPS with monitoring Wattage.
☑	24/7/365 unescorted access.
☑	Out-of-Band Mgmt. Connection.
☑	Diverse Fiber Entrance into the facility.
☑	Enclosed rack with locking doors or space to place a rack.
☑	Managed cable tray & racks.
☑	Site monitored by Security Provider.
☑	Site monitored for environmental conditions.
☑	Network Security Cameras.

After finalizing the initial Site List, Lit Communities began calling the locations the week of January 24, 2022 to set up appointments with site representatives. Then, during the week of January 31, 2022, Lit Communities physically reviewed and visited each site on the list in person to confirm the qualifications of the locations.

After the in-person site analysis, the list was narrowed from eighty (80) to thirty-six (36) sites. After the County reached out to several non-responsive sites, these site representatives returned phone calls and emails, enabling Lit to complete the Site Analysis. The responses were very positive, with one possible site owner offering another location. In total, **there are thirty-three (33) potential wireless locations and seven (7) colocation sites. Some places could serve as both a wireless and colocation facility.**

Clinton County OH - Site Analysis Summary List

Site	Address	Phone	Follow up notes	Potential Network Location	Potential Wireless Location	Potential Co-Location Facility
Southern Ohio Educational Service Center	3321 Airborne Rd Wilmington, Ohio, 45117	937-382-6921	Lit emailed superintendent Beth justice twice.	Yes	Yes	Yes
Clinton County Sheriff's Office	1645 Davids Dr, Wilmington, Oh 45177	937-382-1611	Lit called multiple times and sent email to col. Prickett 2/23	Yes	Yes	Yes
Clark Township - David West, President	401 Cemetery Road, Martinsville, Oh 45146	937-763-1476	"Previous president Neil gave David west's number. We called, but there was no answer or voice message option. 2/24 Phone number confirmed by Mike Mccarty, and David west is contact person. 2/25 Lit tried calling David west, there was still no answer or voice message option."	Yes	Yes	No
(District #7) Martinsville/Clark Township Fire & Ems	317 School Street Martinsville, Oh	937-685-4455	Lit called 2/25. No answer, left voice message.	Yes	Yes	No
(District #8-1) Blanchester-Marion Township Fire Department	703 North Broadway Street Blanchester, Oh	513-623-8860	Fred Jones	Yes	Yes	No
(District #8-2) Blanchester Ems	108 West Center Street, Blanchester, Oh 45107	937-783-2062	Lit called 2/25. Site does not have a diverse fiber entrance, but answered yes to all other questions.	Yes	Yes	No
(District #9) Liberty Township Joint Fire & Ems	7211 North State Route 134, Wilmington, Oh 45164	937-486-5300	Lit called 2/25. Left message with Duncan for the chief to return call.	Yes	Yes	Yes
Blanchester BPA	318 E Main St Suite 102 Blanchester, Ohio 45107	937-728-0944	We left a voice message. 2/24 James Bowling is BPA contact per Mike Mccarty	Yes	Yes	No
Clinton-Warren Joint Fire And Rescue	82 Spring Hill Road Clarksville, Oh	513-383-2428	We left a voice message. 2/24 Bob Wysong is contact per mike Mccarty	Yes	Yes	No
Cowan Lake State Park Law Enforcement	1750 Osborn Road, Wilmington, Oh 45177	937-382-1096	Lit called 2/25, left voice message.	Yes	No	Yes
Clinton-Massie Elementary School	2380 Lebanon Road Clarksville, Oh	937-289-2515	Lit emailed superintendent Matt baker on 2/23. On 2/24 lit sent an email to superintendent baker outlining the project partners, the county's press release, network location questions, and a link to the survey. Matt replied to email with a yes to all locations.	Yes	Yes	No
East Clinton High School	174 Larrick Road Sabina, Oh	937-584-2474	Lit emailed superintendent Eric Magee on 3/23.	Yes	Yes	No

Site	Address	Phone	Follow up notes	Potential Network Location	Potential Wireless Location	Potential Co-Location Facility
Blanchester Department Of Education	951 Cherry Street Blanchester, Oh	937-783-3523	Lit spoke to superintendent dunlap on 2/18. On 2/21 lit sent an email to superintendent dunlap outlining the project partners, the county's press release, network location questions, and a link to the survey.	Yes	Yes	No
Blanchester High School	953 Cherry Street Blanchester, Oh	937-783-2461	Lit spoke to superintendent dunlap on 2/18. On 2/21 lit sent an email to superintendent dunlap outlining the project partners, the county's press release, network location questions, and a link to the survey.	Yes	Yes	No
Blanchester Intermediate School	955 Cherry Street Blanchester, Oh	937-783-2040	Lit spoke to superintendent dunlap on 2/18. On 2/21 lit sent an email to superintendent dunlap outlining the project partners, the county's press release, network location questions, and a link to the survey.	Yes	Yes	No
Blanchester Middle School	955 Cherry Street Blanchester, Oh	937-783-3642	Lit spoke to superintendent dunlap on 2/18. On 2/21 lit sent an email to superintendent dunlap outlining the project partners, the county's press release, network location questions, and a link to the survey.	Yes	Yes	No
Clinton-Massie High School	2556 Lebanon Road Clarksville, Oh	937-289-2109	Lit emailed superintendent matt baker on 2/23. On 2/24 lit sent an email to superintendent baker outlining the project partners, the county's press release, network location questions, and a link to the survey. Matt replied to email with a yes to all locations.	Yes	Yes	No
Clinton-Massie Middle School	2556 Lebanon Road Clarksville, Oh	937-289-2932	Lit emailed superintendent matt baker on 2/23. On 2/24 lit sent an email to superintendent baker outlining the project partners, the county's press release, network location questions, and a link to the survey. Matt replied to email with a yes to all locations.	Yes	Yes	No
Wilmington City Schools/ Board Of Education	341 S Nelson Ave Wilmington, Ohio, 45117	937-382-1641	Lit emailed superintendent melinda stewart on 2/24	Yes	No	Yes
Wilmington High School	300 Richardson Place Wilmington, Oh	937-382-7716	Lit emailed superintendent melinda stewart on 2/24	Yes	Yes	No
Liberty Township Ron Stryker, President	7277 State Route 134 North, Wilmington, Oh 45177	937-414-0085	We left a voice message. Ron stryker is contact per mike mccarty	Yes	Yes	Yes

Site	Address	Phone	Follow up notes	Potential Network Location	Potential Wireless Location	Potential Co-Location Facility
New Vienna Police Department	97 West Main Street New Vienna, Oh	937-987-2116	Lit spoke with the chief on 2/25 said he would have maintenance give a call back when he is in office.	Yes	Yes	No
Port William Fire Department	220 2nd Street Port William, Oh	937-486-5300	Lit called 2/25. Left message with duncan for the chief to return call.	Yes	No	Yes
Clinton County Courthouse	46 S South St, Wilmington, Oh 45177	937-382-4276	Lit called 2/25. Was unable to speak with anyone.	Yes	Yes	No
Levo Road Cell Towers	564 Levo Rd, New Vienna, Oh 45159		Lit will contact the tower owners as needed.	Yes	No	No
Blanchester Water Tower	Across From 951 Cherry Street Blanchester, Oh		Lit visited the site. 2/25 Wayne moore is contact person per brenda k. Woods	Yes	Yes	No
Doug Barton's Lee's Creek Feed Mill	6896 Oh-729, Wilmington, Oh 45177	937-603-0241	Lit contacted on 2/25. Positive response from doug barton.	Yes	Yes	No
Doug Barton's Grain Silo	3007 Sabina Greenfield Rd. Sabina, Oh 45169	937-603-0241	Lit contacted on 2/25. Positive response from doug barton.	Yes	Yes	No
New Vienna Water Tower	204 E Church St, New Vienna, Oh 45159	937-987-2275	Left voicemail with mayor kathi stone @ 937-725-9616 on 2/23	Yes	Yes	No
Blanchester Police Department	318 East Main Street Blanchester, Oh	937-783-2431	Lit sent email to mayor john carman on 3/24. Still awaiting a reply.	Yes	Yes	No
New Vienna Water Department	97 W Main St, New Vienna, Oh 45159	937-987-2477	Left voicemail with mayor kathi stone @ 937-725-9616 on 2/23	Yes	Yes	No
New Cingular Wireless Pcs, Llc615 / Dudley Road (60188)	615 Dudley Road	Tbd	Site visited in person by lit.	Yes	Yes	No
New Cingular Wireless Pcs, Llc3327 / W Sr3 & Us 22 (60217)	3327 W Sr3 & Us 22	Tbd	Site visited in person by lit.	Yes	Yes	No
New Cingular Wireless Pcs, Llc327 / East Mount Pleasant Road (81658)	327 East Mount Pleasant Road	Tbd	Site visited in person by lit.	Yes	Yes	No
Cellco Partnership 1227 / S. George Road	1227 S. George Road	Tbd	Site visited in person by lit.	Yes	Yes	No
Cellco Partnership / 3400 Center Rd	3400 Center Rd	Tbd	Site visited in person by lit.	Yes	Yes	No
Cellco Partnership / 10141 Us 22 East	10141 Us 22 East	Tbd	Site visited in person by lit.	Yes	Yes	No

As highlighted in the Service and Infrastructure Analysis and supported by the above maps, last-mile fiber service is significantly lacking in Clinton County for both residential, commercial, and governmental use. **After the final deliverables are submitted and the County has determined how to move forward, this site list is an extraordinary resource for the planning that will need to take place and the network deployment to follow**.

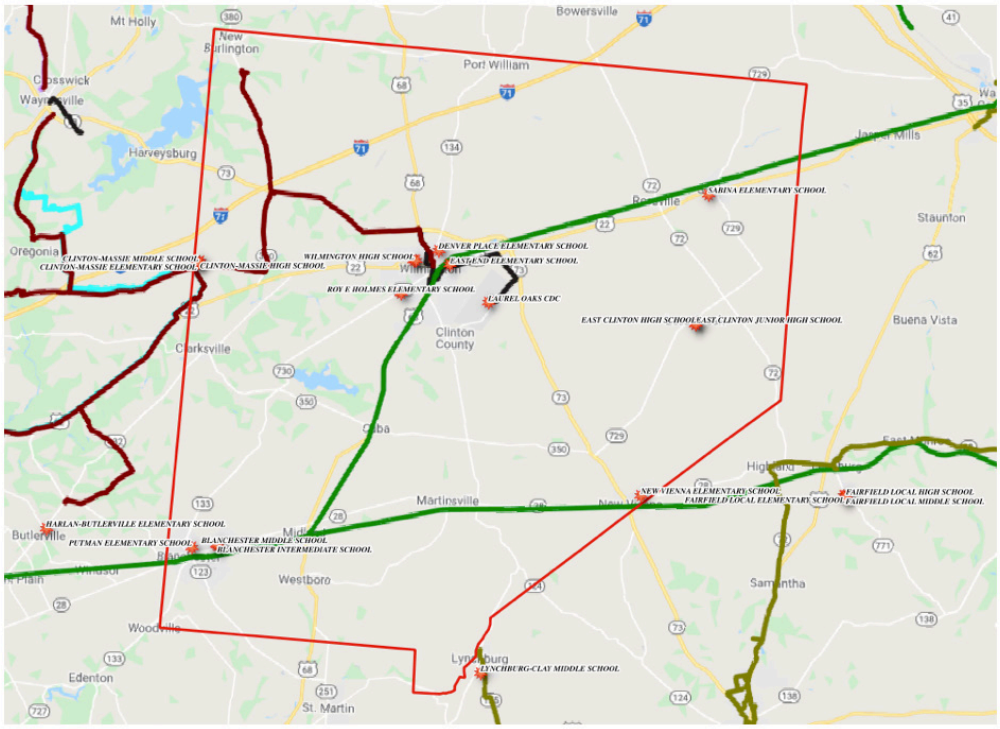
Other sites for consideration are those utilized by other utility providers, which may also be used for broadband expansion. Like individuals and communities, utilities have recognized the value of available broadband access. Several utilities in Ohio have already deployed significant fiber networks to support their day-to-day utility operations, and across the country utility providers have been setting up private LTE networks to inspect power lines, provide workers with mobile voice and data, ensure substation redundancy, control energy flow, provide performance and outage notification, and more.

Case Study: Many Municipalities and power providers across the state of Ohio, as well as certain other states, have found success in providing internet services to their districts. The most common example of municipal broadband is free public Wi-Fi hotspots throughout a city or in designated parts. However, some cities, like Wadsworth, Ohio, have started to offer home internet as a utility service. While there can be costs, or even legal barriers, to entry, studies show that municipal broadband offers lower and more stable rates for residents than conventional internet service providers.

In Wadsworth, the city's Electric & Communications Department provide residents with municipal cable internet. In particular, Wadsworth uses its municipal company called "CityLink" to provide cable, internet, phone, and home energy.[i] CityLink uses the city's fiber network to provide broadband services to homes and businesses, which CityLink offers at different speeds and prices. This includes six different tiers for residents, businesses, and nonprofit organizations that increases in internet speed and price from Tiers 1 to 5.[ii] For example, residents may purchase Tier 1 service for 20 Mbps download and 2 Mbps upload speeds at $25 per month. According to CityLink, Tier one is "[g]ood for very light Internet surfing and email[, but] not optimized for digital phone or streaming video/audio." At the other end of the service spectrum, CityLink offers residents Tier 6 services for 500 Mbps download and 25 Mbps upload speeds at $99 per month and advertised as "[e]xcellent for individuals or families that are streaming most of their entertainment at home."

Municipal power companies providing broadband services can offer residents lower and more stable prices. A 2018 study by the Berkman Klein Center for Internet and Society at Harvard University found that "community-owned [fiber] networks offered prices that were clear and unchanging, whereas private [internet service providers] typically charged initial low promotional or "teaser" rates that later sharply rose, usually after 12 months."[iii] Then why do municipalities decide against offering their own broadband? For 26 states, not including Ohio, their laws prohibit or restrict municipal broadband.[iv] Also, establishing and operating municipal broadband comes often comes with high initial costs. However, cities such as Wadsworth that can leverage municipal power company infrastructure have found ways to mitigate the upfront costs.

There are twenty-two K-12 schools in Clinton County. The map below depicts where these schools fall in proximity to the existing metro fiber networks in Clinton County.



Source: Clinton County (Schools and County Boundary) and FiberLocator (Fiber Metro Networks)

Although not a physical asset, a community's current economic "spend" on telecommunications services, and how those amounts will increase in the years ahead is an "asset" that, if managed appropriately, can be contributory to expanding local service.

Single-Payer Agreements

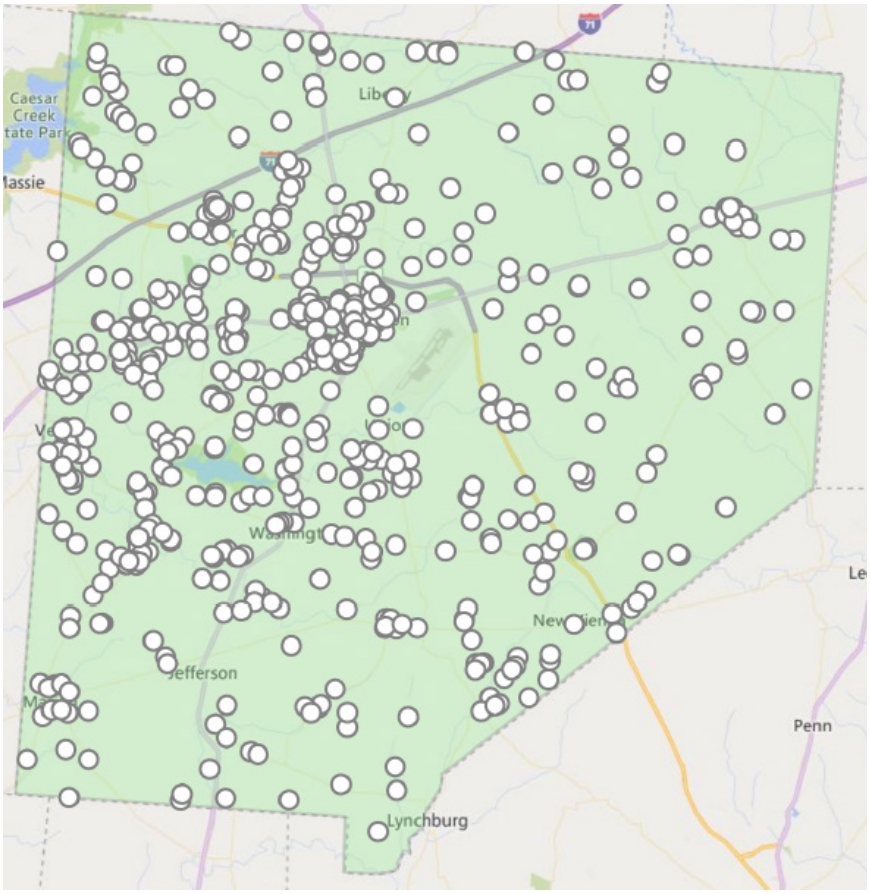
Single-payer agreements are often developed within a larger program that coordinates the contents of the agreement, identifies funding sources as well as households to receive service, and develops additional services needed whether it be digital literacy training, tech support, or access to computing devices.[v] Two models of single-payer agreements, or "sponsored agreements," can be found in Central Ohio and Chicago. In Central Ohio, the Educational Service Center owns the contract and coordinates with the Mid-Ohio Regional Planning Commission. It operates such that a number of school districts identify households to receive the service and then community organizations such as the Columbus Public Library provide technical support. In Chicago, the single-payer agreement is part of Chicago Connected—an initiative that includes funding for organizations that provide digital inclusion support to families receiving internet service.

NEEDS ASSESSMENT

5 | Needs Assessment

Survey Findings

The Clinton County Survey was available to all residents, businesses and governmental institutions in the County and ran from February 2022 to April 2022. It was advertised via social media blasts, on the Clinton County website, through the Clinton County schools and Chamber of Commerce and via two press releases. 689 residents took the survey which provided for 95% statistical confidence in the data with less than a 4% margin of error. There were 49 paper surveys distributed.



The survey captured data and analytics throughout the County and also categorized the data within the County's 10 Census Tracts. One key question asked regarding access to a fixed internet service revealed 47% of the survey respondents did not have access at all. The map to the below shows the location of those with fixed internet access who took the survey and who were able to answer questions pertaining to their current service and usage:

Respondent's data from four of the Census Tracts, 9644, 9648, 9650 and 9651 are highlighted and mentioned throughout the report as four areas showing the greatest need for adequate service (per the speed test) as well as some of the highest rates of dissatisfaction with current providers (speed and reliability). All respondents within the County were fairly split between satisfaction/dissatisfaction with speed and reliability, but 64% of all respondents were unhappy with pricing.

A significant percentage of the respondents reported using the internet for work, online learning and telehealth. Comments from all respondents also included frustration regarding the inability to consistently engage in these activities due to poor internet speeds and bandwidth.

1. Satisfaction with current broadband service:

57% of all survey respondents indicated they are unhappy to very unhappy with their current broadband service and 43% reported to be somewhat happy to very happy with current service.

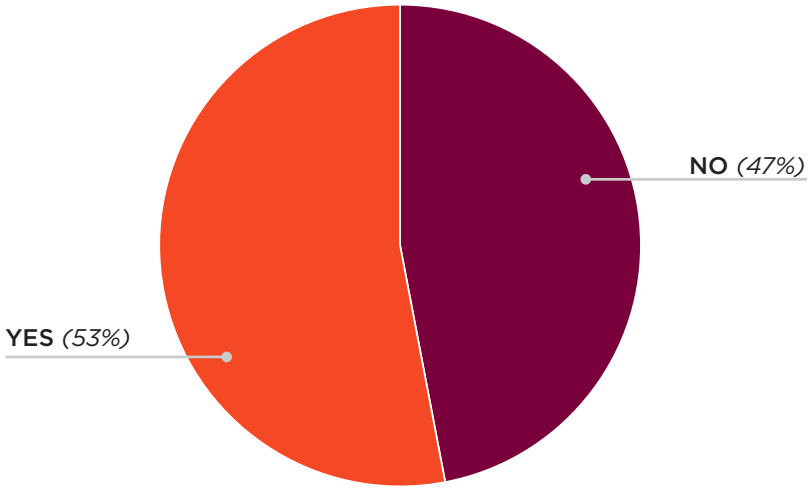
Respondents from the following census tracts had the highest dissatisfaction with their current broadband service:

	Census Tract 9644	Census Tract 9648	Census Tract 9650	Census Tract 9651
Satisfaction with current broadband service	**58%** dissatisfied	**78%** dissatisfied	**67%** dissatisfied	**66%** dissatisfied
	42% satisfied	**22%** satisfied	**33%** satisfied	**44%** satisfied

2. Measurement of respondents who reported having a fixed internet service (DSL, cable, fiber or fixed wireless) today.

Overall, 53% of respondents subscribe to a fixed internet service with 47% of respondents indicating they do not have access.

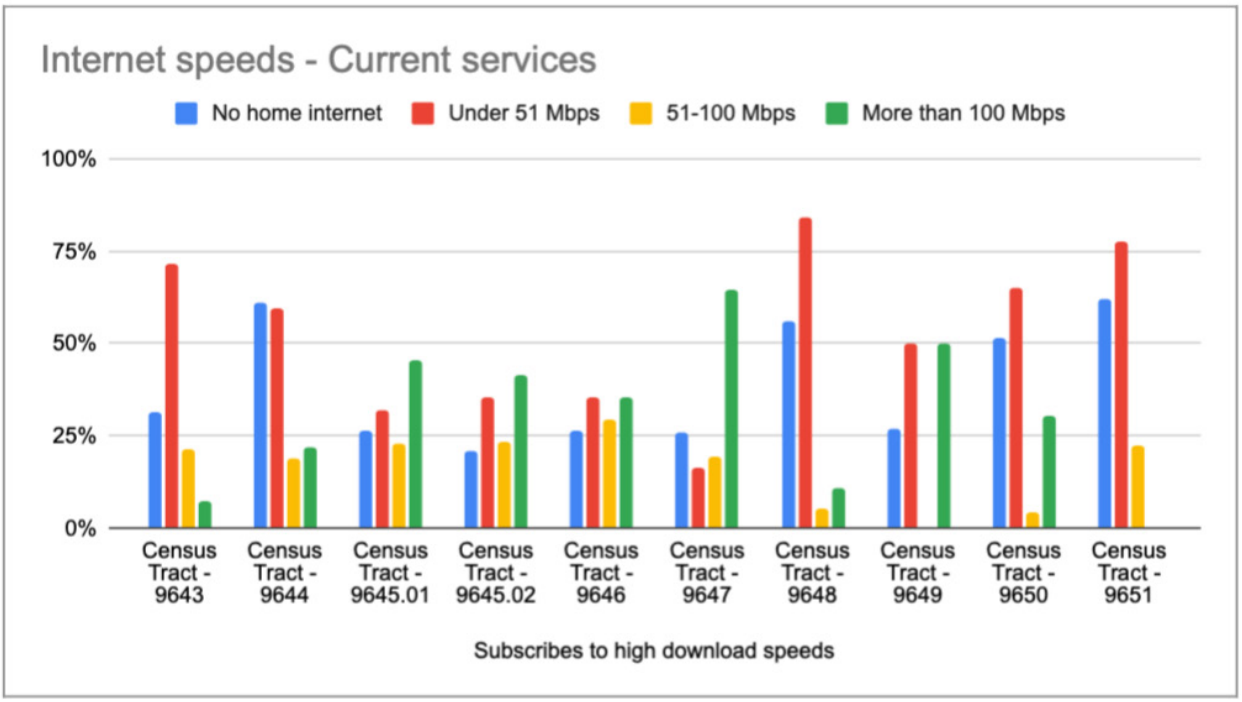
The four census tracts with the highest numbers of respondents without fixed internet service:



	Census Tract 9644	Census Tract 9648	Census Tract 9650	Census Tract 9651
Respondents with a fixed internet service (DSL, cable, fiber or fixed wireless)	**61%** without	**56%** without	**51%** without	**62%** without

3. What respondents list as the speed they are currently paying for:

Survey respondents were asked to self report on the speed packages they currently pay for. The below chart shows 29% of respondents reporting that they subscribe to services of 51mbps download or faster with 15% reporting subscription to a service of less than 5mbps download.



The four census tracts with the highest numbers of respondents reporting less than 51 mbps download are highlighted in yellow:

Subscribes to high download speeds	No home internet	Under 51 Mbps	51-100 Mbps	More than 100 Mbps
Census Tract - 9643	31%	71%	21%	7%
Census Tract - 9644	61%	59%	19%	22%
Census Tract - 9645.01	27%	32%	23%	45%
Census Tract - 9645.02	21%	35%	24%	41%
Census Tract - 9646	26%	35%	29%	35%
Census Tract - 9647	26%	16%	19%	65%
Census Tract - 9648	56%	84%	5%	11%
Census Tract - 9649	27%	50%	0%	50%
Census Tract - 9650	51%	65%	4%	30%
Census Tract - 9651	62%	78%	22%	0%

4. Results of the respondent's speeds tests:

Speed tests results taken by 63% of respondents recorded speeds under 50Mbps download/50Mbps upload, with 36% of respondents speed tests recorded at above 50Mbps download/50Mbps upload.

Speed - Clinton County	Download	%	Upload	%
Under 2 Mbps	23	9%	101	41%
2 to 4.99 Mbps	37	15%	36	15%
5 to 9.99 Mbps	29	12%	24	10%
10 to 24.99 Mbps	47	19%	81	33%
25 to 49.99 Mbps	20	8%	2	1%
50 to 99.99 Mbps	32	13%	1	0%
100 to 249.99 Mbps	51	21%	1	0%
250 Mbps and above	7	3%	0	0%
Total number	**246**	**100%**	**246**	**100%**
Average	**26.88**	**Mbps**	**2.75**	**Mbps**
Average for the 25% lowest speeds	**2.53**	**Mbps**	**0.51**	**Mbps**
Average for 25%-50% speeds	**11.58**	**Mbps**	**1.61**	**Mbps**
Average for 50%-75% speeds	**50.64**	**Mbps**	**8.19**	**Mbps**
Average for the 25% highest speeds	**217.44**	**Mbps**	**18.19**	**Mbps**

Comparison of respondent's actual speed with FCC broadband definitions of 25 Mbps download/3 Mbps upload (25/3) and 100 Mbps download/100 Mbps upload (100/100)

For survey respondents in four of the census tracts, 64% or higher were not meeting the 25/3 and 0% were receiving current speeds of 100/100.

Speed test, Key numbers - Census Tract - 9644	Number	%
Download speed is 1 Gbps or faster	0	0%
Download speed is below 1 Gbps	28	100%
Download and Upload speed is 100/100 Mbps or faster	0	0%
Download speed is 100 Mbps or faster	3	11%
Download and Upload speed is below 100/100 Mbps	25	89%

25/3 Mbps - Census Tract - 9644	Number	%
Over 25/3	9	32%
Under 25 download but over 3 upload	0	0%
Over 25 download but under 3 upload	0	0%
Under on both	19	68%
Not meeting FCC broadband definition	**19**	**68%**

Speed test, Key numbers - Census Tract - 9648	Number	%
Download speed is 1 Gbps or faster	0	0%
Download speed is below 1 Gbps	42	100%
Download and Upload speed is 100/100 Mbps or faster	0	0%
Download speed is 100 Mbps or faster	3	7%
Download and Upload speed is below 100/100 Mbps	39	93%

25/3 Mbps - Census Tract - 9648	Number	%
Over 25/3	6	14%
Under 25 download but over 3 upload	2	5%
Over 25 download but under 3 upload	3	7%
Under on both	31	74%
Not meeting FCC broadband definition	**36**	**86%**

Speed test, Key numbers - Census Tract - 9650	Number	%
Download speed is 1 Gbps or faster	0	0%
Download speed is below 1 Gbps	25	100%
Download and Upload speed is 100/100 Mbps or faster	0	0%
Download speed is 100 Mbps or faster	6	24%
Download and Upload speed is below 100/100 Mbps	19	76%

25/3 Mbps - Census Tract - 9650	Number	%
Over 25/3	9	36%
Under 25 download but over 3 upload	2	8%
Over 25 download but under 3 upload	0	0%
Under on both	14	56%
Not meeting FCC broadband definition	**16**	**64%**

Speed test, Key numbers - Census Tract - 9651	Number	%
Download speed is 1 Gbps or faster	0	0%
Download speed is below 1 Gbps	26	100%
Download and Upload speed is 100/100 Mbps or faster	0	0%
Download speed is 100 Mbps or faster	4	15%
Download and Upload speed is below 100/100 Mbps	22	85%

25/3 Mbps - Census Tract - 9651	Number	%
Over 25/3	6	23%
Under 25 download but over 3 upload	3	12%
Over 25 download but under 3 upload	1	4%
Under on both	16	62%
Not meeting FCC broadband definition	**20**	**77%**

Charter and Frontier are the dominant providers in Clinton with 50% of respondents listing Charter as their current provider and 46% Frontier.

5. Satisfaction with current service:

64% of respondents throughout the County were dissatisfied with the pricing provided from all providers with service and reliability being fairly evenly split.

Satisfaction with current service - all providers	Number of Surveys	%
Satisfied with speed	192	53%
Dissatisfied with speed	173	47%
Satisfied with reliability	185	51%
Dissatisfied with reliability	180	49%
Satisfied with price	130	36%
Dissatisfied with price	235	64%

6. Willingness to sign up for a better service if available:

95% of respondents indicated that they are willing to sign up for a better service. This includes almost all of the respondents who are currently satisfied with speed, reliability and pricing.

7. Wanting to receive an email notification if the County holds a public meeting to review the broadband feasibility study findings:

77% of respondents wanted to be contacted and told when a public meeting would be held to review the data and findings from the study. This interest is consistent amongst all the census tracts, even those with better broadband access and higher speeds.

Question: - "Would you like to receive an email notification when the County holds the public meeting to review the broadband feasibility study findings?"	Total	Yes	No	Yes %	No %
Census Tract - 9643	32	25	7	78%	22%
Census Tract - 9644	134	106	28	79%	21%
Census Tract - 9645.01	49	34	15	69%	31%
Census Tract - 9645.02	38	30	8	79%	21%
Census Tract - 9646	34	22	12	65%	35%
Census Tract - 9647	70	55	15	79%	21%
Census Tract - 9648	148	110	38	74%	26%
Census Tract - 9649	15	11	4	73%	27%
Census Tract - 9650	72	58	14	81%	19%
Census Tract - 9651	97	79	18	81%	19%
Total number	689	530	159	77%	23%

8. Respondents who use the internet to work remotely:

65% of respondents use the internet to work remotely, with 41% of these respondents from Census Tract 9650. Census Tract 9650 is a tract with 64% of respondents not currently receiving the FCC /definition of adequate speeds of 25 Mbps download/3 Mbps upload.

Question: - "Do you use your internet to work remotely?"	Total	Yes	No	Yes%	No%
Census Tract - 9643	21	10	11	48%	52%
Census Tract - 9644	48	34	14	71%	29%
Census Tract - 9645.01	34	24	10	71%	29%
Census Tract - 9645.02	27	16	11	59%	41%
Census Tract - 9646	24	13	11	54%	46%
Census Tract - 9647	50	32	18	64%	36%
Census Tract - 9648	62	42	20	68%	32%
Census Tract - 9649	11	7	4	64%	36%
Census Tract - 9650	34	20	14	59%	41%
Census Tract - 9651	33	26	7	79%	21%
Total	344	224	120	65%	35%

9. Respondents who use the internet for online learning:

72% of all the respondents reported using the internet for online learning. Census Tracts 9644, 9650 and 9651 as highlighted below were amongst the tracts reporting more than 65% of respondents using their service for online learning. These are four of the census tracts with the highest percentage of respondents without the FCC current and past definition of adequate broadband speed.

Question: - "Do you use your internet for online learning?"	Total	Yes	No	Yes%	No%
Census Tract - 9643	21	11	10	52%	48%
Census Tract - 9644	48	33	15	69%	31%
Census Tract - 9645.01	34	25	9	74%	26%
Census Tract - 9645.02	27	23	4	85%	15%
Census Tract - 9646	24	17	7	71%	29%
Census Tract - 9647	50	32	18	64%	36%
Census Tract - 9648	62	52	10	84%	16%
Census Tract - 9649	11	8	3	73%	27%
Census Tract - 9650	34	22	12	65%	35%
Census Tract - 9651	33	23	10	70%	30%
Total	344	246	98	72%	28%

10. Respondents who use the internet for online telehealth:

72% of all the respondents reported using the internet for online telehealth with all census tracts reporting usage between 56% to 82%.

Question: - "Do you use your internet for online Telehealth?"	Total	Yes	No	Yes%	No%
Census Tract - 9643	21	16	5	76%	24%
Census Tract - 9644	48	33	15	69%	31%
Census Tract - 9645.01	34	19	15	56%	44%
Census Tract - 9645.02	27	19	8	70%	30%
Census Tract - 9646	24	20	4	83%	17%
Census Tract - 9647	50	34	16	68%	32%
Census Tract - 9648	62	40	22	65%	35%
Census Tract - 9649	11	9	2	82%	18%
Census Tract - 9650	34	22	12	65%	35%
Census Tract - 9651	33	20	13	61%	39%
Total number	344	232	112	67%	33%

11. Comments:

Comments on existing services and access to remote learning, working from home and health/medical care. There were a total of 392 comments provided by all the respondents. Approximately 56% of the survey respondents left a comment and 72% of these comments addressed or mentioned a problem or a deficit. Some of these comments and categories are listed below.

Comments on existing providers (price, cost, affordability, Frontier, Spectrum, Verizon)
Approximately 32% of the comments made by respondents included feedback on the challenges they encountered with the current providers- mostly Frontier and Spectrum. Most of the respondents who provided negative feedback were not happy with the speeds and reliability followed by pricing.

"As of now, we only have the option for Frontier who will only provide the lowest internet speed and has told us there is no change coming in the near future. Our services will go out if a leaf falls from the tree and Frontier will make no effort in trying to fix the issue so we can get our kids back online for school. The price for the internet is extremely expensive and the company knows they hold a monopoly in our area. I have contacted spectrum several times only to hear the same thing, there is no change or services coming to our area anytime soon. HughesNet is not even an option, as their prices for a set internet usage, is as much as a used car payment. They also limit you on how much data you can use. This is 2022, we should all have fair access to unlimited data at a fair price as this world revolves now around the internet."

Comments that included references to school, learning and homework
5% of the comments from respondents commented on the challenges of being able to do school work from home, especially during the Pandemic.

"We're a household with 5 children and they can't do online school because we don't have access to the internet."

"...my children's school work suffers."

"My daughter has struggled for two years now completing school online."

"Reliable High speed internet needs to be offered for all areas. We have kids that are doing school from home that cannot connect. The satellite internet is extremely expensive and I cannot afford it so the kids had to sit in the parking lot of a place that had Wi-Fi so they could complete school work."

Comments that spoke to remote work and the challenges of working from home
Approximately 4.3% of respondent's comments mentioned the need to have reliable internet in order to work from home.

"...As a photographer & graphic designer, I'm constantly sending files with my husband to transfer for uploads to clients because it would eat up too much of our data. I live 7 miles from town & am an hour away from 3 major cities and have had poor internet for the last 20+ years. Yes, I'm extremely hot under the collar about this. I work, pay taxes & suffer through trying to run a business with NO options for a decent service. It's exhausting. Thank God I didn't have kids to home-school during the pandemic. Thanks for listening!"

> *Keeping younger workers in our county will require better connectivity for telecommuting outside the more densely populated housing provided inside the city limits.*

Conclusion

Clinton County survey respondents were almost evenly divided between those with fixed internet wireless connectivity and those without (53% with/47% without).

Of those with a fixed internet wireless connection, about a third of them reported receiving below 50Mbps download / 50Mbps upload and two-thirds receiving above this speed. **The County may want to consider a strategy that would involve prioritizing the Census Tracts that show the greatest lack of access to 25Mbps download /3Mbps upload and 100 Mbps download /100 Mbps upload.**

The lack of available service or options currently providing minimum speeds, in addition to many of the comments made by many survey respondents, point to significant frustrations and challenges in being able to work and learn from home. **Pricing was one area where respondents indicated the strongest dissatisfaction with current providers** and respondents commented that they felt they were paying too much for the quality of service they were receiving from incumbent carriers.

Lastly, the high number requesting to be contracted by the County about the broadband feasibility study findings is indicative of the dissatisfaction with price, availability, or/and service and the impact these factors have had on the respondents. This willingness to be contacted could also be viewed as interest in seeing these issues continue to be addressed by the County.

6

STAKEHOLDER MEETING

6 | Stakeholder Meeting

In accordance with the RFP, the Project Team coordinated and facilitated four (4) Stakeholder Meetings to incorporate citizen knowledge and input into the broadband plan process.

These meetings were held during the day in a hybrid virtual/ in-person format. To expand engagement with local residents, the Project Team hosted a fifth (5th) Stakeholder Meeting, which was offered at an evening time. All materials associated with these meetings are provided in **Appendix C.**

7

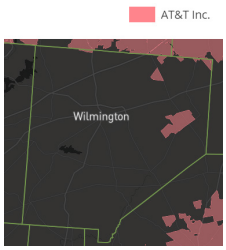
PARTNERS

7 | Partners

In accordance with the RFP, in this section, the Project Team identifies public and private partners that will benefit from and may invest in the project.

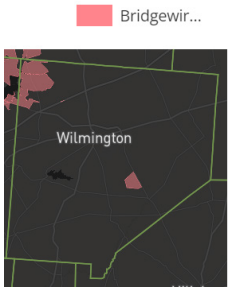
This section was informed through the Stakeholder Meetings and direct outreach to providers. The following providers currently offer service within Clinton County and/ or have expressed interest in doing so through applications to the Ohio Residential Broadband Expansion Grant Program or otherwise:[1]

1 The Project Team also connected with Ohio Transparent Telecom (OhioTT) and Omni Fiber. Neither organization currently operates in Clinton County, but both expressed an interest in doing so, particularly if funding were available. The Project Team was unable to reach ACI Technologies, Frontier, or Starry for the purposes of this section (Starry applied for the Ohio Residential Broadband Expansion Grant Program for Clinton County). We were also unable to reach DISH and SAL Spectrum (subsidiary of ATN International), both of which have been allocated a Citizens Band Radio Service (CBRS) wireless license that includes Clinton County.



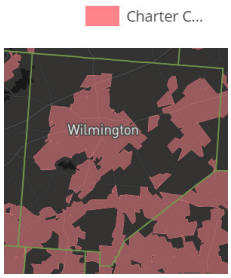
AT&T

- Traditional footprint is limited in Clinton County;
- Applied for the Ohio Residential Broadband Expansion Grant Program for Clinton County, but otherwise does not have immediate expansion plans in the area;
- Would pursue expansion if additional money was made available;
- Participate in the Affordable Connectivity Program and offer other low-cost programs;
- Obstacles to local build-out include their limited traditional footprint, low population densities, and distance limitations from the central offices.



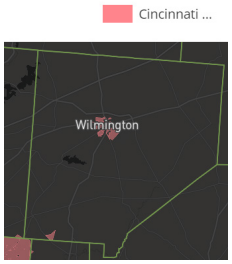
Bridgewired

- Traditional footprint is limited in Clinton County;
- Applied for the Ohio Residential Broadband Expansion Grant Program for Clinton County, but otherwise does not have immediate expansion plans in the area;
- Would pursue expansion if additional money was made available;
- Participate in the Affordable Connectivity Program and offer other low-cost programs;
- Obstacles to local build-out include their limited traditional footprint, low population densities, and distance limitations from the central offices.



Charter/ Spectrum

- Existing provider within Clinton County;
- Applied for the Ohio Residential Broadband Expansion Grant Program for the County;
- Rural Digital Opportunities Fund (RDOF) build in Clinton County to connect an estimated 2,150 homes with fiber to the home is progressing with construction beginning portions of Clark, Jefferson, Marion and Washington Townships;
- Anticipate that the first homes in these areas will have broadband service available in the second quarter of 2022;
- Barring something unforeseen, all of Clinton County RDOF build to be complete within next two years.
- Participates in Affordable Connectivity Program and offers own low-cost programs, including a new product called Spectrum 100 in which eligible households can subscribe to 100 Mbps download for $29.99 per month;
- Eligibility provisions mirror Affordable Connectivity Program;
- No local obstacles to report.

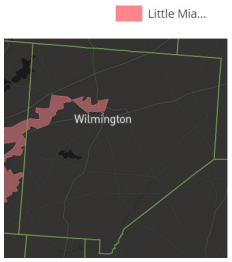


Cincinnati Bell/ Altafiber

- Cincinnati Bell was purchased by Macquarie end of last year and is now Altafiber, providing Fiber-to-the-Home, and will have fixed wireless solution in near term;
- Currently have a limited residential footprint in the County;
- Planning for regional/ countywide fiber approaches in the Midwest, including potentially Clinton County, and was awarded countywide fiber project in neighboring Greene County;
- Enrolled in the Affordable Connectivity Program;
- No local obstacles to report.

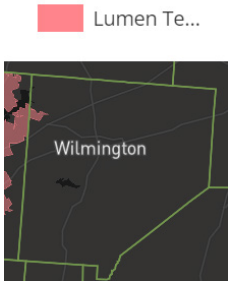
Horizon Telecom

- No current presence in Clinton County;
- Have a FTTH build in Washington Court House and surrounding Fayette County;
- No current plans for Clinton County, but are dense amounts of fiber going into the neighboring area and Clinton County fits its network well to go east to west;
- Would consider FTTH where there is a core population center in Clinton County and where state and local dollars may be available for areas without population availability;
- Not currently enrolled in the Affordable Connectivity Program;
- No local obstacles to report.



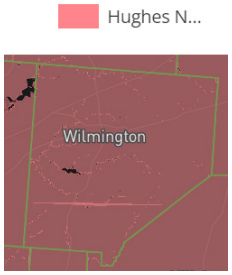
Little Miami Gig

- Current fiber provider in Clinton County;
- Applied for Ohio Residential Broadband Expansion Grant Program for the County;
- Plan to expand FTTH service throughout significant portion of Clinton County, expanding off of existing fiber footprint in area;
- Does not currently participate in the Affordable Connectivity Program;
- No local obstacles to report.



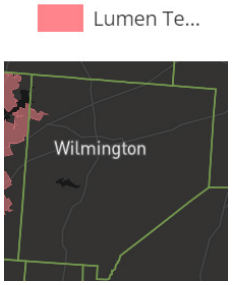
Lumen Technologies, Inc. (formerly CenturyLink)

- Portion of Lumen's Waynesville, Ohio exchange provides DSL service to a limited number of households in Clinton County;
- No current expansion plans;
- Participates in the Affordable Connectivity Program;
- No local obstacles to report.



HughesNet

- A geo orbit satellite service provider that covers all of the lower 48 states;
- Offers 25 Mbps download/ 3 Mbps upload service for an allocated amount of data – speeds guaranteed up to that amount, but after that it goes to the network's best efforts;
- Has invested in low-orbit satellite (similar to SpaceX Starlink) and is testing/ exploring a hybrid satellite/ wireless network under "Fusion" product line;
- Launching Jupiter 3 (J3) platform – currently they have Jupiter 1 and Jupiter 2 satellites – in Q4 of 2022 which will double current capacity;
- Does not target areas where cable/ fiber/ faster terrestrial services are available – those services outperform them and it doesn't make sense to compete;
- Participate in the Affordable Connectivity Program;
- Obstacles to service are line of sight issues from the ground position to the satellite orbit spot, but this is typically in locations with mountains/ buildings/ trees engulfing the service area.



Lumen Technologies, Inc. (formerly CenturyLink)

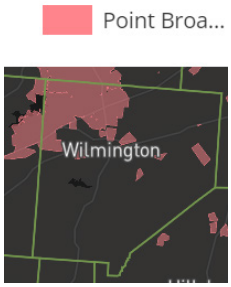
- Portion of Lumen's Waynesville, Ohio exchange provides DSL service to a limited number of households in Clinton County;
- No current expansion plans;
- Participates in the Affordable Connectivity Program;
- No local obstacles to report.

Miami Valley Educational Computing Association (MVECA)

- The Information Technology Center (ITC) in Clinton County;
- ITCs contract directly with participating schools and are connected into the Ohio Academic Resources Network (OARnet), which offers backbone speeds up to 100 Gbps;
- The ITCs then work with private internet service providers to offer service to the education facility;
- Currently does not have fiber coverage in the County – are leasing through private providers – but managed construction and lighting of fiber ring in Montgomery and Warren Counties;
- Would be interested in similar role in Clinton County, if there is an opportunity to do so.

Heavenwire

- Cincinnati-based fixed wireless provider utilizing licensed and unlicensed spectrum that is focused on expanding to areas with DSL or satellite as the primary service offerings;
- Currently serves some of the County's operations;
- Have not previously utilized state or federal dollars to expand, but would be interested if the County were to make local dollars available for expansion;
- Do not currently participate in Affordable Connectivity Program, but are willing to work with customers to ensure arrangement meets affordability needs;
- No local obstacles to report, but most customers are through word of mouth

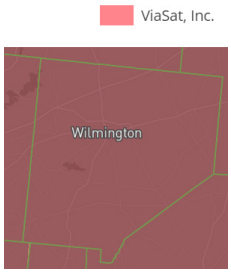


Point Broadband (formerly Intelliwave)

- Fixed wireless in County through Intelliwave acquisition;
- No foreseeable plans for expansion in the County;
- Currently participate in the Affordable Connectivity Program;
- No local obstacles to report

T-Mobile Home

- Do not have T-Mobile fixed service everywhere have T-Mobile mobile wireless – are the same towers, but in some areas are more limited;
- 5G mobile service is available through T-Mobile in Clinton County, with some availability of the fixed wireless product.
- Local obstacles are typically related to CAPE



ViaSat

- Satellite provider with coverage in Clinton County, but question is what class of service - low end of service is 12 Mbps download;
- Is not attempting to compete with fiber, but provide an option in areas that cannot get more than DSL service, or to serve as a temporary option until terrestrial service is available;
- Does not currently participate in the Affordable Connectivity Program, but are in process of enrollment;
- Local obstacles are that the service requires line-of-sight to the southern sky and extreme weather can still impact service.

WATCH Communications

- Fixed wireless provider not currently serving Clinton County, but has a Citizens Band Radio Service (CBRS) license and four Priority Access Licenses (PALs) covering Clinton County;
- Interested in expanding into Clinton County given these licenses and existing service footprint near the western portion of Clinton County in neighboring counties;
- Currently participate in the Affordable Connectivity Program;
- Local obstacles are the need for match funds with state and federal grant programs.

GRANTS

8 | Grants

Historically, many communities interested in launching and/or encouraging broadband initiatives were unprepared to fund such projects. However, a silver lining of the COVID-19 pandemic is it solidified that access to robust, reliable, affordable broadband is imperative, and, as a result, we are seeing unprecedented amounts of federal and state dollars for its expansion. We provide an analysis of these dollars below, and in the attached **Appendix D**. In some instances, Clinton County and/or its political subdivisions may be an eligible applicant, in other programs a public or private entity/ partner may be eligible to apply, and in certain circumstances a combination of the two, a public-private partnership (P3) may be the most appropriate applicant. Clinton County has previously obtained government grant funding for road and sewer infrastructure and much of the considerations that went into those proposals will be applicable to state and federal grant programs for broadband.

i. State Broadband Funding

The Ohio Broadband Strategy, released in 2019, included a goal of "work[ing] with the Ohio General Assembly to implement a statewide grant program to assist in bringing high-speed internet access to unserved and underserved areas in Ohio,"[i] the focused on the following principles:

1. Provide broadband service in areas that are unserved or underserved by broadband at speeds of 25 Mbps download/ 3 Mbps upload;
2. Incentivize private sector investment in needed broadband infrastructure deployment;
3. Establish sound metrics and eligibility requirements to ensure that grant funds are limited to expanding coverage in eligible areas; and
4. Focus on expanding broadband coverage in the most appropriate manner for the community, as opposed to favoring one type of technology or method over another.

In 2021, Ohio House Bill 2 created the Ohio Residential Broadband Expansion Grant Program, focused on the above principles. This is now codified in Ohio Administrative Code (OAC) section 122:30-1.

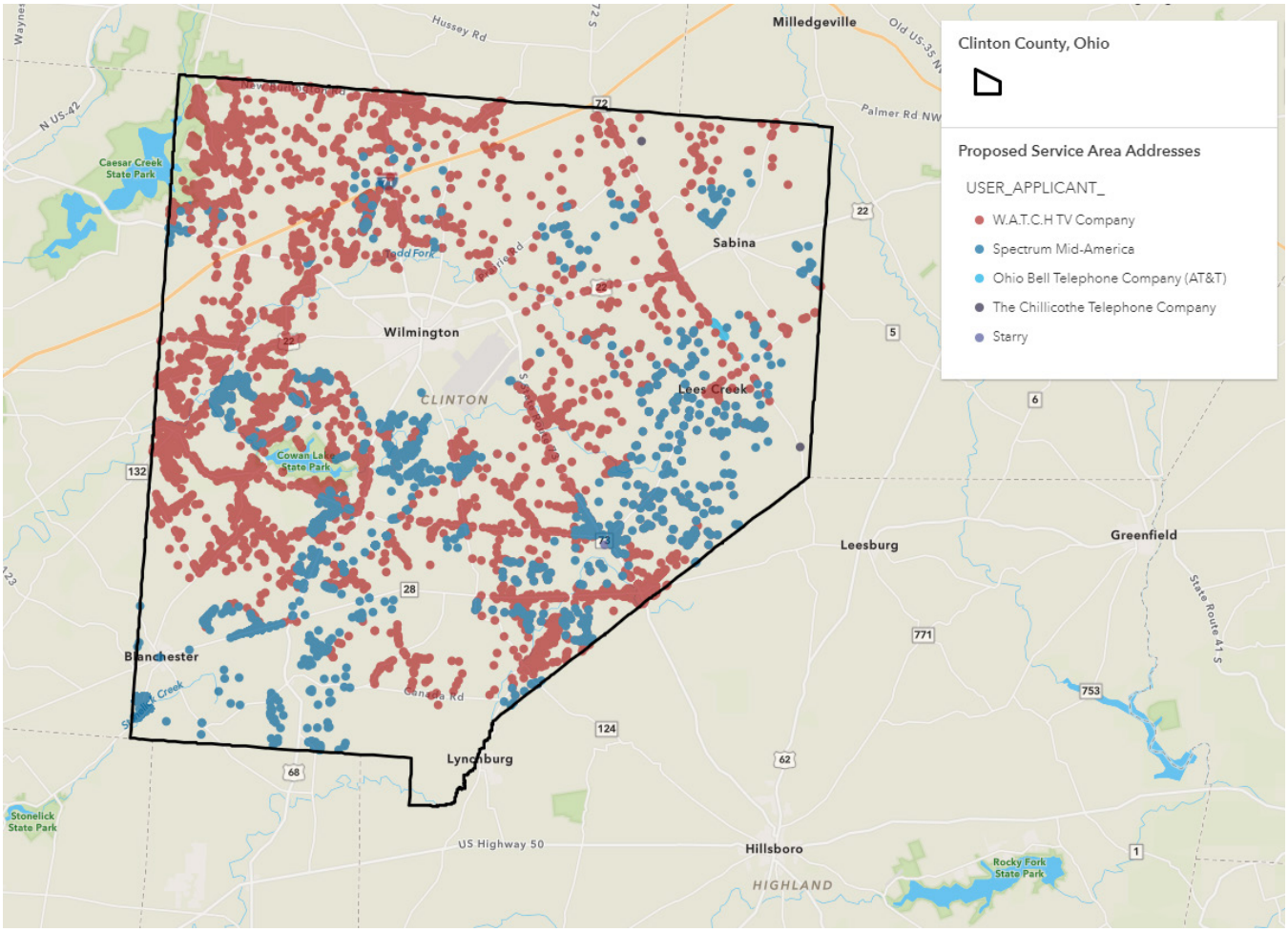
The Ohio Residential Broadband Expansion Grant Program (the State Broadband Grant) allows broadband providers to apply for funds to provide last-mile service of at least 25 Mbps download/ 3 Mbps upload (tier two service) to households currently without access to such speed. More specifically, broadband providers can apply for funds to help cover the "broadband funding gap," defined as the difference between the total amount of money a broadband provider calculates is necessary to construct the last mile of a specific broadband network and the total amount of money that the provider has determined is the maximum amount of money that is cost effective for the provider to invest in last mile construction for that network.[ii] A comprehensive summary of the State Broadband Grant and OAC section 122:30-1 is provided in **Appendix D.**

Awards under the State Broadband Grant are to be first prioritized to areas without access to 10 Mbps download/ 1 Mbps upload or 25 Mbps download/ 3 Mbps upload broadband (defined as unserved areas), and then to areas without access to 25 Mbps download/ 3 Mbps upload broadband (defined as "tier one areas"). The following maps depict coverage at the above speeds.

Applications in the first round of State Broadband Grant were due November 8, 2021, with a two-week window thereafter for broadband providers to update incomplete applications. The following providers submitted applications for Clinton County:

Provider
AT&T
Chillicothe Telephone Company
Little Miami Gig
Spectrum
Starry Communications
WATCH Communications

The proposed addresses for which they applied are depicted in the following map:



^ MAP: Addresses submitted in Clinton County[1]

The above applicants were next subject to the Grant's Challenge Process in which a another provider can submit evidence to the State that it currently provides tier two service to a residential address included in an application, or that the challenging provider provides tier two service in the area adjacent to the residential address and has plans to provide tier two service to the addresses contained in the application no later than two (2) years from the challenge date.[iii] None of the aforementioned addresses in Clinton County were impacted by the Challenge Process and final awards are anticipated in March 2022.

The initial application round to the State Broadband Grant was highly oversubscribed, demonstrating the ongoing demand for broadband connectivity in Ohio. The five (5) applicants and thousands of addresses in Clinton County depict the acute need locally. We anticipate future funding rounds under the State Grant Program, and additional opportunities to address these gaps are available through the following Federal programs.

1 Little Miami Gig's application was submitted at the address block level. Due to the lack of discrete addresses, the Project Team was unable to include their application in this map.

ii. Federal Broadband Funding

There are a variety of federal broadband programs available, many of which are relatively new given the onset of COVID-19. To ensure readiness for current and future federal grant applications, **we recommend that all levels of government in the Clinton County secure a System of Awards Management (SAM) number**, if they do not currently have one. This is a required step for any organization to secure federal grant funding and can be done through https://www.sam.gov/SAM/.

a. The Infrastructure Investment and Jobs Act

Background: President Biden announced the American Jobs Plan in Pittsburgh, Pennsylvania on March 31, 2021 seeking to, in part, bring "affordable, reliable, high-speed broadband to every American, including the more than 35% of rural Americans who lack access to broadband at minimally acceptable speeds." On July 28, 2021, the President and bipartisan members of Congress announced agreement on the Infrastructure Investment and Jobs Act (H.R. 3684) (the IIJA), which included approximately $550 billion in new federal investment in various infrastructure, including broadband. The Infrastructure Investment and Jobs Act passed the U.S. Senate in late August 2021 and passed the House in November 2021. On Monday, November 15, 2021 President Biden signed the bill into law.

The Infrastructure Investment and Jobs Act (IIJA) includes $65 billion for broadband. NTIA will administer $48.2 billion through six Programs:

PROGRAM NAME	PROGRAMS OFFERED
Grants to States for Deployment (BEAD Program) (~$42.45 billion)	This funding supports a formula-based grant program through NTIA, the Broadband Equity, Access, and Deployment (BEAD) Program, to provide funding to states, territories, the District of Columbia, and Puerto Rico for broadband deployment.
	The program does not favor particular technologies or providers.
	Projects will have to meet a minimum speed of 100 Mbps download/ 20 Mbps upload.
	Includes a 10% set-aside for high-cost areas and each state and territory receives an initial minimum allocation, a portion of which could be used for technical assistance and supporting or establishing a state broadband office.
	States will be required to have enforceable plans to address all of their unserved areas before they are able to fund deployment projects in such areas. After both unserved and underserved areas are addressed, states may use funds for anchor institution projects.
Inclusion (Digital Equity Act Program) (~$2.75 billion)	This includes the Digital Equity Act, which establishes three NTIA-administered grant programs (two formula-based programs and one competitive grant program) to promote digital inclusion and equity for communities that lack the skills, technologies, and support needed to take advantage of broadband connections. These programs are: • **State Digital Equity Planning Grant Program ($60 million)** - This is a formula grant program for states and territories to develop digital equity plans. • **State Digital Equity Capacity Grant Program ($1.44 billion)** - This is a formula grant program for states and territories to implement digital equity projects and support the implementation of digital equity plans. • **Digital Equity Competitive Grant Program ($1.25 billion)** - is a discretionary grant program for specific types of political subdivisions to implement digital equity projects.
	The legislation also tasks NTIA with evaluating digital inclusion projects and providing policymakers at the local, state, and federal levels with detailed information about which projects are most cost-effective.
Middle Mile (Enabling Middle Mile Broadband Infrastructure Program) ($1 billion)	This provision creates a state grant program for the construction, improvement, or acquisition of middle-mile infrastructure.
	Eligible entities include telecommunications companies, technology companies, electric utilities, utility cooperatives, and more.
Tribal Grants (Tribal Broadband Connectivity Program) (~$2 billion)	This provision provides additional funding to the Tribal Broadband Connectivity Program, which was established by the December COVID-19 relief package and is administered by NTIA. Grants from this program will be made available to eligible Native American, Alaska Native, and Native Hawaiian entities for broadband deployment, digital inclusion, workforce development, telehealth, and distance learning.

The Infrastructure Investment and Jobs Act (IIJA) also invests $14.2 billion in funding for the FCC to expand its affordability program and make it permanent:

PROGRAM NAME	PROGRAMS OFFERED
Grants to States for Deployment (BEAD Program) (~$42.45 billion)	This funding supports a formula-based grant program through NTIA, the Broadband Equity, Access, and Deployment (BEAD) Program, to provide funding to states, territories, the District of Columbia, and Puerto Rico for broadband deployment.
	The program does not favor particular technologies or providers.
	Projects will have to meet a minimum speed of 100 Mbps download/ 20 Mbps upload.
	Includes a 10% set-aside for high-cost areas and each state and territory receives an initial minimum allocation, a portion of which could be used for technical assistance and supporting or establishing a state broadband office.
	States will be required to have enforceable plans to address all of their unserved areas before they are able to fund deployment projects in such areas. After both unserved and underserved areas are addressed, states may use funds for anchor institution projects.
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The Infrastructure Investment and Jobs Act (IIJA) also invests $14.2 billion in funding for the FCC to expand its affordability program and make it permanent:

PROGRAM NAME	PROGRAMS OFFERED
Affordability (Affordable Connectivity Program) ($14.2 billion)	This provision devotes additional funds to the FCC's Emergency Broadband Benefit Program, now called the Affordable Connectivity Program (ACP), which subsidizes broadband service for eligible households—defined as those that suffered income loss during the pandemic or meet other need-based criteria, such as eligibility for school lunch programs. The subsidy will be provided at a lower rate (down to $30 from an original of $50 per month) to extend its longevity across the 5-year budget window.

Ohio will receive a minimum allocation of $100 million to help provide broadband coverage across the state, including providing high-speed access and helping low-income families afford it.

The U.S. Department of Agriculture receives $2 billion from The Infrastructure Investment and Jobs Act (IIJA) to support rural America:

PROGRAM NAME	PROGRAMS OFFERED
Support for Rural Areas (~$2 billion)	This provision includes support for programs administered by the U.S. Department of Agriculture, including the ReConnect Program, that provide loans and grants (or a combination thereof) to fund the construction, acquisition, or improvement of facilities and equipment that provide broadband service in rural areas. Recipients are required to utilize $5 million of their award for the establishment and growth of cooperatives to offer broadband.

Finally, while much has been released on the various grant programs, a lesser discussed tool is that of Private Activity Bonds (PABs) under the IIJA:

PROGRAM NAME	PROGRAMS OFFERED
Private Activity Bonds ($600 million)	Based on the Rural Broadband Financing Flexibility Act, this provision allows states to issue Private Activity Bonds to finance broadband deployment, specifically for projects in rural areas where a majority of households lack such access.

b. American Rescue Plan Act of 2021

The $350 billion American Rescue Plan (ARP) provides funds to state, local, territorial, and Tribal governments to provide foundation for a strong economic recovery from the pandemic.

From a broadband access perspective, the ARP Fiscal Recovery Funds (sec. 602 & 603) and the Coronavirus Capital Projects Fund (CCPF) (sec. 604)[iv] are most pertinent. Applicants must request funds to the State and Local Fiscal Recovery Fund through the U.S. Treasury (Treasury) Submission Portal: https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-fund/request-funding.

ARP Fiscal Recovery Funds (Sections 602 & 603)

While sections 602 and 603 contain the same eligible uses, section 602 applies to states, territories, and tribal governments and section 603 establishes a fund for metropolitan cities, counties, and non-entitlement units of local government (generally those with populations of less than 50,000). Thus, section 603 is most applicable to Clinton County.

Unserved and Underserved Less than 25/3 Mbps: Funds under section 603(c)(1) may be used to make "necessary investments" in broadband infrastructure, including investments required to establish or improve broadband service to unserved or underserved residents and businesses, defined as those without a wireline connection reliably delivering at least 25 Mbps download/ 3 Mbps upload speed.[v]

- When assessing current coverage at this speed tier, recipients can consider any available data and take into account a variety of factors, including whether users actually receive service at or above 25 Mbps down/ 3 Mbps up throughout a day[vi] (every house or business does not need to be un- or underserved in a project area so long as the project's overall goal is to provide service to un- or underserved locations).[vii]

Symmetrical Speed Requirements (100/100 Mbps): Eligible broadband projects[viii] are those designed to deliver service that reliably meets or exceeds[ix] at symmetrical (i.e., equal upload and download) speeds of 100 Mbps.[x] In areas where such speeds are impracticable due to geography, topography, or excessive costs, projects must reliably deliver at least 100 Mbps download/ 20 Mbps upload speed, and be scalable to at least 100 Mbps symmetrical service once complete.[xi]

Middle Mile: Funds can also be used for middle mile networks to provide reliable last-mile service. Recipients are encouraged to prioritize use of fiber optic infrastructure, where feasible, and to incorporate affordability options into their projects.

Other Eligible Uses:

- *Digital Literacy:* Under section 603(c)(1)(A), funds can also be used to provide internet access or digital literacy assistance to populations facing negative economic impacts from COVID-19.
- *Pre-project Costs:* Pre-project costs for broadband infrastructure planning and engineering are also eligible uses of the funds, as are technical assistance and evaluations that are directly tied to or reasonably expected to lead to commencement of an eligible project.[xii]

ARP-funded project costs must be obligated by December 31, 2024,[xiii] however, the construction period for such projects runs until December 31, 2026.[xiv] Recipients do not have to submit plans for how they intend to use section 603: they are able to request funding allocated to them based on the funding formulas set forth by Treasury.

The Coronavirus Capital Projects Fund (Section 604)

The second fund eligible for broadband projects under ARP is the Coronavirus Capital Projects Fund (CCPF).[xv] CCPF provides $10 billion for states, territories, and Tribal governments to invest in broadband and other critical community hubs or capital assets that directly enable work, education, and health monitoring in response to COVID-19. As a result of the aforementioned criteria, Clinton

County is not directly eligible for this program. However, eligible applicants, including the State of Ohio, must provide a plan detailing how they intend to use the allocated funds and why the communities they have identified have a critical need for access, affordability, reliability, and/ or consistency. BroadbandOhio is currently developing its plan for CCPF funds.

As a CCPF recipient, the State of Ohio is encouraged to address broadband affordability challenges when developing their programs and ensure that the service provider in a CCPF-funded project participate in federal programs that provide low-income consumers with subsidized broadband services, such as the ACP referenced earlier in this section. Once the State's full plan is determined, eligible project costs under CCPF include, but are not limited to, the following:

- Construction;
- Improvements and repairs to buildings;
- Pre-project development costs and uses, including data collection and feasibility studies;
- Community engagement and public feedback processes, equity assessments and planning, and needs assessments;
- Permitting, planning, architectural design, engineering design, and work related to environmental, historical, and cultural reviews;
- Costs of repair, rehabilitation, construction, improvement, and acquisition of real property, equipment (e.g., devices and office equipment), and facilities (e.g., telecommunications equipment, including infrastructure for backhaul, middle, and last mile networks);
- Cost of leases for terms greater than one year of facilities required to provide qualifying broadband service, including indefeasible right-of-use (IRU) agreements;
- Personnel costs including salaries and fringe benefits for staff and consultants (such as project managers, program directors, subject matter experts, equity consultants, grant administrators, financial analysts, accountants, and attorneys);
- Ancillary costs necessary to operationalize and put the capital assets to full use, including costs to increase broadband adoption and improve digital literacy;
- Costs associated with monitoring of and reporting in accordance with Treasury requirements, including award closeout costs; and
- Costs for collecting and measuring performance data and conducting activities needed to establish and maintain a performance management and evaluation system.

c. Federal Broadband Grants

Clinton County has been successful securing federal grants for a variety of infrastructure projects such as roads and sewer and we recommend that federal broadband grant programs are pursued, as needed, in accordance with the Project Identification section of this Study. These grant programs are fully detailed in **Appendix D.**

Federal Agency	Grant Program	Eligibility Status	Notes
Appalachian Regional Commission (ARC)	Area Development & Distressed Counties Programs	No	Not located in ARC footprint
	Central Appalachia & North Central/North Appalachia Broadband	No	Not located in ARC footprint
	Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Program	No	Not located in ARC footprint
Delta Regional Authority (DRA)	States Economic Development Assistance Program & Community Infrastructure Fund Program	No	Not located in DRA footprint
Department of Agriculture - Rural Development (USDA-RD)	Community Connect Grant Program	Yes (Select Areas)	Rural and must have 90 to 100% unserved at 10 Mbps / 1 Mbps
	Distance Learning and Telemedicine Grants	Yes (Select Areas)	Rural and must have 90 to 100% unserved at 10 Mbps / 1 Mbps
	ReConnect Program*	Yes (Select Areas)	Rural and must have 90 to 100% unserved at 100 Mbps / 20 Mbps
	Rural Broadband Access Loans and Loan Guarantees*	Yes (Select Areas)	Rural and must have 90 to 100% unserved at 10 Mbps / 1 Mbps
	Rural Economic Development Loan and Grant (REDLG) Program	No	Not an eligible applicant
	Rural Housing Service (RHS) Community Facilities (CF) Direct Loan and Grant Program	No	Not an eligible applicant
	Telecommunication Infrastructure Loans and Loan Guarantees*	Yes (Select Areas)	Population cap is 5,000
Department of Commerce - Economic Development Administration (EDA)	FY 2021 Public Works and Economic Adjustment Assistance	Yes	Eligible based on per capita income, percent match to be determined at time of application
Department of Commerce - National Telecommunications and Information Administration (NTIA)	Broadband Equity, Access, and Deployment (BEAD) Program*	Yes	County is an eligible applicant
	Enabling Middle Mile Broadband Infrastructure Program*	Yes	County is an eligible applicant
	Tribal Broadband Connectivity Program	No	Not a Tribal Entity
	Connecting Minority Communities Pilot Program	No	No MSIs located in the County
Department of Education (DOEd)	Alaska Native and Native Hawaiian-Serving Institutions Program	No	Not an eligible applicant
	American Indian Tribally Controlled Colleges and Universities Program	No	Not an eligible applicant
	Asian American and Native American Pacific Islander-Servicing Institutions Program	No	Not an eligible applicant
	Governor's Emergency Education Relief Fund (GEER)	Yes (Secondary)	Local education agencies who recieve funding from the State of OH can utilize program for broadband infrastructure deployment
	Elementary and Secondary School Emergency Relief Fund (ESSER)	Yes (Secondary)	Local education agencies who recieve funding from the Department of Education can utilize program for broadband infrastructure deployment
	Higher Education Emergency Relief Fund	Yes (Secondary)	Eligible IHEs can apply for assistance to support educational technology needs
	Impact Aid Programs	Yes (Secondary)	Eligible local education agencies can apply for assistance to support educational technology needs
	Native American-Serving Non-Tribal Institutions Program	No	Not an eligible applicant
	Promise Neighborhoods Program	Yes (Secondary)	Eligible local education agencies can apply for assistance to support educational technology needs
	Rural, Low-Income School (RLIS) Program	Yes (Secondary)	Eligible local education agencies can apply for assistance to support educational technology needs
	Small, Rural School Achievement (SRSA) Program	Yes (Secondary)	Eligible local education agencies can apply for assistance to support educational technology needs
	Title I, Part A, Improving Basic Programs Operated by Local Education Agencies Program	Yes (Secondary)	Eligible local education agencies can apply for assistance to support educational technology needs
	Title III, Part A, Strengthening Institutions Program	Yes (Secondary)	Eligible IHEs can apply for assistance to support educational technology needs
	Title III, Part B, Strengthening Historically Black Colleges and Universities Program	No	Not an eligible applicant
	Title IV, Part A, Student Support and Academic Enrichment Program	Yes (Secondary)	State education agencies can apply for funding to support the use of technology in order to improve the academic achievement and digital literacy for all students.
Department of Housing and Urban Development (HUD)	Community Development Block Grant (CDBG)	Yes	Clinton County (Non-Entitlement) can utilize the CDBG program for broadband connectivity efforts in Low to Moderate Income areas
	Choice Neighborhoods - Planning	Yes	In Low to Moderate Income eligible areas in Clinton County
	Choice Neighborhoods - Implementation	Yes	In Low to Moderate Income eligible areas in Clinton County
	Indian Community Development Block Grant	No	Not an eligible applicant
	Indian Housing Block Grant	No	Not an eligible applicant

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Federal Agency	Grant Program	Max. Grant	FY21 Program Capacity	Funding Type	Eligible Project Activities	Eligible Entities	Match Required
Department of Agriculture - Rural Development (USDA-RD)	Community Connect Grant Program	$3,000,000	$35,000,000	Grants	Infrastructure Development, Adoption & Digital Literacy and Public Computer Access	State and Local Government, Tribal Entities, Non-Profits, Private Corporations, LLCs	15%
	Distance Learning and Telemedicine Grants	$1,000,000	$60,000,000	Grants	Infrastructure Development, Adoption & Digital Literacy and Distance Learning & Telemedicine Equipment	State and Local Government, Tribal Entities, Non-Profits, Private Corporations, LLCs	15%
	ReConnect Program	$25,000,000 (Grant) / $50,000,000 (Loan)	$565,000,000	Grants, Combination Grant/Loan and Loans Only	Infrastructure Development, Acqusition of Facilities, Equipment and Professional Services	State and Local Government, Tribal Entities, Non-Profits, Private Corporations, LLCs	25%
	Rural Broadband Access Loans and Loan Guarantees	N/A	$11,200,000	Loan and Loan Guarantees	Infrastructure Development	State and Local Government, Tribal Entities, Private Corporations, LLCs	N/A
	Telecommunication Infrastructure Loans and Loan Guarantees	N/A	$690,000,000	Loan and Loan Guarantees	Infrastructure Development	State and Local Government, Tribal Entities, Private Corporations, LLCs	N/A
Department of Commerce - Economic Development Administration (EDA)	FY 2021 Public Works and Economic Adjustment Assistance	$3,000,000	$3,305,500,000	Grants & Loans	Infrastructure Development and Planning	State and Local Government, Higher Education, Tribal Entities, Non-Profits, Special Districts	Up to 50%
Department of Commerce - National Telecommunications and Information Administration (NTIA)	Broadband Equity, Access, and Deployment (BEAD) Program	Not Specified	$42,450,000,000	Grants	Planning & Broadband Infrastructure	States (Formula Allocation), Subgrantees: Local Government, Utility Company, Non-Profits, Co-Ops, For-Profits, Regional Planning Commissions	25%
	Enabling Middle Mile Broadband Infrastructure Program	Not Specified	$1,000,000,000 (over 5 years)	Grants	Middle Mile Broadband Infrastructure	States (Formula Allocation), Subgrantees: Local Government, Utility Company, Non-Profits, Co-Ops, For-Profits, Regional Planning Commissions	30%
Department of Housing and Urban Development (HUD)	Community Development Block Grant (CDBG)	Amounts Vary (Typical Award is <$500,000)	$3,475,000,000	Grants & Loan Guarantees (Sec. 108)	Infrastructure Development, Adoption & Digital Literacy, Planning and Public Computer Access	Local Government	0% (Entitlement Communities)
	Choice Neighborhoods - Planning	$450,000	$5,000,000	Grants	Planning	Local Government	0%
	Choice Neighborhoods - Implementation	$35,000,000	$195,000,000	Grants	Infrastructure Development, Adoption & Digital Literacy	Local Government	5%
Department of Transportation	Rebuilding American Infrastructure With Sustainability and Equity (RAISE) Grant Program	$1,000,000 (Rural) $5,000,000 (Urban)	$1,000,000,000	Grants	Planning, Capital Projects (Surface transportation projects), Innovative Technologies	State and Local Government, Transit Agencies, Port Authorities, and MPOs	20%
Department of Homeland Security - Federal Emergency Management Agency	Building Resilient Infrastructure and Communities	$600,000 (State) $50,000,000 (Competitive)	$500,000,000	Grants	Infrastructure Development and Planning	State and Local Government	25%

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Federal Agency	Grant Program
Department of Education (DOEd)	Governor's Emergency Education Relief Fund (GEER)
	Elementary and Secondary School Emergency Relief Fund (ESSER)
	Higher Education Emergency Relief Fund
	Impact Aid Programs
	Promise Neighborhoods Program
	Rural, Low-Income School (RLIS) Program
	Small, Rural School Achievement (SRSA) Program
	Title I, Part A. Improving Basic Programs Operated by Local Education Agencies Program
	Title III, Part A. Strengthening Institutions Program
	Title IV, Part A. Student Support and Academic Enrichment Program
Department of Labor - Employment and Training Administration (ETA)	Workforce Development in Telecommunications Sector: Apprenticeship Investments in Support of Broadband and 5G
Department of Treasury	Community Reinvestment Act (CRA) Program
Federal Communications Commission (FCC) - Universal Service Administrative Co.	E-Rate (Schools and Libraries) Program
	5G Fund for Rural America
	Rural Health Care Program
National Science Foundation (NSF)	Campus Cyberinfrastructure (CC*) Program
	Smart and Connected Communities (S&CC) Program
	Spectrum and Wireless Innovation Enabled by Future Technologies (SWIFT) Program

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Federal Agency	Local Unit of Government	Total Max Allocation - Subject to 75% of Budget Test	Maximum First Tranche	Maximum Second Tranche
U.S. Department of Treasury - American Rescue Plan Act (ARPA) - State and Local Fiscal Recovery Funding	Clinton County	$ 8,151,792.00	$ 4,075,896.00	$ 4,075,896.00
	Adams Township	$ 221,548.49	$ 110,774.25	$ 110,774.25
	Chester Township	$ 207,407.10	$ 103,703.55	$ 103,703.55
	City of Wilmington	$ 1,295,351.60	$ 647,675.80	$ 647,675.80
	Clark Township	$ 175,772.28	$ 87,886.14	$ 87,886.14
	Green Township	$ 131,148.33	$ 65,574.17	$ 65,574.17
	Jefferson Township	$ 113,445.40	$ 56,722.70	$ 56,722.70
	Liberty Township	$ 86,210.12	$ 43,105.06	$ 43,105.06
	Marion Township	$ 119,625.71	$ 59,812.86	$ 59,812.86
	Richland Township	$ 100,561.02	$ 50,280.51	$ 50,281.51
	Union Township	$ 325,566.29	$ 162,783.15	$ 162,783.15
	Vernon Township	$ 258,211.36	$ 129,105.68	$ 129,105.68
	Village of Blanchester	$ 446,449.01	$ 223,224.51	$ 223,224.51
	Village of Clarksville	$ 57,508.33	$ 28,754.17	$ 28,754.17
	Village of Martinsville	$ 47,347.48	$ 23,673.74	$ 23,673.74
	Village of Midland	$ 32,263.33	$ 16,131.67	$ 16,131.67
	Village of New Vienna	$ 128,634.30	$ 64,317.15	$ 64,317.15
	Village of Port William	$ 25,978.26	$ 12,989.13	$ 12,989.13
	Village of Sabina	$ 270,152.98	$ 135,076.49	$ 135,076.49
	Washington Township	$ 224,481.52	$ 112,240.76	$ 112,240.76
	Wayne Township	$ 75,525.51	$ 37,762.76	$ 37,762.76
	Wilson Township	$ 52,794.53	$ 26,397.27	$ 26,397.27
	Total:	**$ 12,547,774.95**		

Source: https://assets.noviams.com/novi-file-uploads/ota/ARPA_Non-Entitlement_Maximum_Allocations.pdf

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b. Community Reinvestment Act

Title VIII of the Housing and Community Development Act of 1977, the Community Reinvestment Act (CRA), requires banking institutions that receive FDIC insurance to offer credit in all the communities in which they are chartered to business. This law was designed to encourage banking institutions to offer loans to applicants in the communities that they operate in, including funding infrastructure projects that will revitalize the communities they serve.

The federal agencies responsible for banking regulations and interpretation of the Community Reinvestment Act (CRA)—the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation, and the Board of Governors of the Federal Reserve System—issued revised guidelines in July 2016 specifying that banking institutions will receive CRA consideration for financing the construction, expansion, improvement, maintenance, or operation of essential infrastructure – like broadband internet infrastructure – if the project will "revitalize or stabilize" an underserved nonmetropolitan middle-income area, including low- and moderate-income residents. The agencies also revised the "Interagency Questions and Answers Regarding Community Reinvestment" (Q&A) to reflect that the type of project that will receive CRA consideration includes "new or rehabilitated communications infrastructure, such as broadband internet service, that serves the community, including LMI residents."

Leveraging private capital from community banks is a key source of infrastructure funding. Highlighting CRA consideration for eligible broadband projects will help secure financing from local banks.

> *I work for Wilmington Savings Bank . . . we have a duty to reinvest back into our communities through the Community Reinvestment Act. As a part of the regulation we are examined for our attempts to do just that, ways we are supporting our low to moderate income assessment areas. One way we can help our community is supporting the expansion of rural broadband internet in low to moderate income geographies. I would suggest reaching out to your local Banks to see how they can help."*
>
> ***– Survey response***

ENDNOTES

Endnotes

1 | Project Identification

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vii *Such network densification is a challenge that communities need to be mindful of with mmWave 5G deployments, particularly those communities designated as a municipal corporation in Ohio. Assembling the various components necessary for such network densification, including permits, power and backhaul, is frequently cited as a challenge by incumbent providers, who have influenced the FCC and state governments to enact rules or legislation, respectively, limiting local governments' abilities to influence the placement of such infrastructure in rights-of-way.*

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ii *Any broadband infrastructure constructed by a broadband provider under H.B. 2 remains the property of the provider. However, nothing in H.B. 2 prevents an assignment, sale, change in ownership, or other similar transaction associated with the broadband infrastructure. Regardless, no assignment, sale, change in ownership, or other similar transaction relieves the successor of any obligation under H.B. 2.*

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vii *Id.*

viii *Per the ARP, recipients do not need approval from Treasury to determine whether an investment is eligible, that is up to them to determine. Similarly, local governments do not need state approval. Coronavirus State and Local Fiscal Recovery Funds Frequently Asked Questions. (July 19, 2021). U.S. Department of Treasury. Retrieved from* https://home.treasury.gov/system/files/136/SLFRPFAQ.pdf.

ix *When making these assessments of reliably meet or exceed, recipients may choose to consider any available data and consider a variety of different factors. To see these factors please see the Fiscal Recovery Funds FAQ Sheet. Coronavirus State and Local Fiscal Recovery Funds Frequently Asked Questions. (July 19, 2021). U.S. Department of Treasury. Retrieved from* https://home.treasury.gov/system/files/136/SLFRPFAQ.pdf.

x *31 C.F.R. § 35 (2021).*

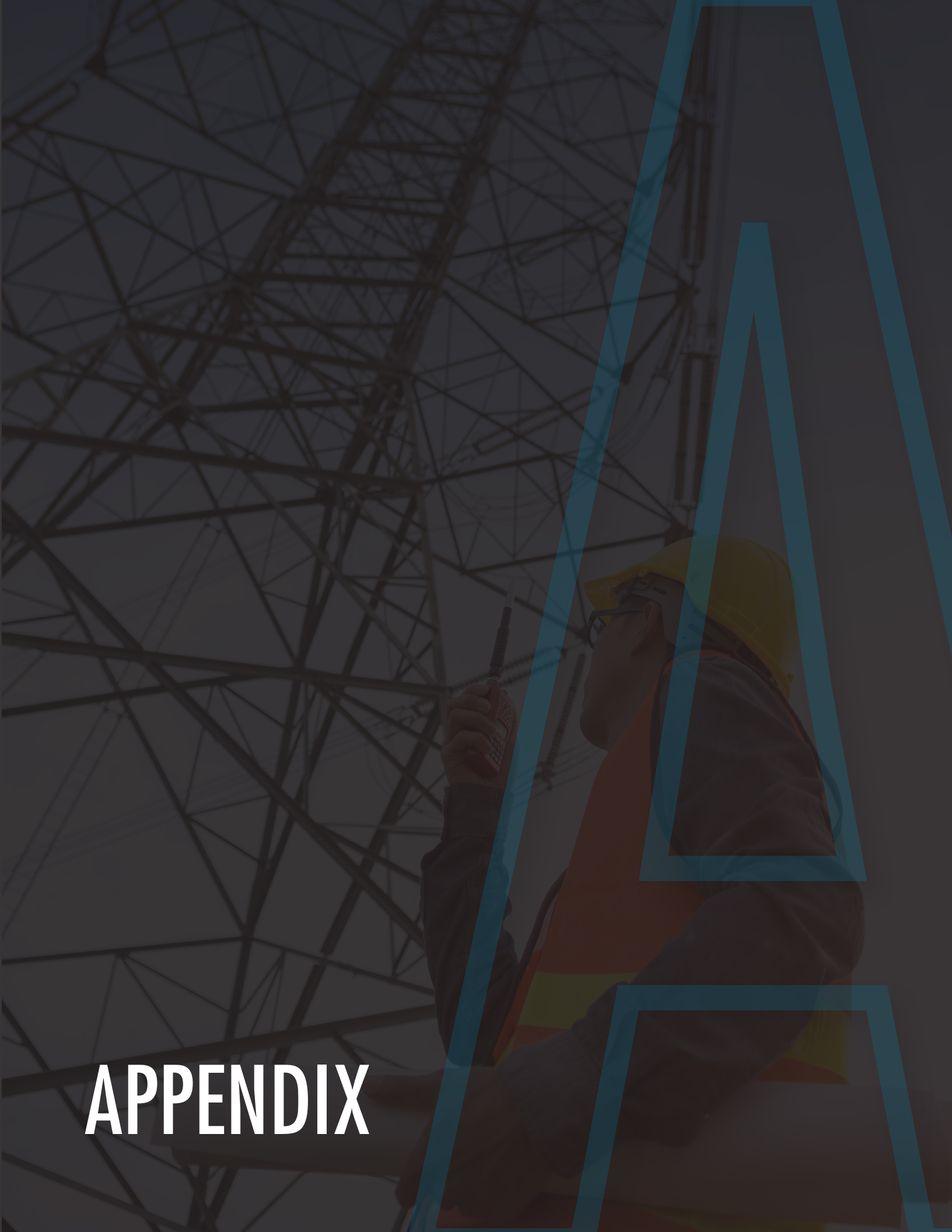
xi *Coronavirus State and Local Fiscal Recovery Funds Frequently Asked Questions. (July 19, 2021). U.S. Department of Treasury. Retrieved from* https://home.treasury.gov/system/files/136/SLFRPFAQ.pdf.

xii *Id.*

xiii *Id.*

xiv *Id.*

xv *Capital projects include work, education, health monitoring, and remote options for work, education, and health. Capital Projects Fund. (n.d.). U.S. Department of Treasury. Retrieved from* https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/capital-projects-fund.



APPENDIX

A | Provider Materials

AT&T Offers Eligible Customers Low-Cost Broadband Through New Program

AT&T and Cricket Wireless have opened enrollment for the new federal Affordable Connectivity Program (ACP) which is helping expand benefits for millions of Americans.

What's new?
The ACP replaces the temporary Emergency Broadband Benefit (EBB). ACP will provide eligible households with a benefit of up to $30 a month to help reduce the cost of broadband service. Households on qualifying Tribal lands will be eligible for $75 a month.

Why is this important?
Affordability is one of the key roadblocks to narrowing the digital divide. The ACP will help make broadband services more affordable for American households who may qualify.

What's changing?

200%

Households will have new ways to qualify for ACP such as receiving WIC benefits or having an **income at or below 200% of the Federal Poverty Guidelines**. Eligibility requirements can be found at acpbenefit.org.

$30

For households enrolled in ACP, the monthly subsidy has changed to **$30/mo. There is no change to the Tribal benefit**. See information below regarding the transition period for households enrolled in EBB as of December 30, 2021.

New customers can confirm eligibility today.
Customers can apply to the federal government's National Verifier at ACPBenefit.org to determine if they are eligible for ACP. Eligibility is determined by the federal government, not by AT&T.

Once approved, find out details on which AT&T services are available by going to att.com/acp or to cricketwireless.com/ACP for information on Cricket Wireless plans.

How can EBB customers take advantage of ACP?
For EBB customers, **benefits will remain the same through March 1**.

- To receive the ACP benefit after March 1, customers may contact the Universal Services Administrative Co. (USAC) to reverify eligibility.
- For customers who qualified for EBB under a COVID program or substantial loss of income criteria, the National Verifier will need to reverify your eligibility under different criteria **prior to March 1**.
- See details on which AT&T services are available at att.com/acp or cricketwireless.com/ACP.

AT&T

Connecting Communities to More with Access from AT&T

At AT&T, we're furthering our efforts to bridge the digital divide by offering new solutions that help households in your community stay connected to their work, education, healthcare, and more.

What's new?

Access from AT&T, our low-cost program for home internet offered to limited-income households, has been enhanced so customers no longer have data caps and can also experience Internet speed plans of up to 100 Mbps.

- Previously, Access from AT&T provided speeds up to 10 Mbps.

And by combining new plans from our low-cost Access from AT&T program with federal benefits from the Affordable Connectivity Program (ACP), eligible households can take advantage of free internet.

How is AT&T making this possible?

The new Access from AT&T[1] program provides faster internet plans with up to 100 Mbps of symmetrical speeds for $30 per month with no cap on data usage.[2]

- Eligible households that take advantage of the new up to $30 per month ACP benefit (or up to $75 per month for those on qualified Tribal lands) and apply it to their Access from AT&T plan can then receive internet service at no monthly charge.

How can my community take advantage of free internet?

First, households can confirm their eligibility for the new ACP benefit and get approved with the federal government's National Verifier at acpbenefit.org. Then, they can call us at (855) 220-5211, and we will verify ACP approval and set them up on a plan with the ACP benefit.

- All households that qualify and enroll with AT&T for ACP with their home internet will also qualify for our Access from AT&T program, including the newest speed tier.

Can the ACP benefit be applied on plans other than Access from AT&T?

Eligible households can apply the ACP benefit to most of our existing AT&T Internet plans. That means qualified customers can save up to $30 per month (or up to $75 on qualifying Tribal lands) on most plans that we offer.

- That includes our fastest plans on AT&T Fiber, with speeds up to 5-Gigs in parts of more than 70 metro areas.[3]

Customers can also choose to apply the ACP benefit to their AT&T Prepaid or Cricket Wireless plan. The benefit is limited to one service per household.

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1 Available in the 21 states where AT&T offers wireline home internet services.
2 Access Plans 10Mbps and below have data allowances. Customers who exceed those allowances may incur a $10 fee. Through April 30, 2022, AT&T is waiving data overage fees for those Access AT&T customers.
3 Limited availability in select areas. Internet speed claims represent maximum wired network service capability speeds to the home and recommended setup. Actual customer speeds are not guaranteed. Single device wired speed maximum 4.7Gbps. Visit att.com/speed101 for details

AT&T

AT&T

New 'Access from AT&T' Plan + New Federal Benefit = Free Internet

New low-cost broadband plans with speeds up to 100 Mbps and no data caps

DALLAS – February 7, 2022

AT&T* is driving down the cost of home internet for eligible households to the best monthly rate possible – $0. Available starting today, this free option is made possible by combining a new plan from our low-cost Access from AT&T program with federal benefits from the Affordable Connectivity Program (ACP).

Free internet sounds too good to be true. How is AT&T making this possible?

The Access from AT&T program now provides faster internet plans with up to 100 Mbps of symmetrical speeds for $30 per month, an increase from the 10 Mbps maximum provided in our original Access from AT&T plan. In addition, there's no cap on data usage with the new $30 Access from AT&T plans. [1]

Customers who prefer our original Access from AT&T plans and have speeds of 10Mbps or less available, don't have to worry. You can still take advantage of reliable internet with our $5 - $10 per month plans. [1]

All households that qualify for ACP will also qualify for our Access from AT&T program, including the newest speed tier. Eligible households that take advantage of the up to $30 per month ACP benefit (or up to $75 per month for those on qualified Tribal lands) can then receive internet service at no monthly charge.

How do I take advantage of free internet?

First, confirm that you are eligible for the ACP benefit and get approved with the federal government's National Verifier at acpbenefit.org. Then, call us at (855) 2205211. We'll verify your ACP approval and set you up on a plan with the ACP benefit.

The Affordable Connectivity Program

Stay connected and save up to $30/mo.* on your Internet service.

Great news! You may be eligible to receive high-speed Internet service at no cost* from Spectrum through the Affordable Connectivity Program (ACP).

This program was created to ensure eligible households like yours will have the services you need.

The need for fast, reliable Internet is more critical than ever and Spectrum is committed to bringing you the best speeds available. Find out if you are eligible for this great program and start enjoying fast Internet speeds. We look forward to welcoming you as a Spectrum Internet® customer.

QUALIFYING GROUPS:

- Lifeline eligible*
- Free or reduced school lunch or breakfast eligible
- Pell Grant recipient
- Veterans Pension and Survivors Benefit

SPECTRUM INTERNET®

for **$0**/mo*

HIGH-SPEED INTERNET AT NO COST*

Depending on level of Spectrum Internet service. Benefit expires upon termination of ACP.

We've made it easy to find out if you qualify:

1 STEP 1:
CONFIRM QUALIFICATION

Your household may qualify for the Affordable Connectivity Program. Visit **acpbenefit.org** to find out more.

2 STEP 2:
REDEEM YOUR SAVINGS WITH SPECTRUM

Call Spectrum at **1-833-660-0447** or visit Spectrum.com/ACP to sign up for high-speed Internet and save up to $30 a month if you qualify.

If you are a current Spectrum Internet customer call 1-833-660-0447 to save up to $30/mo. on your service.

3 STEP 3:
ENJOY FAST INTERNET

Surf and stream with your Spectrum high-speed Internet service and home WiFi. A temporary monthly credit will be applied to your account.

Spectrum

*Affordable Connectivity Program (ACP): Program benefit limited to one per household; Limited time offer; benefit expires upon FCC's termination of the Program. Income eligibility requirements apply. A recurring credit of up to $30/mo ($75 in Tribal Lands) will be applied directly to eligible customers' accounts; customers are responsible for charges over $30/mo. Standard rates apply following end of the Program period; may vary by location. Taxes and fees extra depending on the area and subject to change during and after the Program period; installation/network activation, equipment and additional services are extra. Services subject to all applicable service terms and conditions, subject to change. Services not available in all areas. Restrictions apply.

Programs that meet the Lifeline requirement are Medicaid, SNAP, SSI, Federal Public Housing Authority (FPHA) support and Veterans and Survivor's Pension benefit. Alternative Verification Process also eligible to qualify.

XXXX-XXXXXXXX-XX

Spectrum

SPECTRUM INTERNET® ASSIST

Affordable, reliable high-speed Internet access for qualifying households

Spectrum Internet Assist is a low-cost, high-speed broadband service that provides qualifying households with Internet service for **$17.99 per month.**

To qualify for Spectrum Internet Assist, a member of the household must be a recipient of one of the following programs:

- The National School Lunch Program (NSLP); free or reduced-cost lunch
- The Community Eligibility Provision (CEP) of the NSLP
- Supplemental Security Income (SSI) (age 65 and over only)

Programs that do not qualify for Spectrum Internet Assist: Social Security Disability (SSD), Social Security Disability Insurance (SSDI), and Social Security Retirement and Survivor Benefits are different from Supplemental Security Income (SSI) and do NOT meet eligibility requirements.

If you believe you may qualify, visit SpectrumInternetAssist.com.

- Enter in your 5-digit ZIP code to see if Spectrum Internet Assist is available in your area.
- If available, you will receive direction to call 1-844-525-1574 to start the qualification process.
- If Spectrum Internet Assist is not available in your area, you will receive a coming-soon message and be asked to check back for updates.

GET CONNECTED WITH HIGH-SPEED INTERNET FOR **$17.99/MO**

Spectrum Internet Assist gives your household a reliable, blazing-fast connection to the world of information, education, entertainment and services that are available online.

With Spectrum Internet Assist, you'll enjoy:

- 30 Mbps of Internet speed with NO data caps
- **FREE** Internet modem
- No contracts, ever
- Add fast in-home WiFi for $5 more a month

To get started, visit:
SpectrumInternetAssist.com

SPECTRUM INTERNET ASSIST: Limited time offer; subject to change; not transferable. Availability of offer based on eligibility and service address that has been pre-qualified. Offer valid to qualified residential customers who (i) have not subscribed to Charter Communications' Internet services within 30 days prior to requesting services under this offer, (ii) have no outstanding debt for any of Charter Communications' services that was incurred within 1 year prior to requesting services under this offer and (iii) have no outstanding debt to Charter Communications that was incurred for services provided under this offer and that are subject to Charter Communications' ordinary debt collection procedures. Equipment, taxes, fees and surcharges may be extra and subject to change during and after the term; installation and additional services are extra. Available Internet speeds may vary by address. Download speeds are up to 30 Mbps and upload speeds are up to 4 Mbps. WiFi: Equipment, activation and installation fees may apply. Services subject to all applicable service terms and conditions, subject to change. Services not available in all areas. Restrictions apply.

A | Financial Models

Lit Communities | Clinton County Middle Mile - Assumptions

Right of Way Preliminary Design Results	
Aerial Length ROW Footage - 70%	370,906
Underground Length ROW Footage - 30%	158,960
Total ROW Length (Feet)	529,865
Total ROW Length (Miles)	100

Additional Network Assumptions	
Span Factor (Distance between utility poles)	150
Estimated Pole Count	2,473
Engineering Duration (months)	30
Make Ready Duration (months)	24
Construction Duration (months)	36
Financial Duration (months)	240
Take Rate Duration (months)	30
Instances (Each)	1

Operating Expenses	Estimated Average Monthly Cost
General Operations (Ongoing)	$129,492
ISP Operations (Ongoing)	$141,935
Estimated Total Operational Expenses per Month	**$271,427**

Capital Expenditures	Total Estimated Cost
Engineering (Upfront)	$1,822,700
Construction (Upfront)	$9,874,308
ISP Construction (Upfront)	$700,000
Estimated Total Capital Expenses	**$12,397,008**

Payback Model Options

Option 1 - Standard Indefeasible Right of Use (IRU)

Indefeasible right of use (IRU) is a type of telecommunications lease contractual term agreement, between the owners of a communications system and a customer of that system. The word "indefeasible" means "not capable of being annulled, or voided, or undone". As part of the IRU the Network Owner (the County) will have certain Terms and Conditions to abide by for the Lessee, such as restoral timelines, fiber quality, and reliability. The County will likely be able to lease space for equipment in the Co-Location Facilities around the County.

These contracts obligate the Lessee to pay a portion of the operating costs, and the costs of maintaining the cable, including any costs incurred repairing the cable after mishaps. The right of use is indefeasible, so the capacity purchased is also non returnable, and maintenance costs incurred become payable and irrefusable. IRUs allow telecom carriers to lease all types of fiber optic cable and equipment space, typically for periods of 20 to 25 years.

The upfront cost per fiber strand for the lease of a 20-year IRU can be a one-time investment. It will normally be associated with ongoing obligations for shared maintenance.

Option 2 - Pay per Demand Point Passed

In this model the Lessee will pay an agreed upon amount to the Network Owner (the County) for each home or business the fiber optic network passes. The County will likely be able to lease space for equipment in the Co-Location Facilities around the County.

This model in ways is much simpler to manage as it allows the Internet Service Provider (ISP) to access the end users faster and with substantially lower expenses.

Option 3 - Pay per Demand Point Connected

In this model the Lessee will pay an agreed upon amount to the Network Owner (the County) for each home or business the Internet Service Provider (ISP) connects. The County will like be able to lease space for equipment in the Co-Location Facilities around the County.

This model is strictly success based, meaning that the more successful the ISP becomes the more revenue the network generates for the County. This allows the ISP to access the end users faster, with substantially lower expenses and gives the County a vested interest in the success of the ISP.

Lit Communities | Clinton County Last Mile for Census Tracts 9644,9648,9650 and 9651 - Assumptions	
Total Demand Points	6,772

Right of Way Preliminary Design Results for Census Tracts 9644,9648,9650 and 9651	
Aerial Length ROW Footage - 70%	1,119,160
Underground Length ROW Footage - 30%	479,640
Existing Aerial ROW	0
Existing Underground ROW	0
Total ROW Length (Feet)	1,598,800
Total ROW Length (Miles)	303

Additional Network Assumptions for Census Tracts 9644,9648,9650 and 9651	
Span Factor	150
Estimated Pole Count	7,461
Cabinets or Shelters	7
Engineering Duration (months)	30
Make Ready Duration (months)	24
Construction Duration (months)	36
Financial Duration (months)	240
Take Rate Duration (months)	30
Instances (Each)	1

Last-Mile HLD Metrics for Census Tracts 9644,9648,9650 and 9651

Tract	Footage	Mileage	Demand Points	Capital Cost per Tract	Cost Per Demand Point
9644	451,100.24	85	945	$10,912,554.92	$11,547.68
9648	297,711.00	56	3170	$7,145,587.56	$2,254.13
9650	248,571.78	47	810	$6,097,050.26	$7,527.22
9651	601,416.50	114	1847	$14,679,522.27	$7,947.77
Total	**1,598,799.53**	**303**	**6772**	**$38,834,715.00**	

Operating Expenses for Census Tracts 9644,9648,9650 and 9651	Estimated Average Monthly Cost
General Operations (Ongoing)	$346,067.79
ISP Operations (Ongoing)	$209,070.53
Estimated Total Average Monthly Cost	**$555,138.37**

Capital Expenditures for Census Tracts 9644,9648,9650 and 9651	Total Estimated Cost
Engineering (Upfront)	$2,899,475.00
Construction (Upfront)	$29,467,868.00
ISP Construction (Upfront)	$6,467,374.00
Estimated Total Capital Expenditures	**$38,834,715.00**

Cost per Demand Point Note:

Typically incumbents and other large carriers look at Demand Points per Mile and Cost per Demand when deciding where to serve. For example, Comcast uses a general rule of 20 demand points per mile or more before they will service an area.

Private Equity investors normally want the the Cost per Demand Point to be in the $800-$1,200 range.

Tracts with the most need are also expensive to build and present a barrier for current providers to serve residents and businesses within these four census tracts. The recommendations in the final report suggest that the County utilize public funds to offset these expenses and assist service providers to provide connectivity in these high need areas.

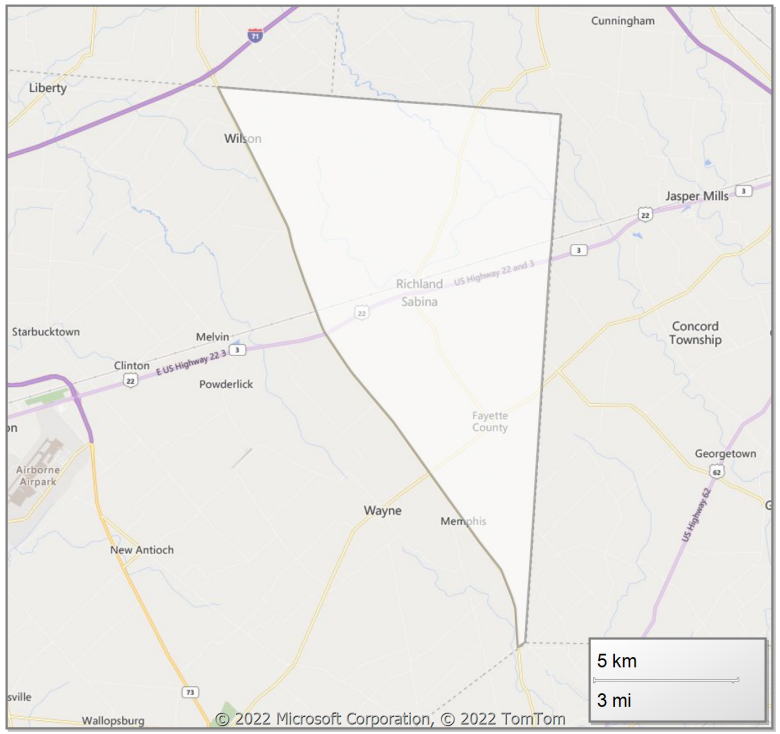
Zone Analyzer™
9643

About 9643

Belongs to service area:
Clinton County

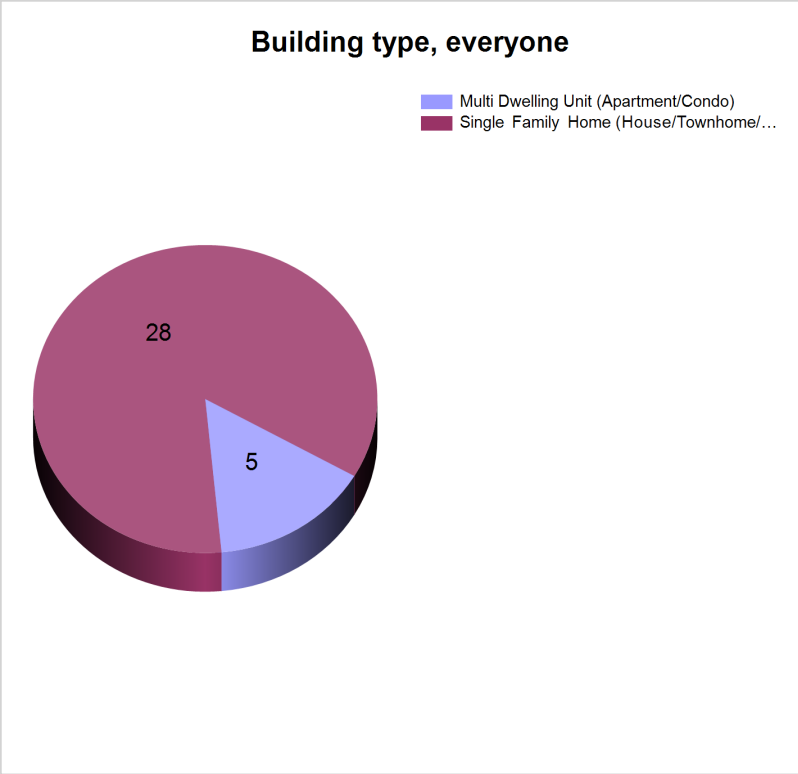
Area:
116.0 sq km (44.8 sq mi)

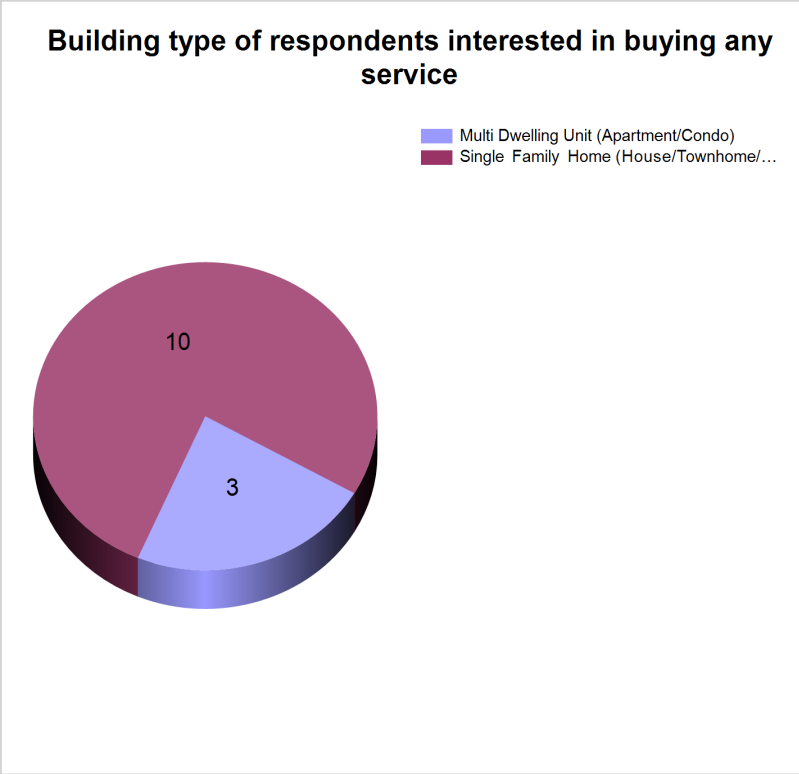
Survey phase started:
1/19/2022 (96 day(s) ago)



Information about respondents

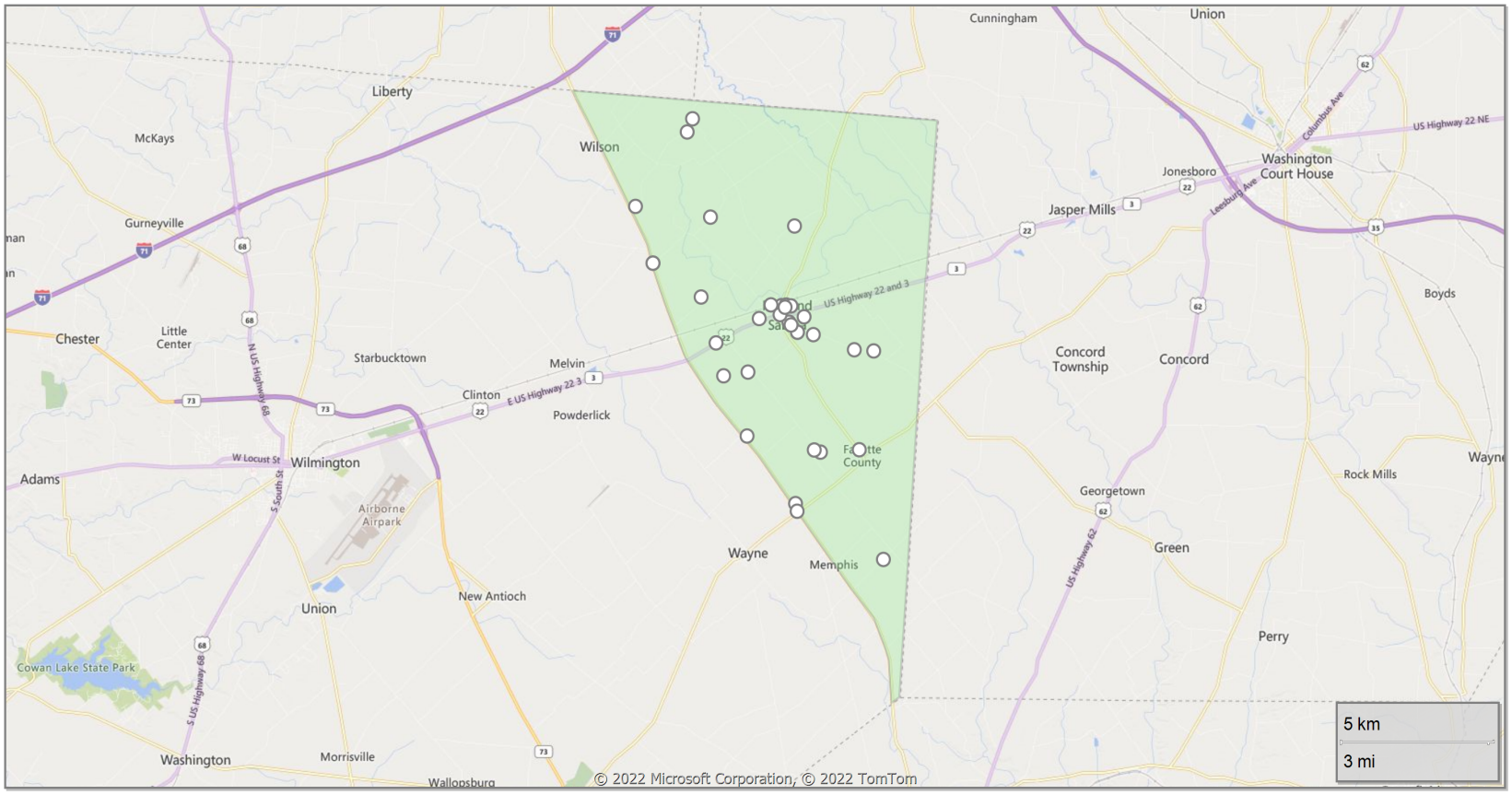
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



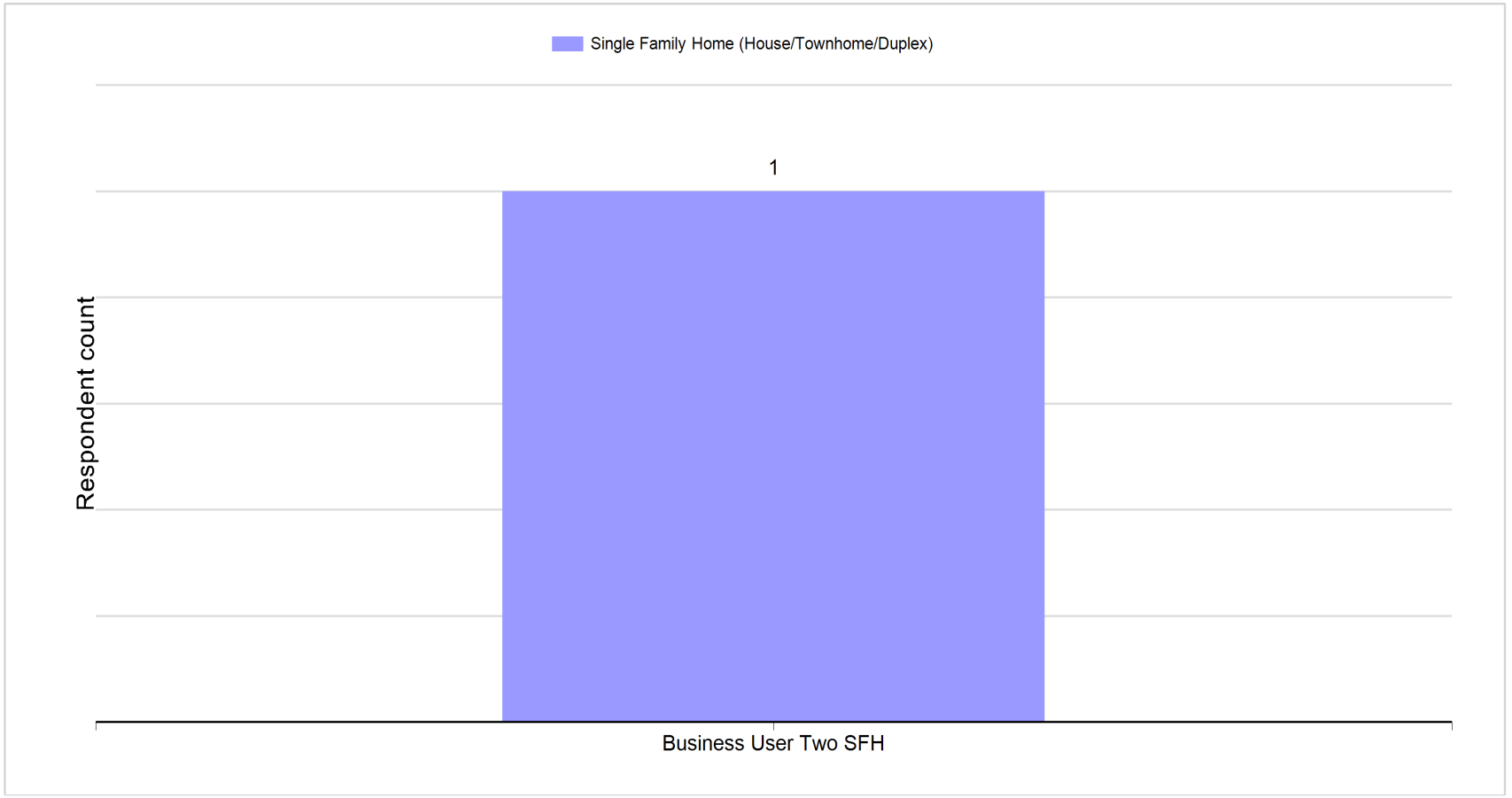


Survey responses on a map

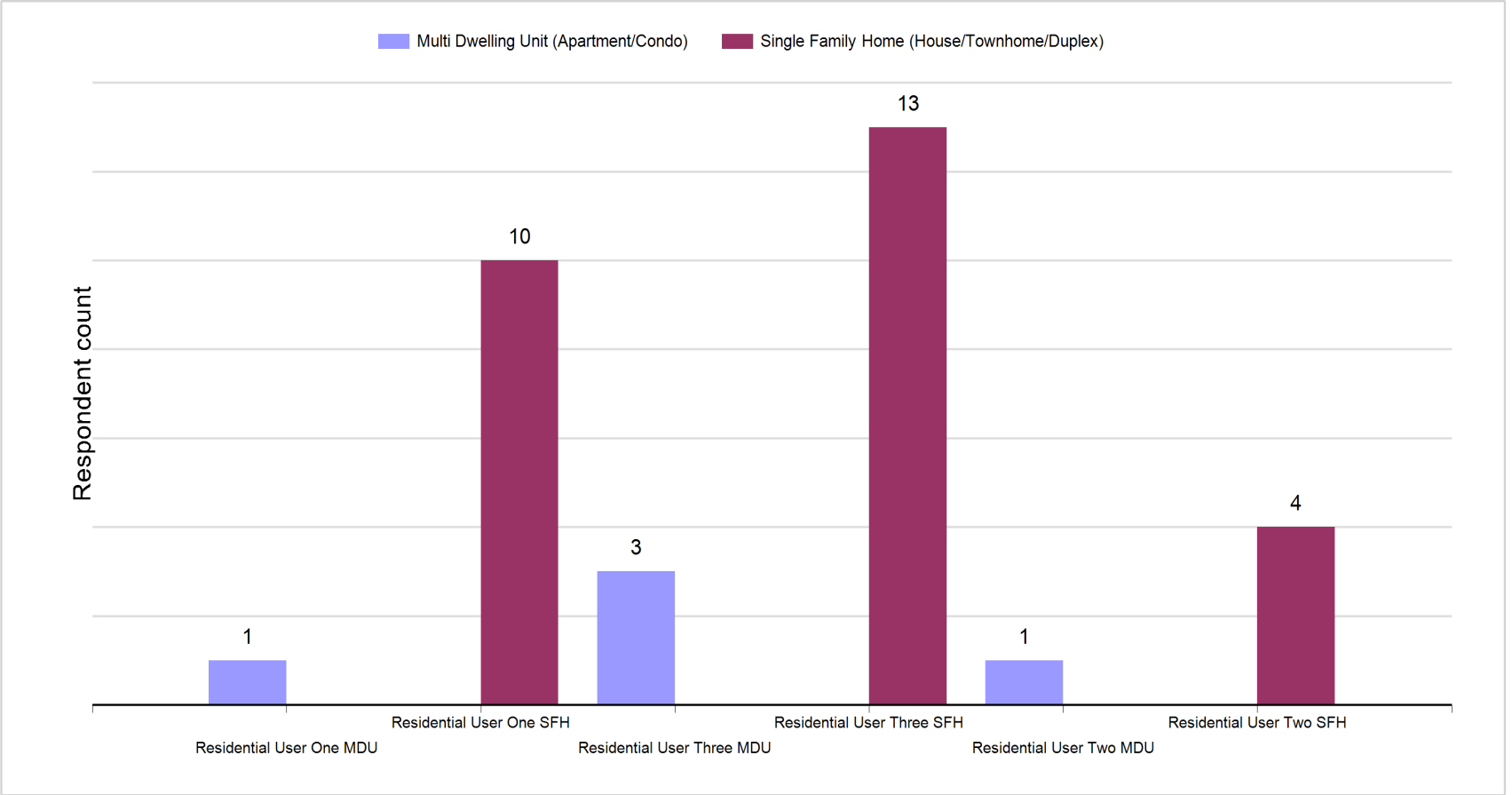
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



Selected service offering - Business

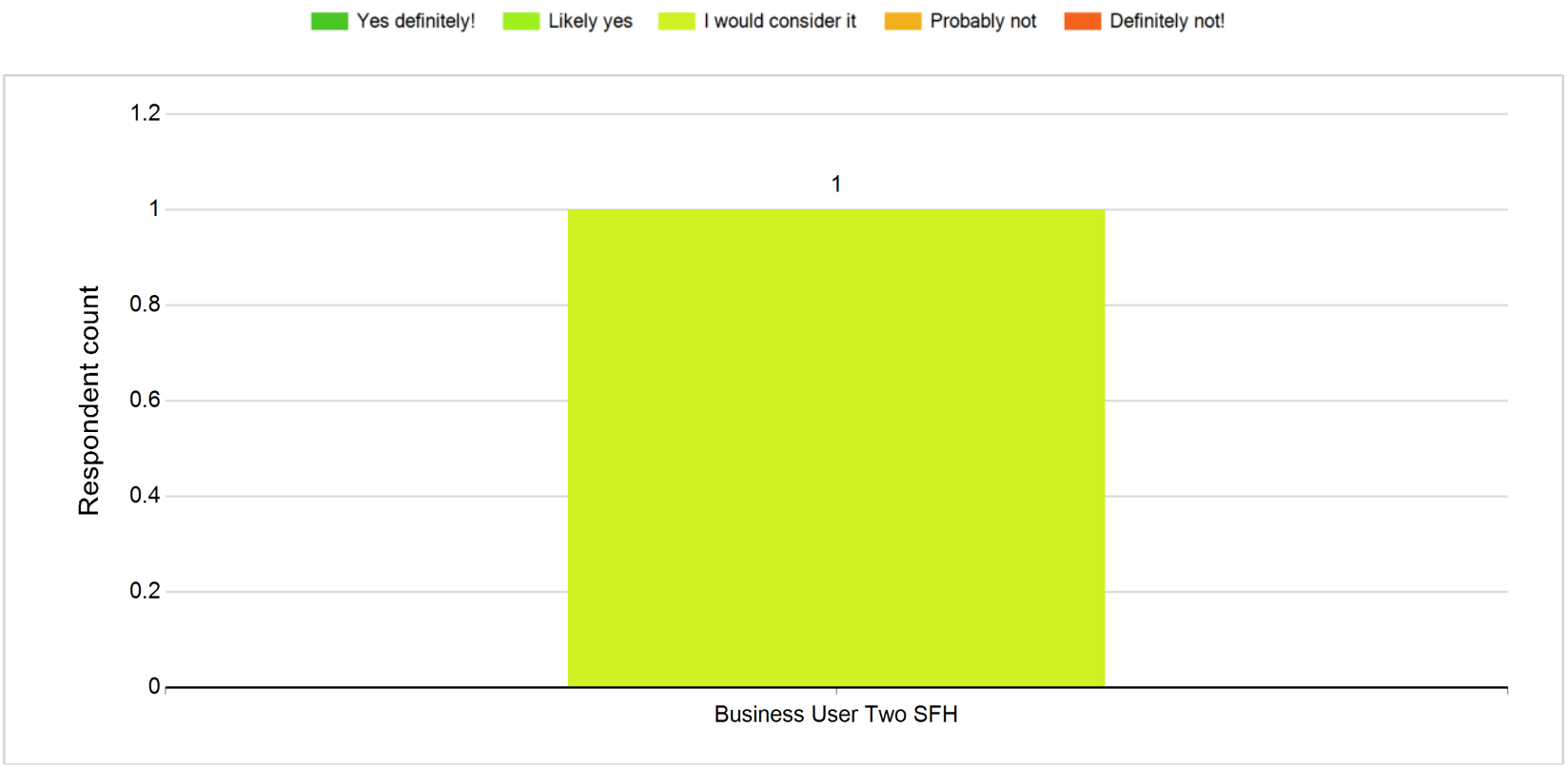


Selected service offering - Residential



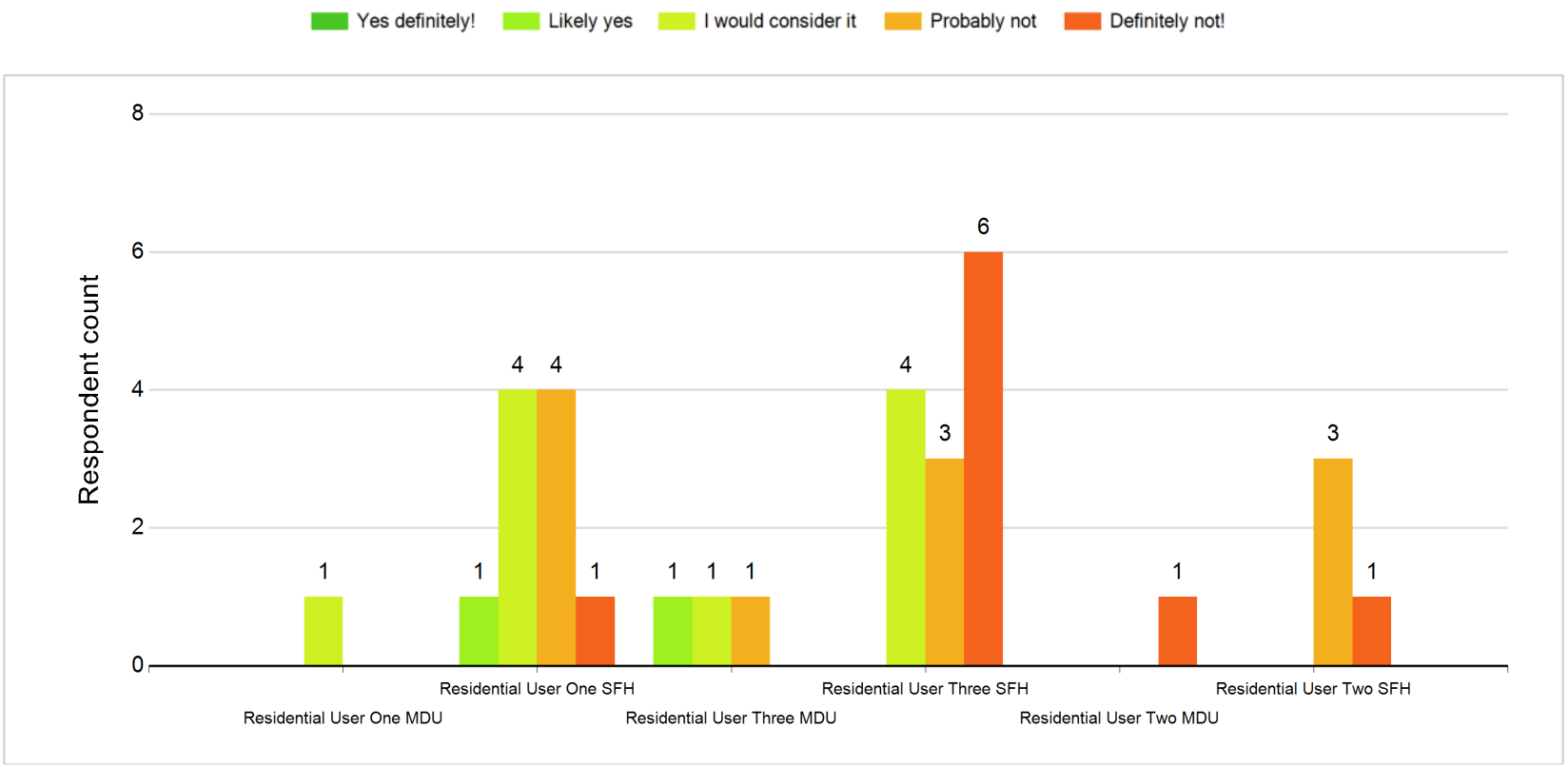
How likely to purchase - Business

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



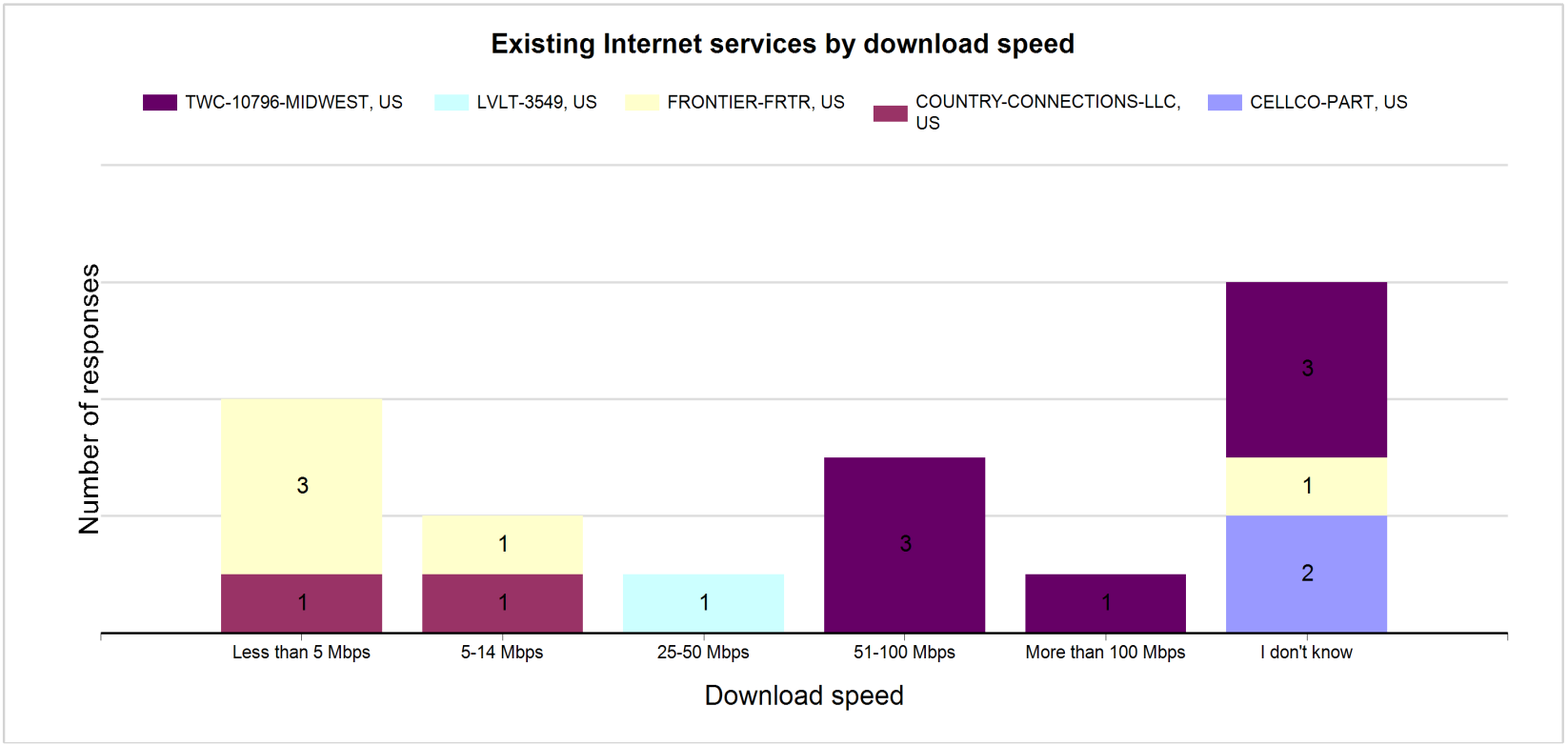
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



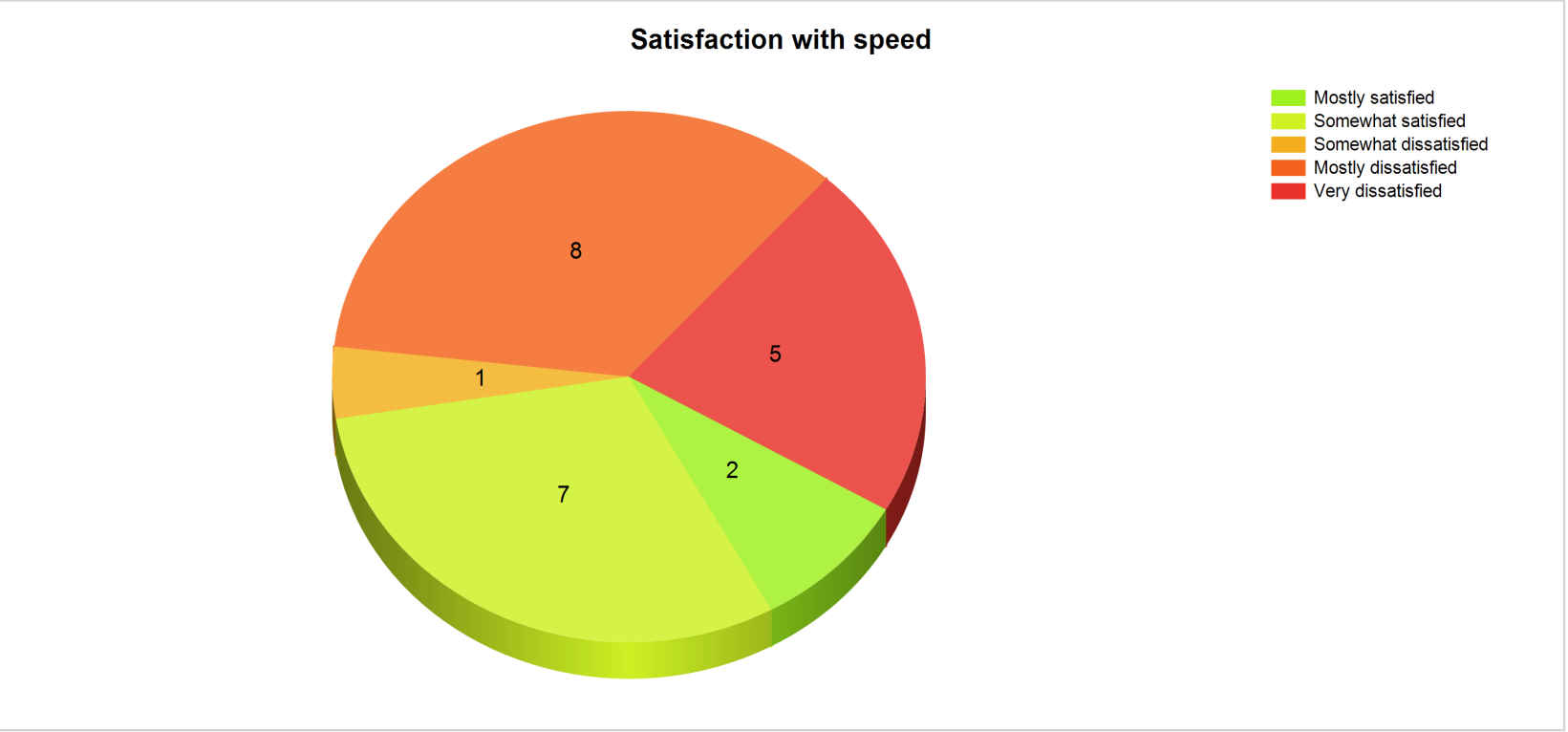
Competitive landscape - existing services

This data comes from customers who have an existing internet service, and the service provider was obtained from the IP address the survey was conducted from. The current speed is not the measured actual speed, but the speed the respondents state they are currently purchasing.



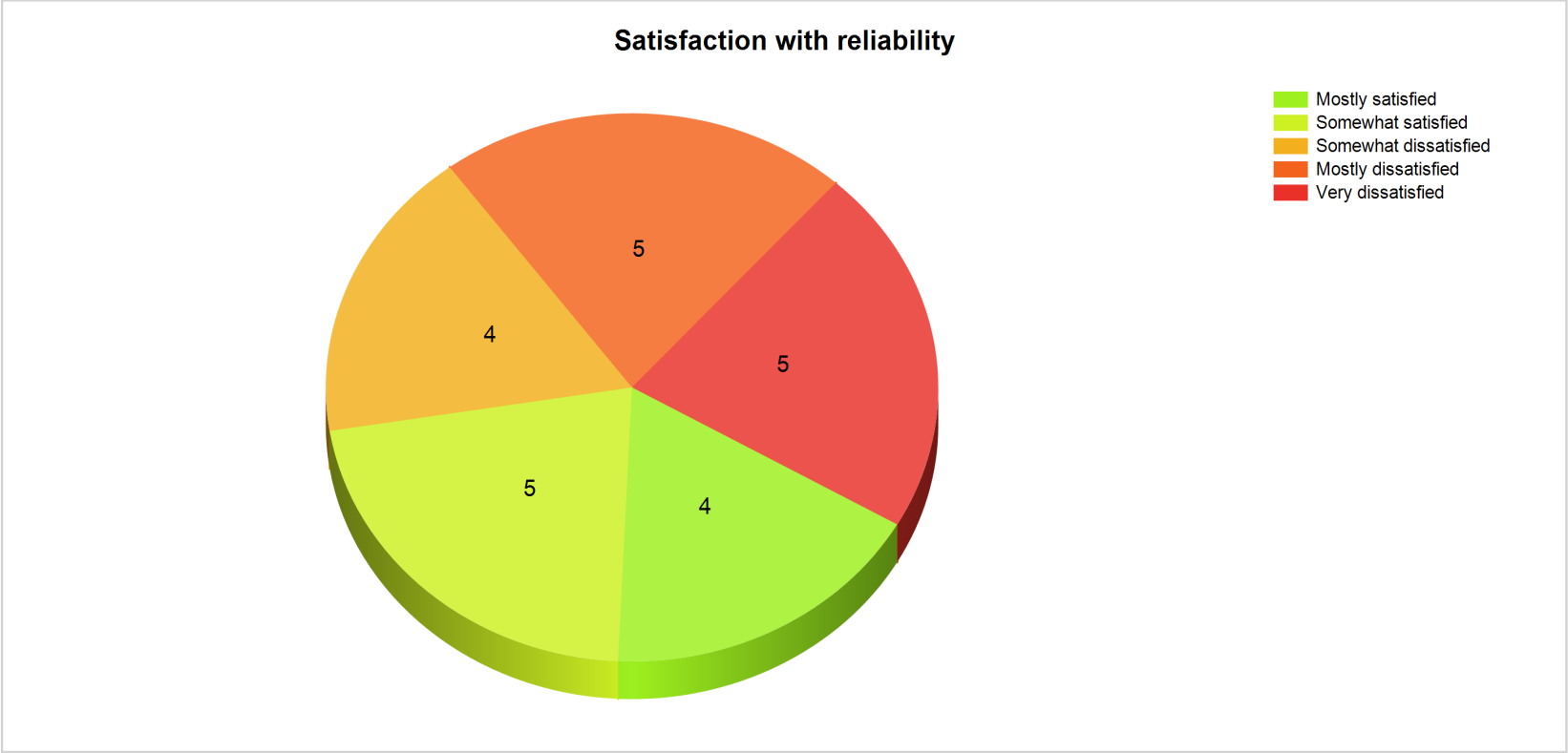
Satisfaction with speed

Of the respondents who currently have Internet service **14 (60.9%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



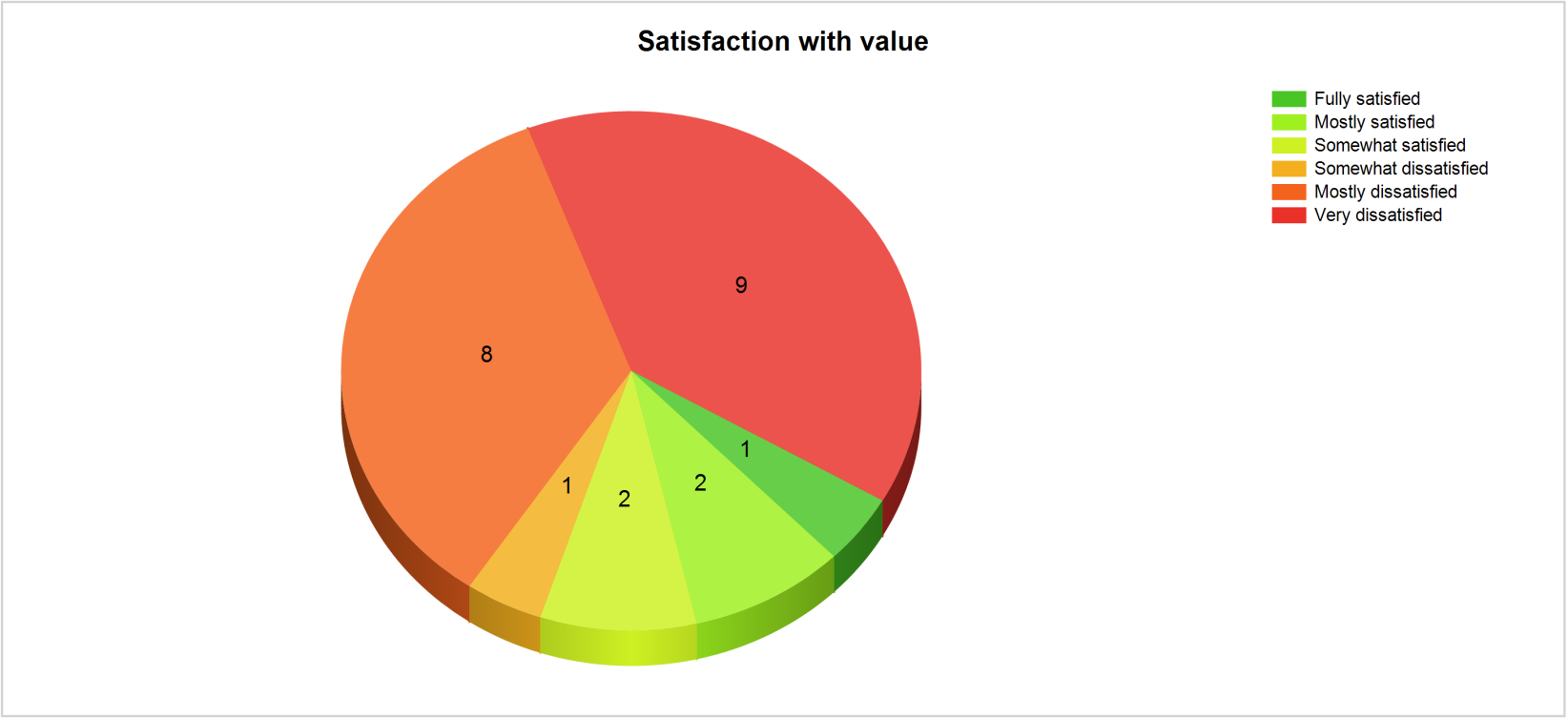
Satisfaction with reliability

Of the respondents who currently have Internet service **14 (60.9%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **18 (78.3%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

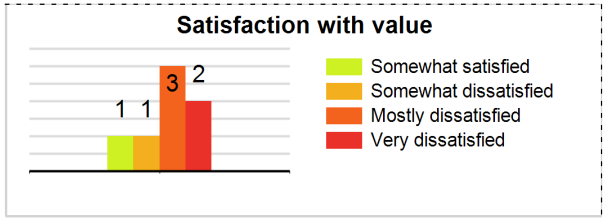
Type:

Count: 7

Satisfied with speed: 85.7%

Satisfied with reliability: 85.7%

Satisfied with value: 14.3% (see graph)



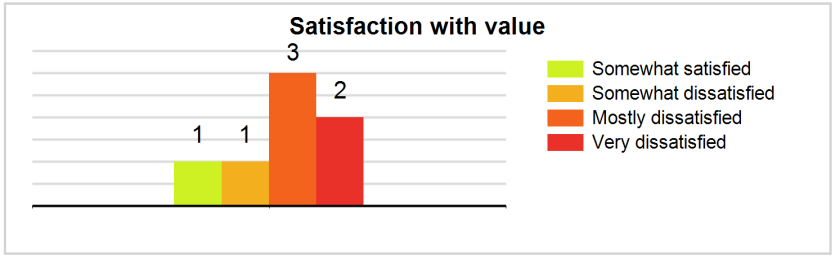
Totals for TWC-10796-MIDWEST, US:

Count: 7

Satisfied with speed: 85.7%

Satisfied with reliability: 85.7%

Satisfied with value: 14.3% (see graph)



FRONTIER-FRTR, US

By survey type:

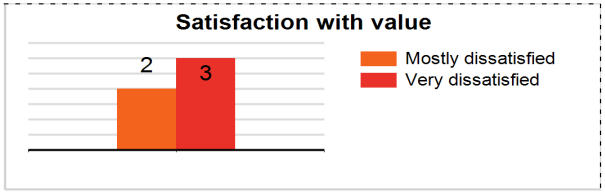
Type:

Count: 5

Satisfied with speed: 0.0%

Satisfied with reliability: 20.0%

Satisfied with value: 0.0% (see graph)



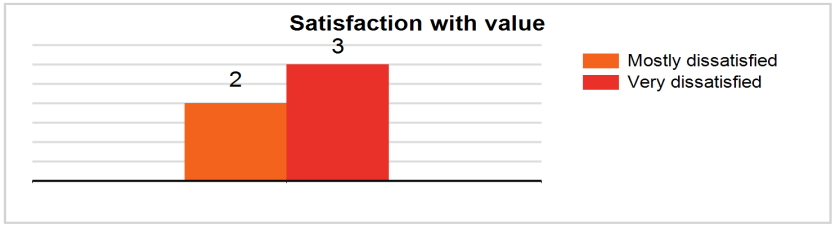
Totals for FRONTIER-FRTR, US:

Count: 5

Satisfied with speed: 0.0%

Satisfied with reliability: 20.0%

Satisfied with value: 0.0% (see graph)



CELLCO-PART, US

By survey type:

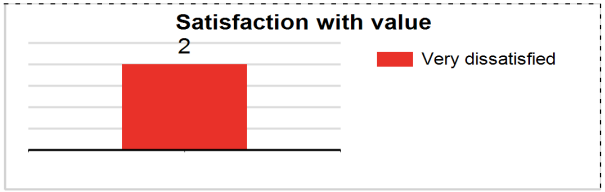
Type:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



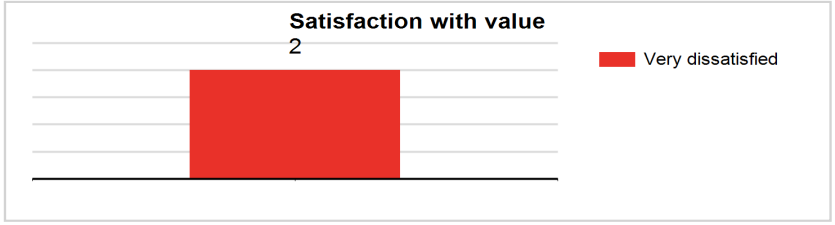
Totals for CELLCO-PART, US:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



COUNTRY-CONNECTIONS-LLC, US

By survey type:

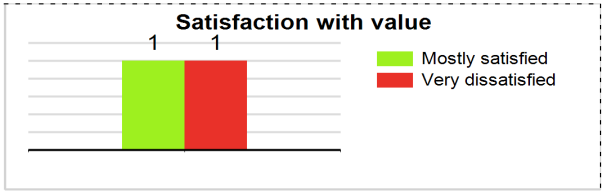
Type:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 50.0% (see graph)



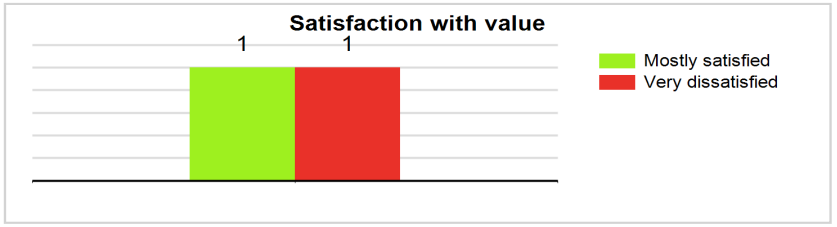
Totals for COUNTRY-CONNECTIONS-LLC, US:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 50.0% (see graph)



LVLT-3549, US

By survey type:

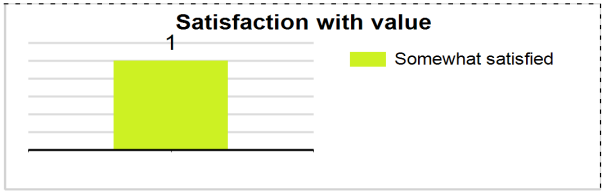
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



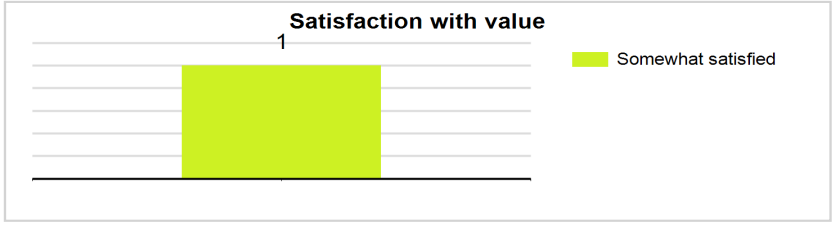
Totals for LVLT-3549, US:

Count: 1

Satisfied with speed: 100.0%

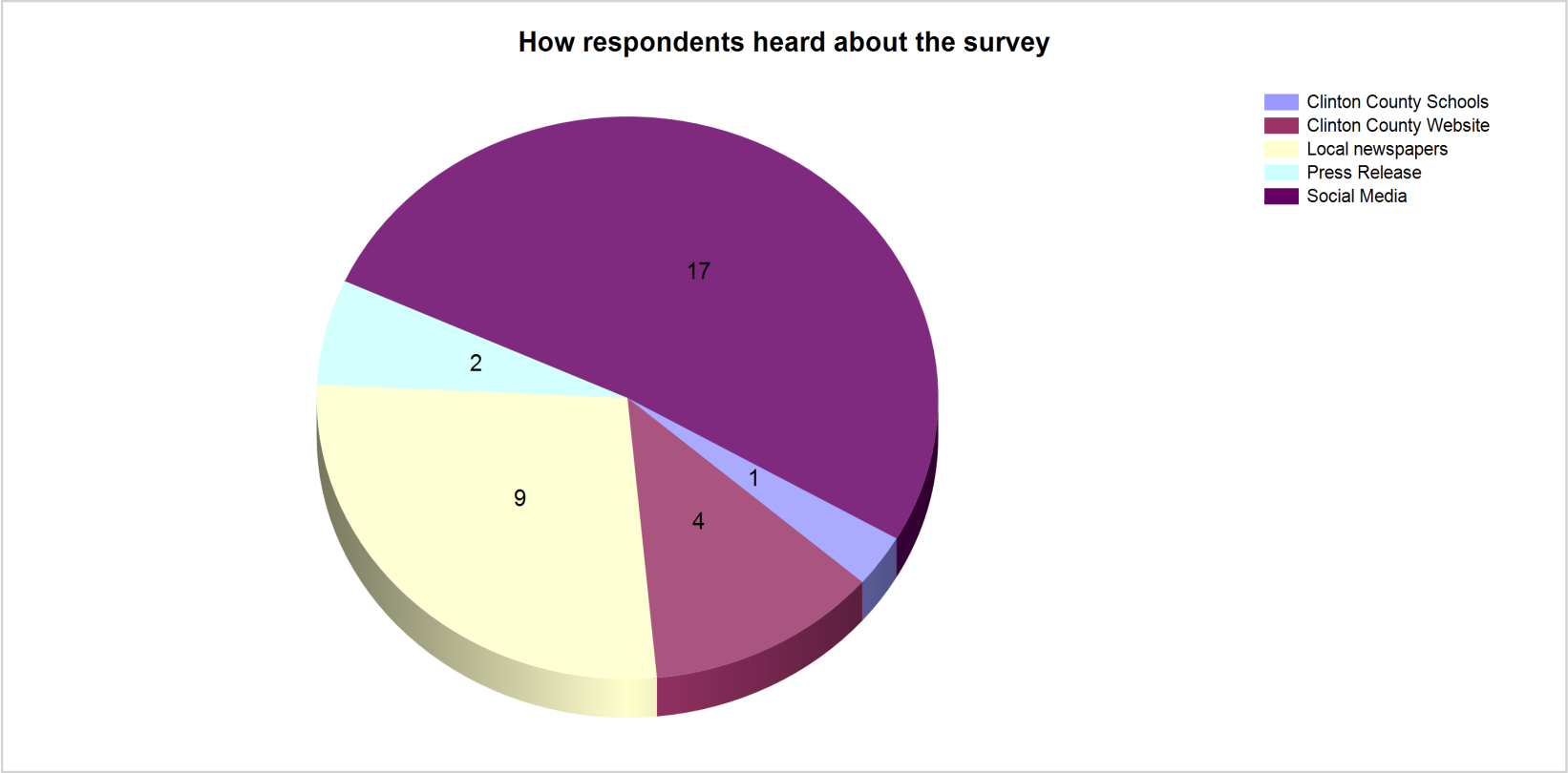
Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)

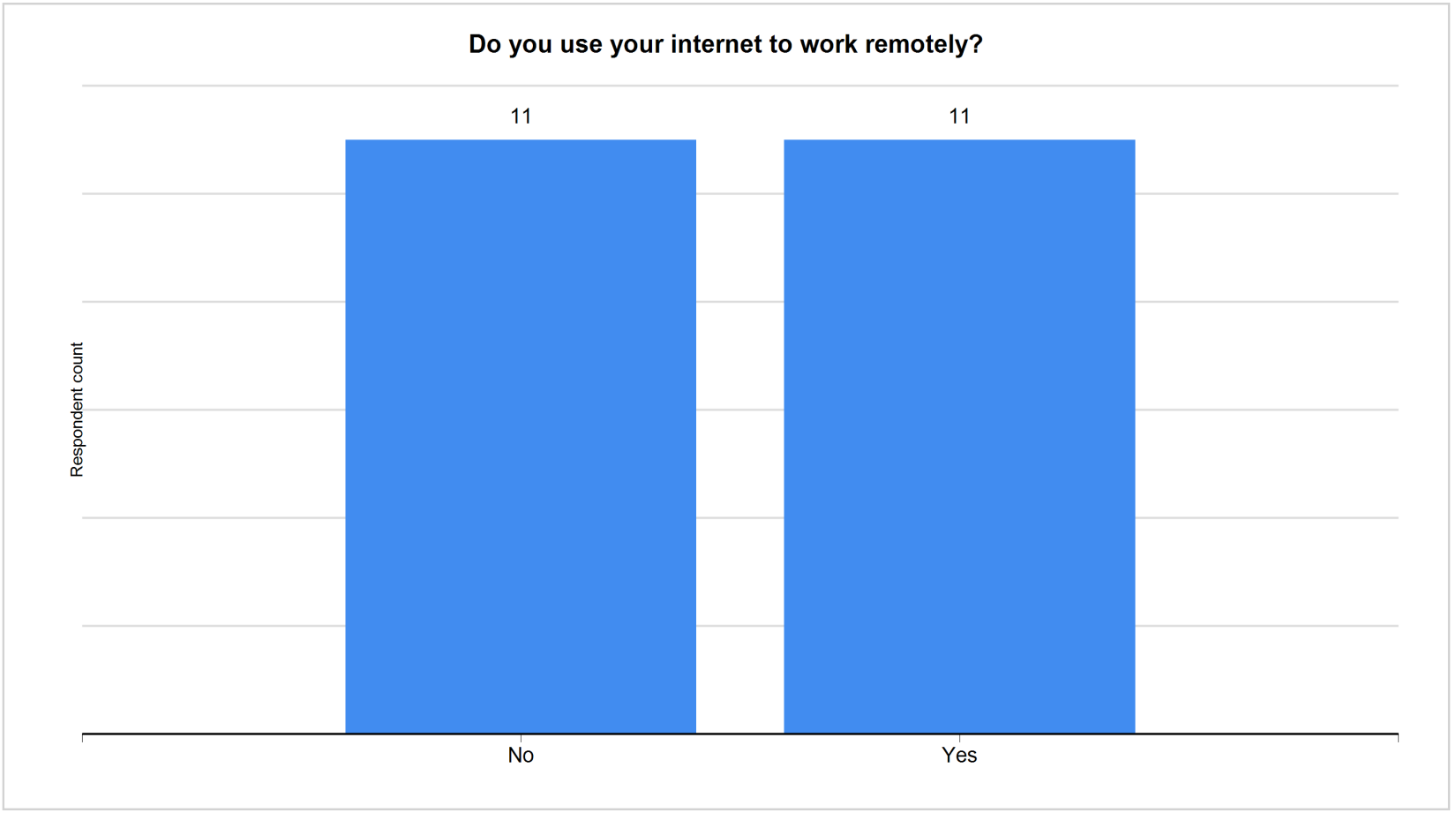


Additional information

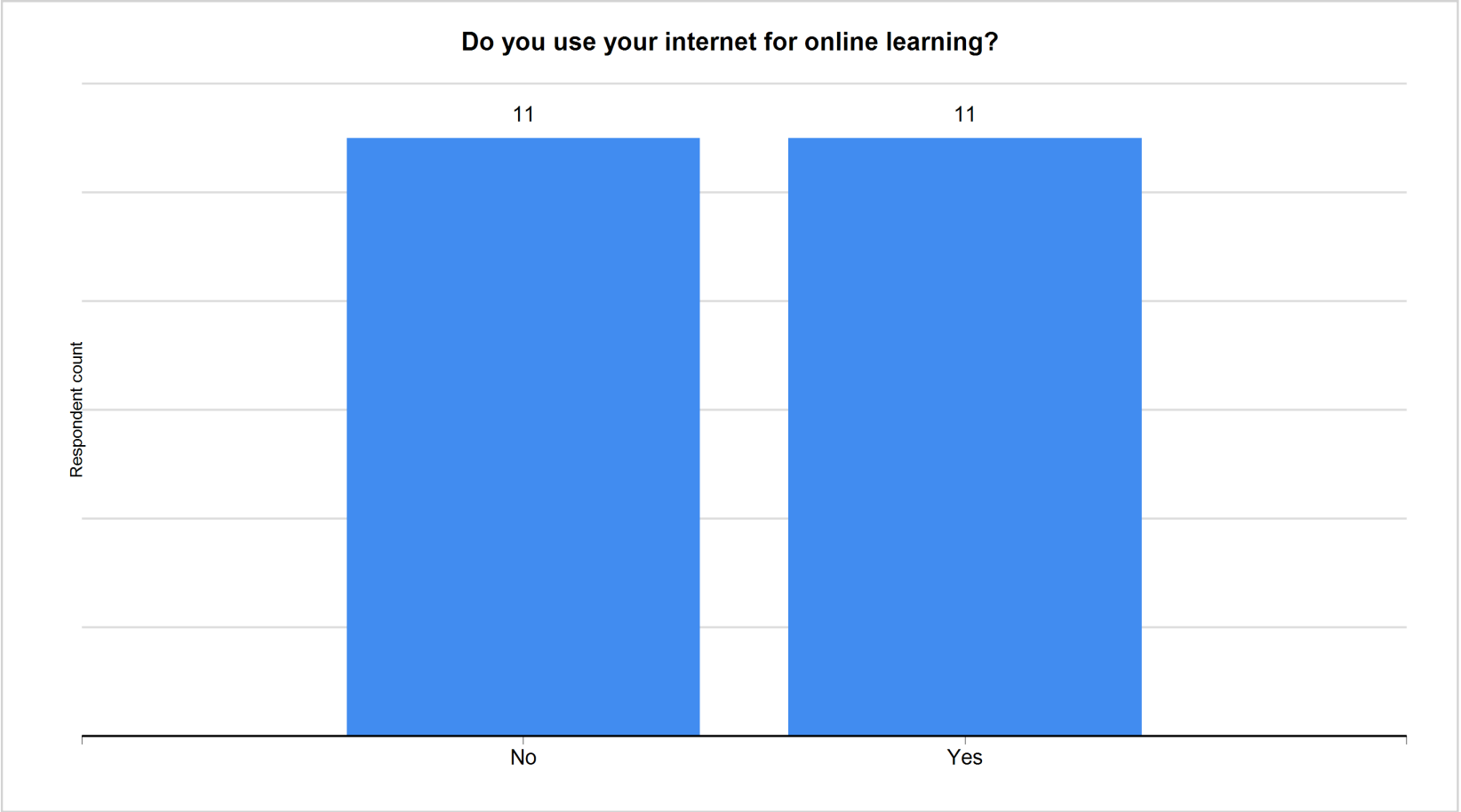
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



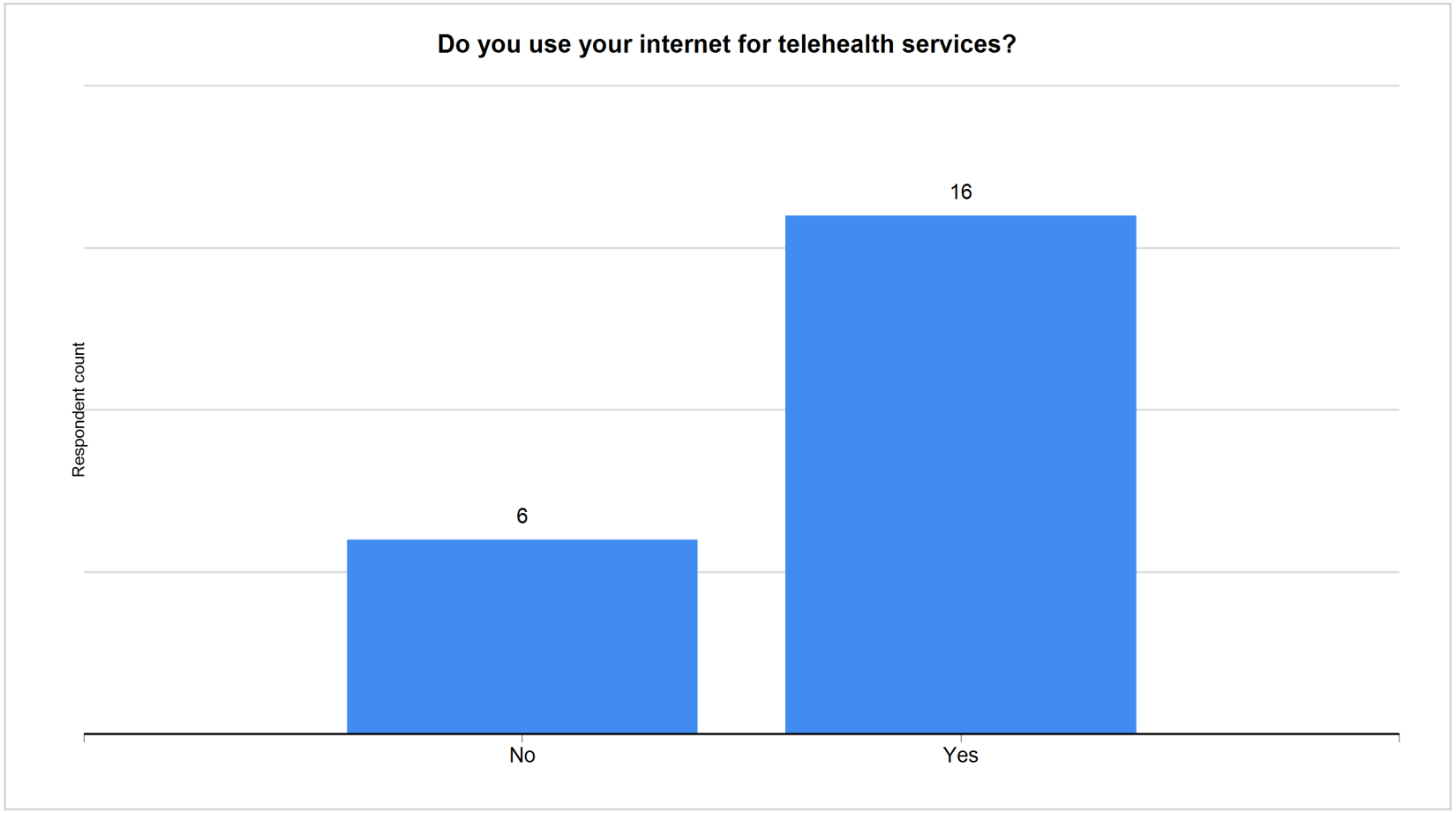
Custom question



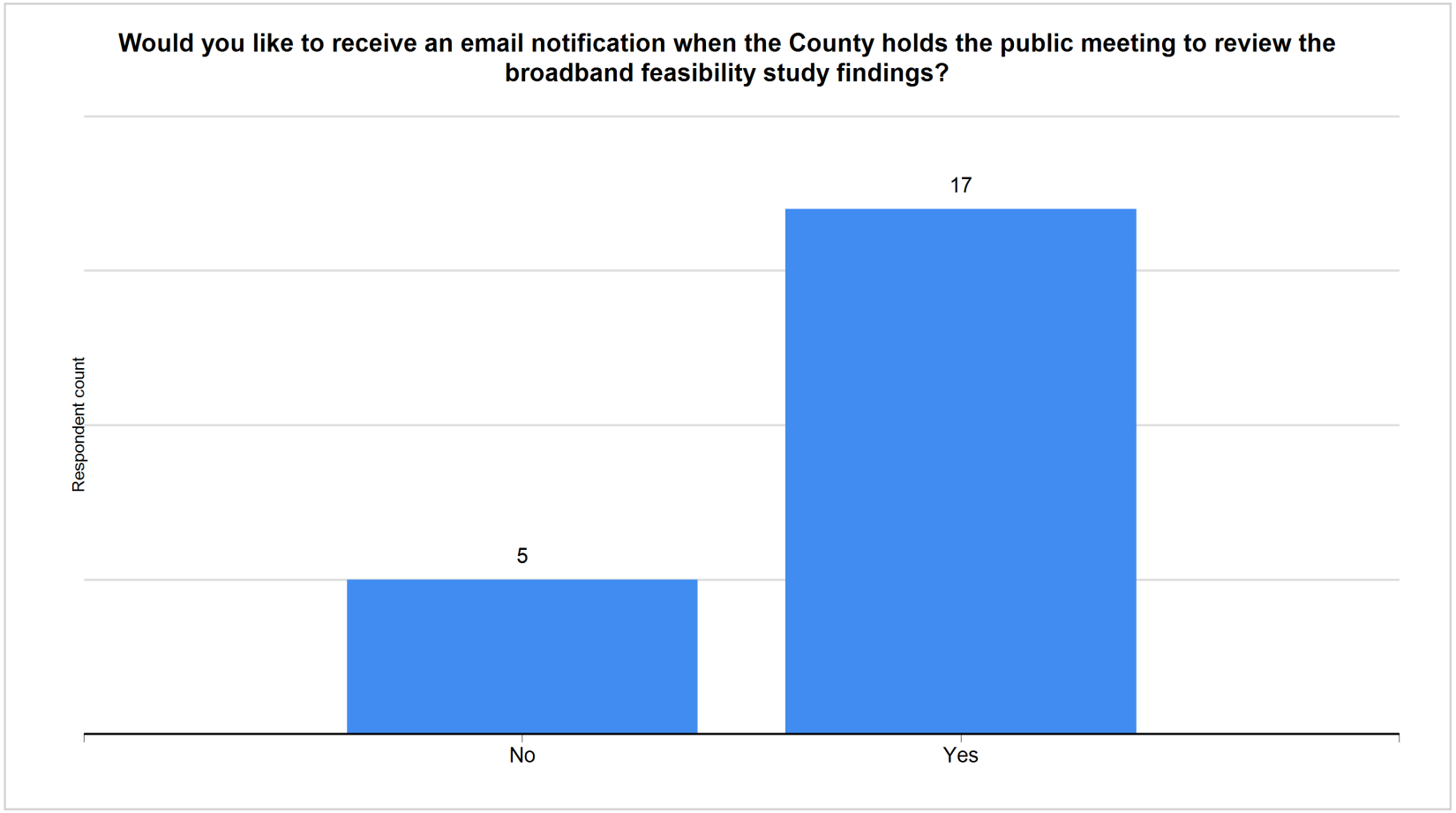
Custom question



Custom question



Custom question



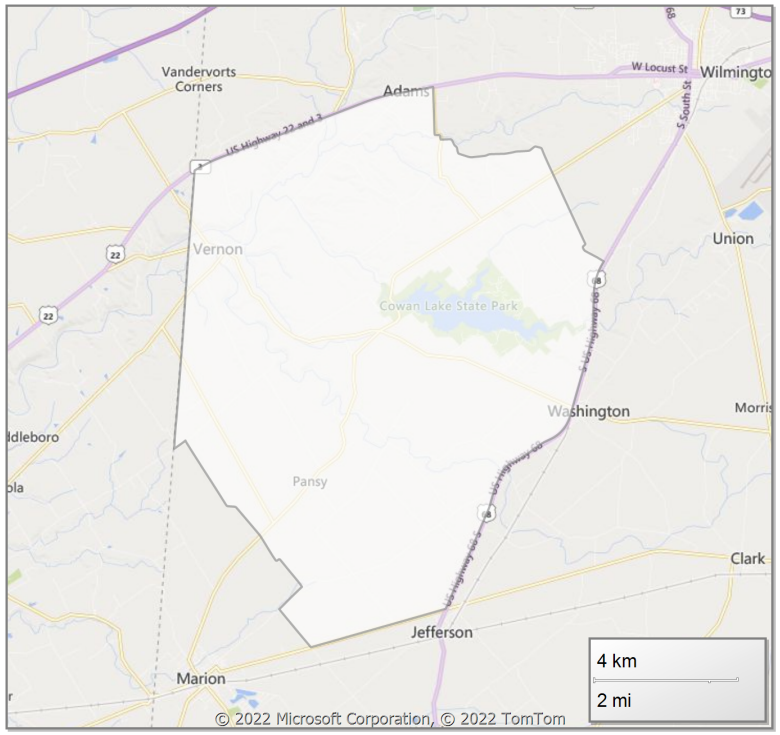
Zone Analyzer™
9648

About 9648

Belongs to service area:
Clinton County

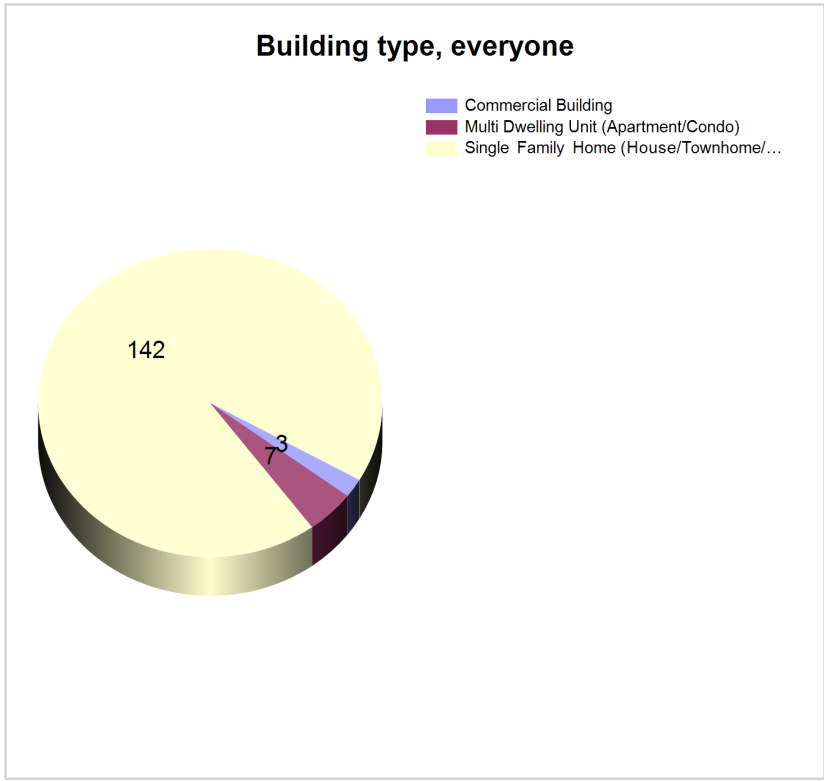
Area:
129.8 sq km (50.1 sq mi)

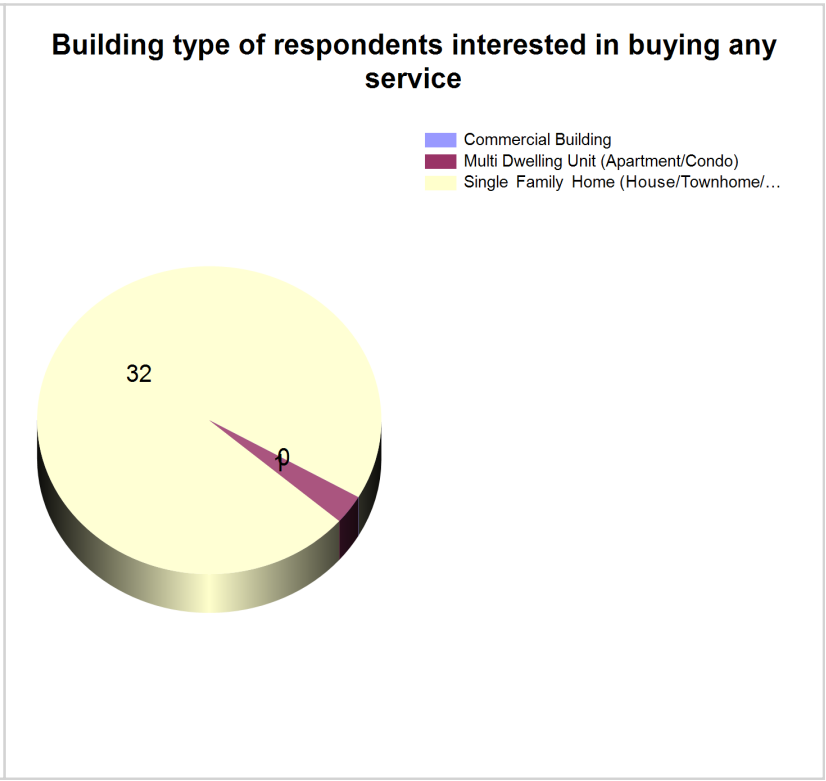
Survey phase started:
1/19/2022 (95 day(s) ago)



Information about respondents

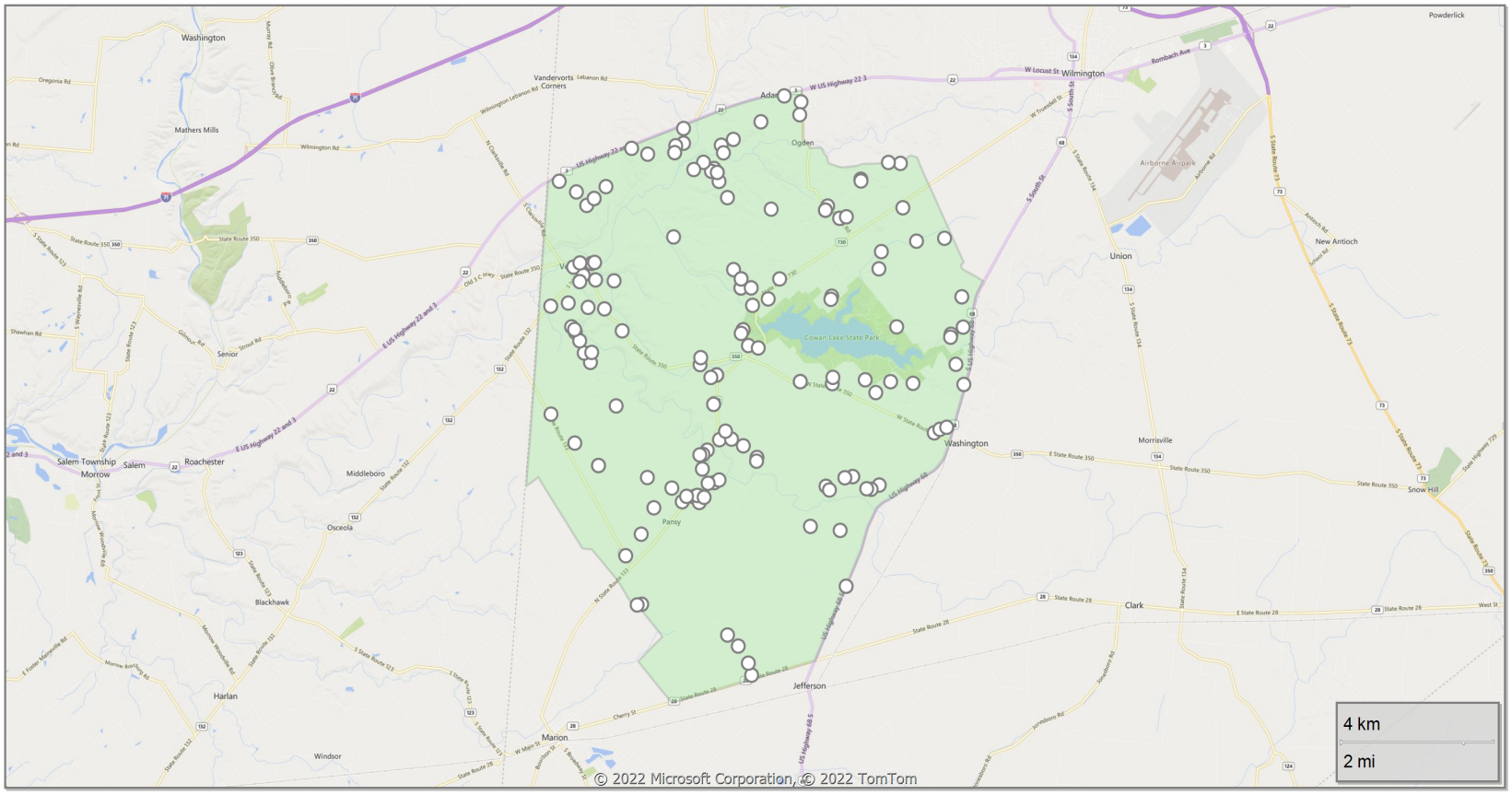
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



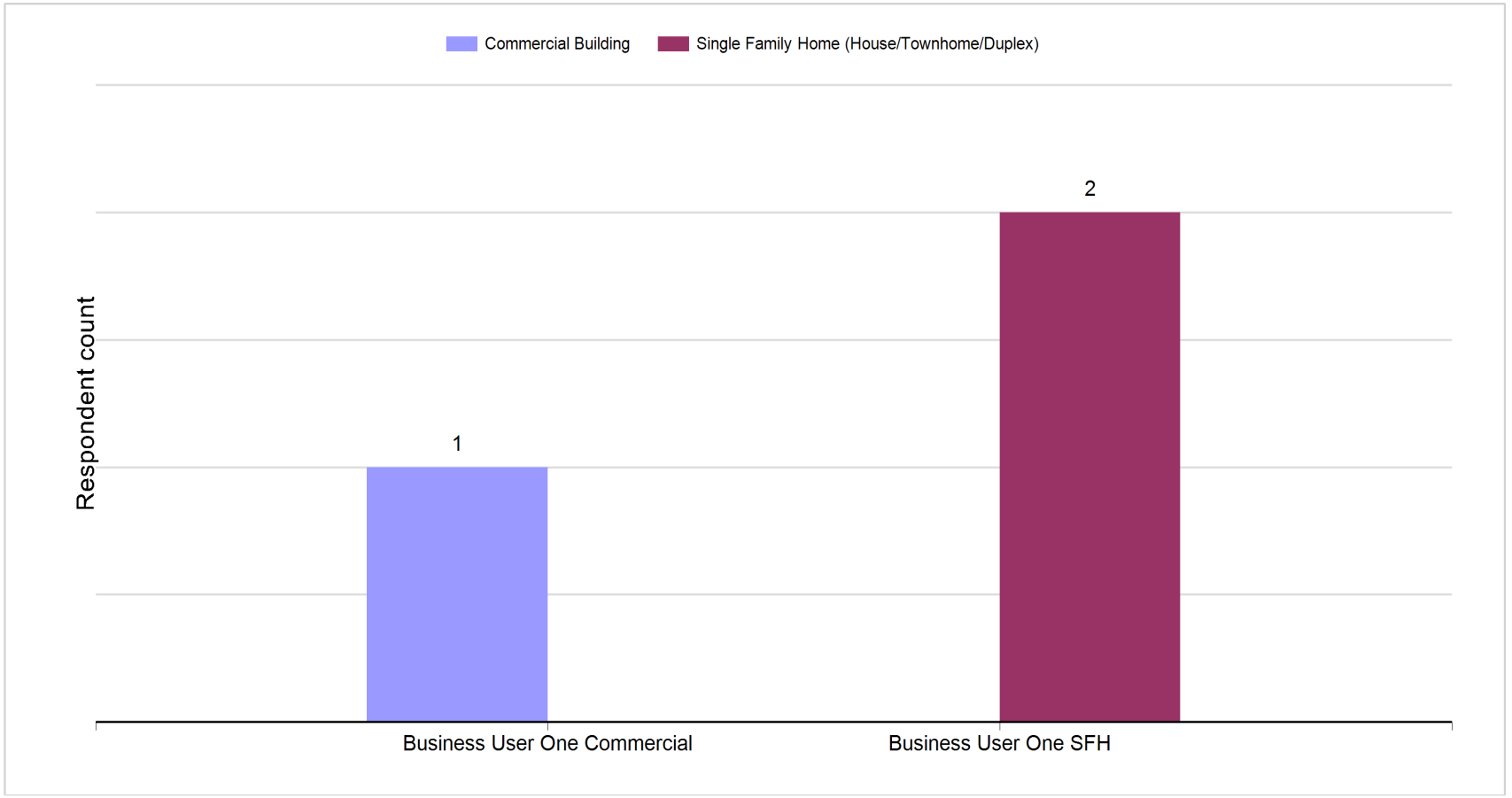


Survey responses on a map

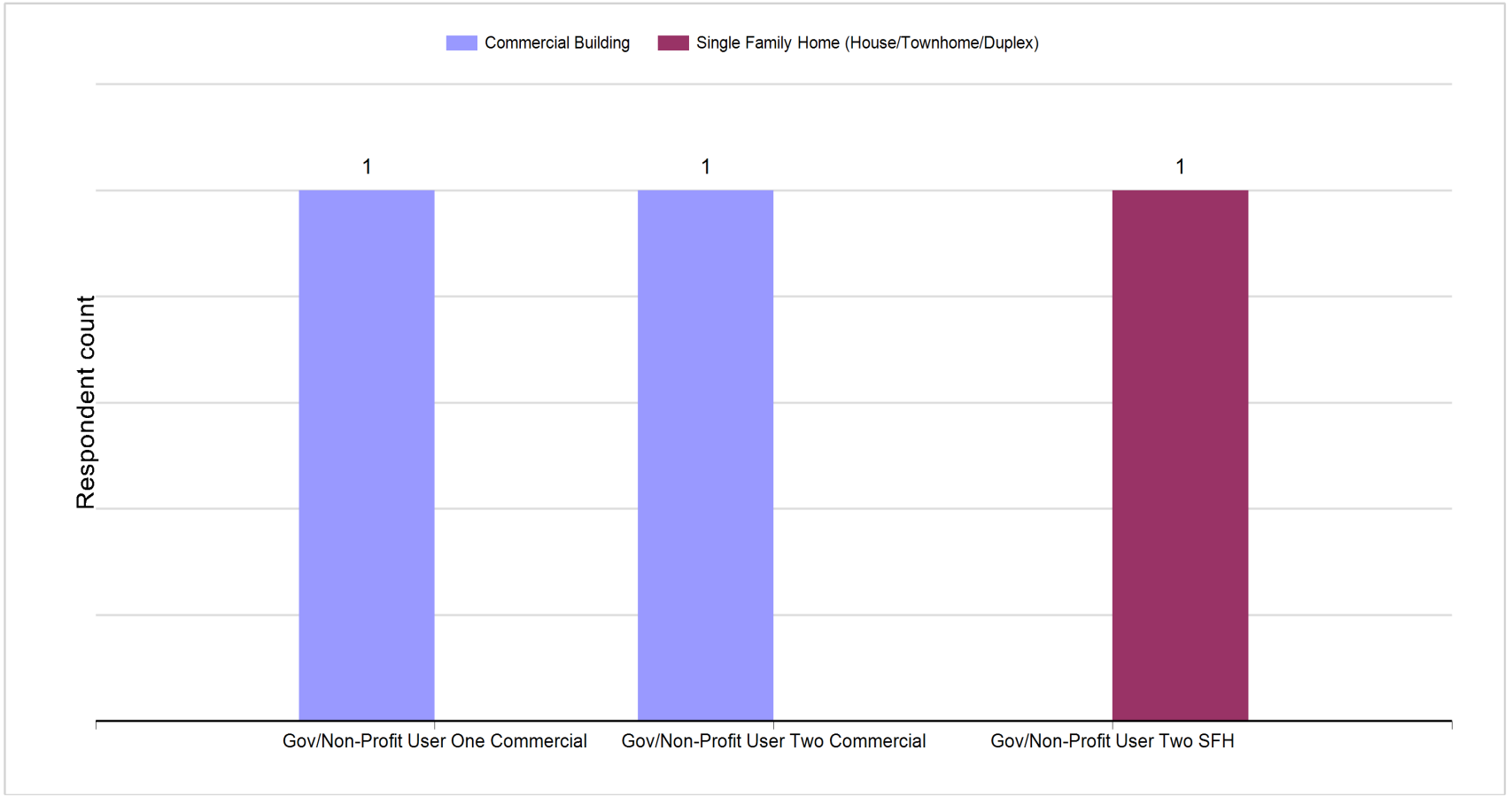
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



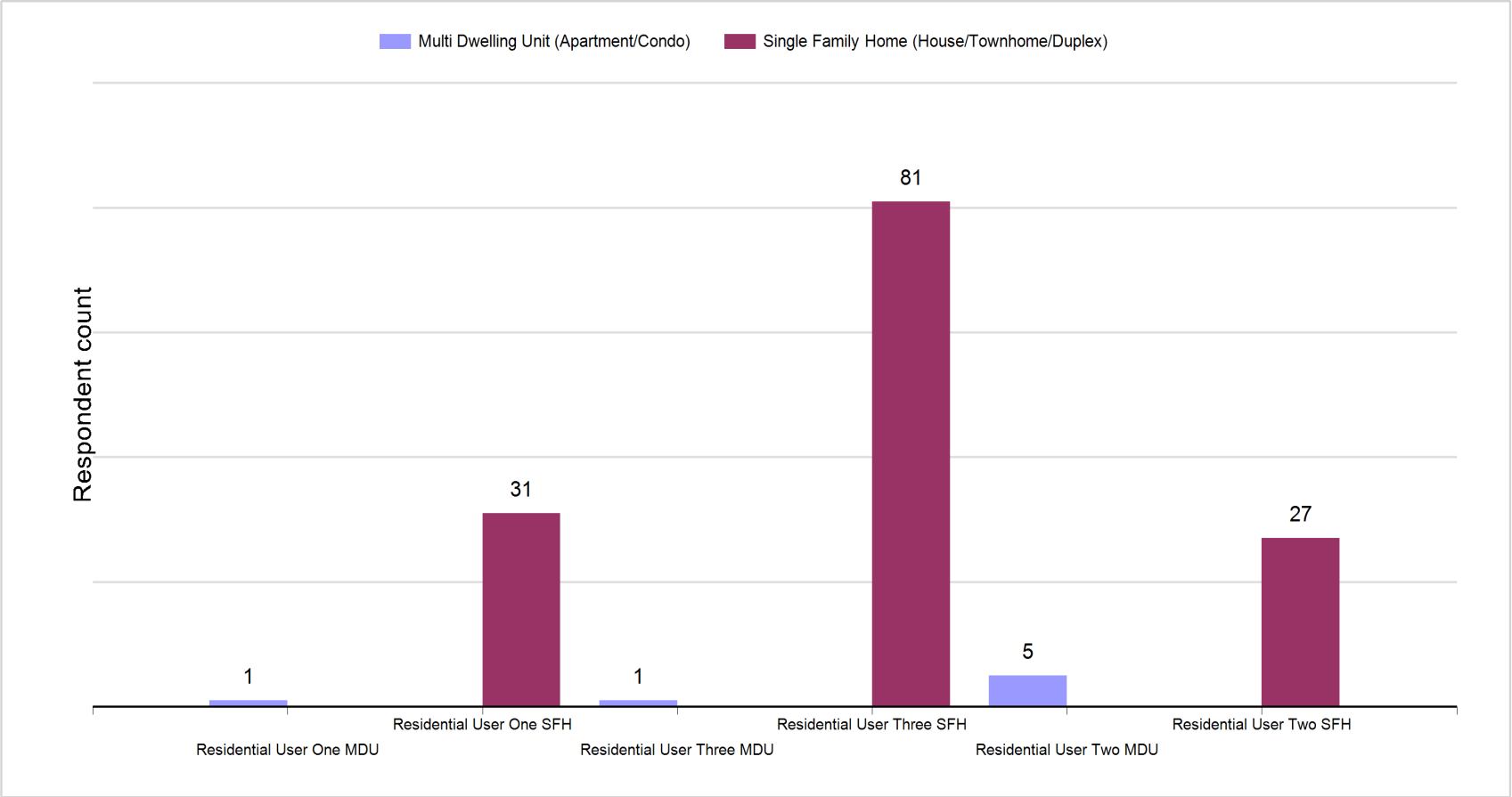
Selected service offering - Business



Selected service offering - Government/Non-Profit Organization

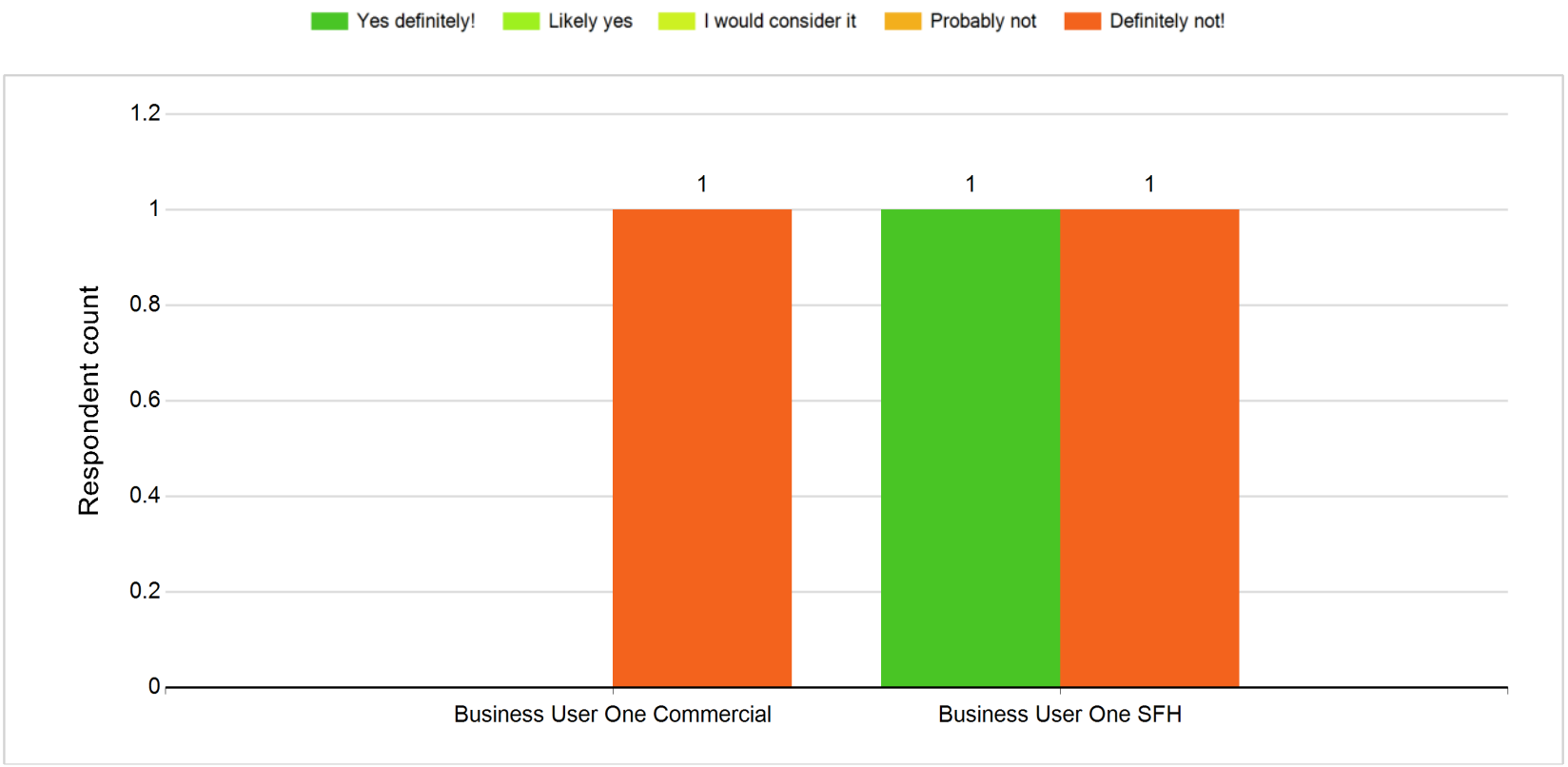


Selected service offering - Residential



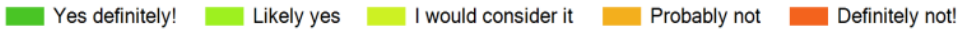
How likely to purchase - Business

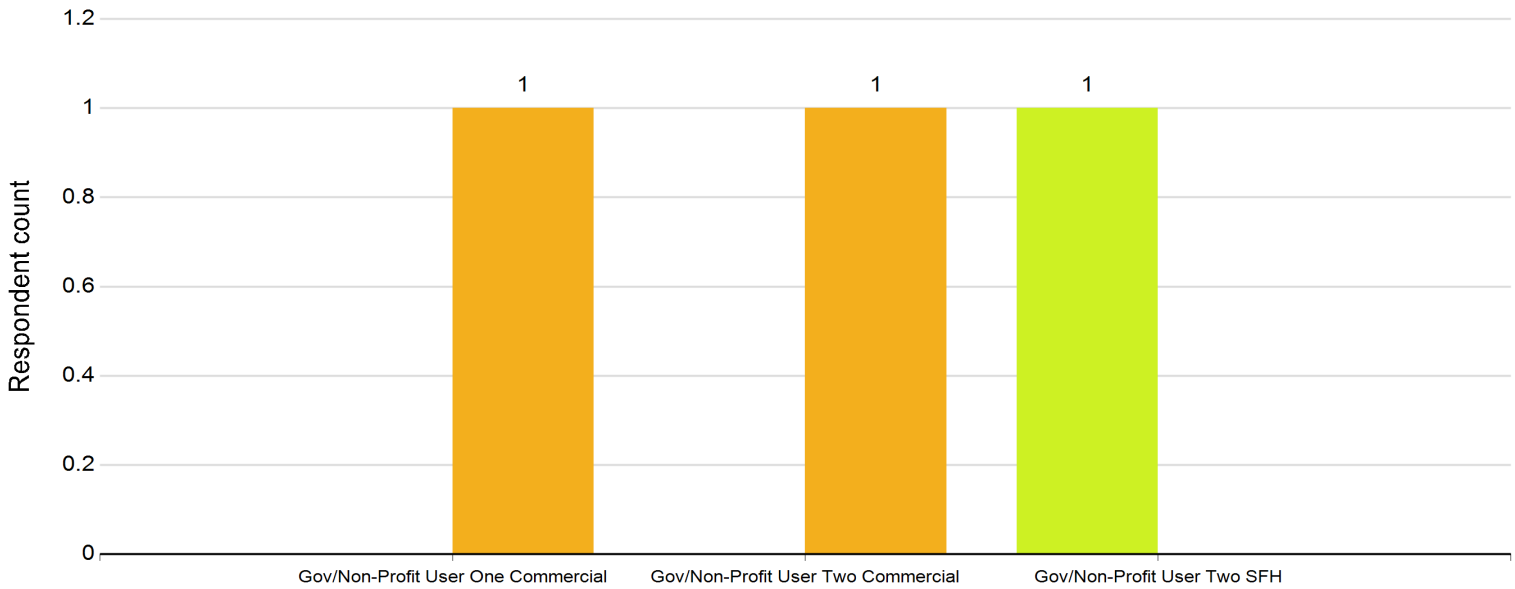
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



How likely to purchase - Government/Non-Profit Organization

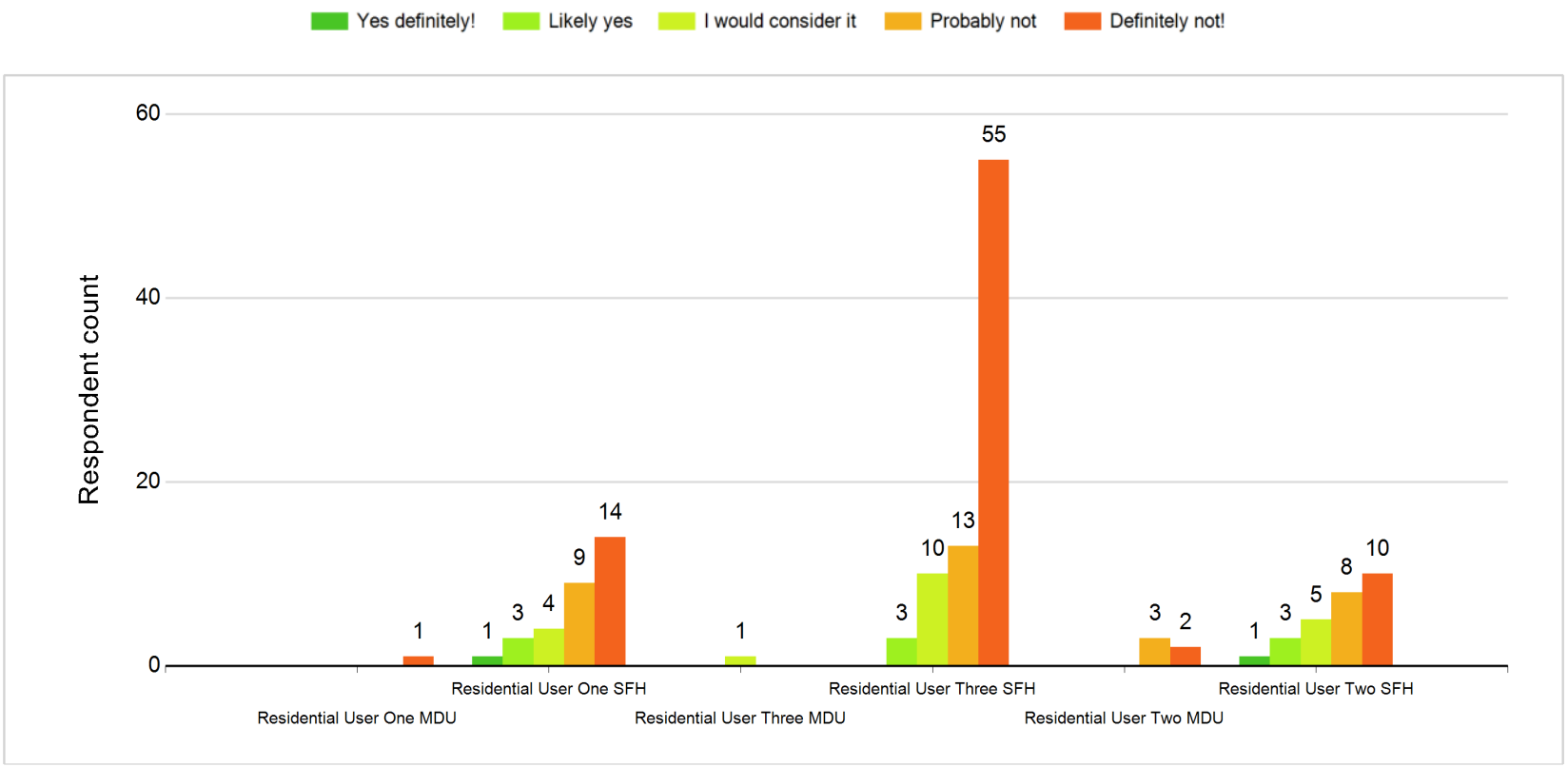
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.





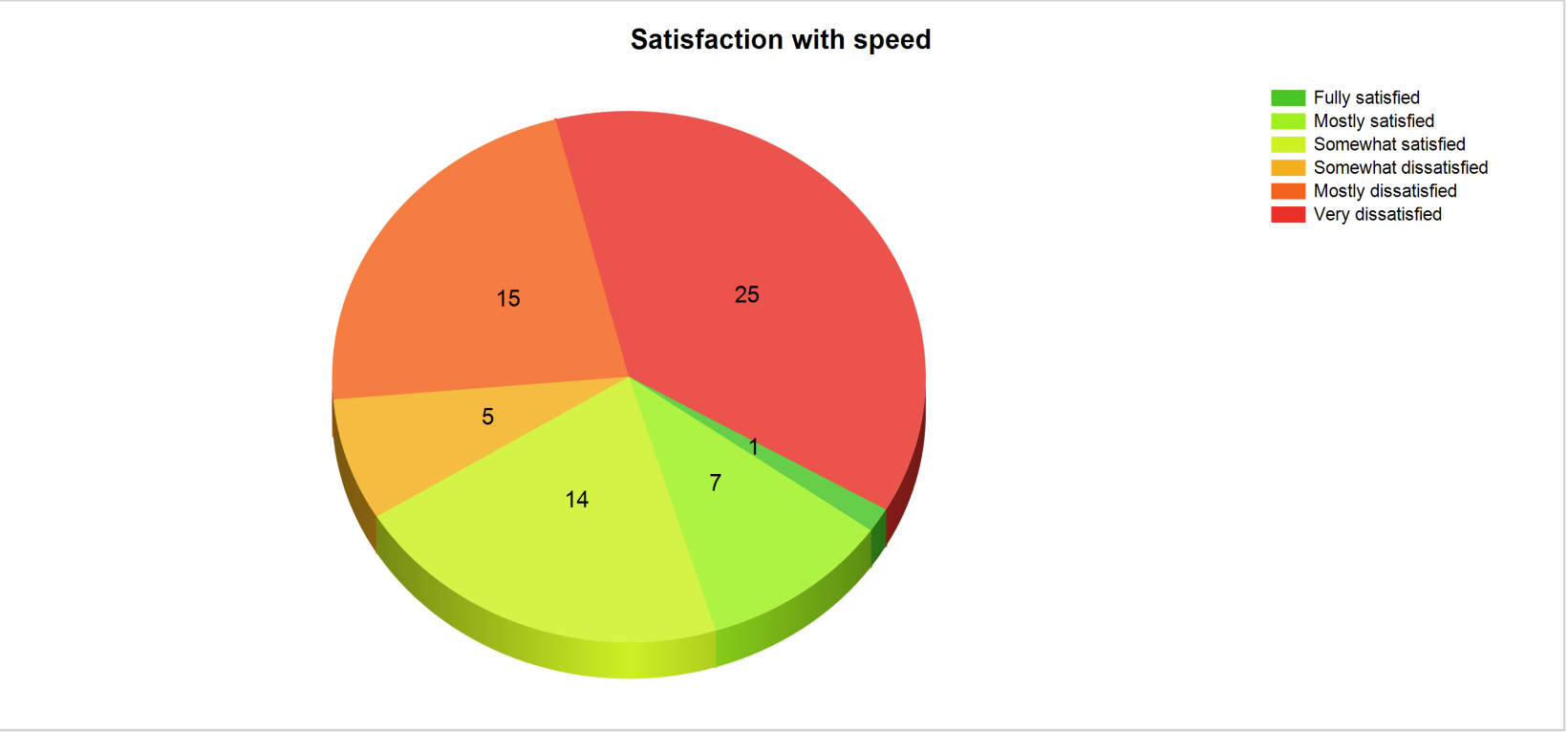
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



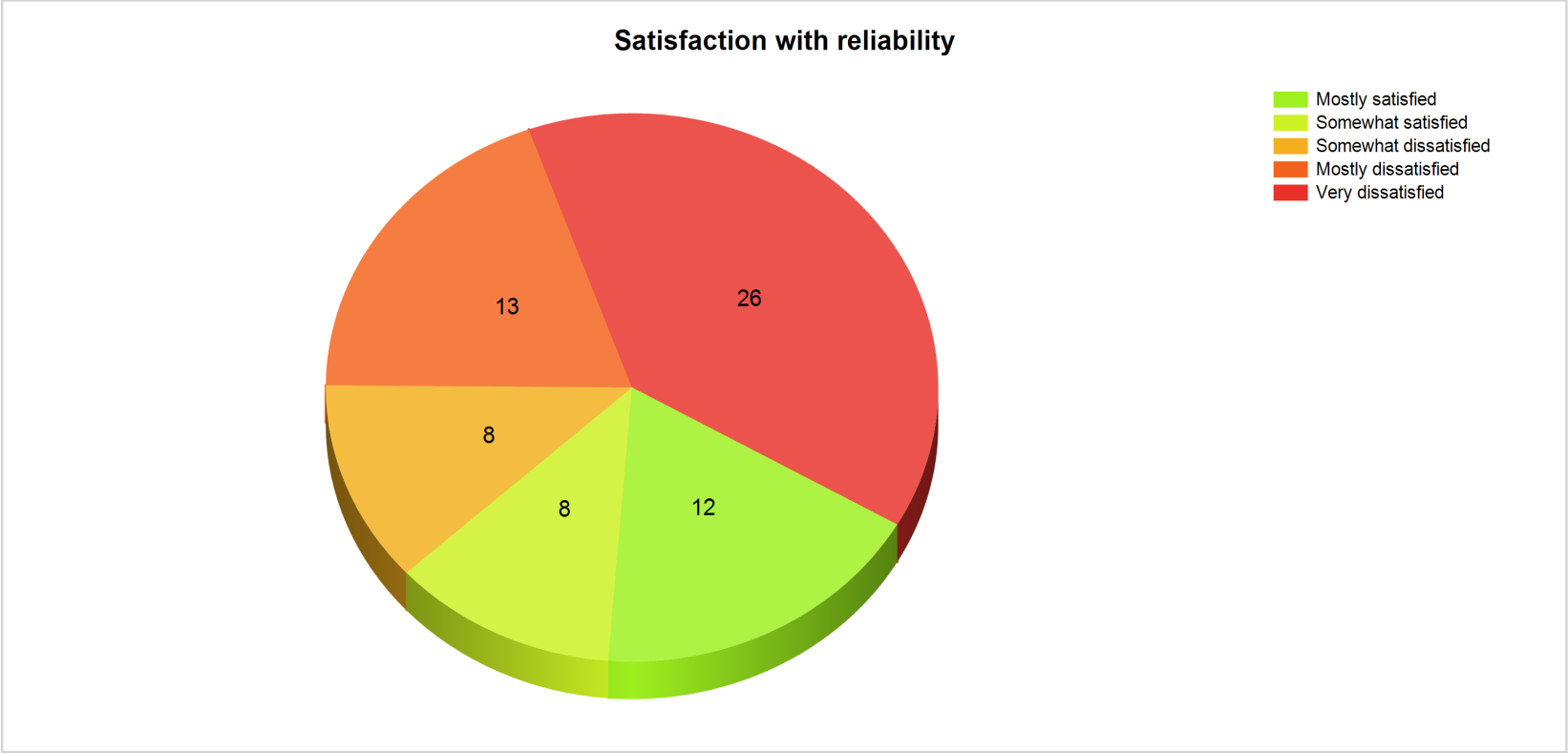
Satisfaction with speed

Of the respondents who currently have Internet service **45 (67.2%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



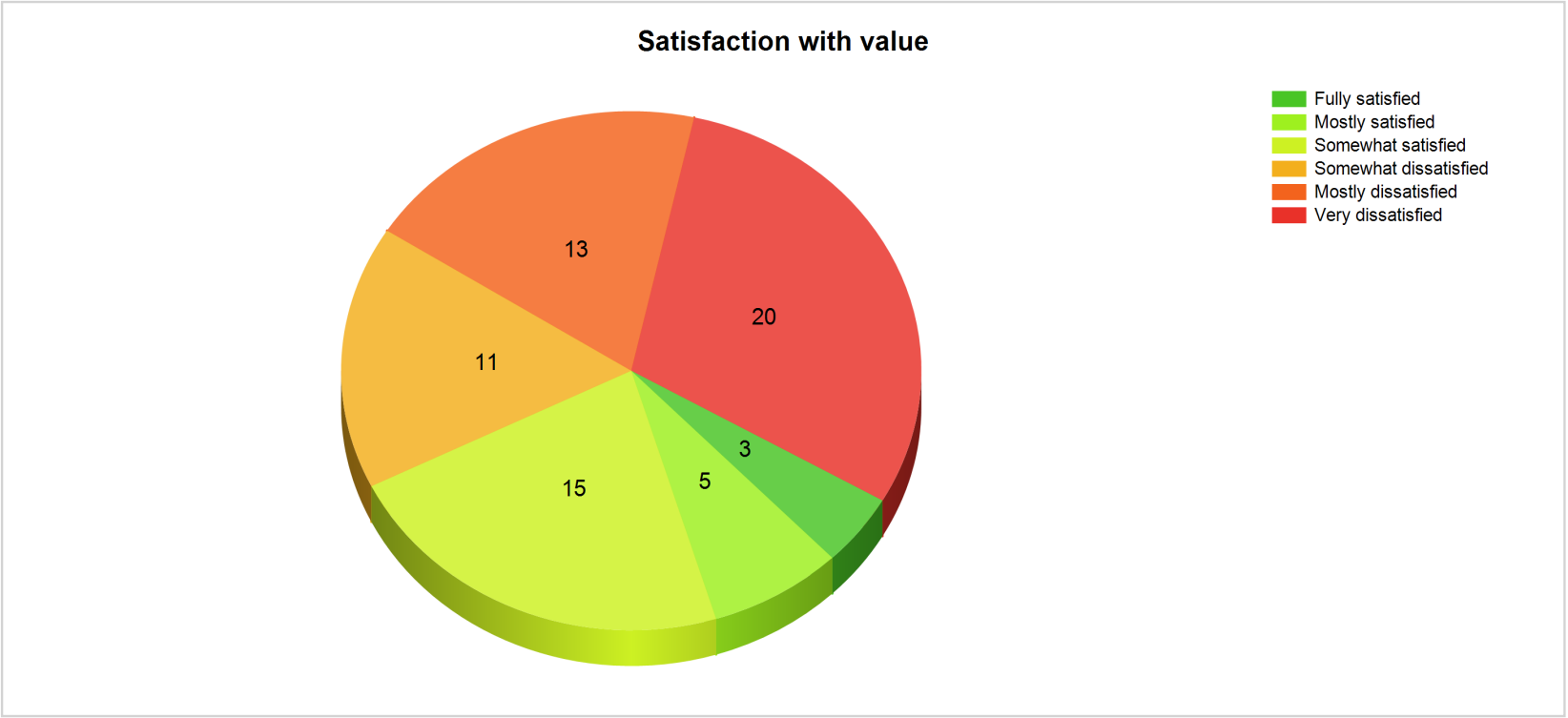
Satisfaction with reliability

Of the respondents who currently have Internet service **47 (70.1%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **44 (65.7%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

FRONTIER-FRTR, US

By survey type:

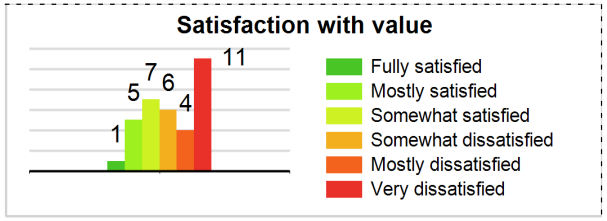
Type:

Count: 34

Satisfied with speed: 32.4%

Satisfied with reliability: 32.4%

Satisfied with value: 38.2% (see graph)



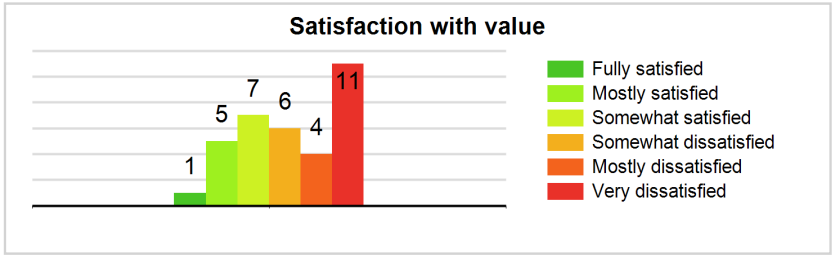
Totals for FRONTIER-FRTR, US:

Count: 34

Satisfied with speed: 32.4%

Satisfied with reliability: 32.4%

Satisfied with value: 38.2% (see graph)



TWC-10796-MIDWEST, US

By survey type:

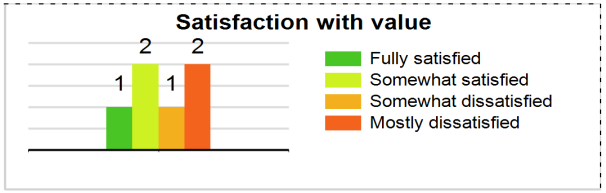
Type:

Count: 6

Satisfied with speed: 66.7%

Satisfied with reliability: 83.3%

Satisfied with value: 50.0% (see graph)



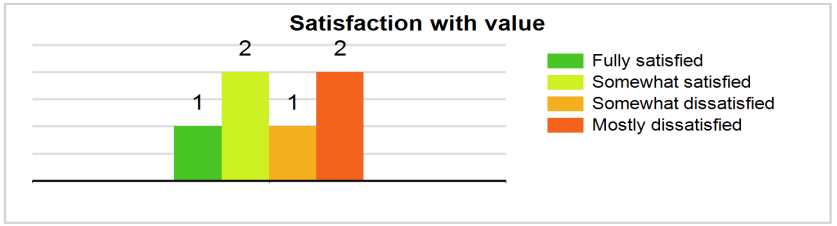
Totals for TWC-10796-MIDWEST, US:

Count: 6

Satisfied with speed: 66.7%

Satisfied with reliability: 83.3%

Satisfied with value: 50.0% (see graph)



ATT-MOBILITY-LLC-AS20057, US

By survey type:

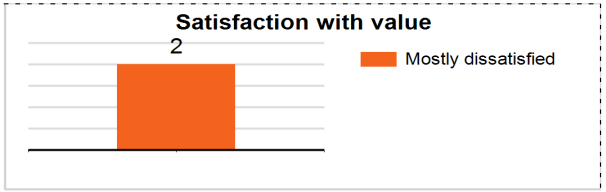
Type:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



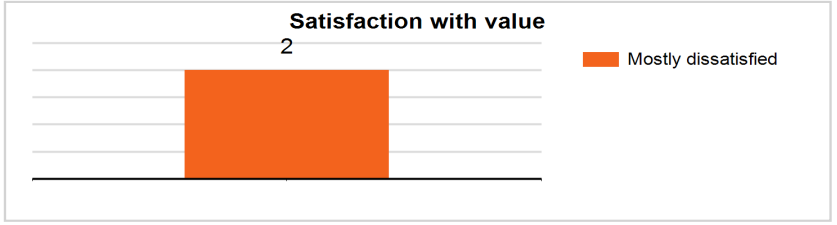
Totals for ATT-MOBILITY-LLC-AS20057, US:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



CELLCO-PART, US

By survey type:

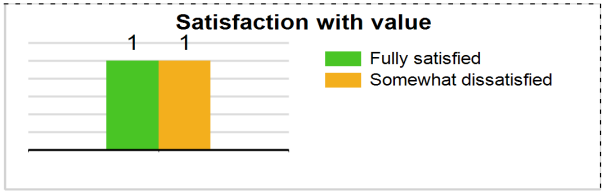
Type:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 50.0% (see graph)



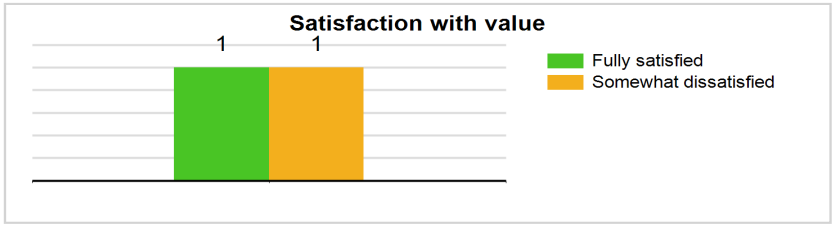
Totals for CELLCO-PART, US:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 50.0% (see graph)



AS-DGX, US

By survey type:

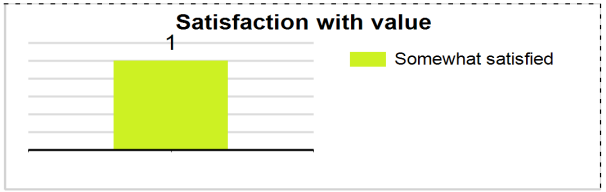
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 100.0% (see graph)



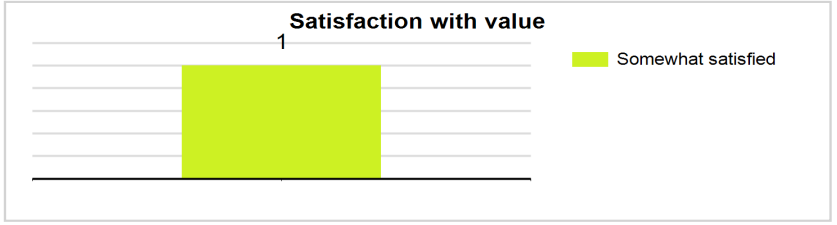
Totals for AS-DGX, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 100.0% (see graph)



HNS-DIRECPC, US

By survey type:

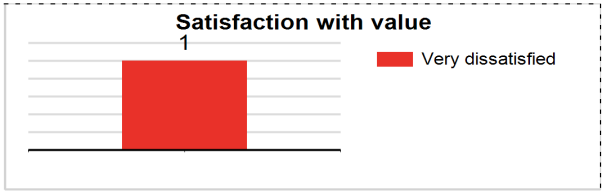
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



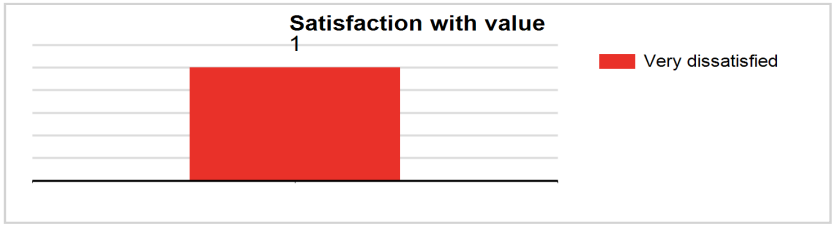
Totals for HNS-DIRECPC, US:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



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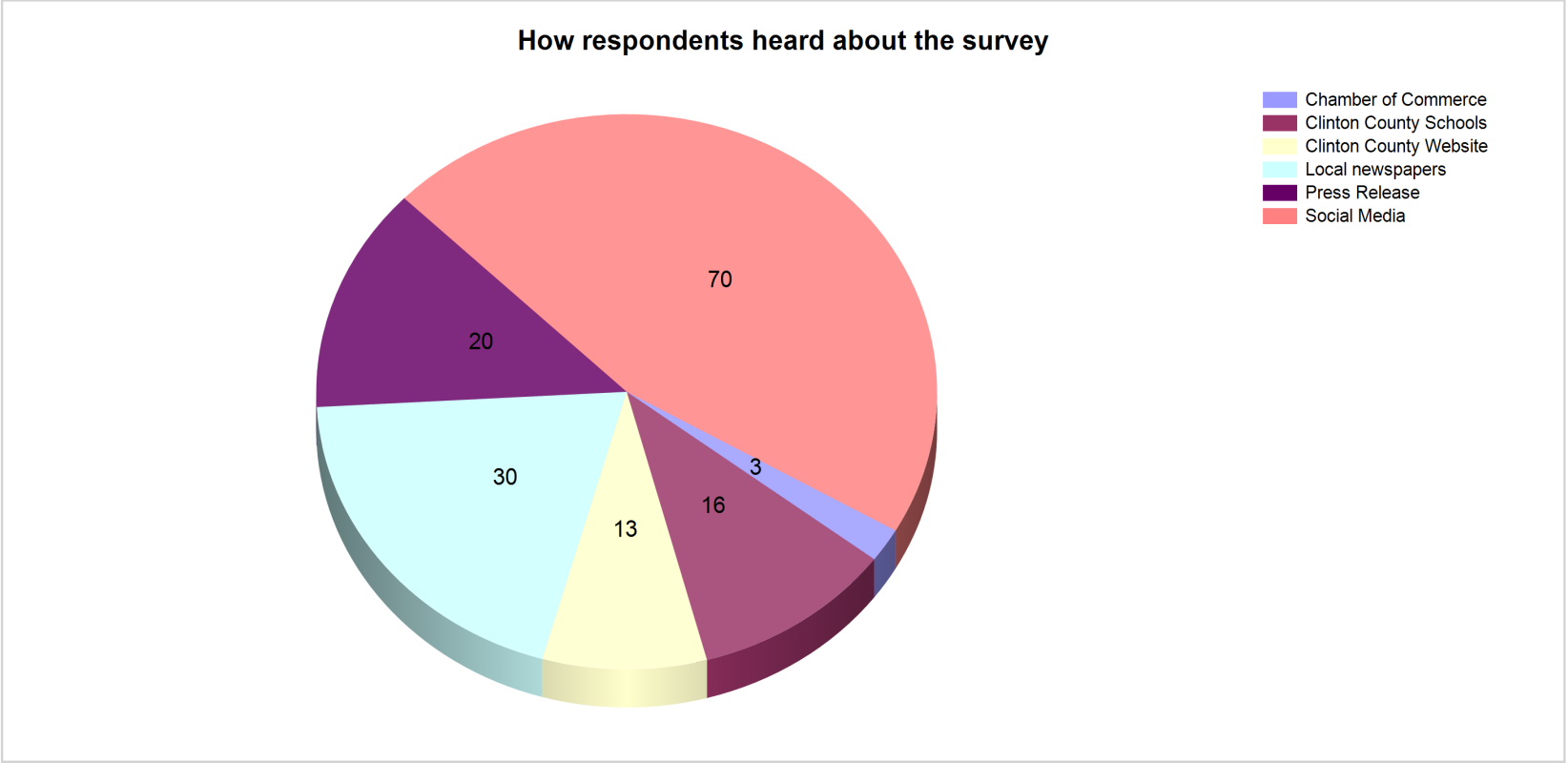
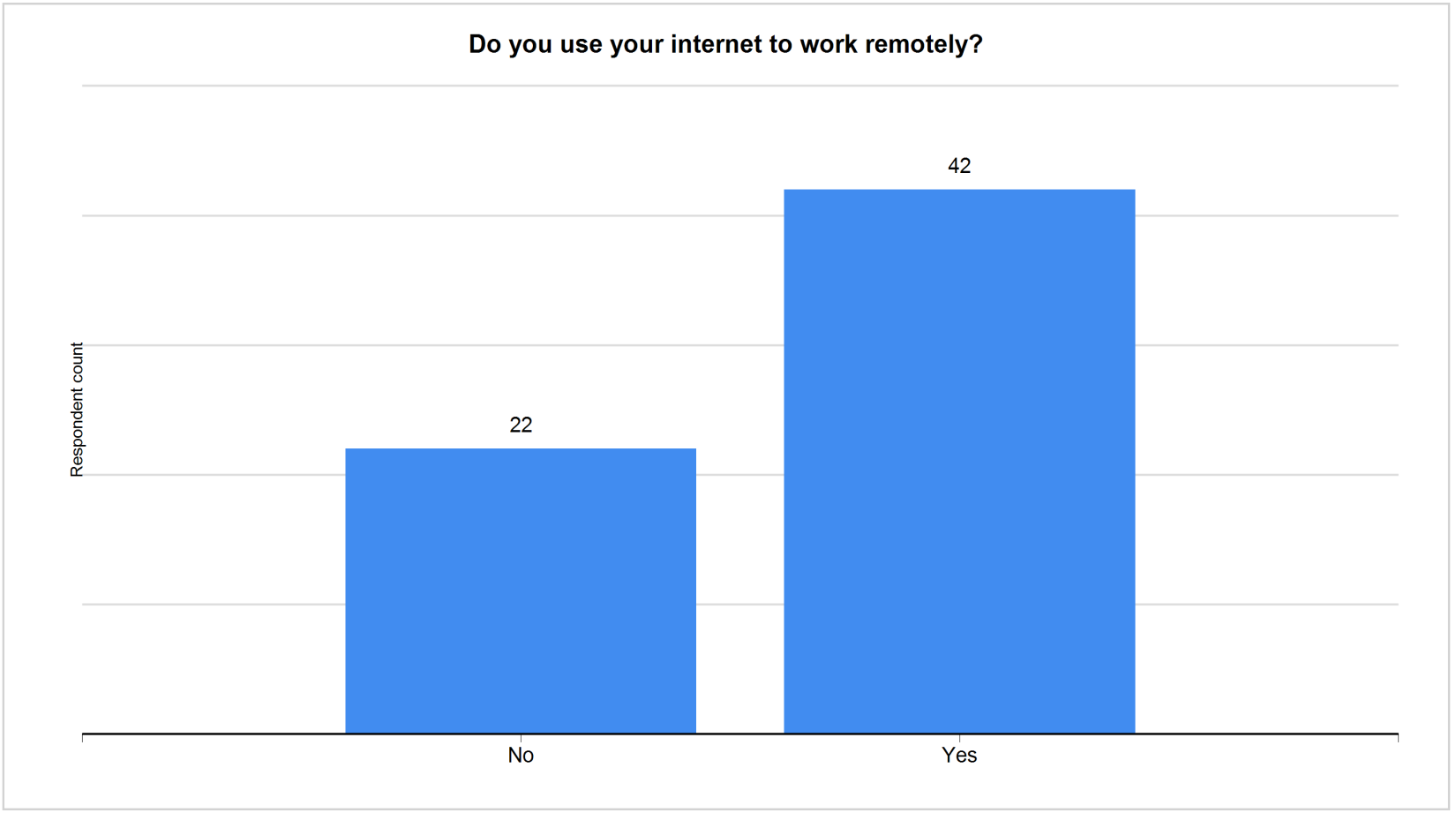
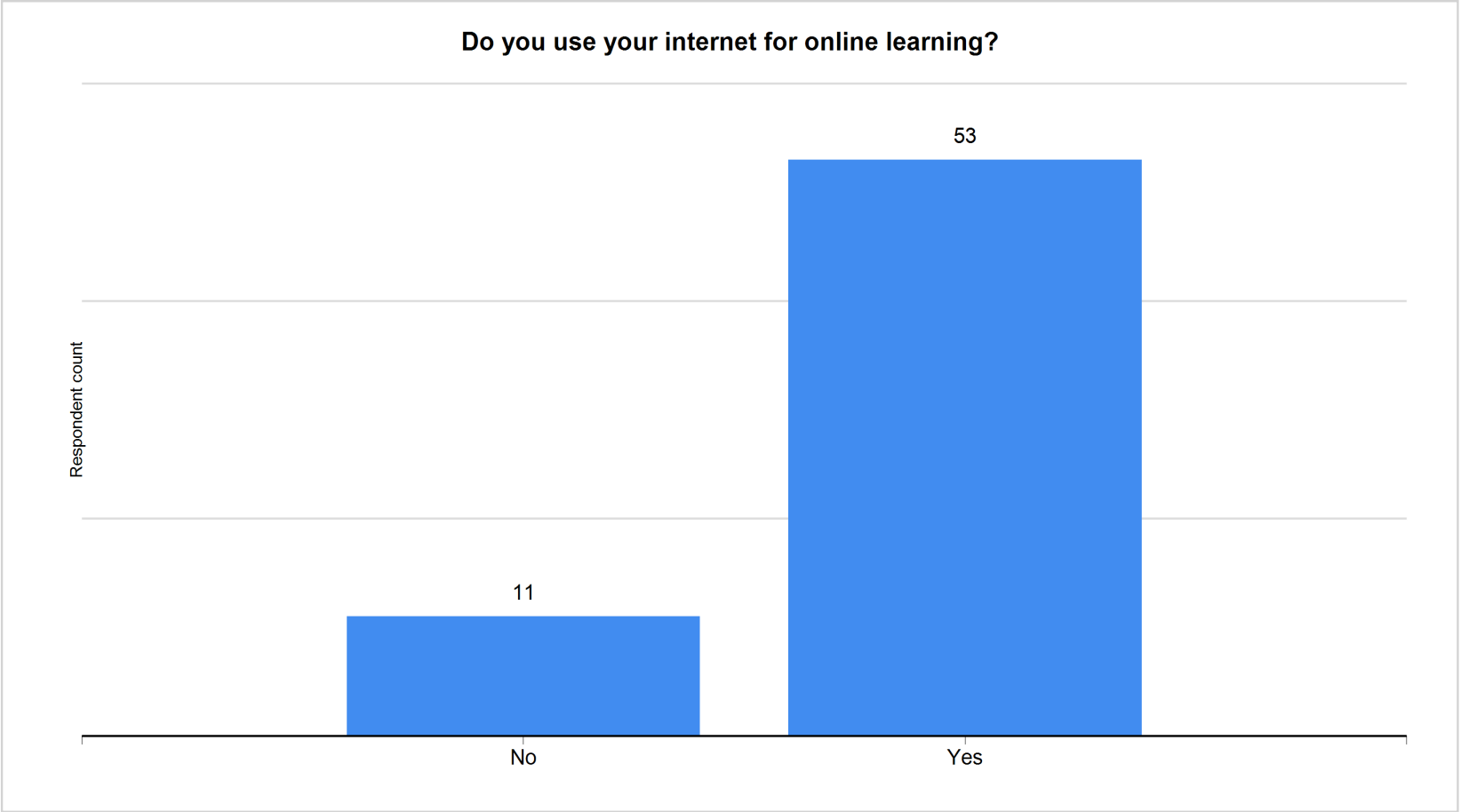


Custom question



Custom question



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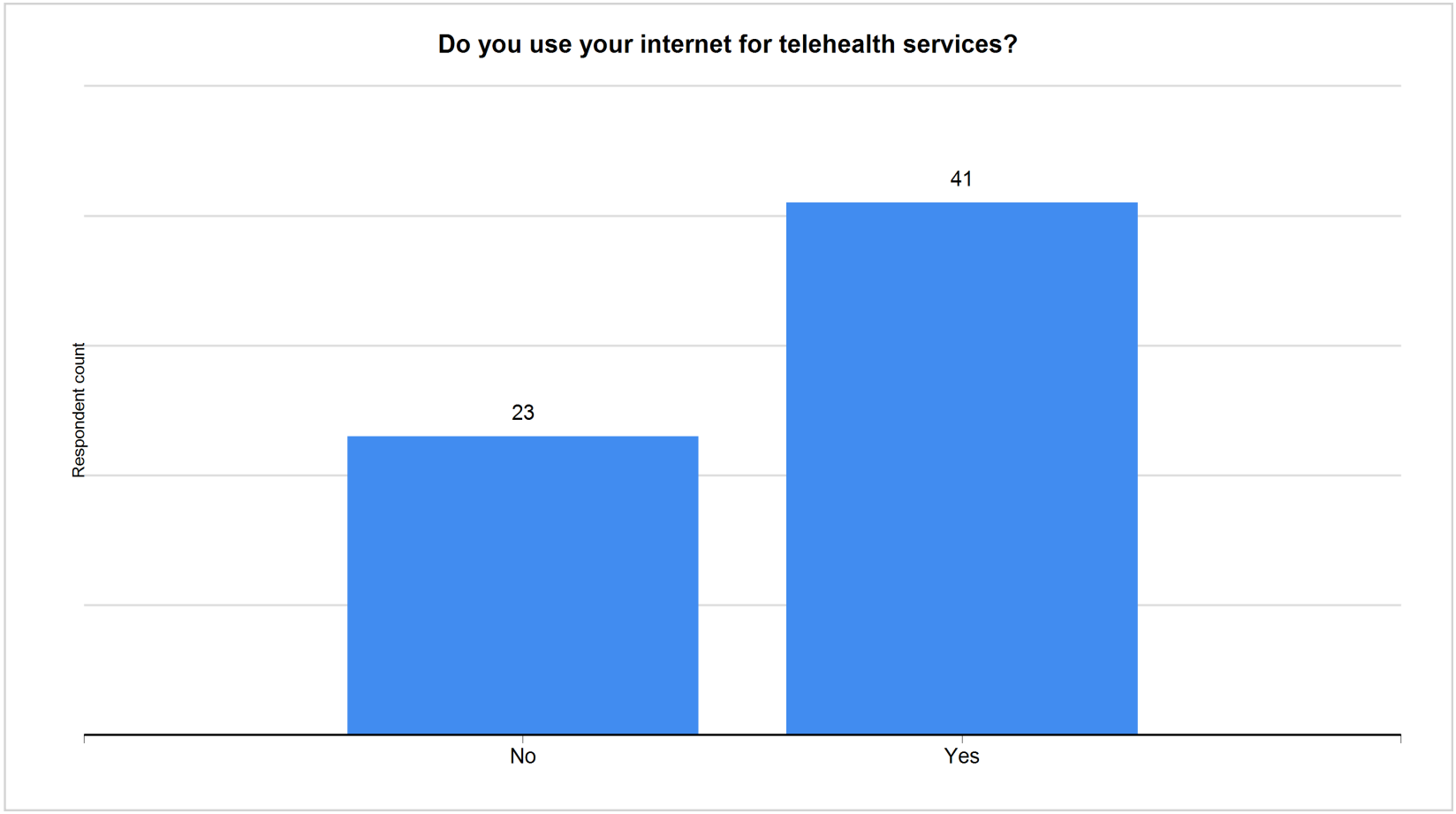
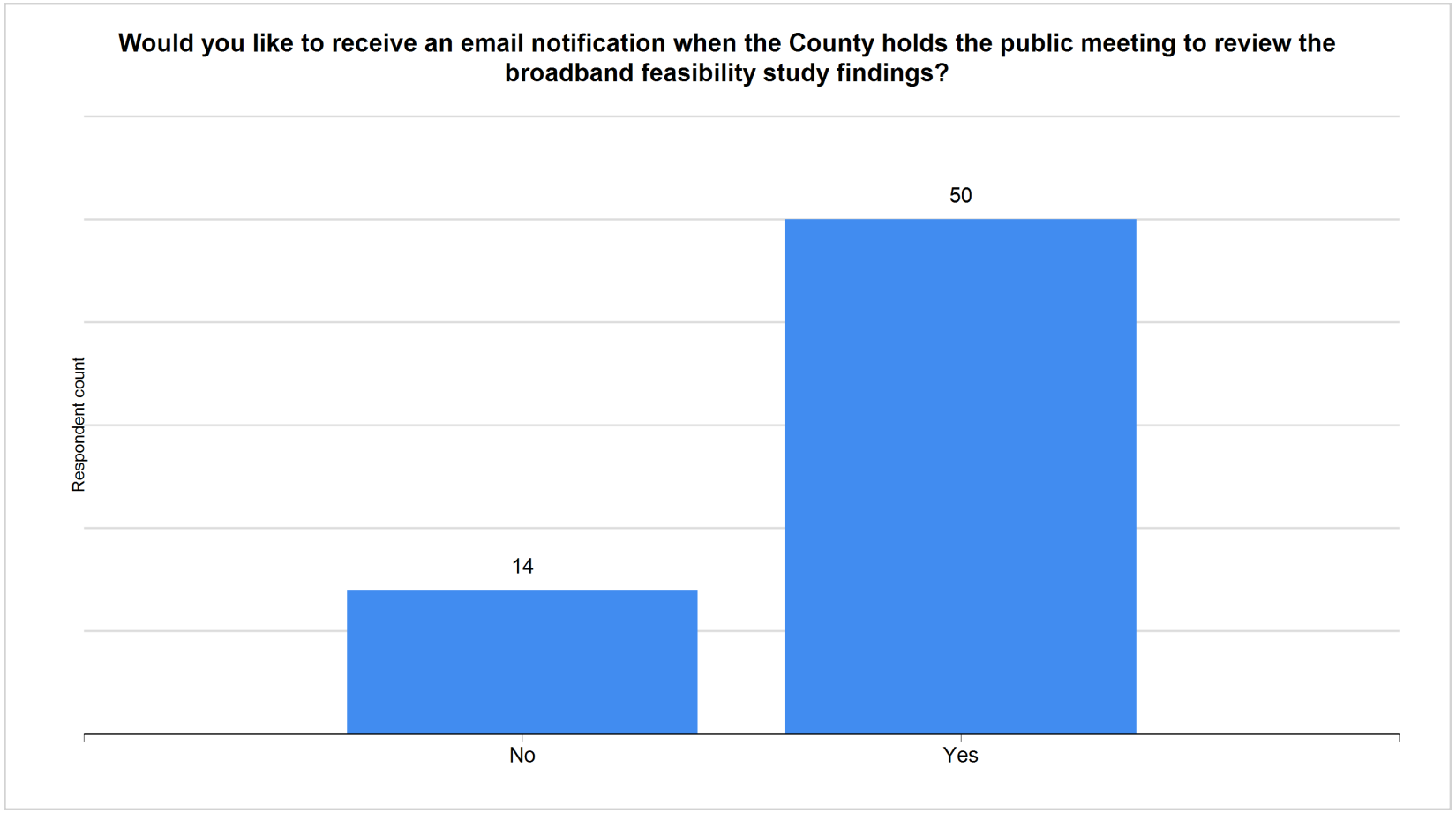


Custom question



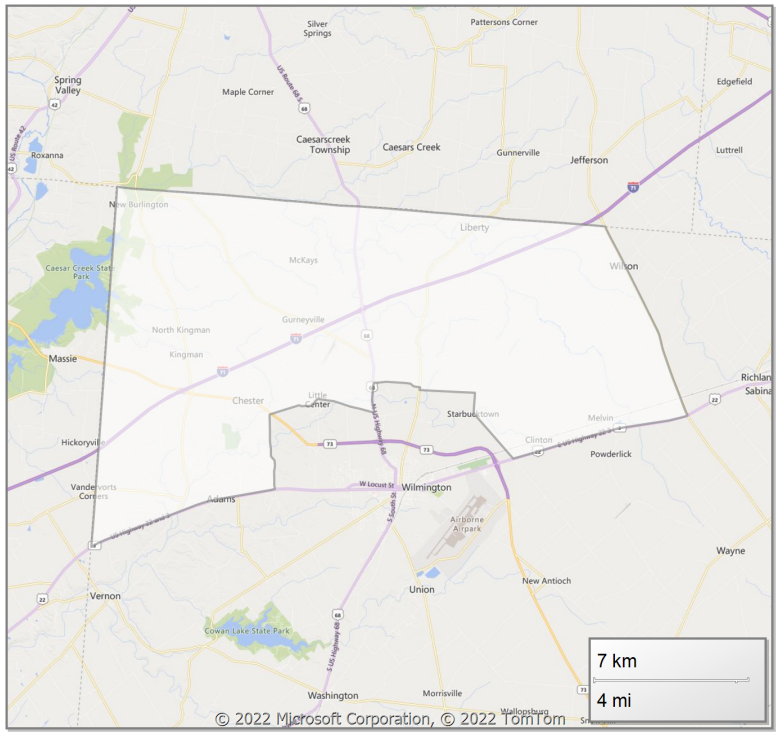
Zone Analyzer™
9644

About 9644

Belongs to service area:
Clinton County

Area:
270.8 sq km (104.6 sq mi)

Survey phase started:
1/19/2022 (96 day(s) ago)



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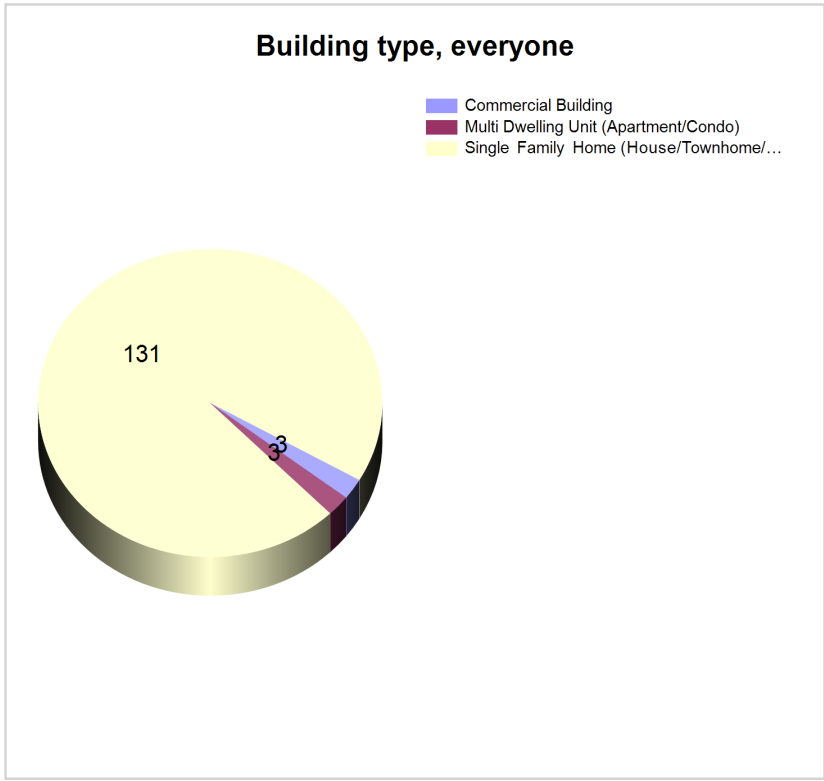
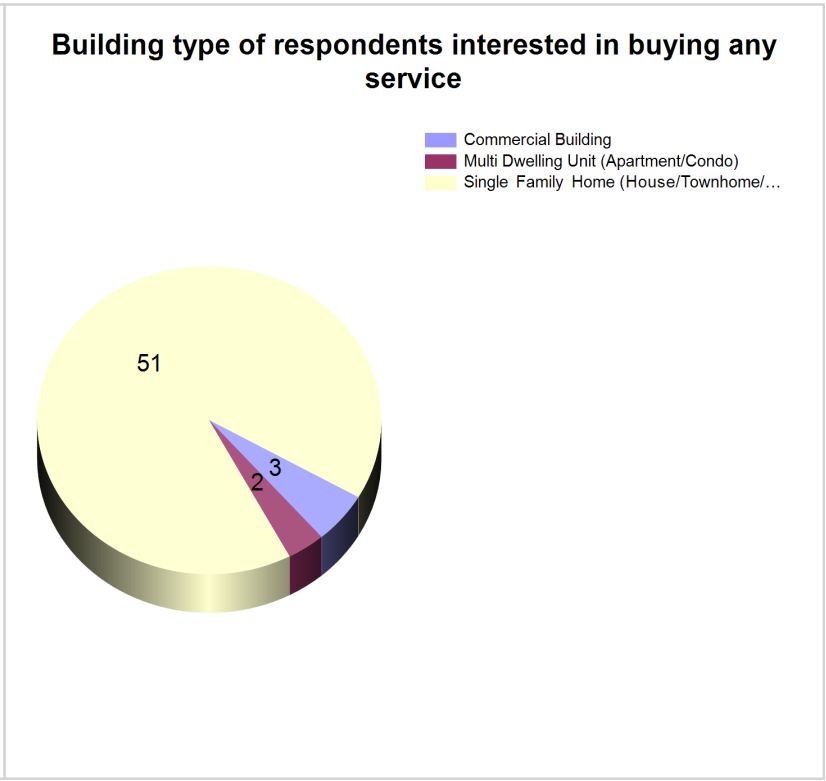
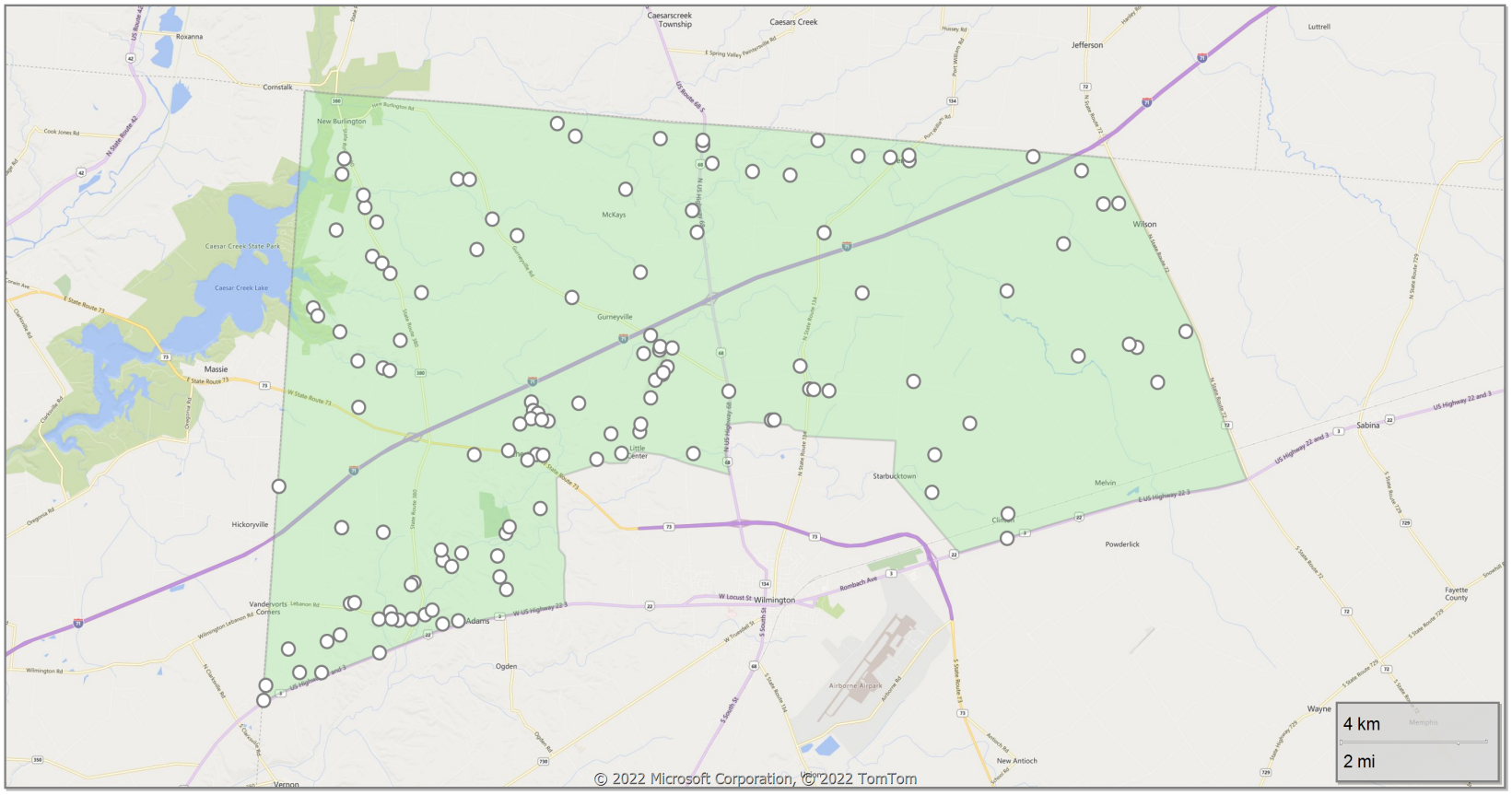


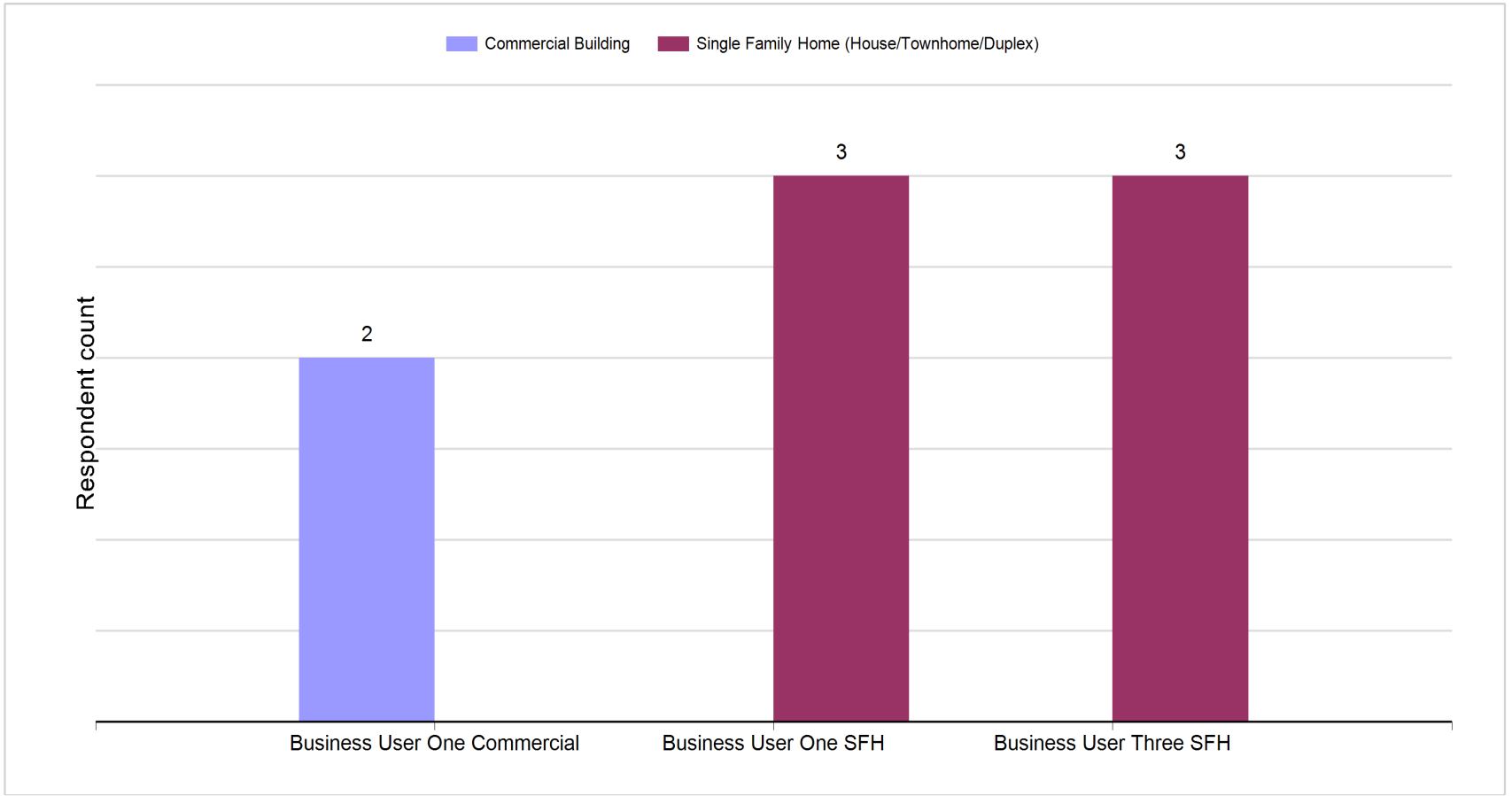


Survey responses on a map

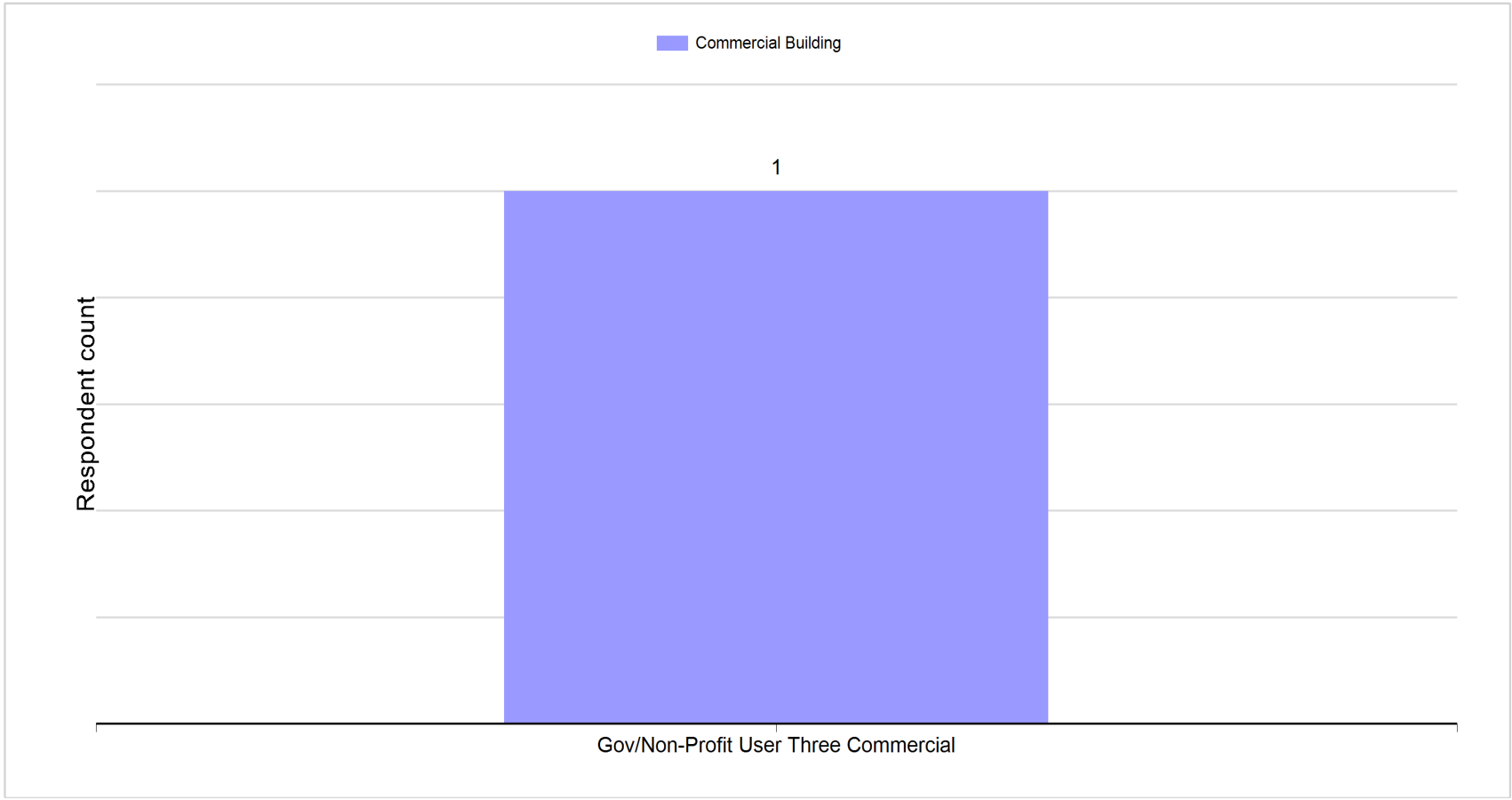
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



Selected service offering - Business

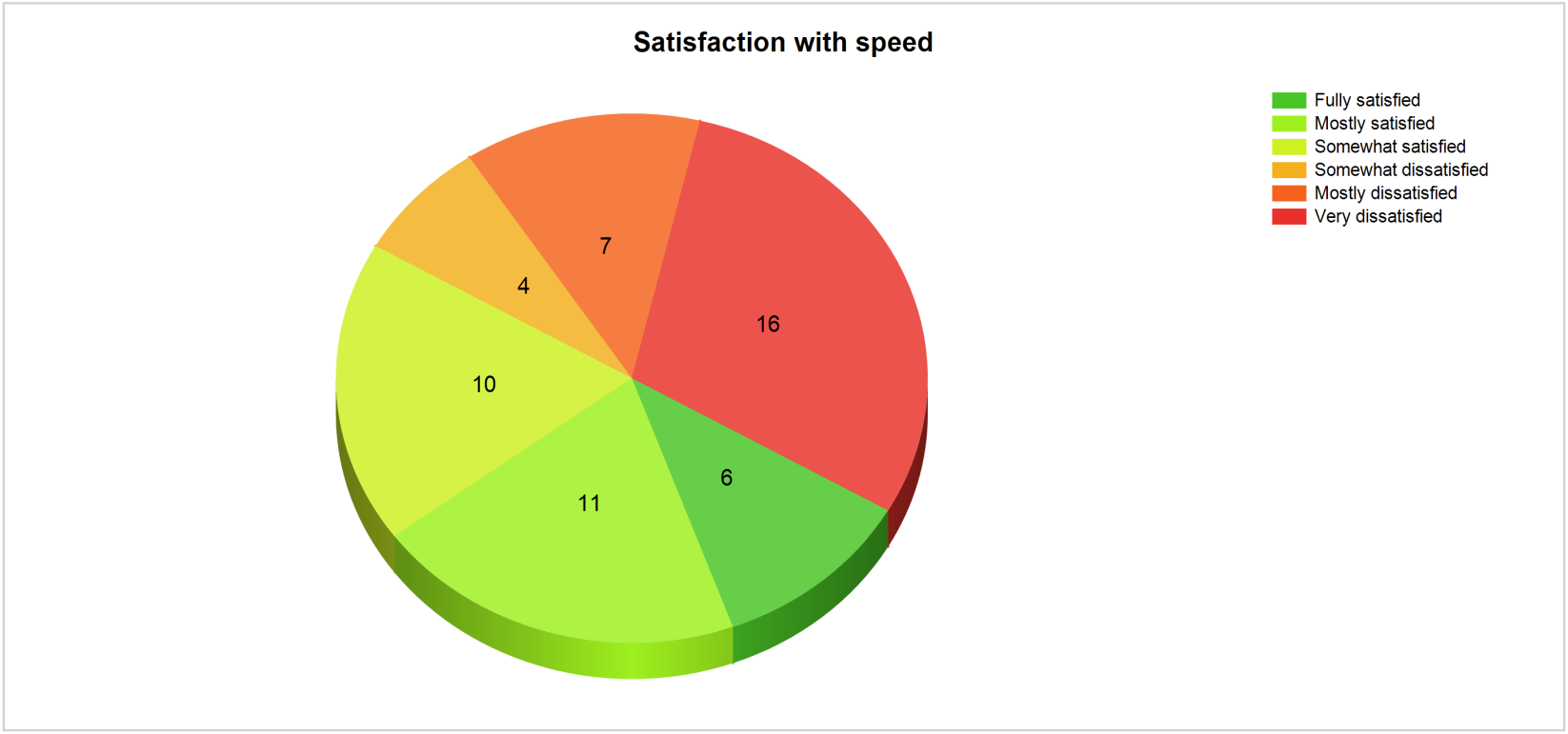


Selected service offering - Government/Non-Profit Organization

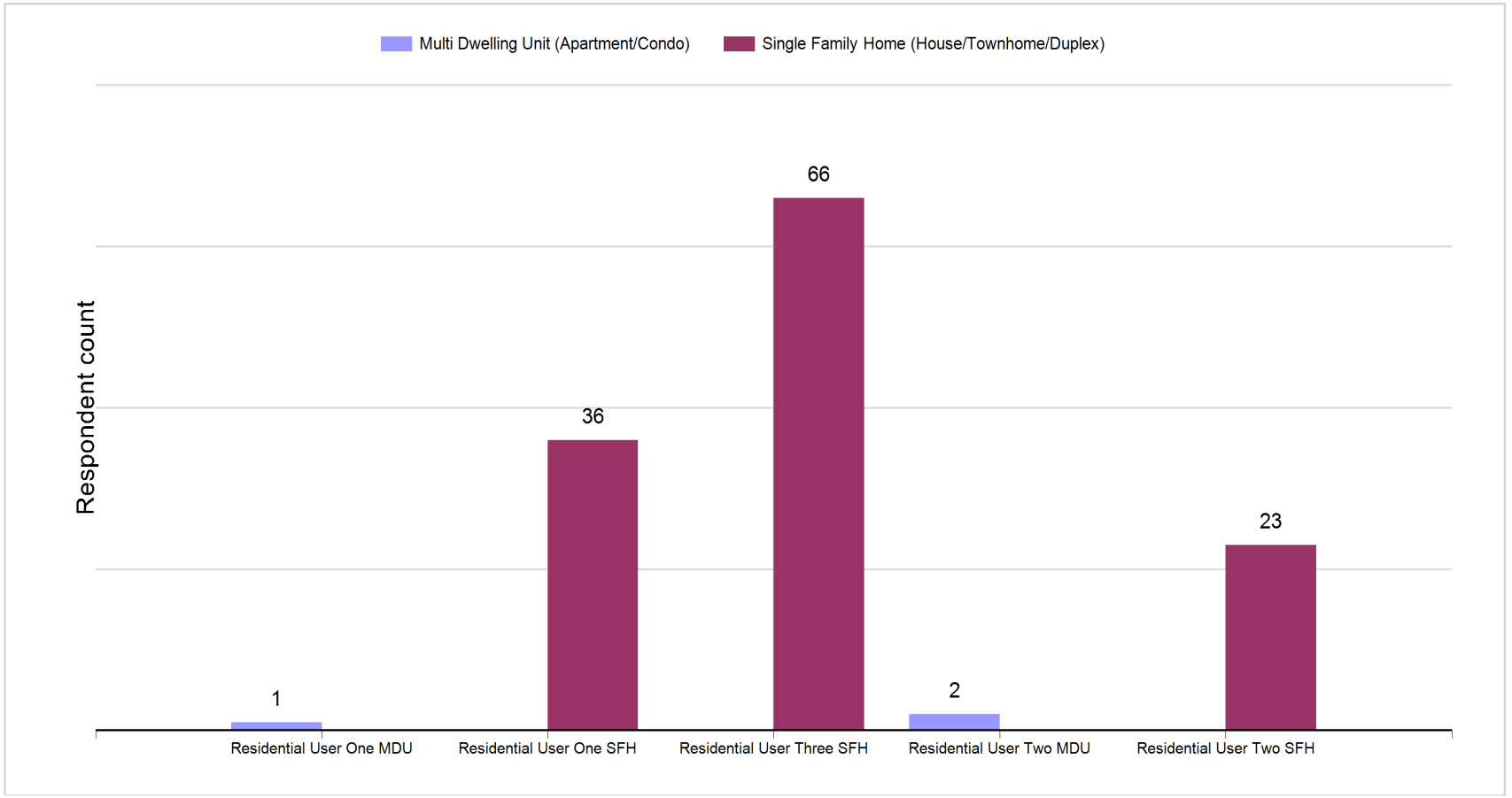


Satisfaction with speed

Of the respondents who currently have Internet service **27 (50.0%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



Selected service offering - Residential

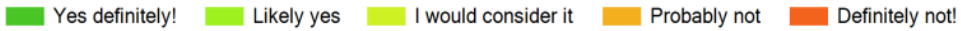


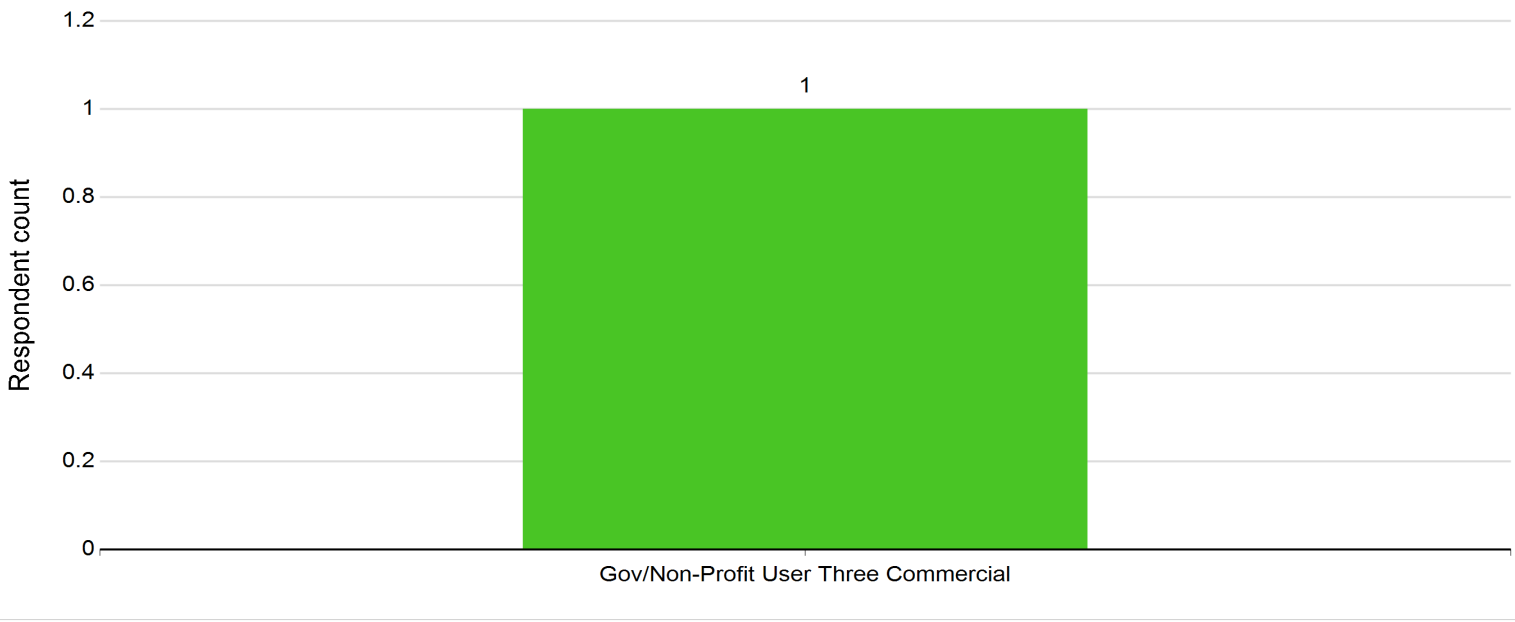
How likely to purchase - Business

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.

How likely to purchase - Government/Non-Profit Organization

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.





How likely to purchase - Residential

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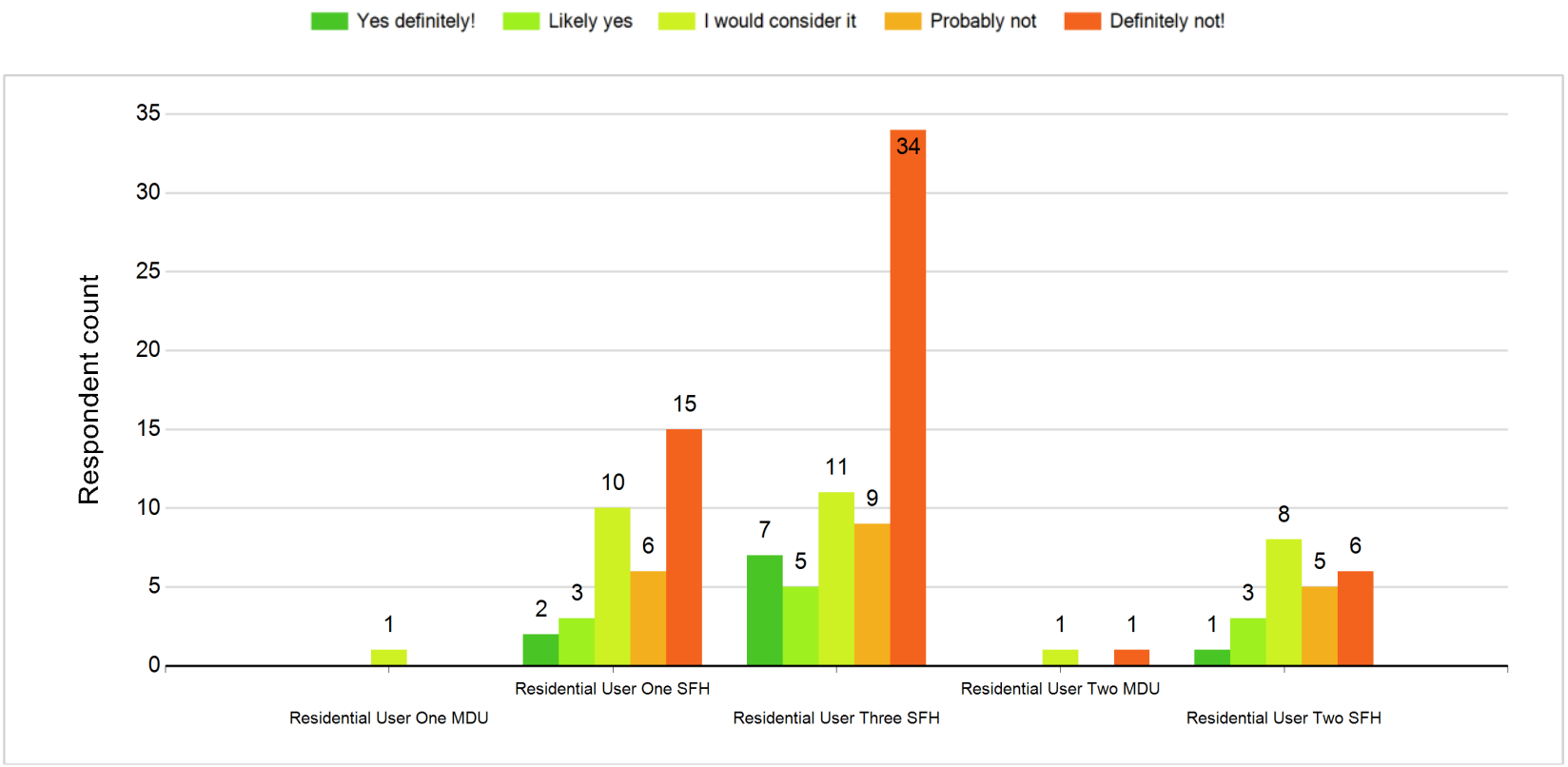

Satisfaction with reliability

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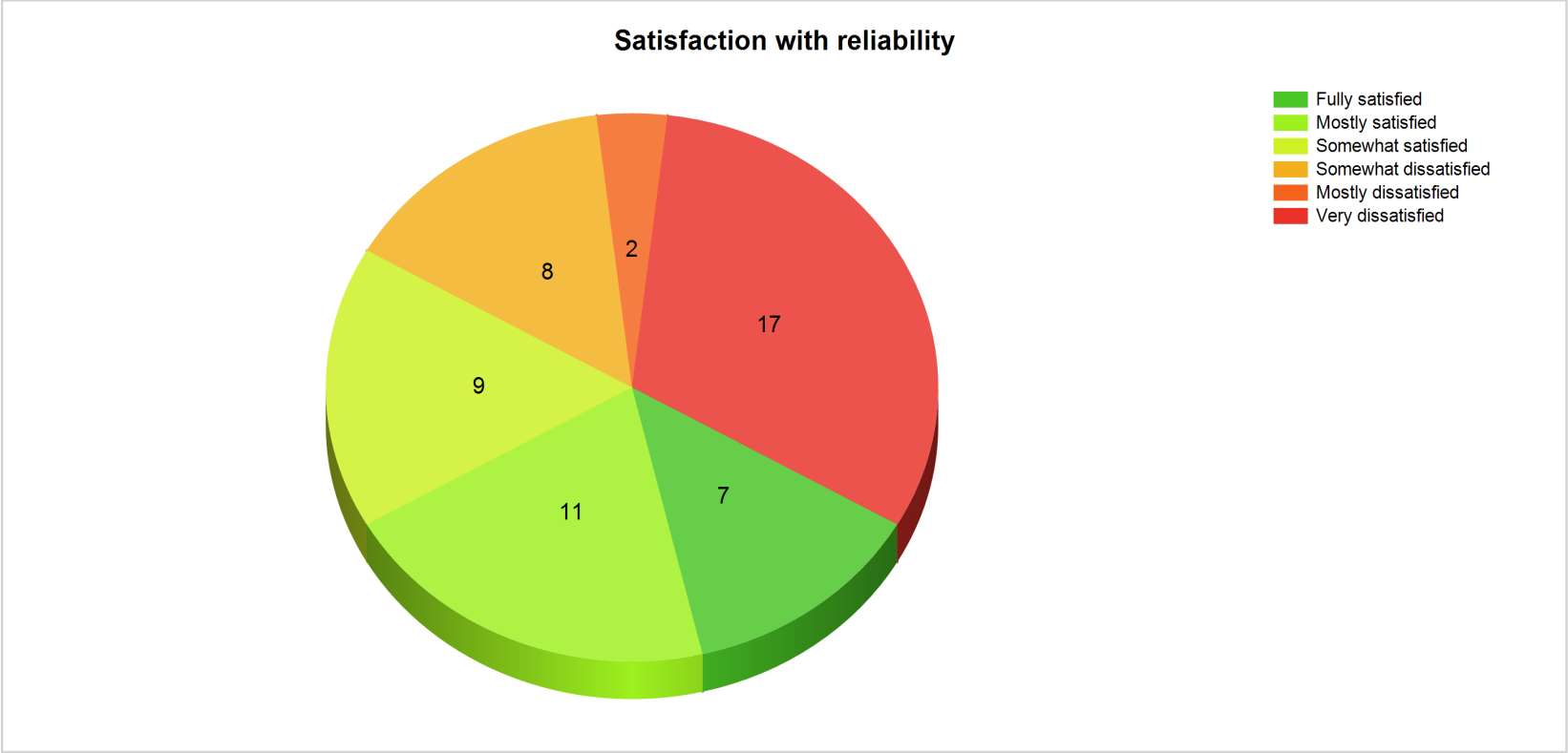
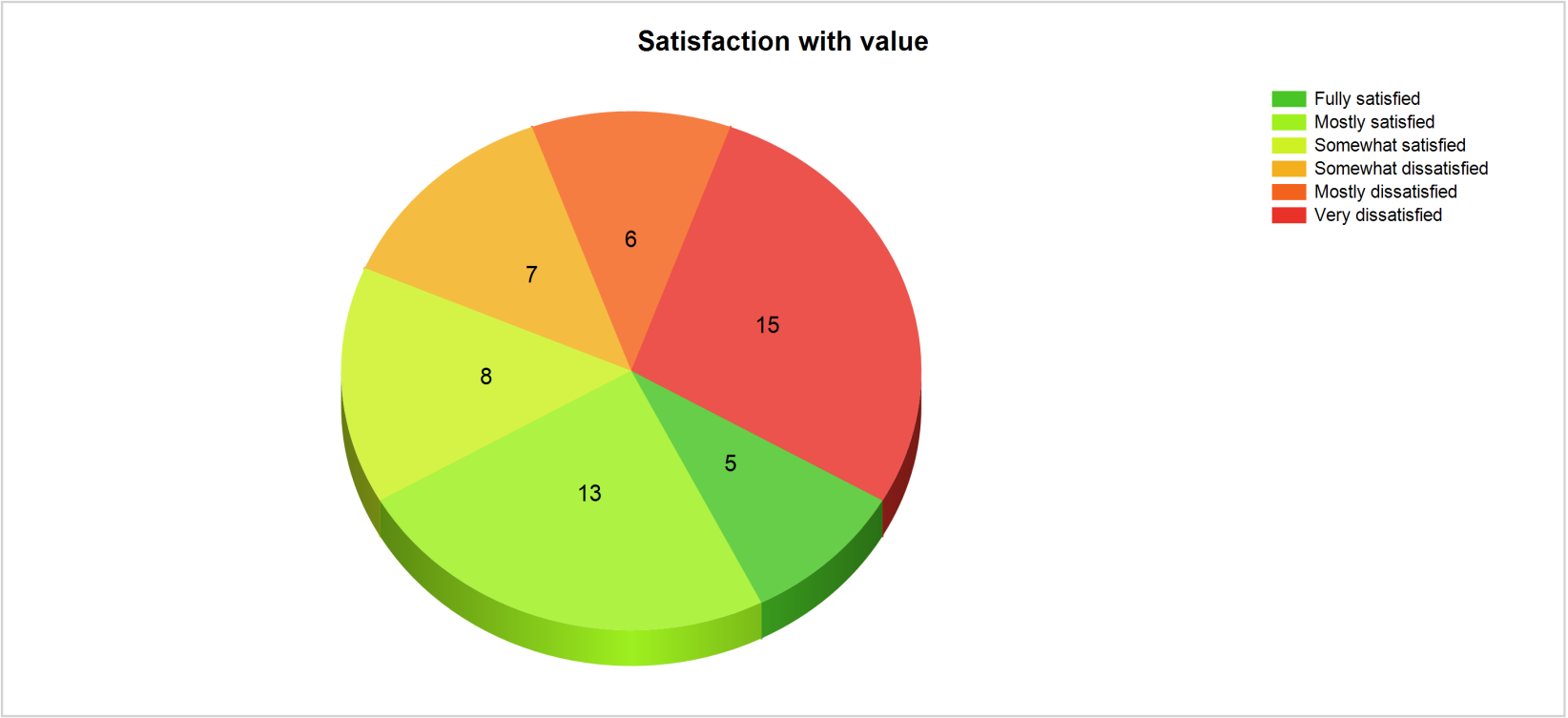


Satisfaction with value

Of the respondents who currently have Internet service **28 (51.9%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

FRONTIER-FRTR, US

By survey type:

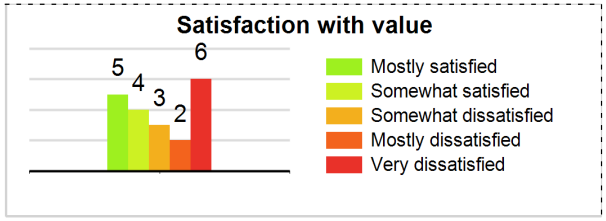
Type:

Count: 20

Satisfied with speed: 35.0%

Satisfied with reliability: 45.0%

Satisfied with value: 45.0% (see graph)



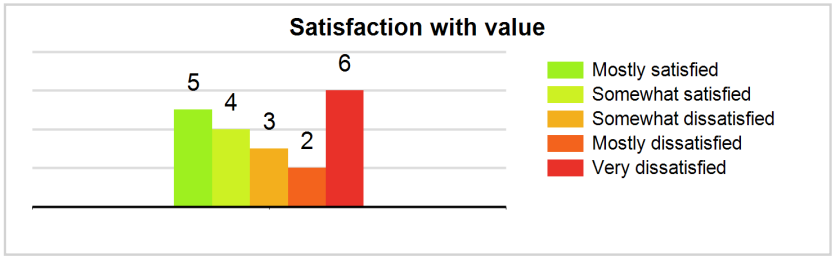
Totals for FRONTIER-FRTR, US:

Count: 20

Satisfied with speed: 35.0%

Satisfied with reliability: 45.0%

Satisfied with value: 45.0% (see graph)



TWC-10796-MIDWEST, US

By survey type:

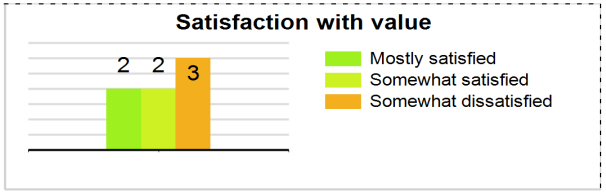
Type:

Count: 7

Satisfied with speed: 85.7%

Satisfied with reliability: 71.4%

Satisfied with value: 57.1% (see graph)



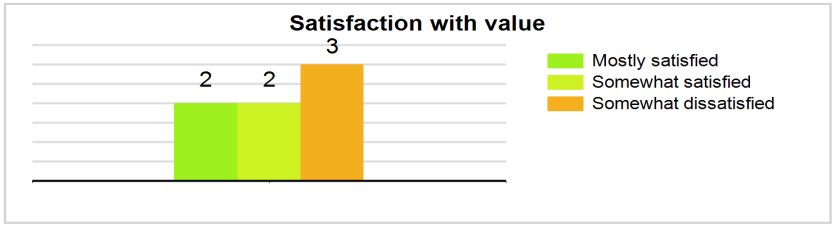
Totals for TWC-10796-MIDWEST, US:

Count: 7

Satisfied with speed: 85.7%

Satisfied with reliability: 71.4%

Satisfied with value: 57.1% (see graph)



DATAYARD, US

By survey type:

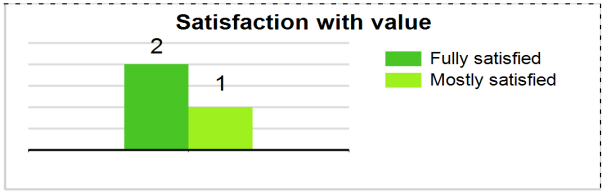
Type:

Count: 3

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



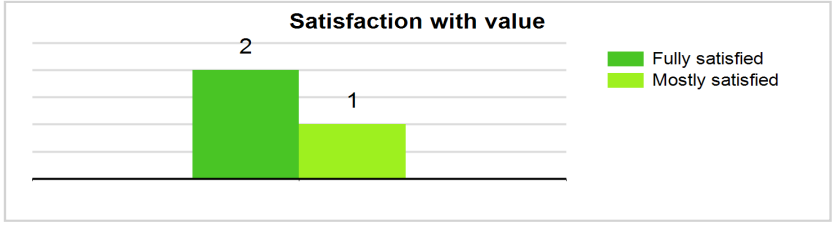
Totals for DATAYARD, US:

Count: 3

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



CELLCO-PART, US

By survey type:

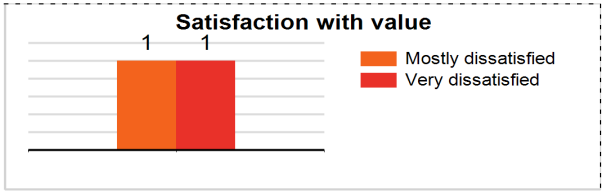
Type:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



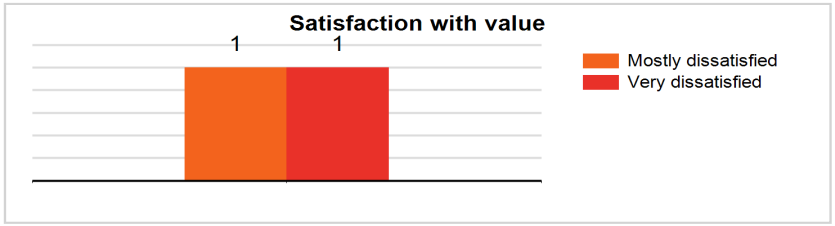
Totals for CELLCO-PART, US:

Count: 2

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



MVECA-AS, US

By survey type:

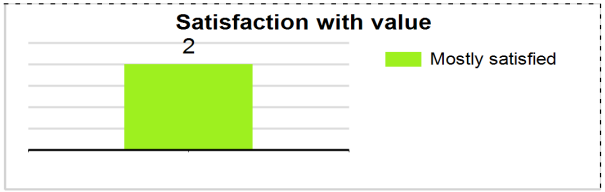
Type:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



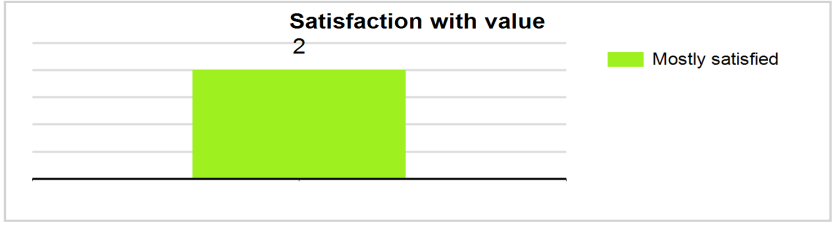
Totals for MVECA-AS, US:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



CMH, US

By survey type:

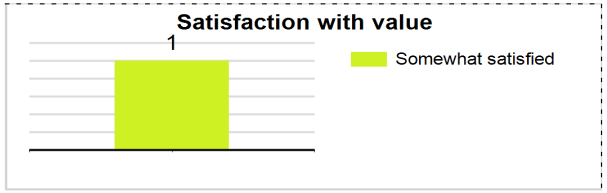
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



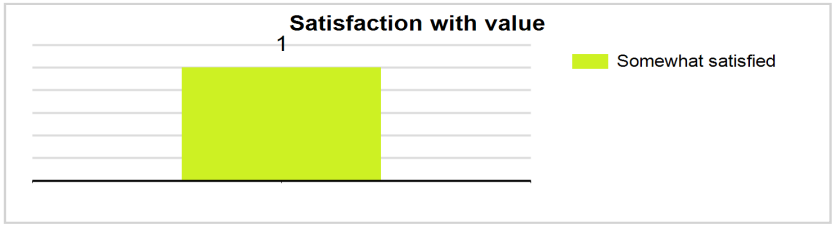
Totals for CMH, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



COUNTRY-CONNECTIONS-LLC, US

By survey type:

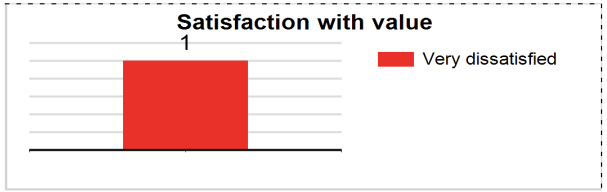
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



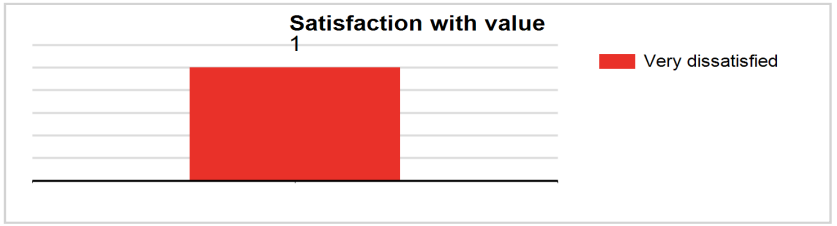
Totals for COUNTRY-CONNECTIONS-LLC, US:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



HNS-DIRECPC, US

By survey type:

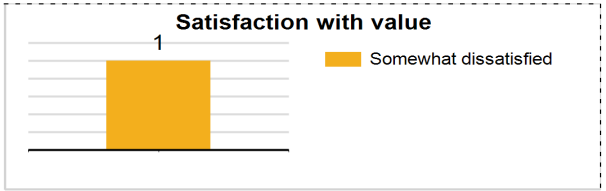
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



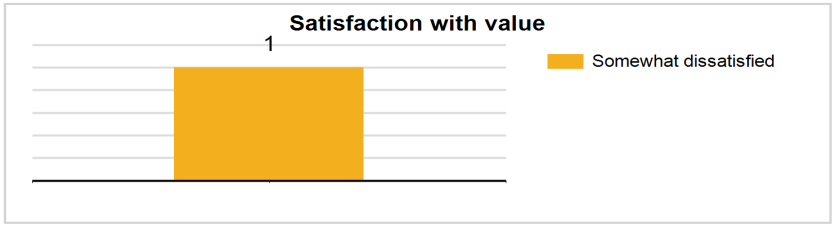
Totals for HNS-DIRECPC, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



LVLT-3549, US

By survey type:

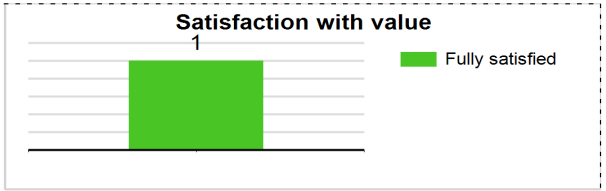
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



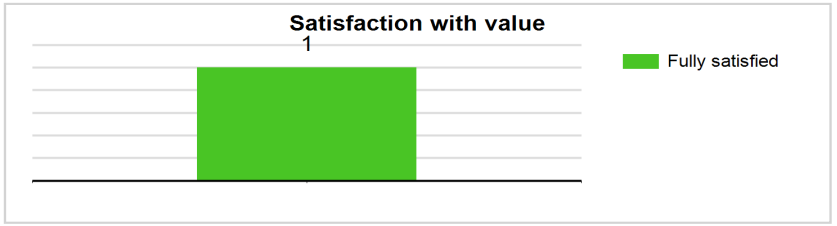
Totals for LVLT-3549, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



TEFINCOMHOST-AS-AP Packethub s.a., PA

By survey type:

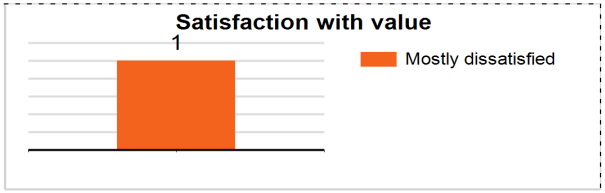
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



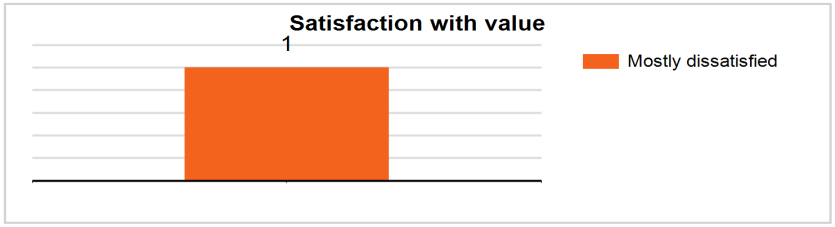
Totals for TEFINCOMHOST-AS-AP Packethub s.a., PA:

Count: 1

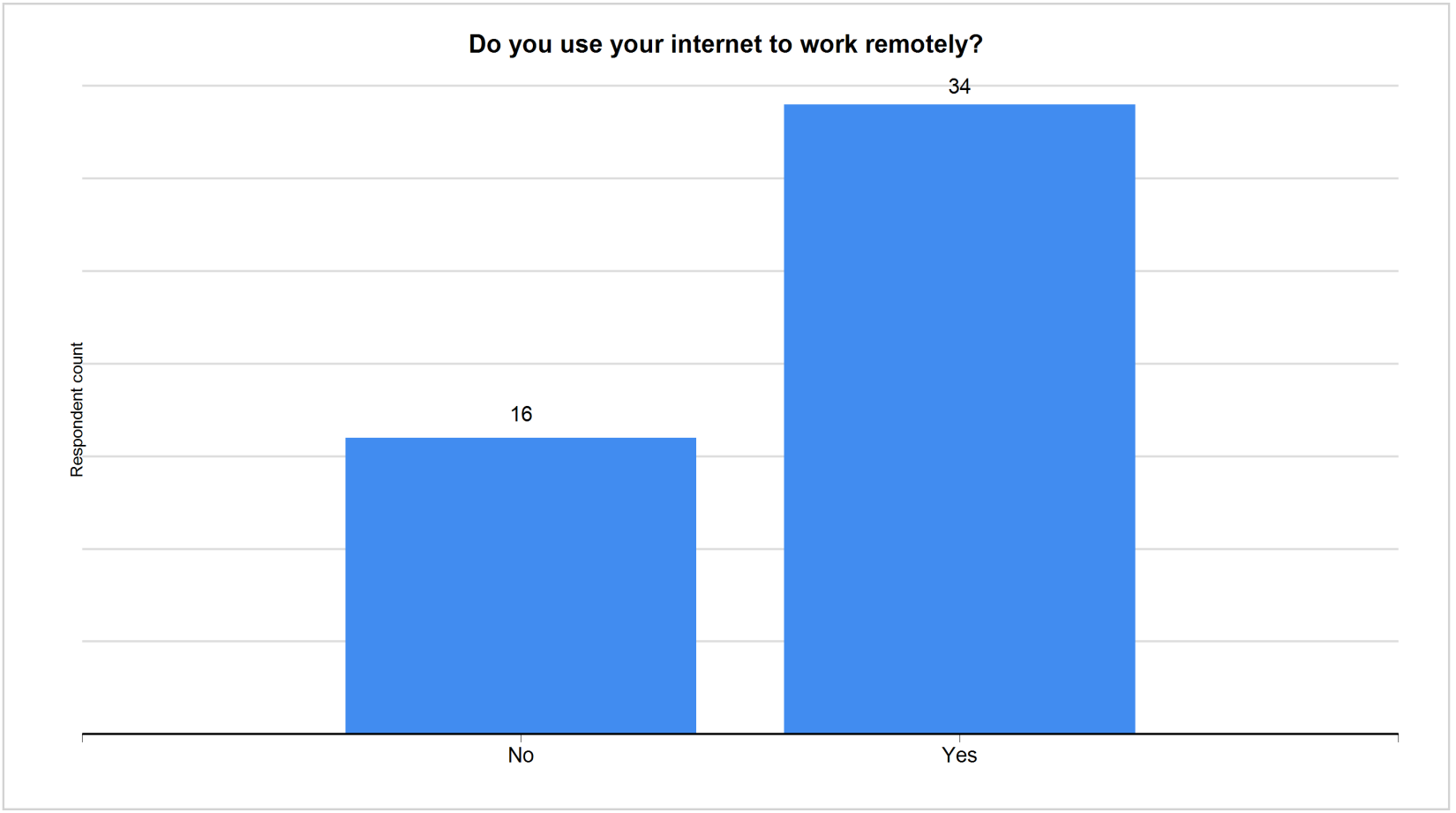
Satisfied with speed: 0.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



Custom question



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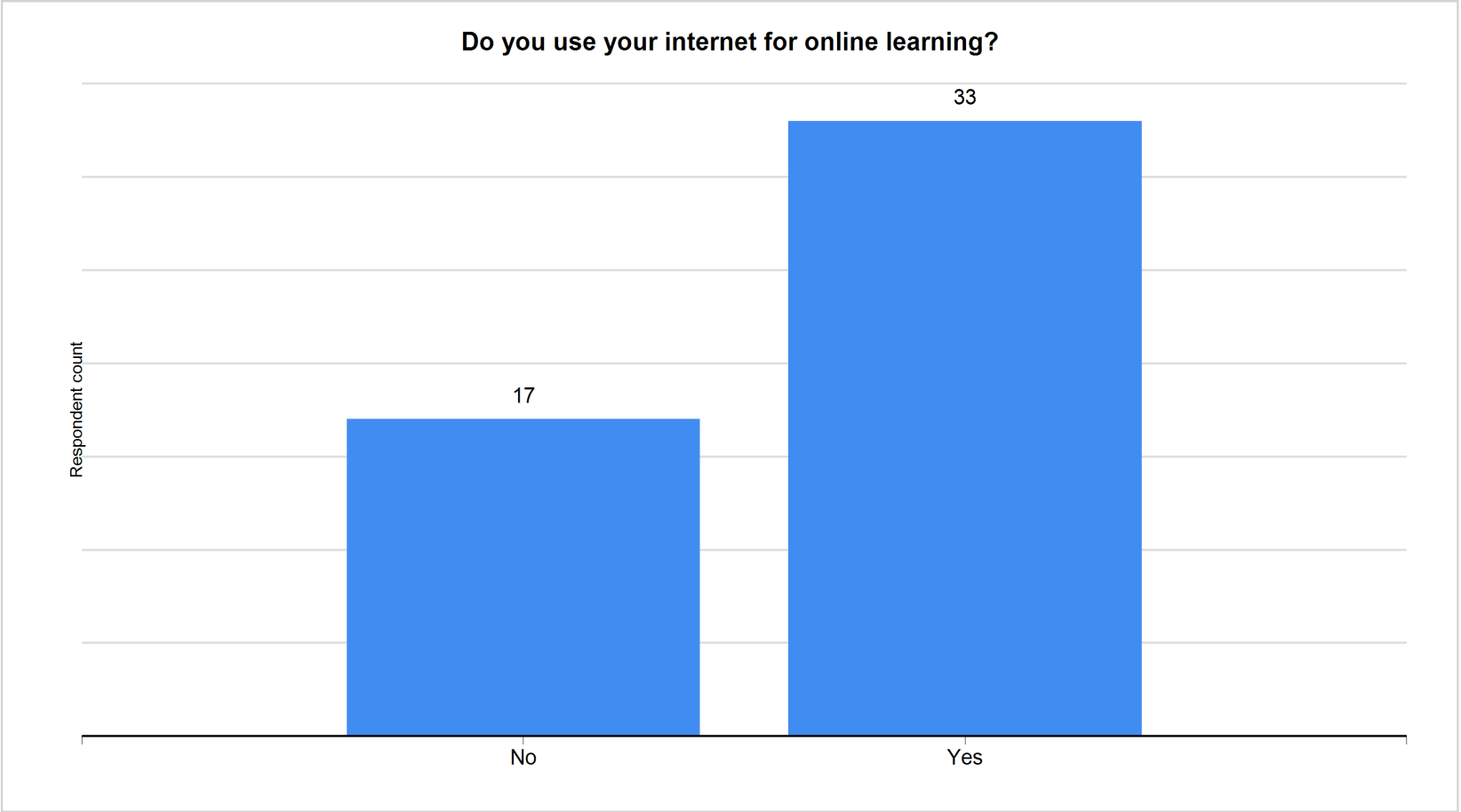

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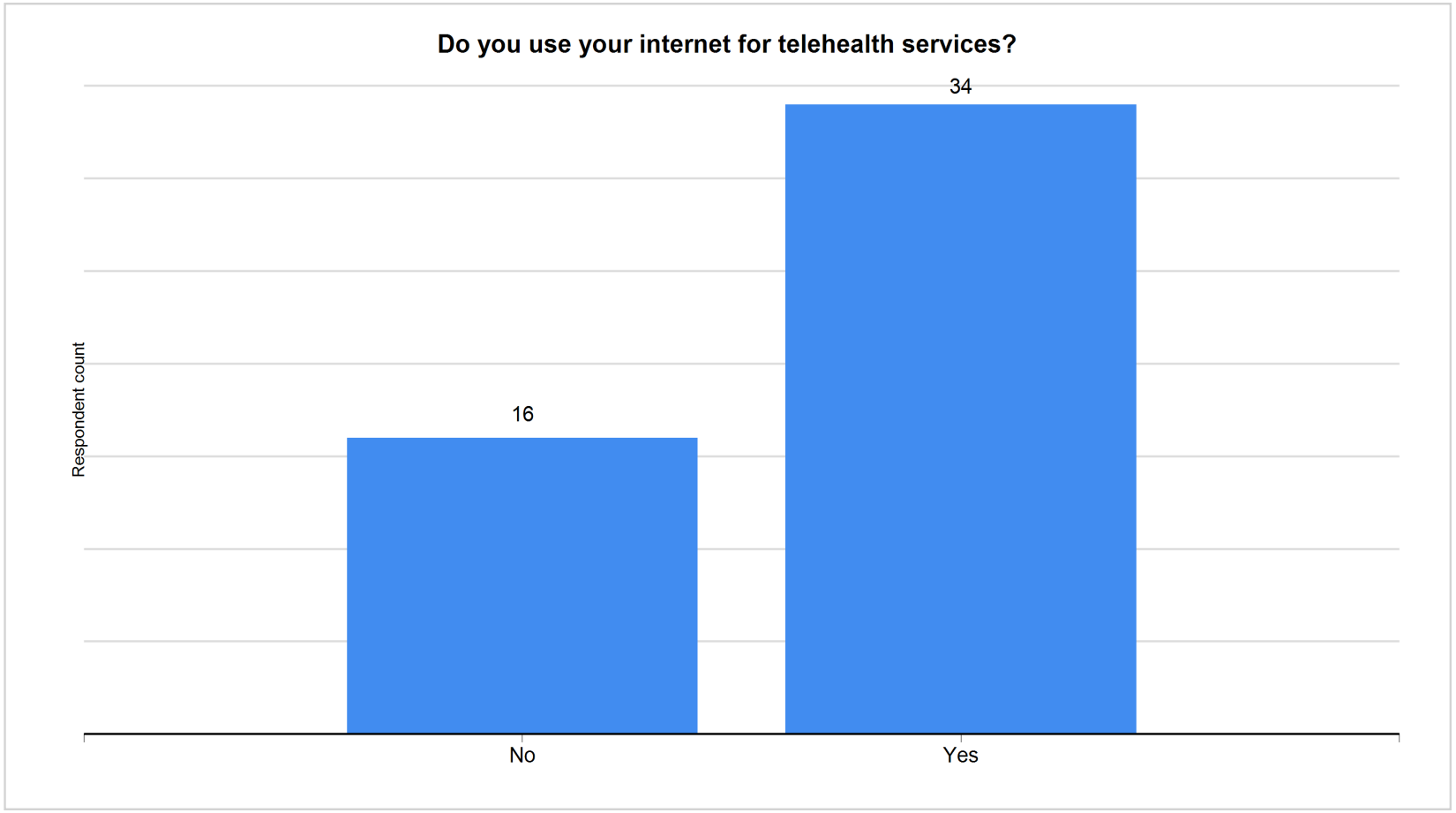
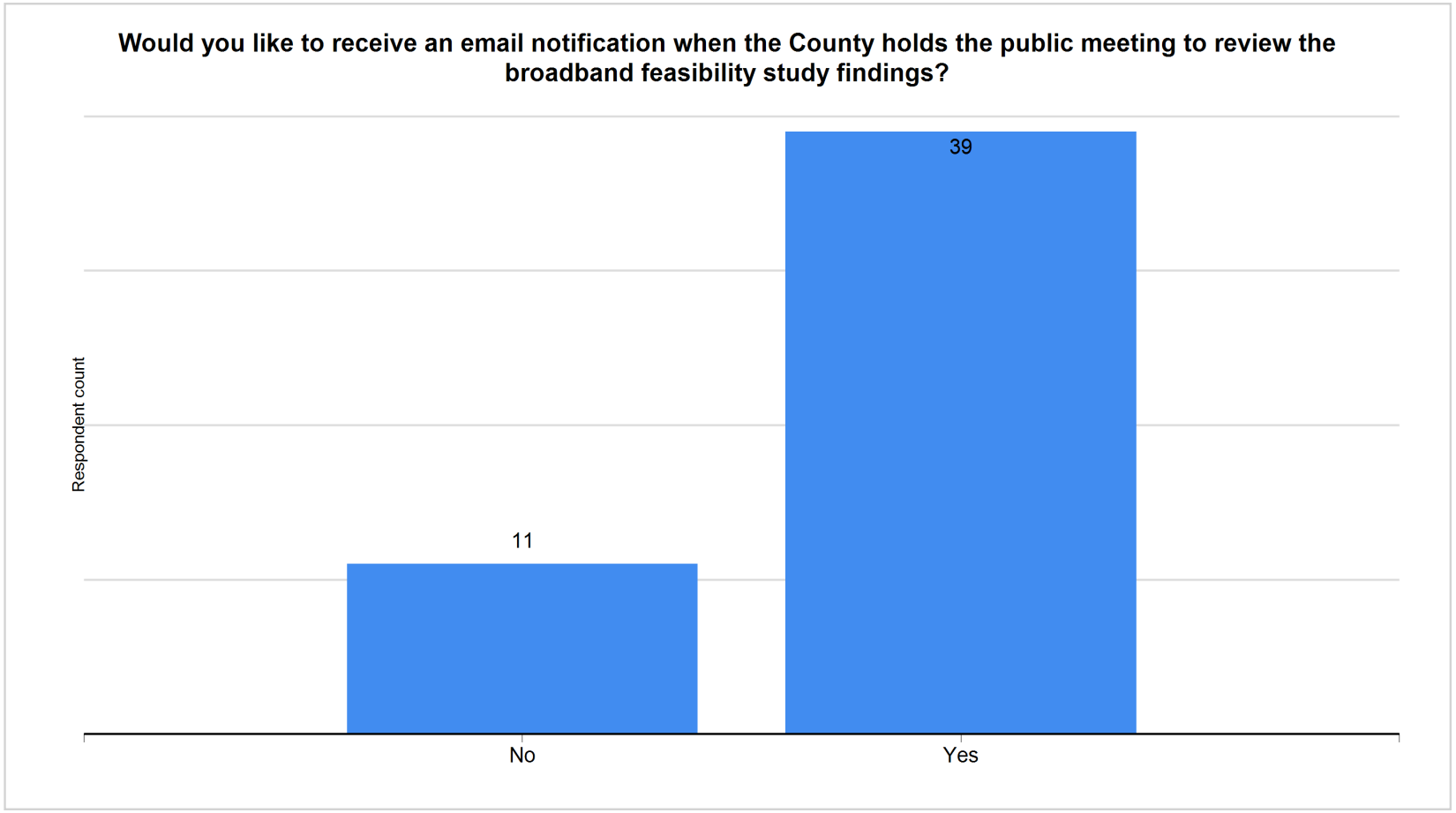


Custom question



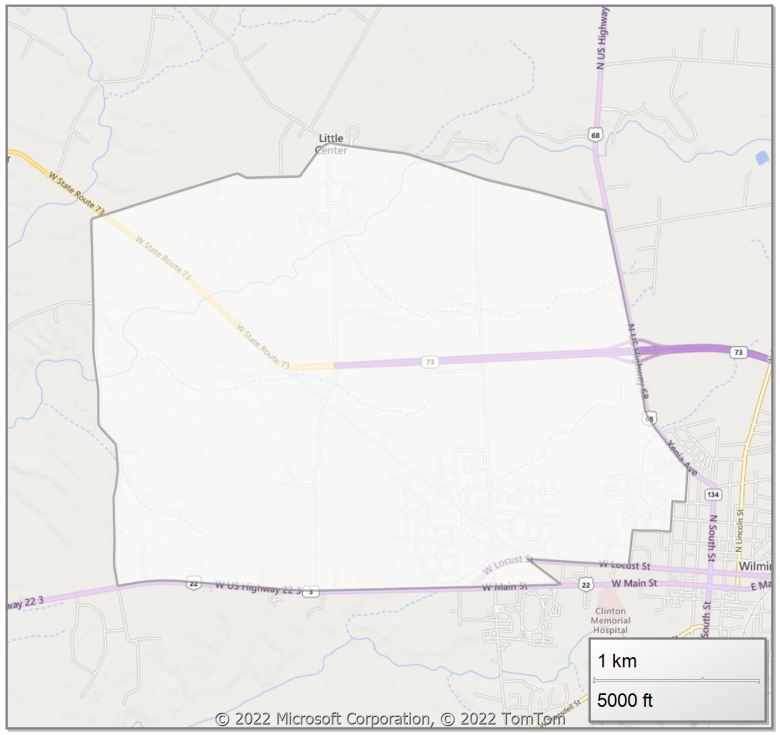
Zone Analyzer™
9645.01

About 9645.01

Belongs to service area:
Clinton County

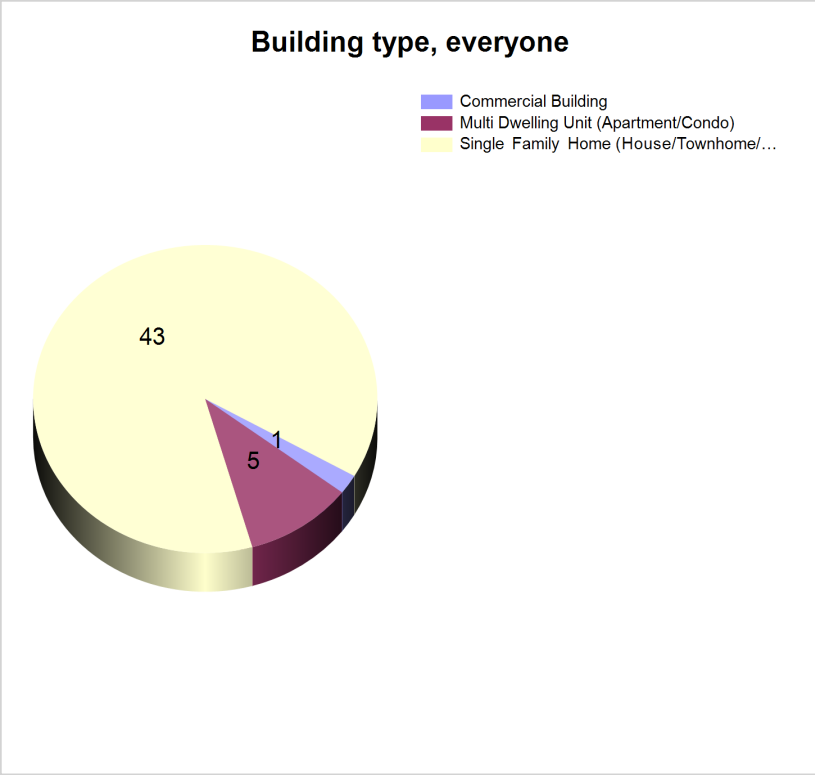
Area:
18.8 sq km (7.3 sq mi)

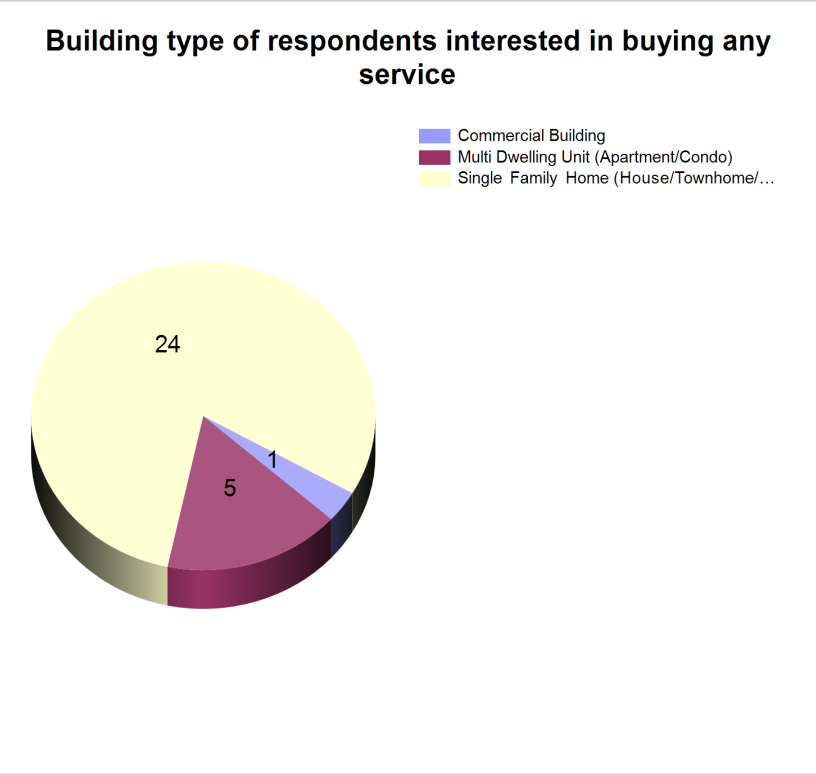
Survey phase started:
1/19/2022 (96 day(s) ago)



Information about respondents

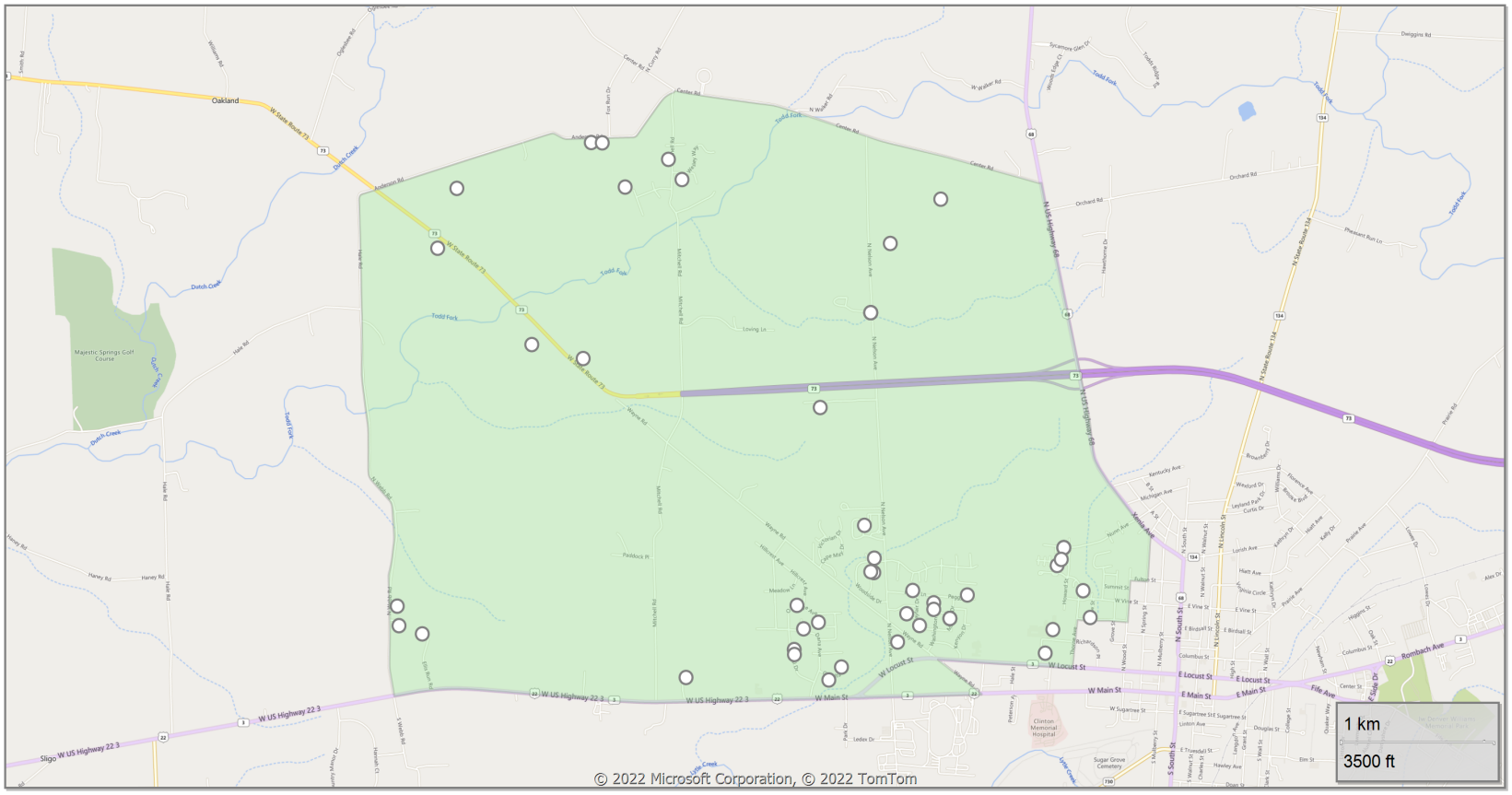
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



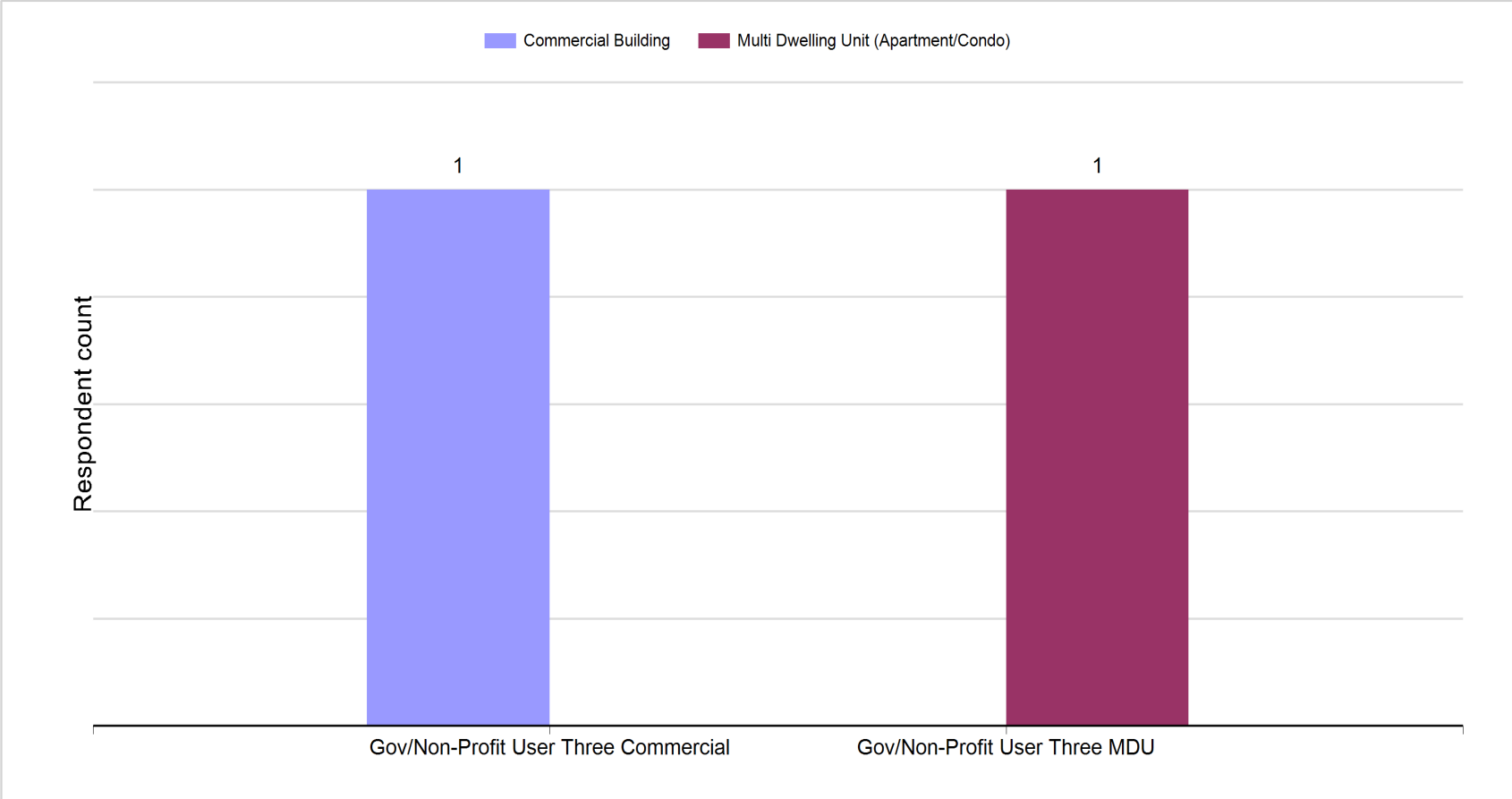


Survey responses on a map

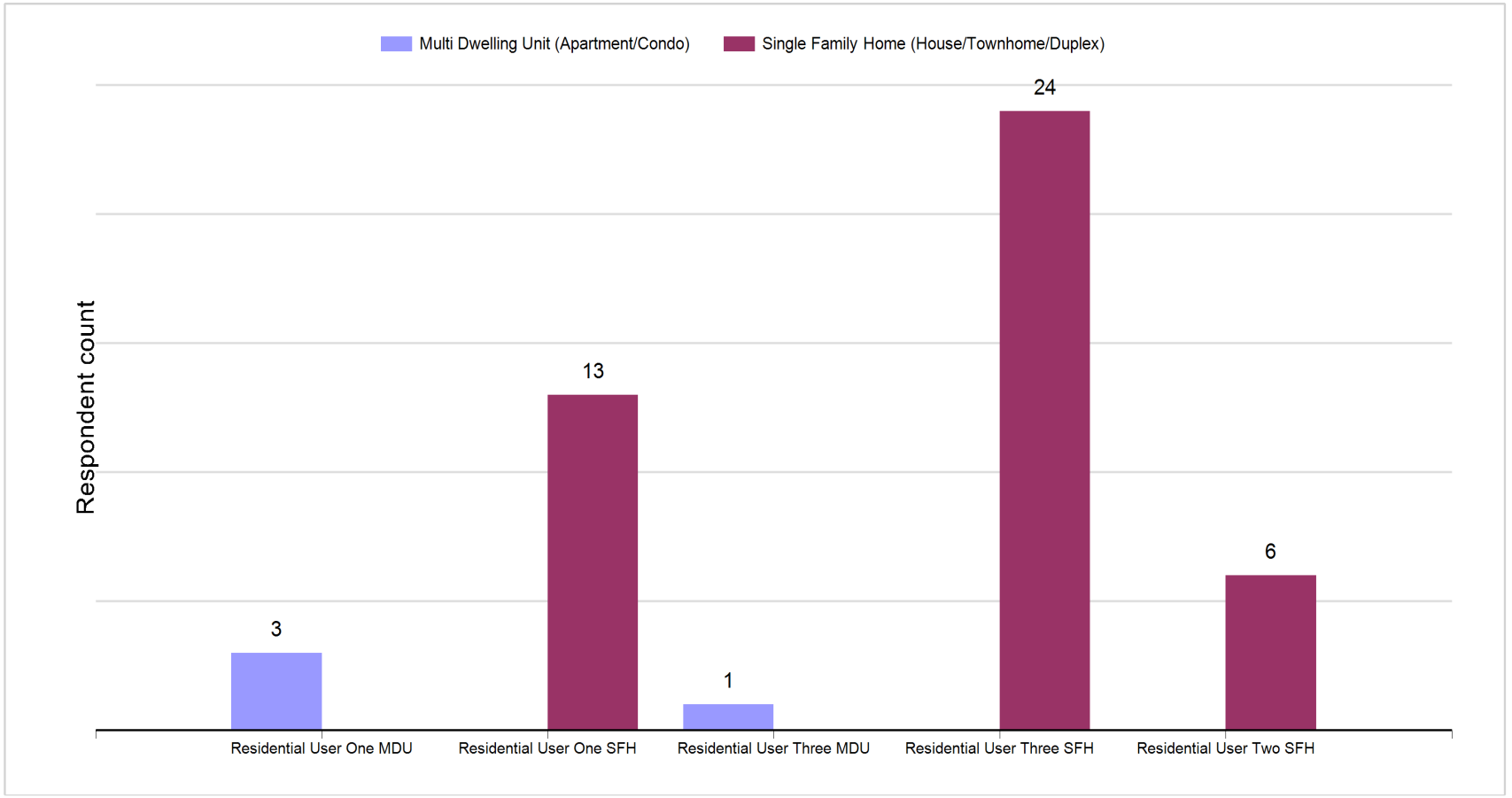
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



Selected service offering - Government/Non-Profit Organization



Selected service offering - Residential



How likely to purchase - Government/Non-Profit Organization

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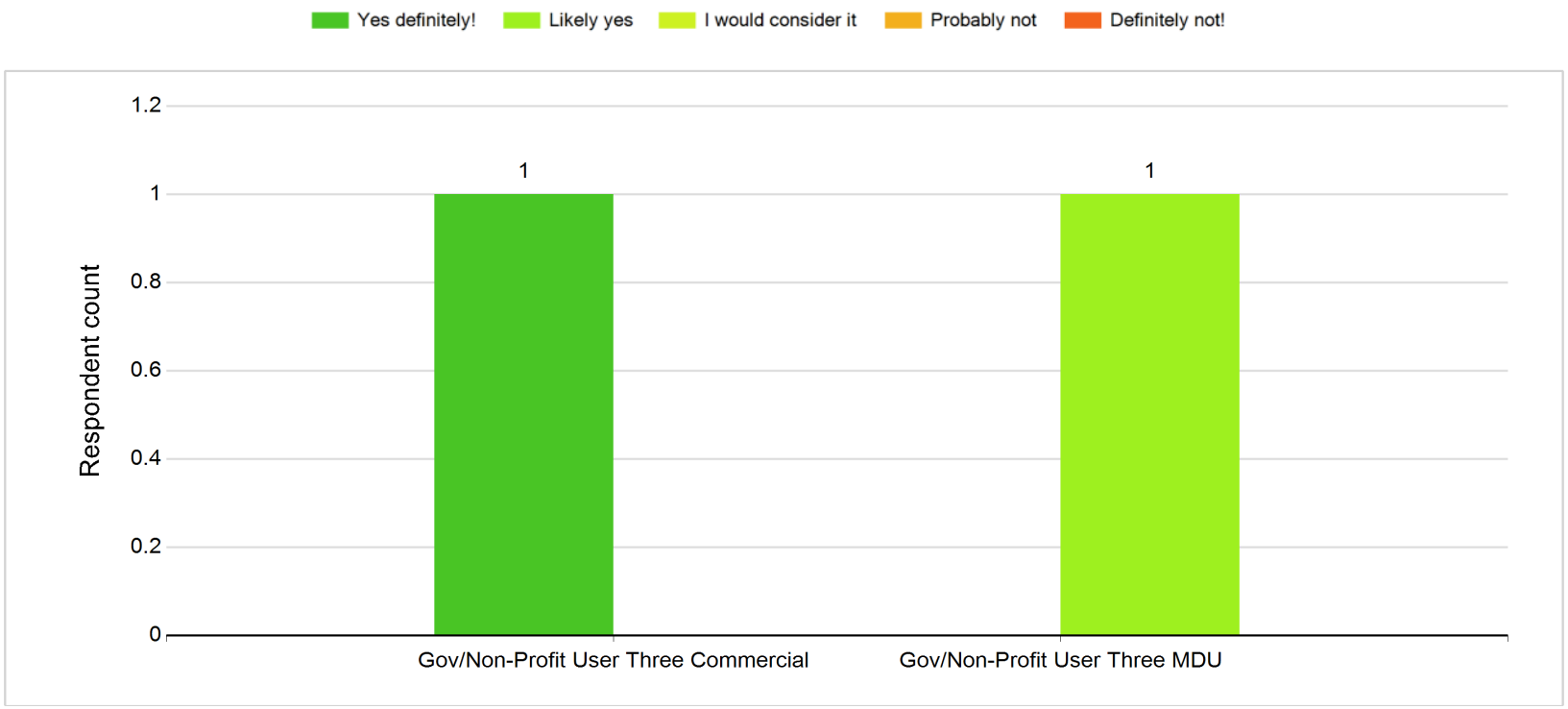

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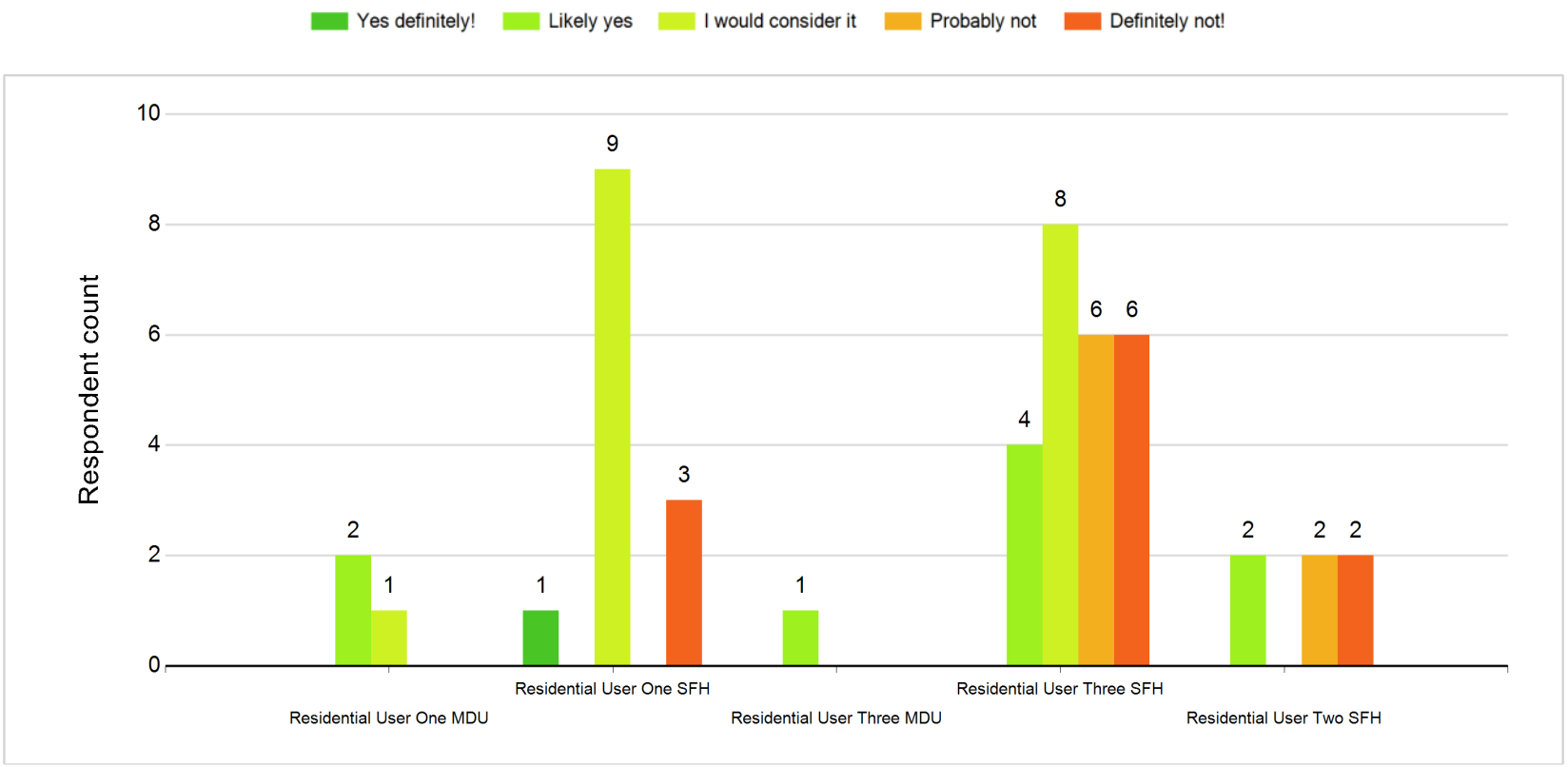
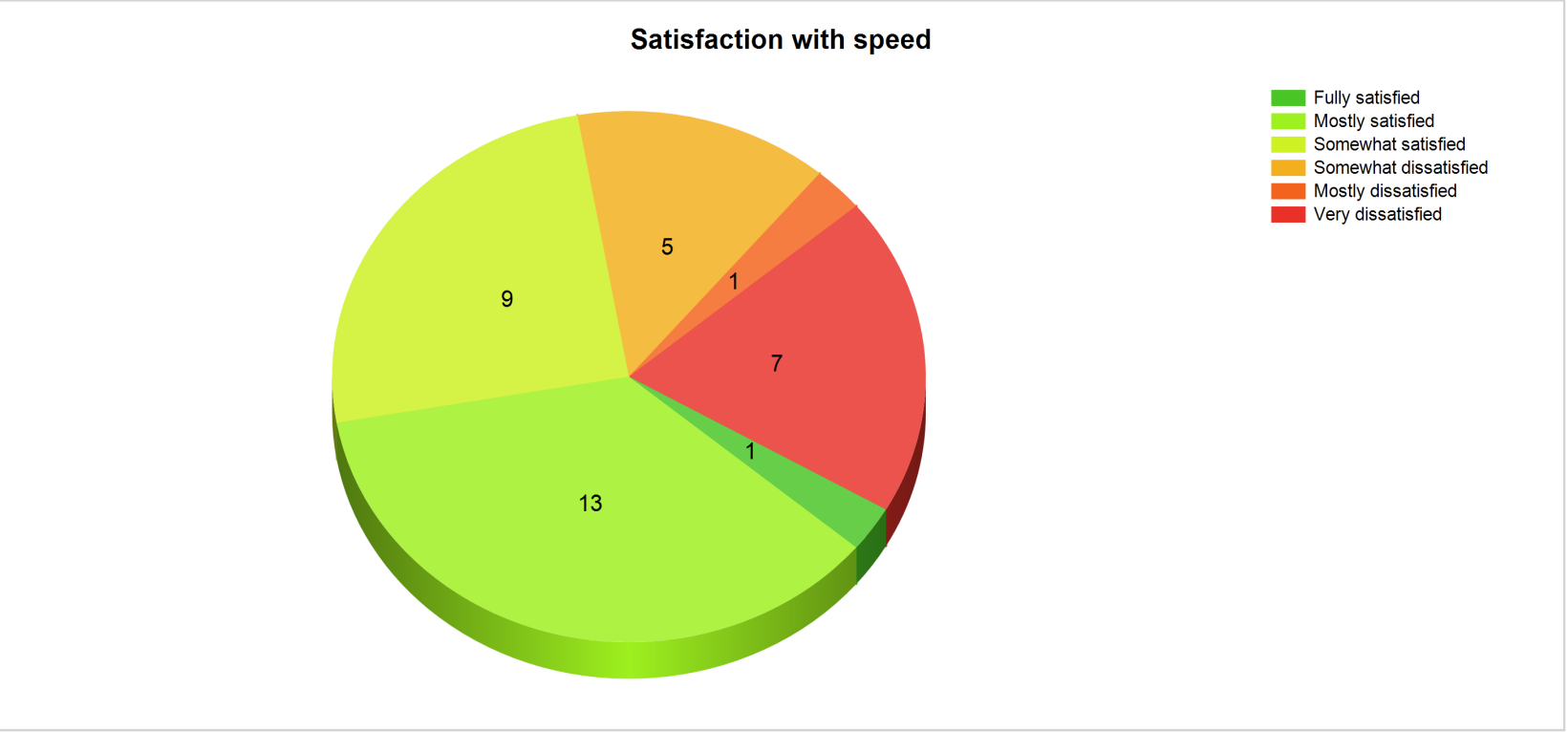


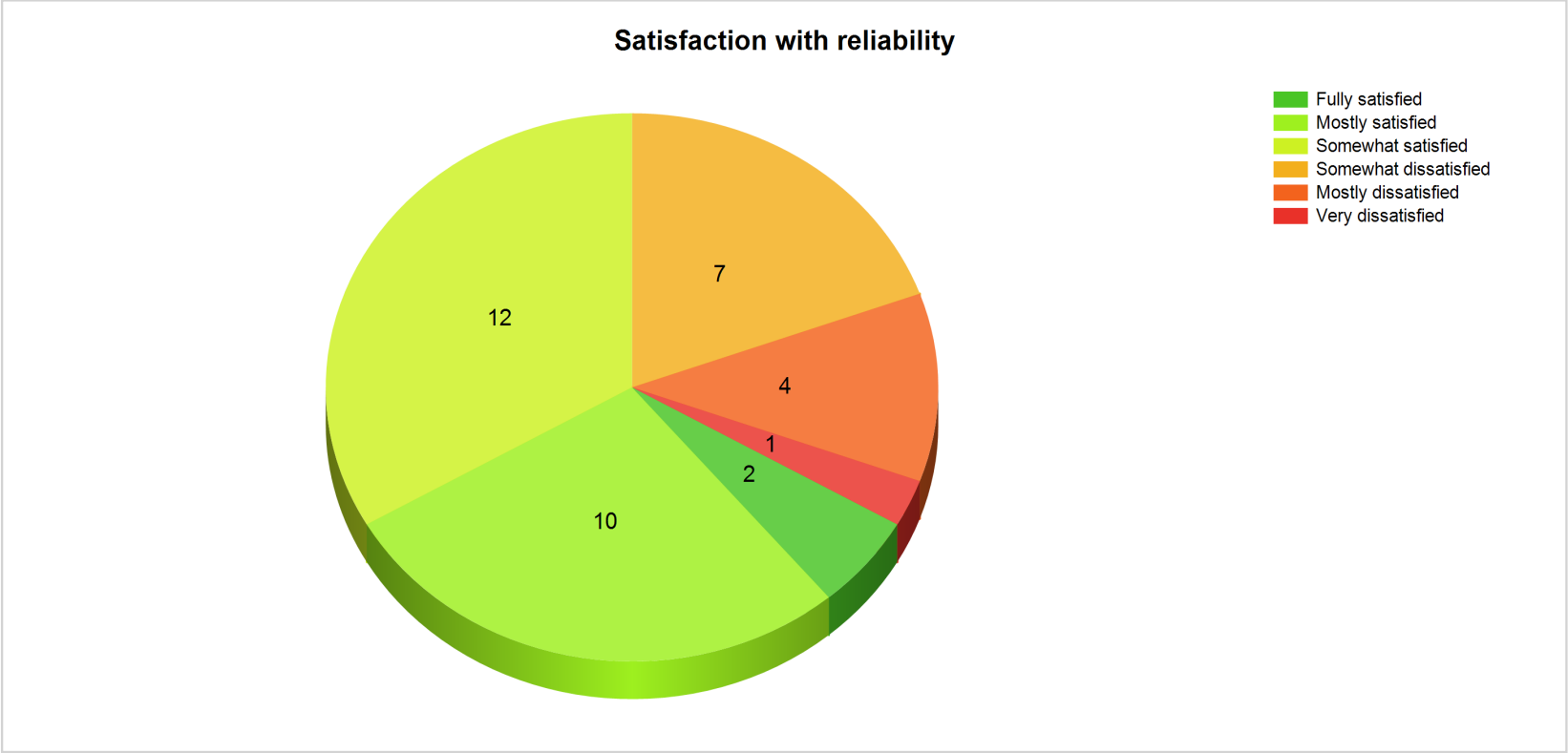
Satisfaction with speed

Of the respondents who currently have Internet service **13 (36.1%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



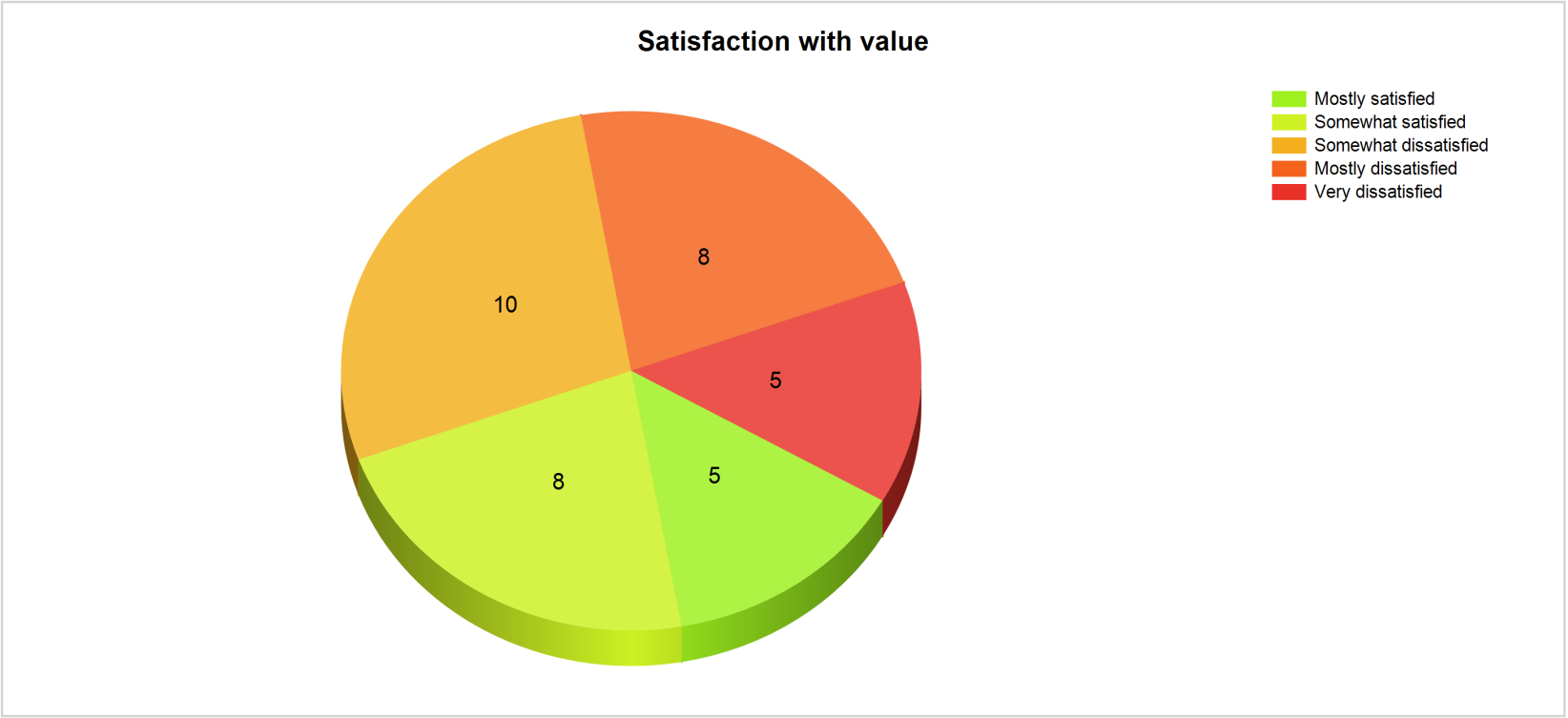
Satisfaction with reliability

Of the respondents who currently have Internet service **12 (33.3%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **23 (63.9%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

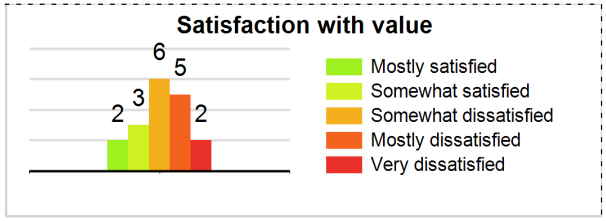
Type:

Count: 18

Satisfied with speed: 83.3%

Satisfied with reliability: 72.2%

Satisfied with value: 27.8% (see graph)



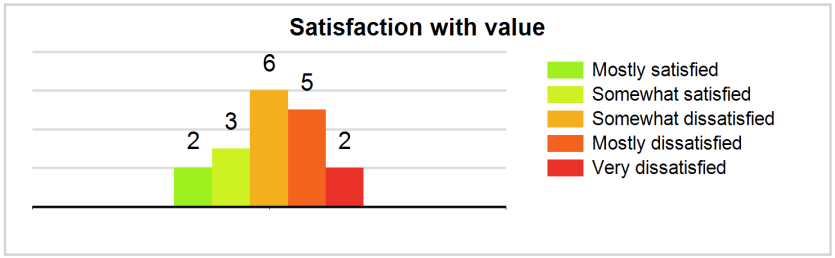
Totals for TWC-10796-MIDWEST, US:

Count: 18

Satisfied with speed: 83.3%

Satisfied with reliability: 72.2%

Satisfied with value: 27.8% (see graph)



FRONTIER-FRTR, US

By survey type:

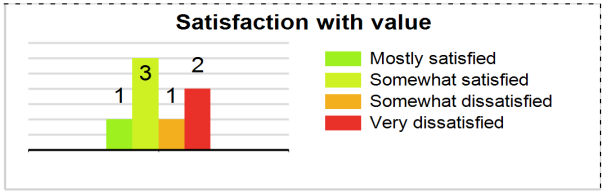
Type:

Count: 7

Satisfied with speed: 28.6%

Satisfied with reliability: 57.1%

Satisfied with value: 57.1% (see graph)



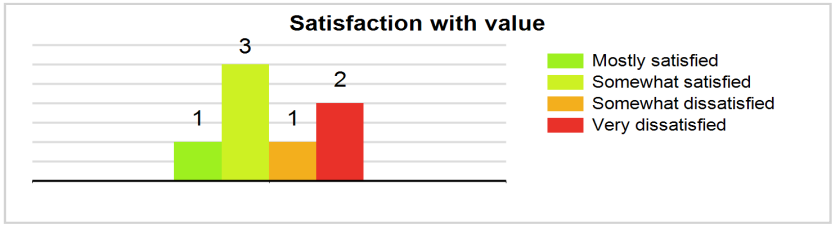
Totals for FRONTIER-FRTR, US:

Count: 7

Satisfied with speed: 28.6%

Satisfied with reliability: 57.1%

Satisfied with value: 57.1% (see graph)



MVECA-AS, US

By survey type:

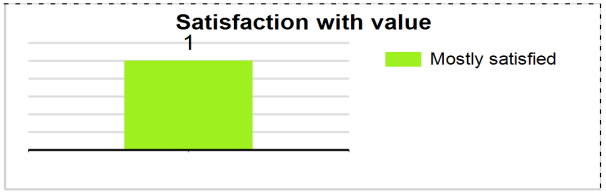
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



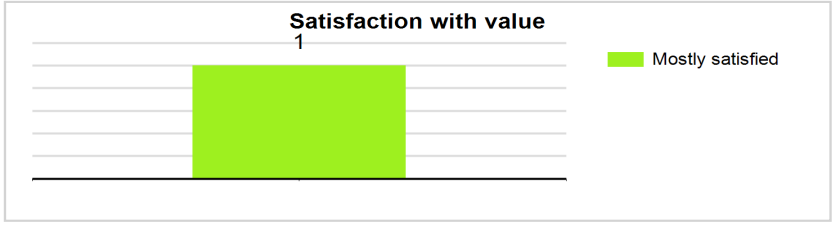
Totals for MVECA-AS, US:

Count: 1

Satisfied with speed: 100.0%

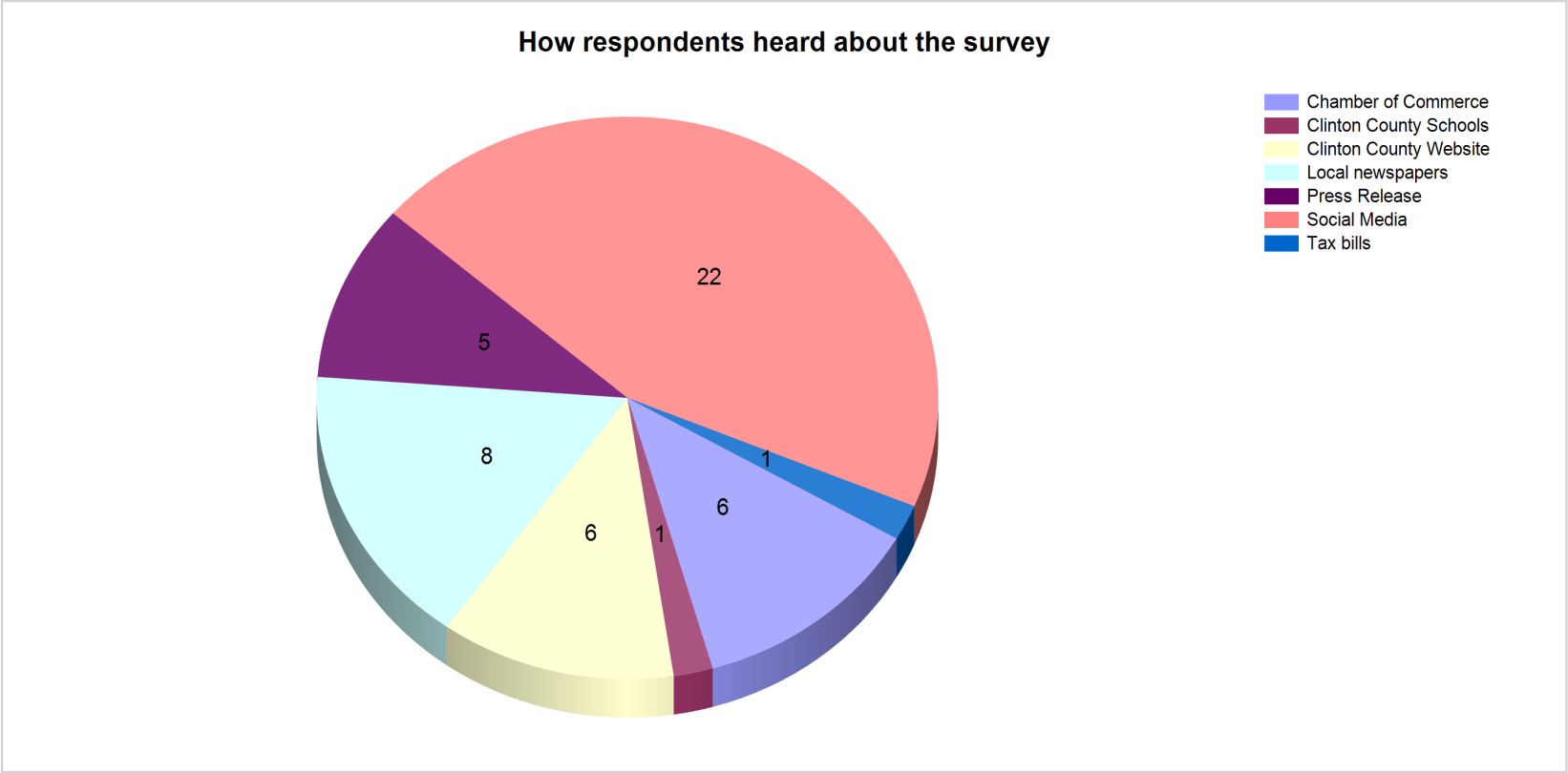
Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)

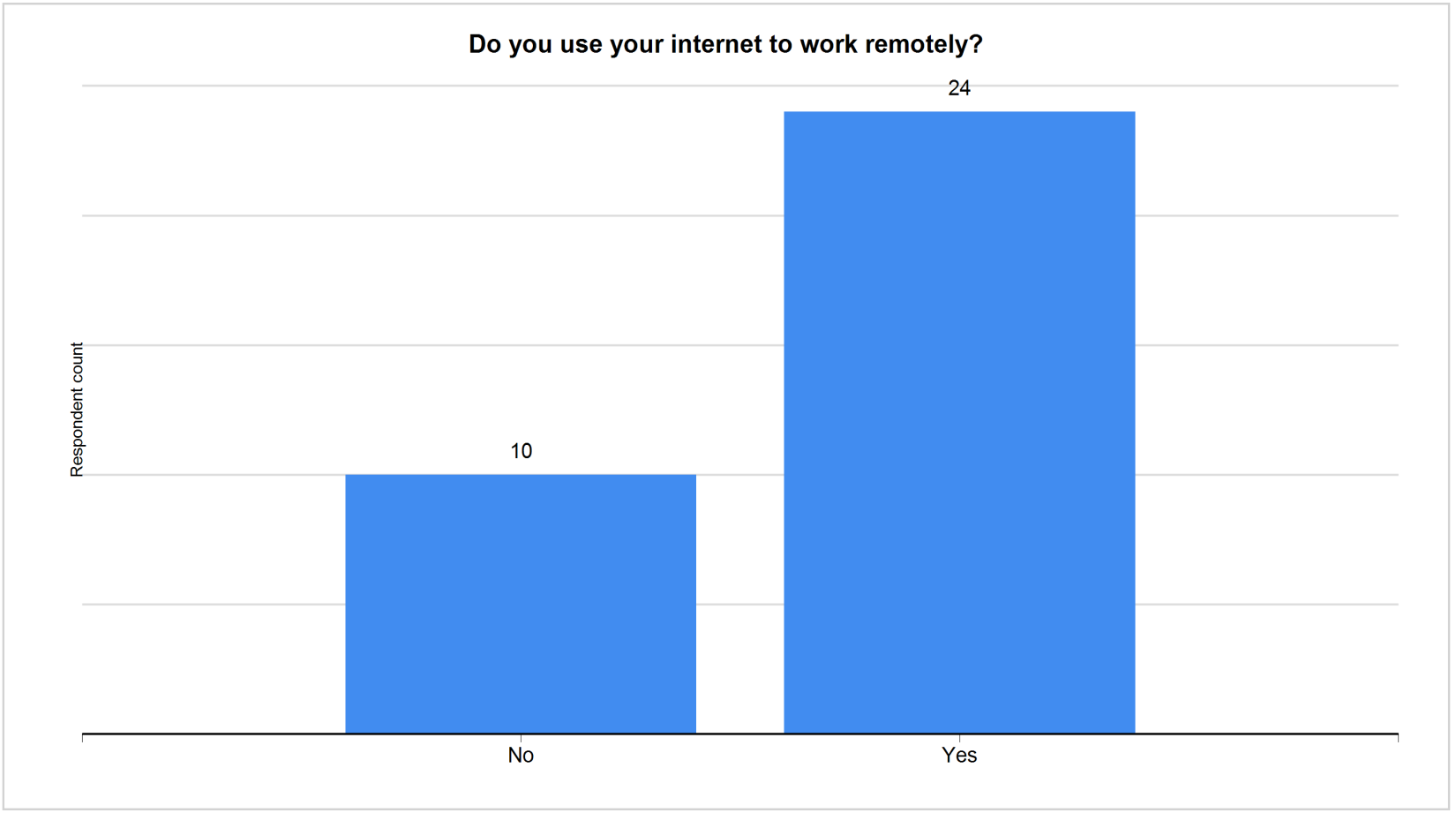


Additional information

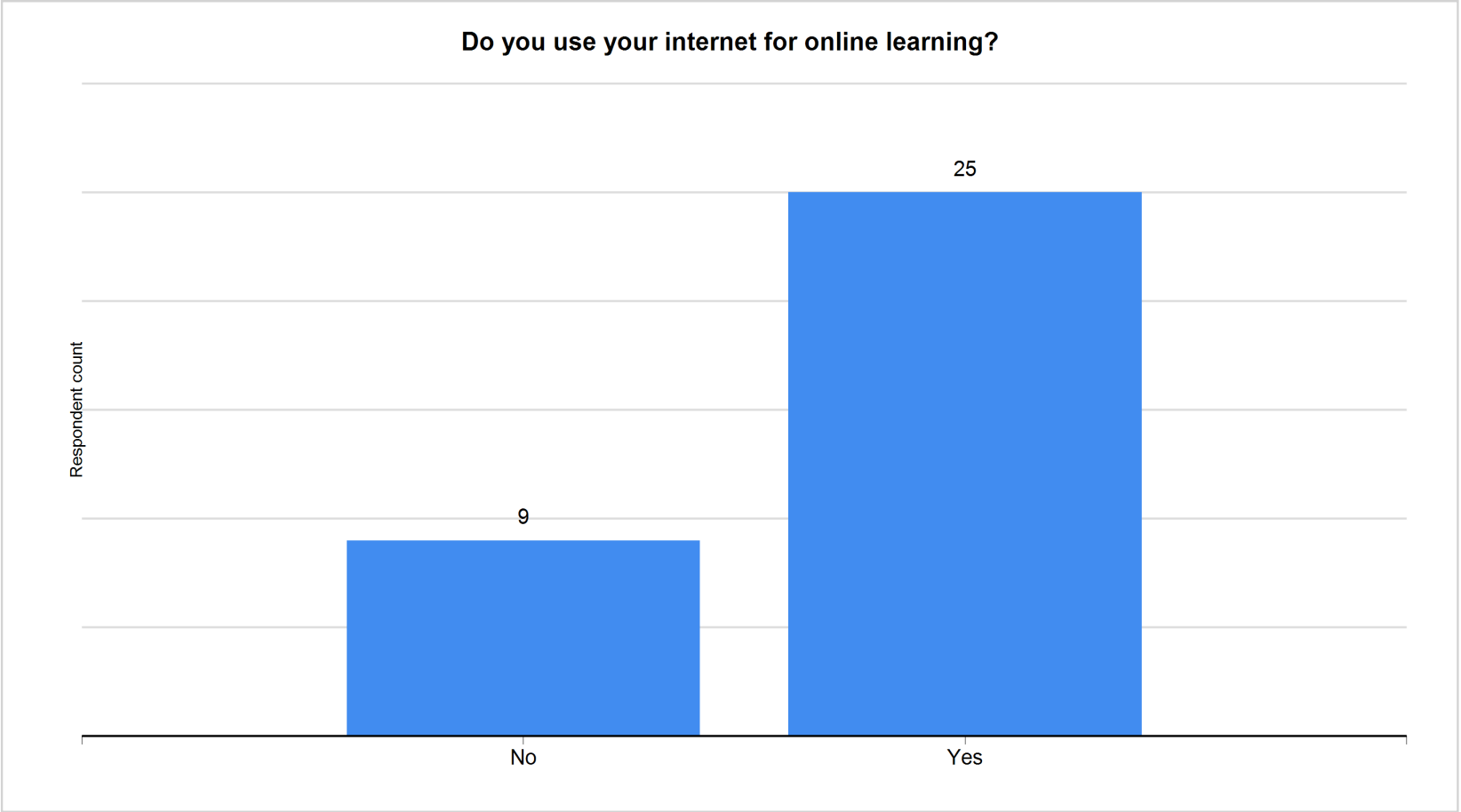
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



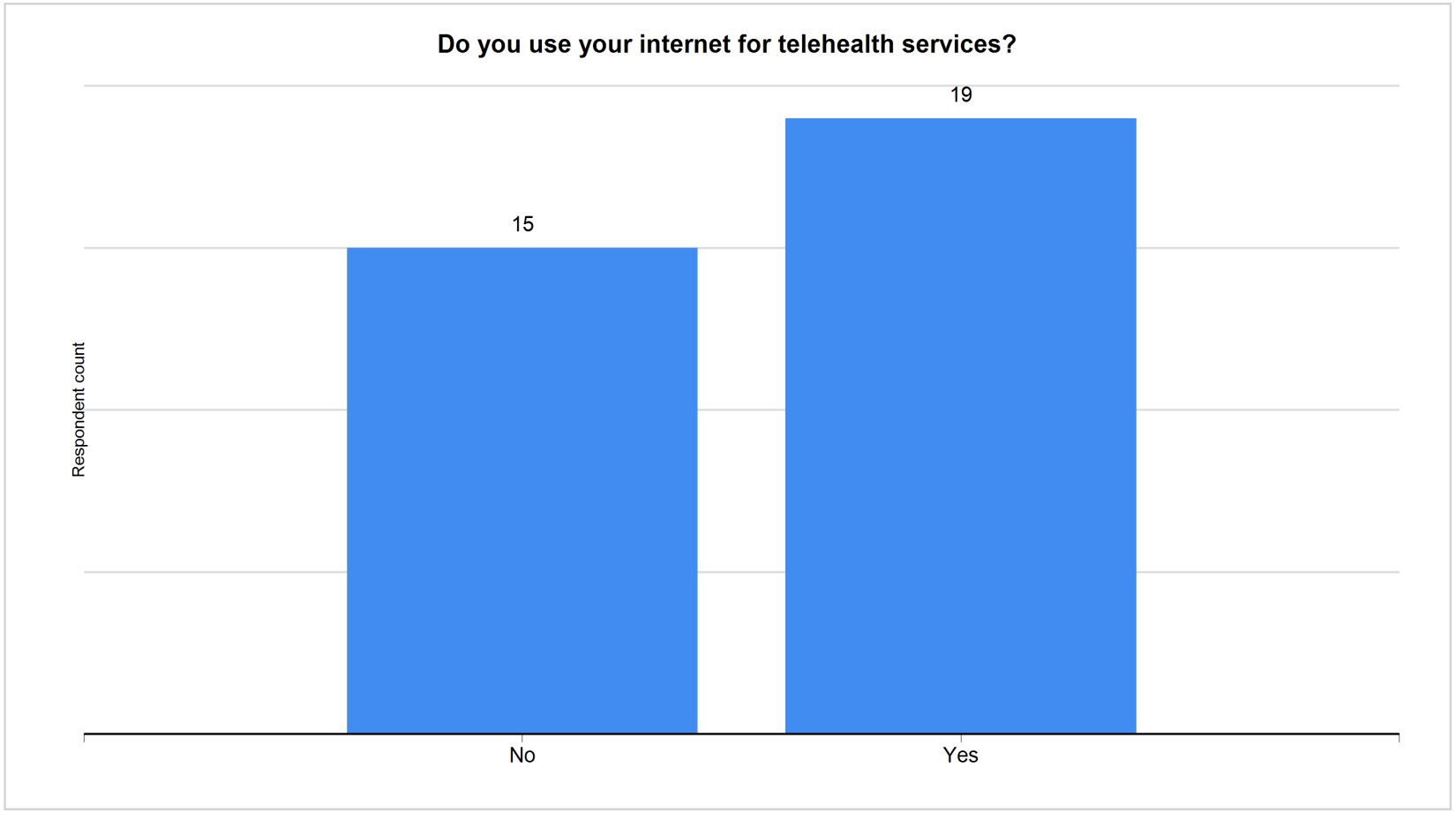
Custom question



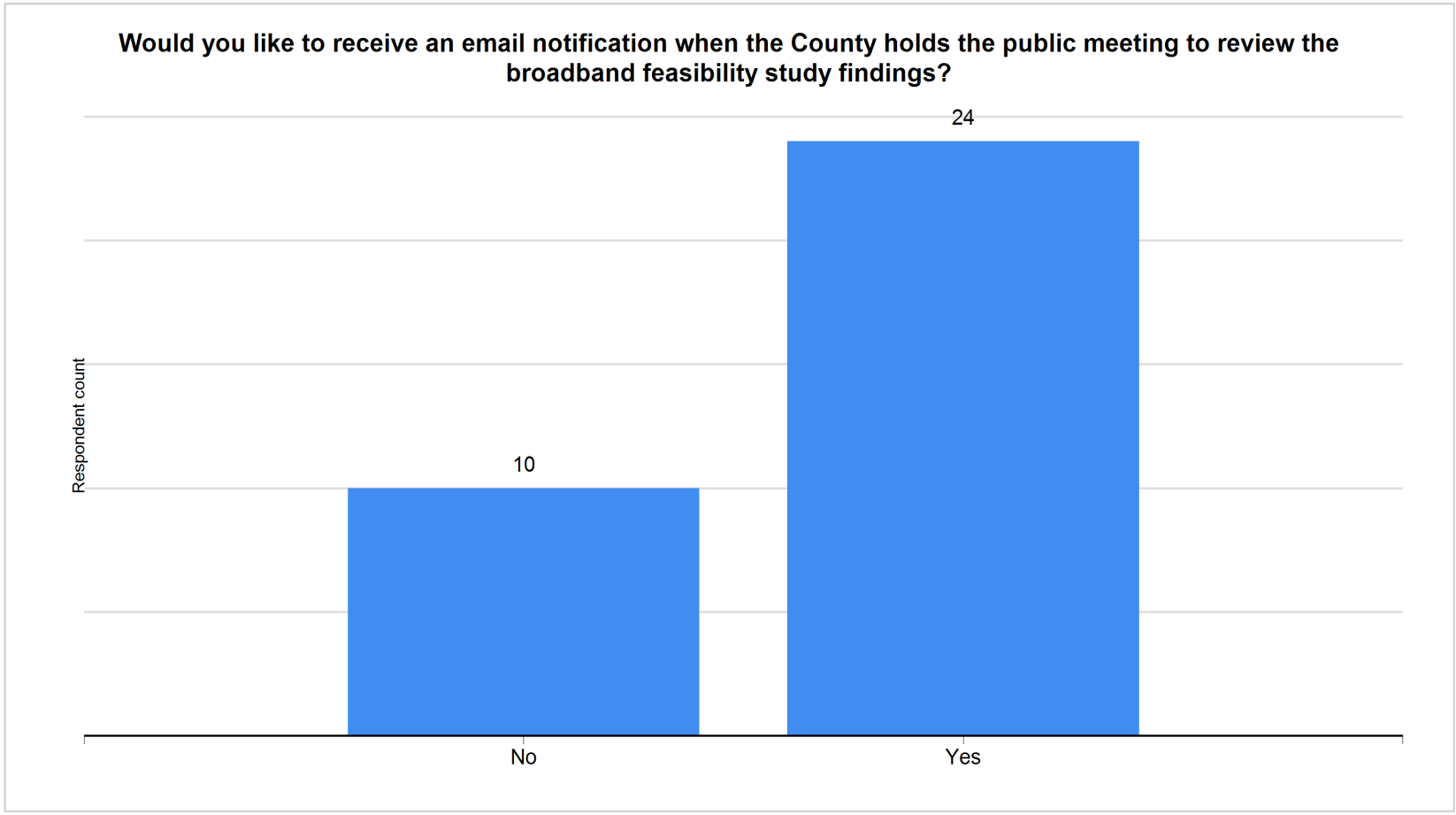
Custom question



Custom question



Custom question



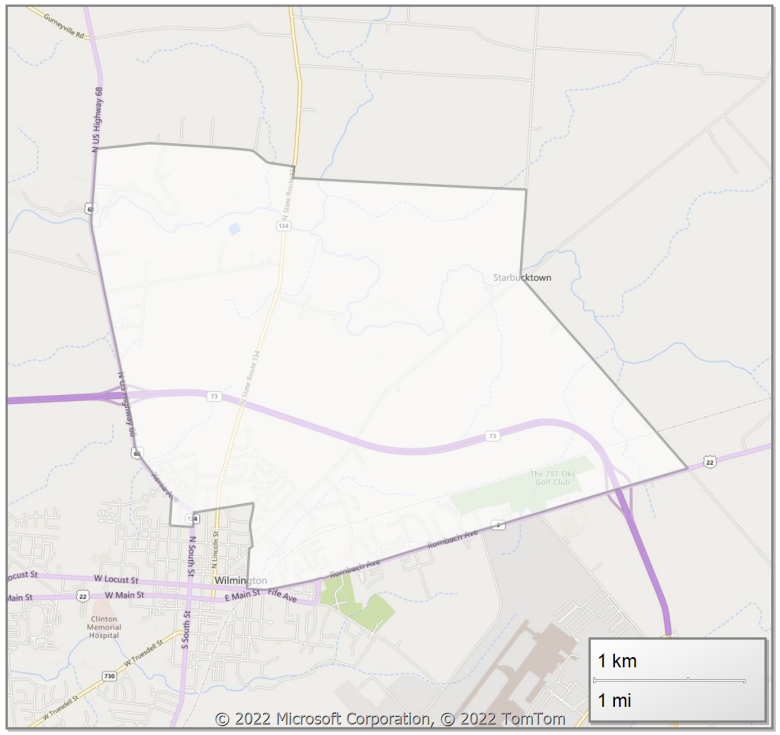
Zone Analyzer™
9645.02

About 9645.02

Belongs to service area:
Clinton County

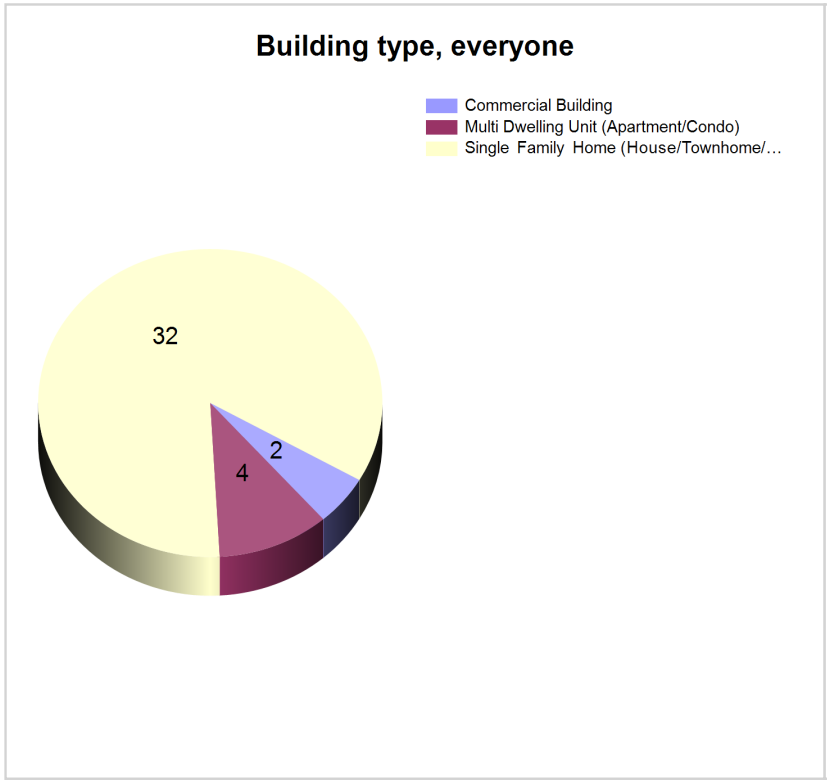
Area:
20.0 sq km (7.7 sq mi)

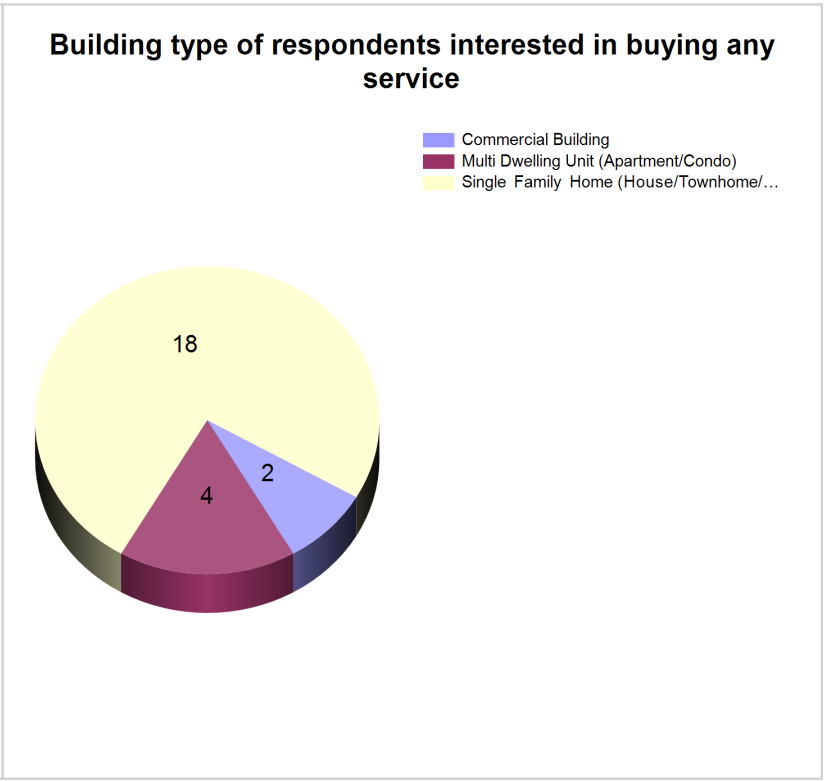
Survey phase started:
1/19/2022 (96 day(s) ago)



Information about respondents

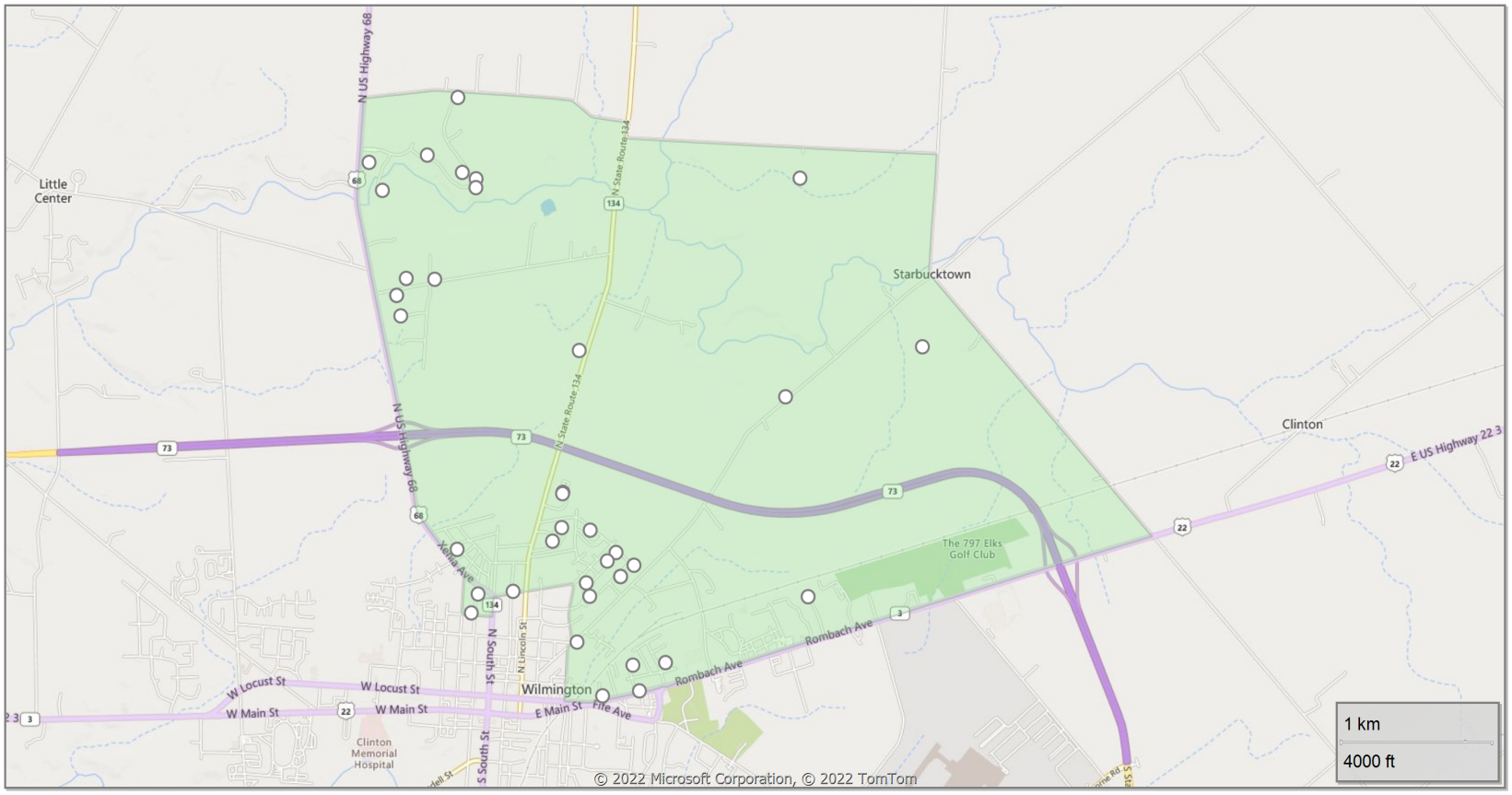
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



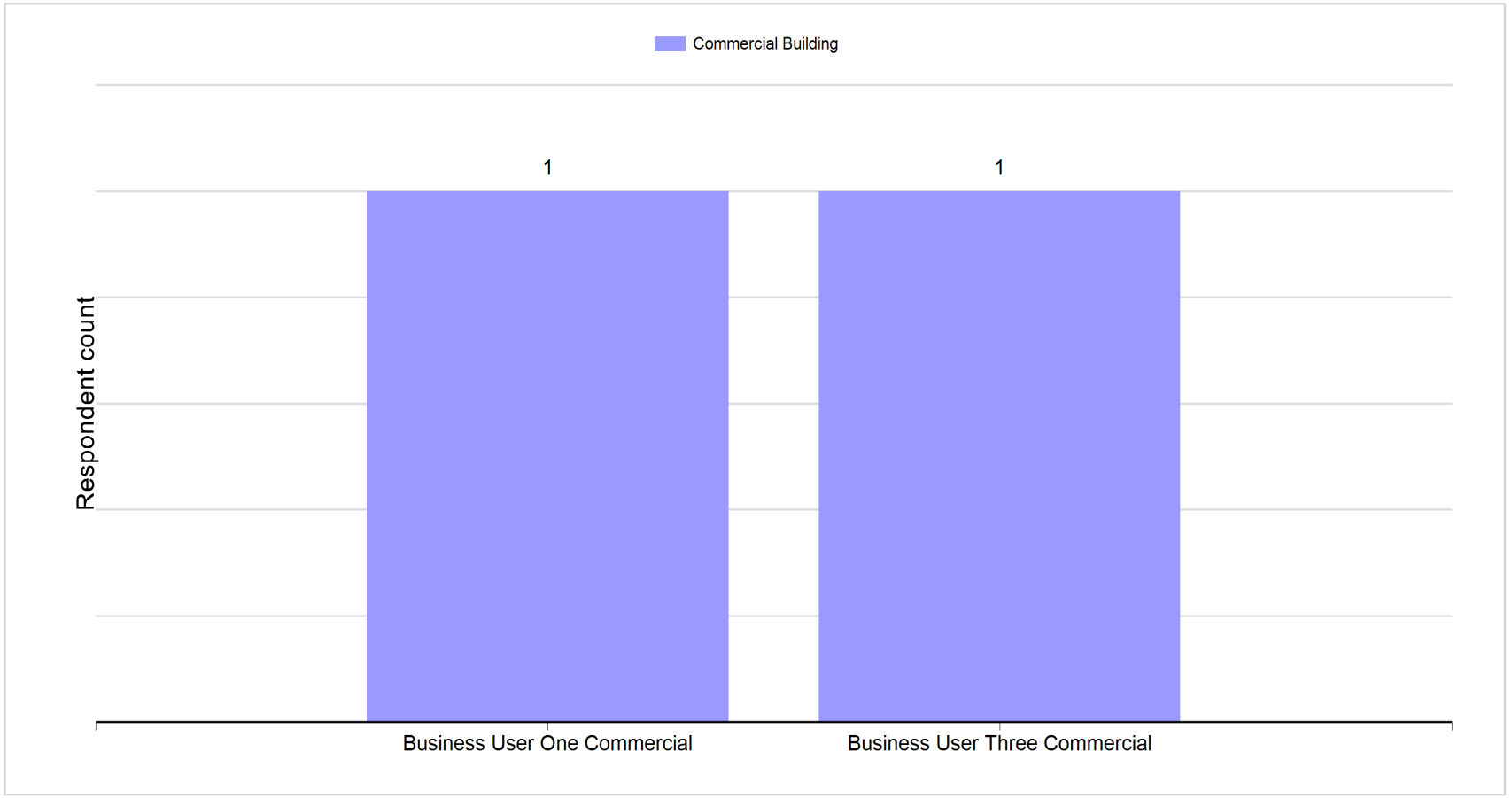


Survey responses on a map

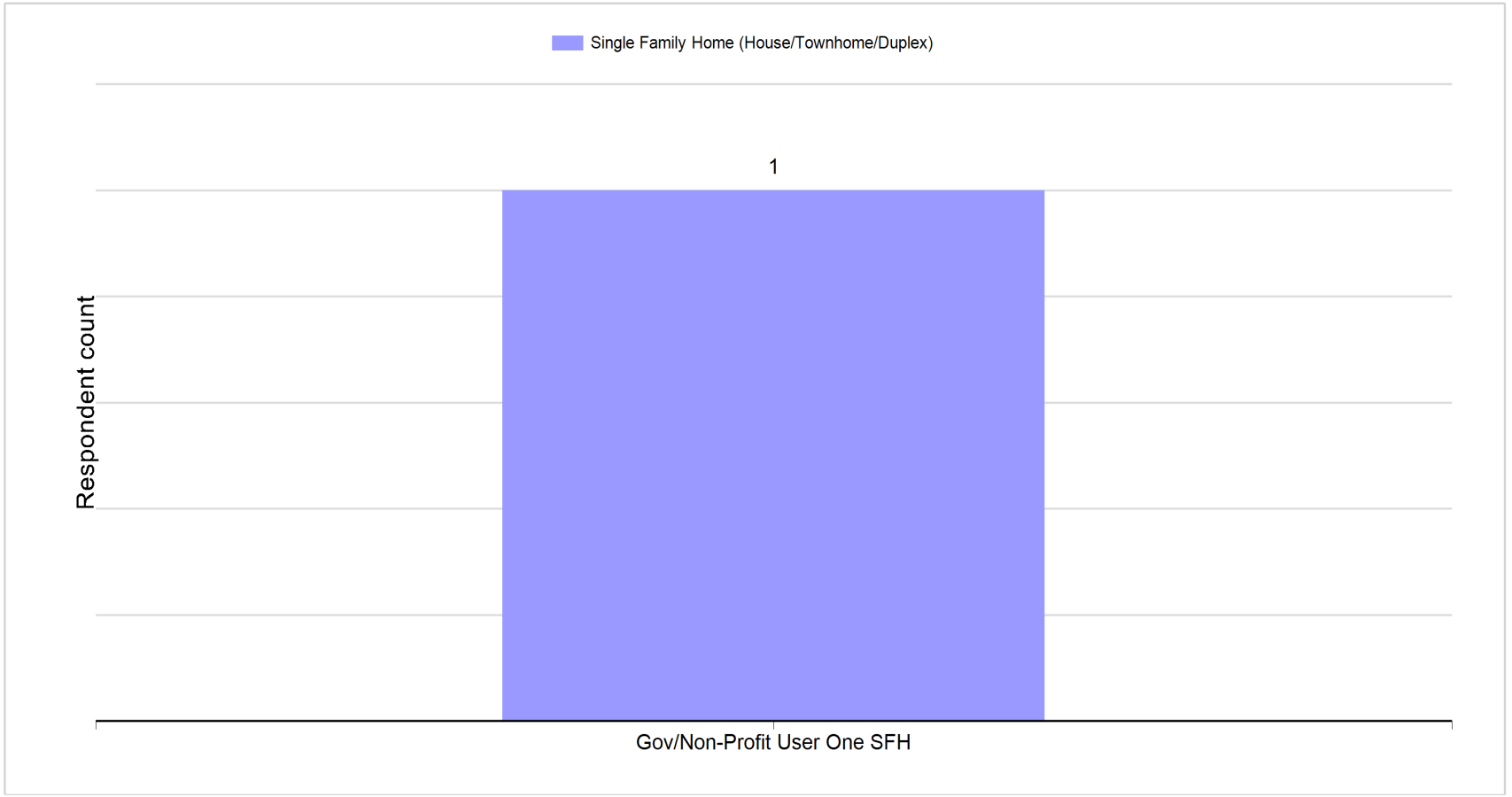
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



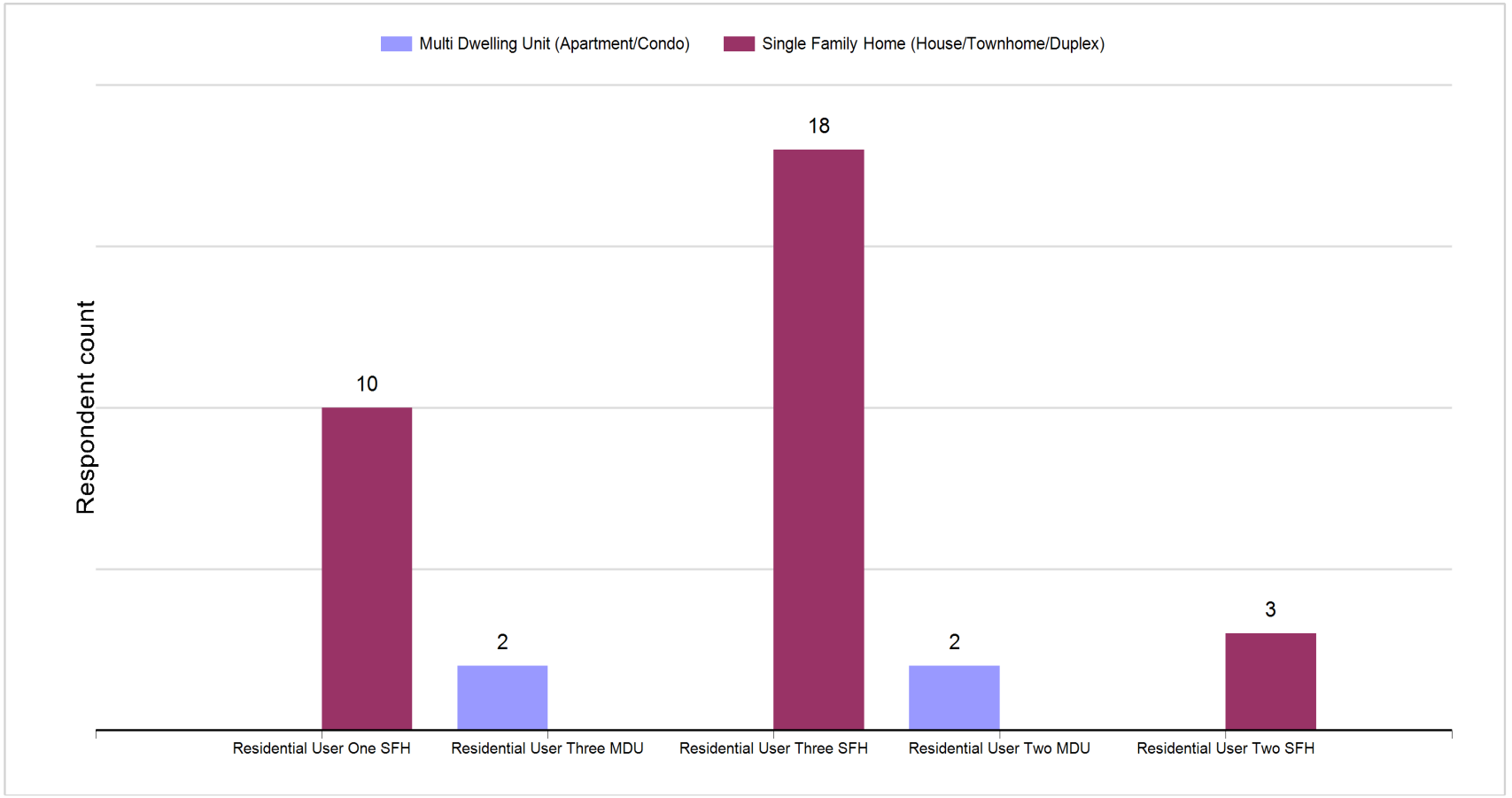
Selected service offering - Business



Selected service offering - Government/Non-Profit Organization

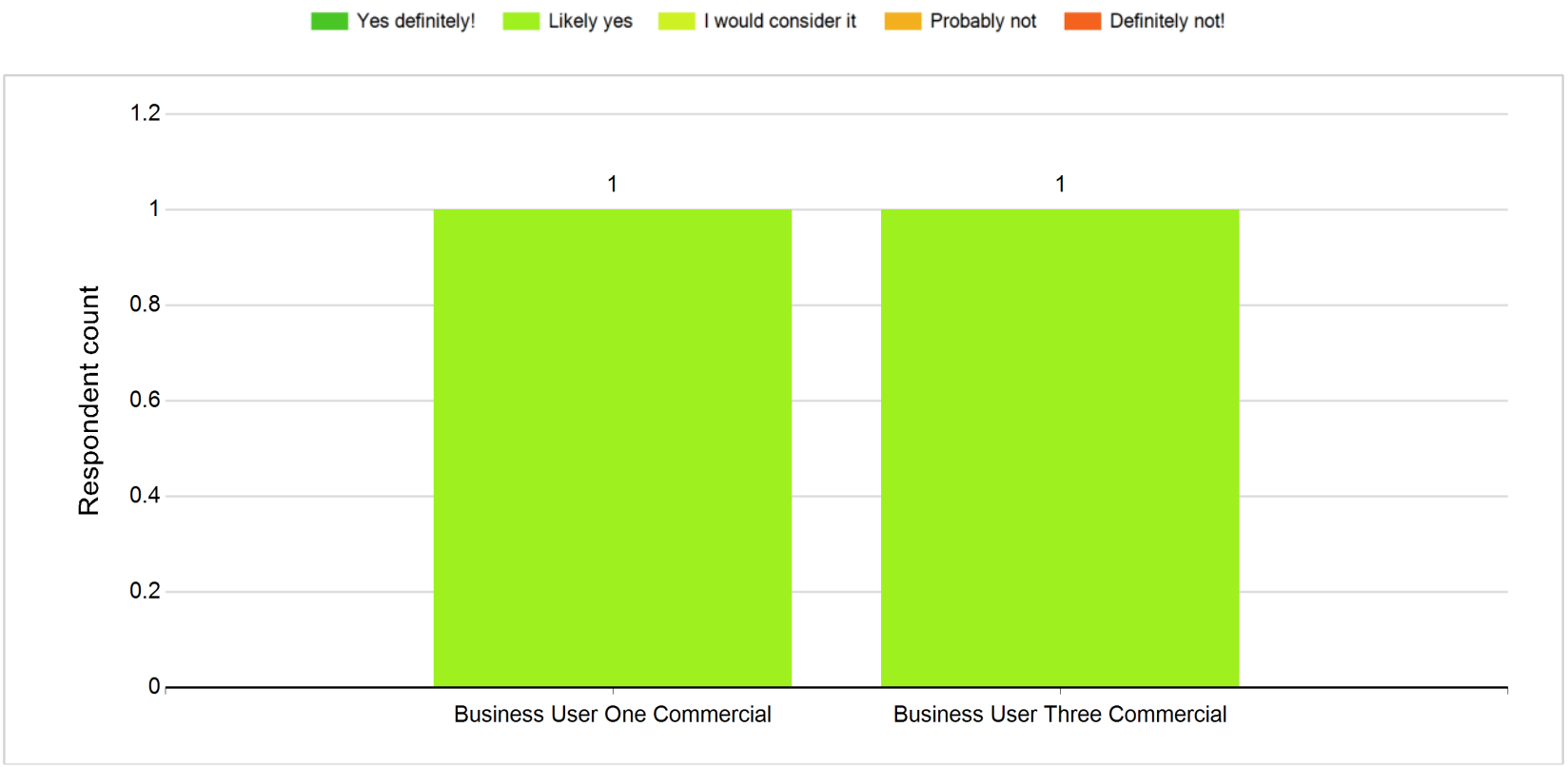


Selected service offering - Residential



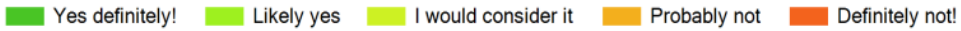
How likely to purchase - Business

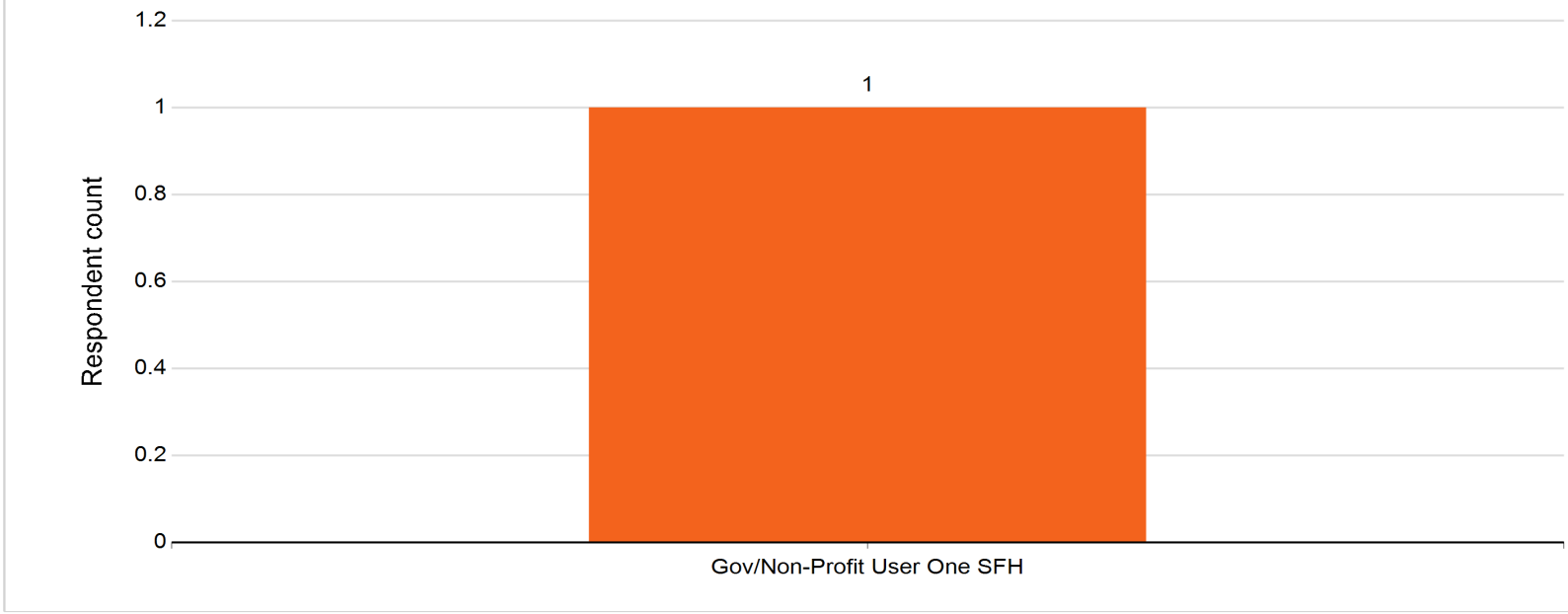
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



How likely to purchase - Government/Non-Profit Organization

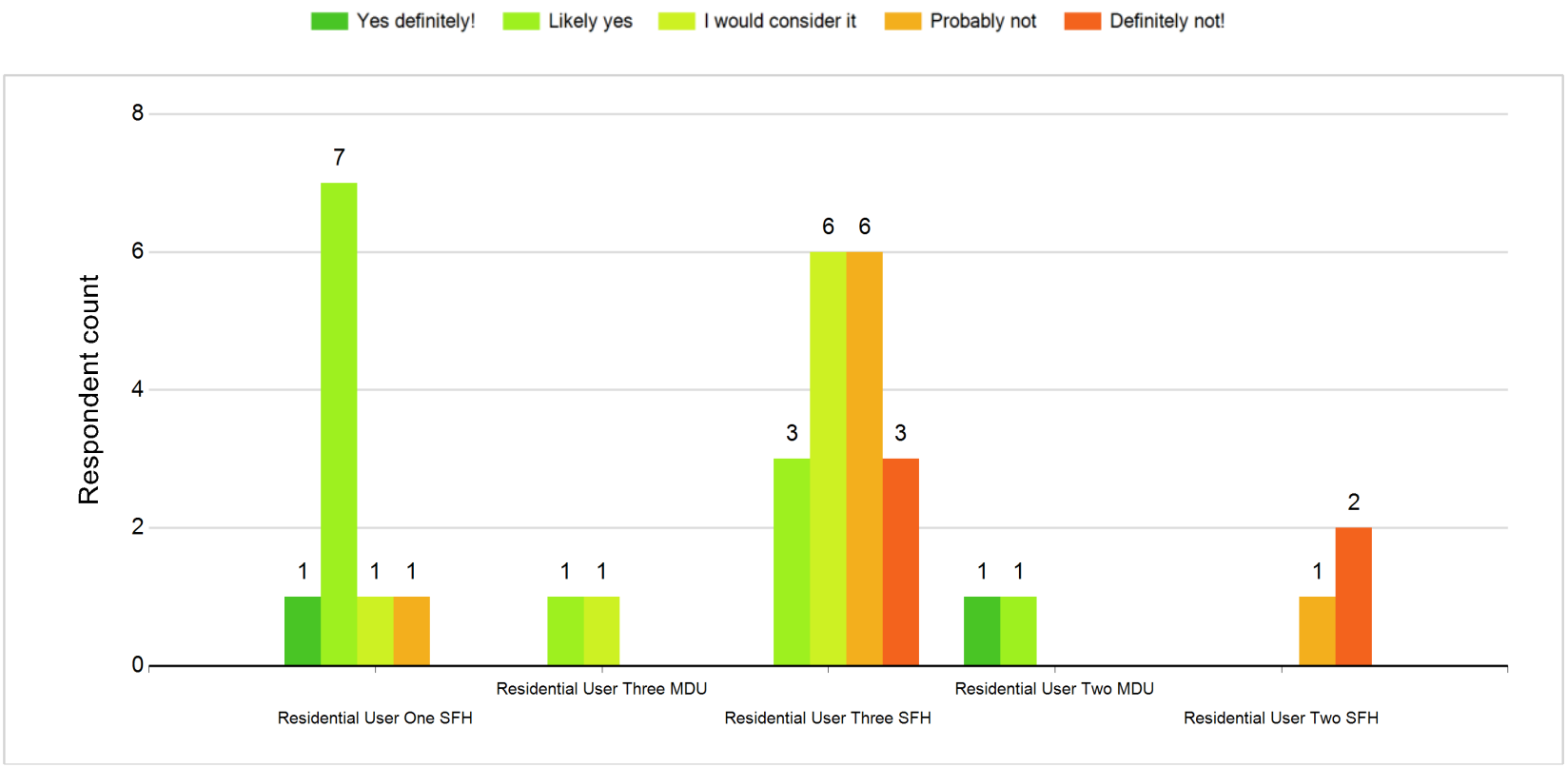
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.





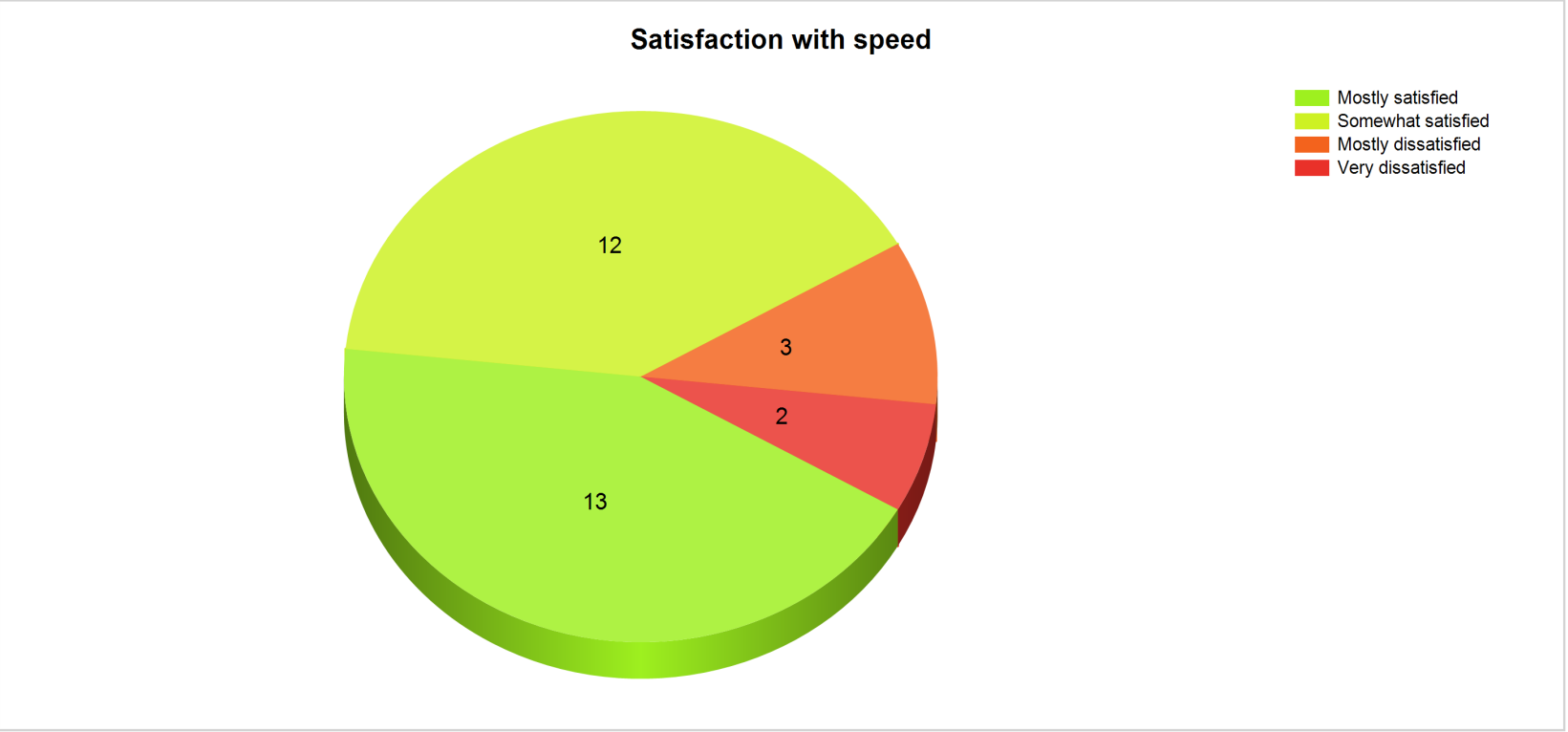
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



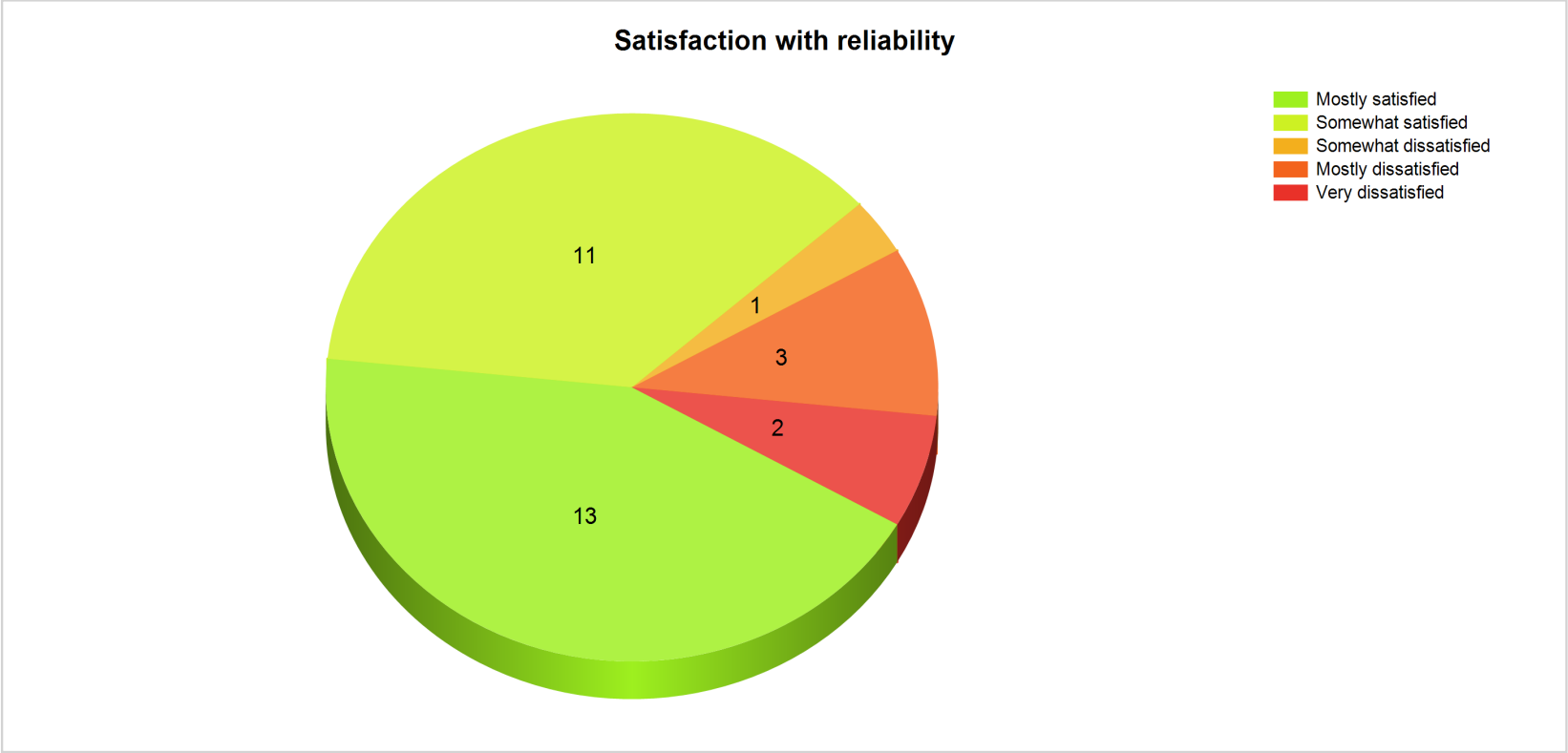
Satisfaction with speed

Of the respondents who currently have Internet service **5 (16.7%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



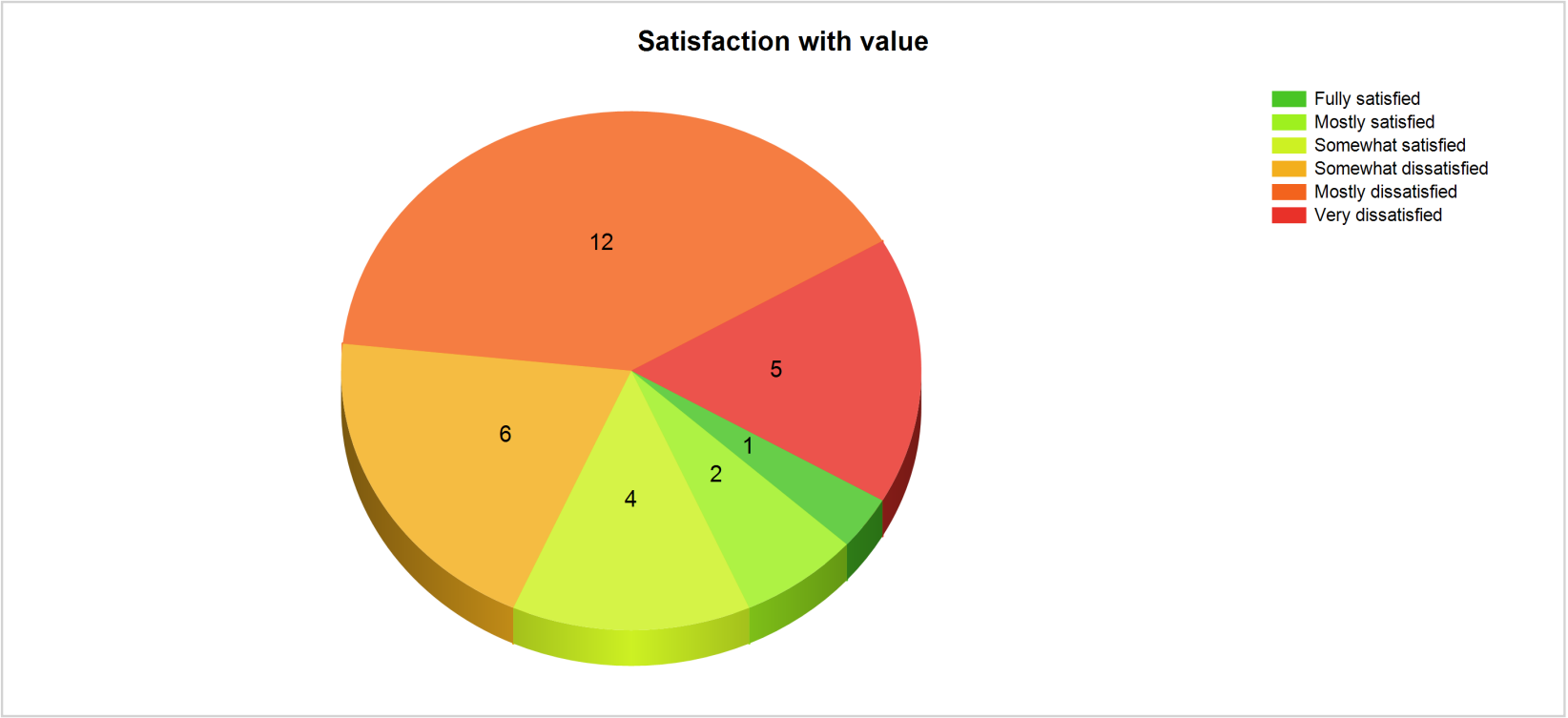
Satisfaction with reliability

Of the respondents who currently have Internet service **6 (20.0%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **23 (76.7%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

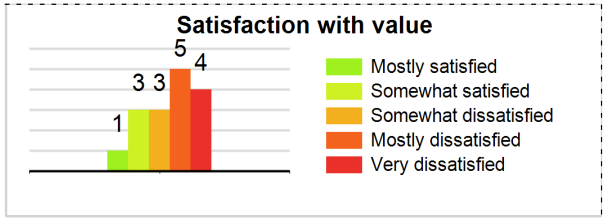
Type:

Count: 16

Satisfied with speed: 93.8%

Satisfied with reliability: 87.5%

Satisfied with value: 25.0% (see graph)



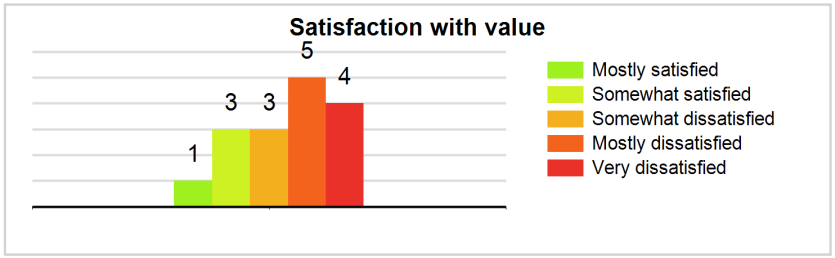
Totals for TWC-10796-MIDWEST, US:

Satisfied with speed: 93.8%

Satisfied with reliability: 87.5%

Count: 16

Satisfied with value: 25.0% (see graph)



FRONTIER-FRTR, US

By survey type:

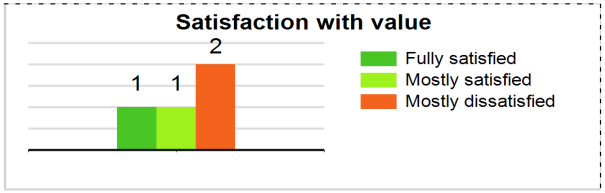
Type:

Count: 4

Satisfied with speed: 25.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



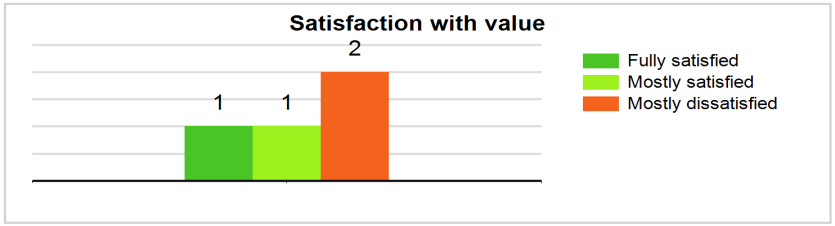
Totals for FRONTIER-FRTR, US:

Count: 4

Satisfied with speed: 25.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



ATT-MOBILITY-LLC-AS20057, US

By survey type:

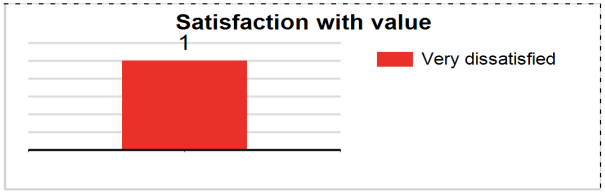
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



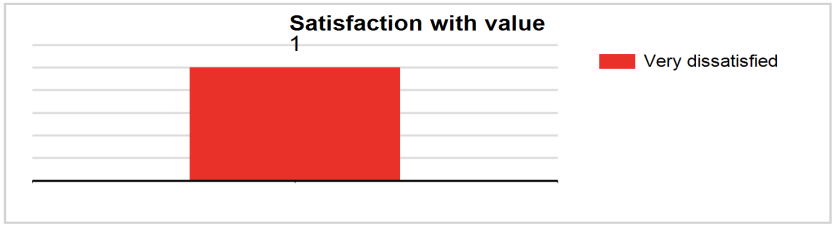
Totals for ATT-MOBILITY-LLC-AS20057, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



CELLCO-PART, US

By survey type:

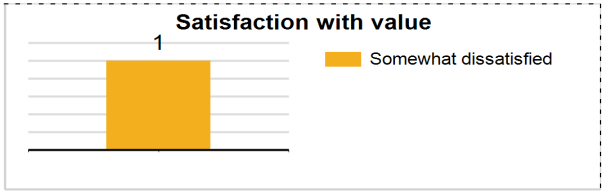
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



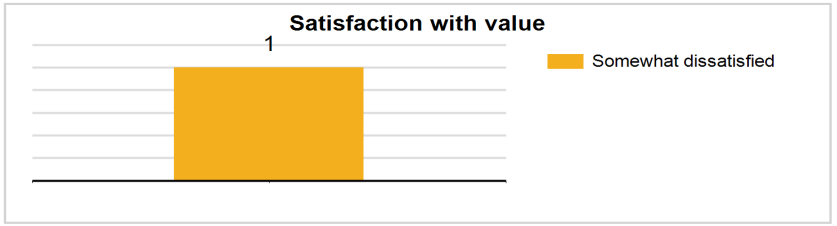
Totals for CELLCO-PART, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



HILTON-C, US

By survey type:

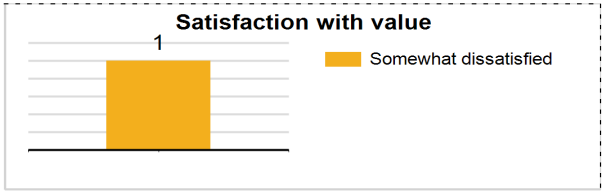
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



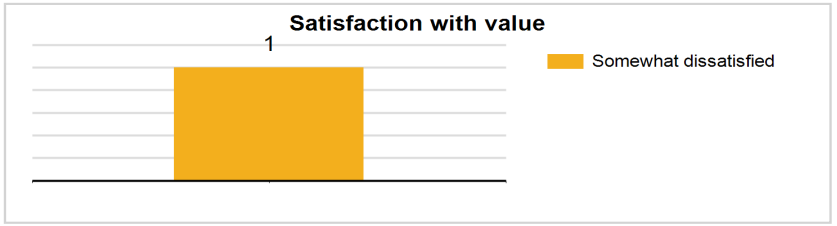
Totals for HILTON-C, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



ZSCALER-SJC1, US

By survey type:

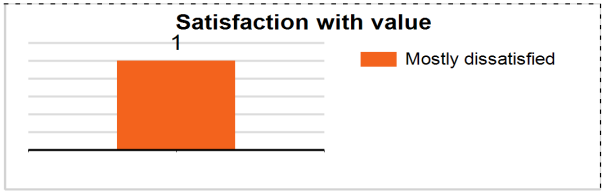
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



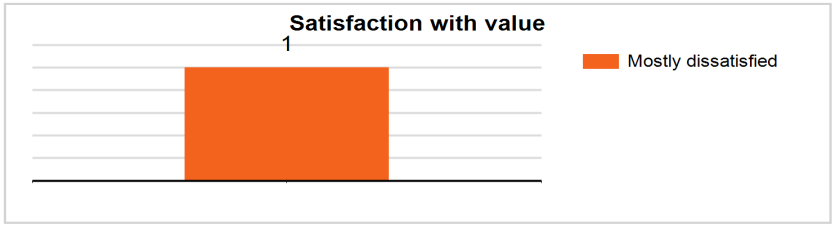
Totals for ZSCALER-SJC1, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



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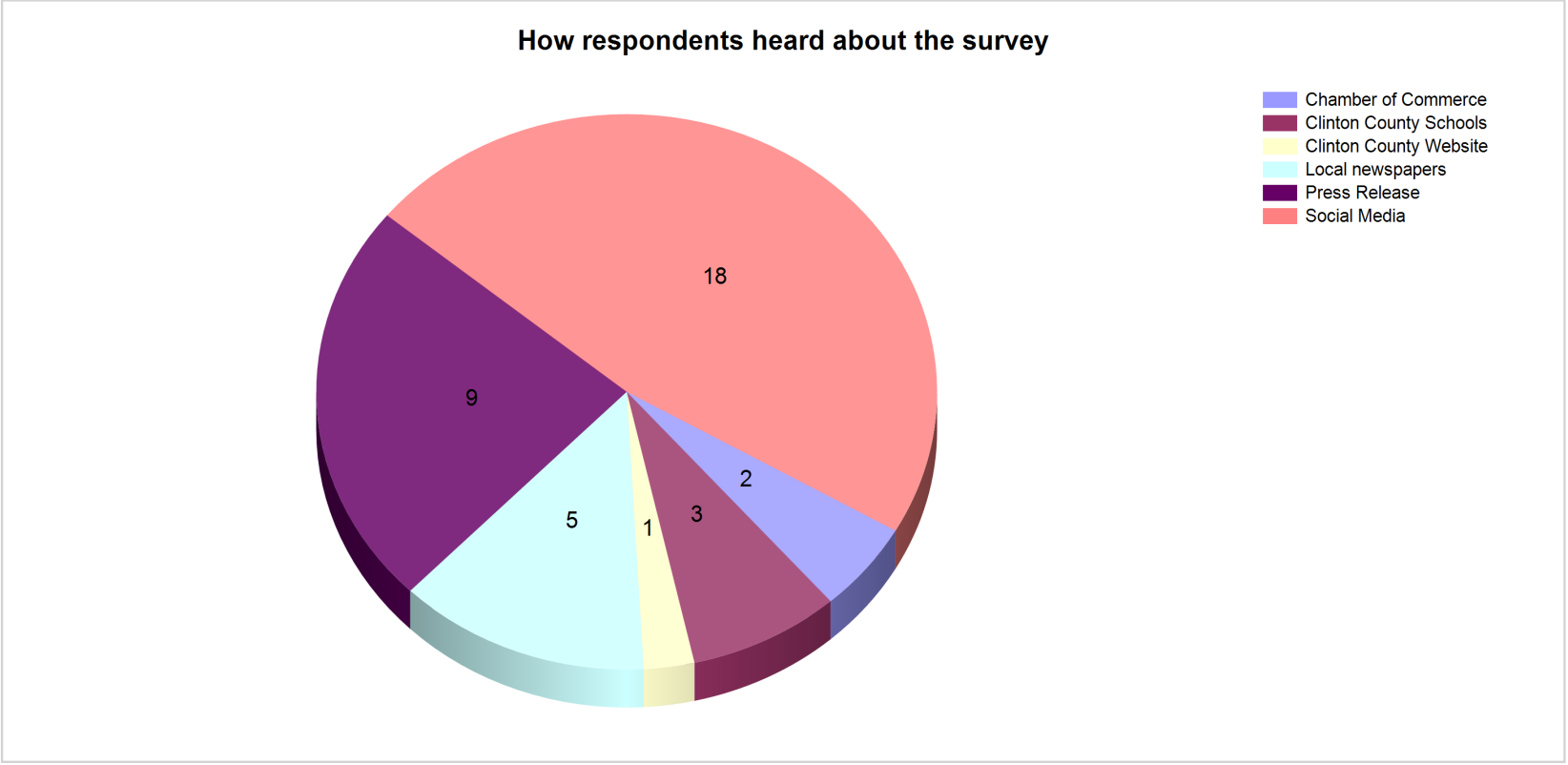
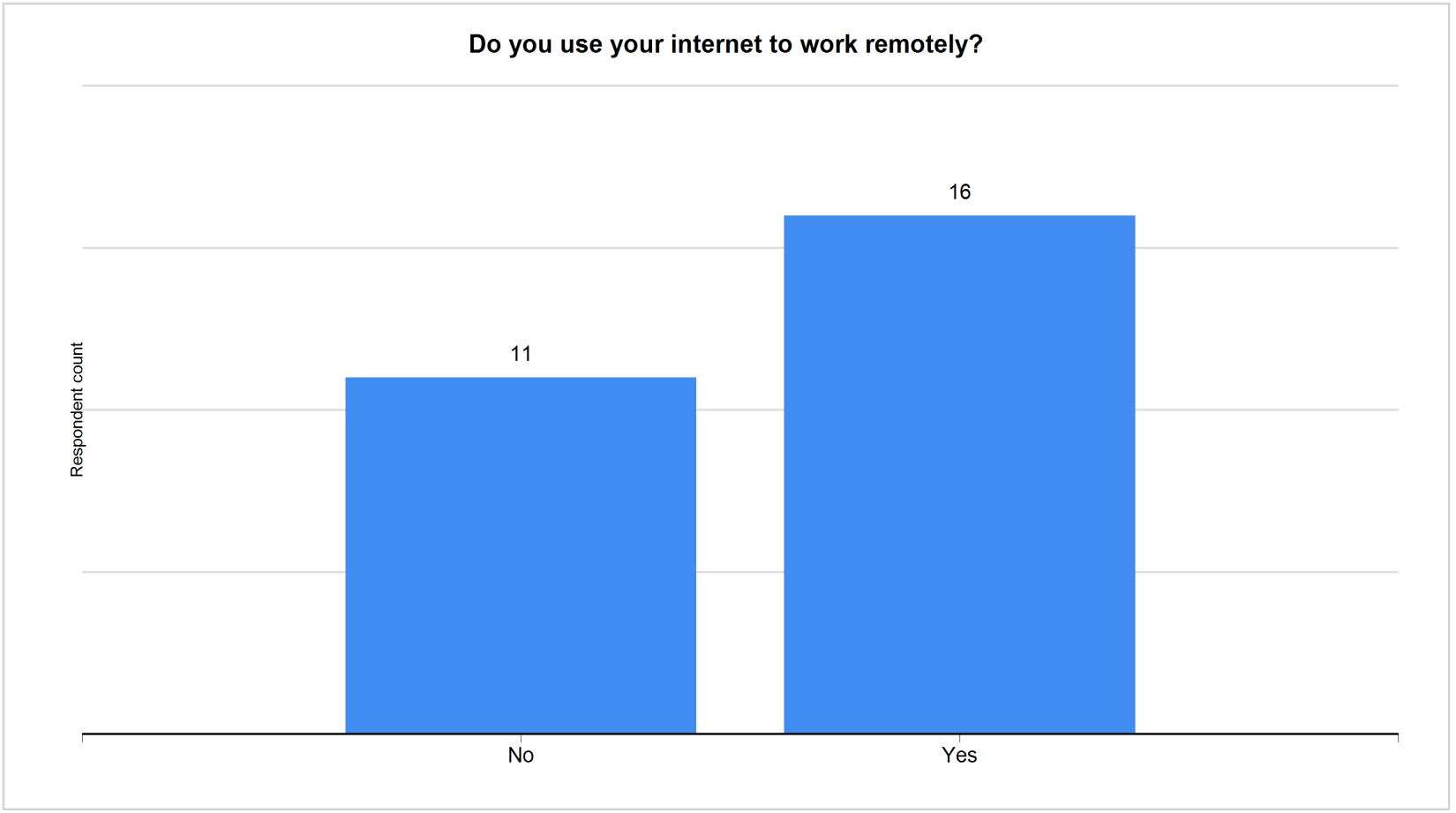
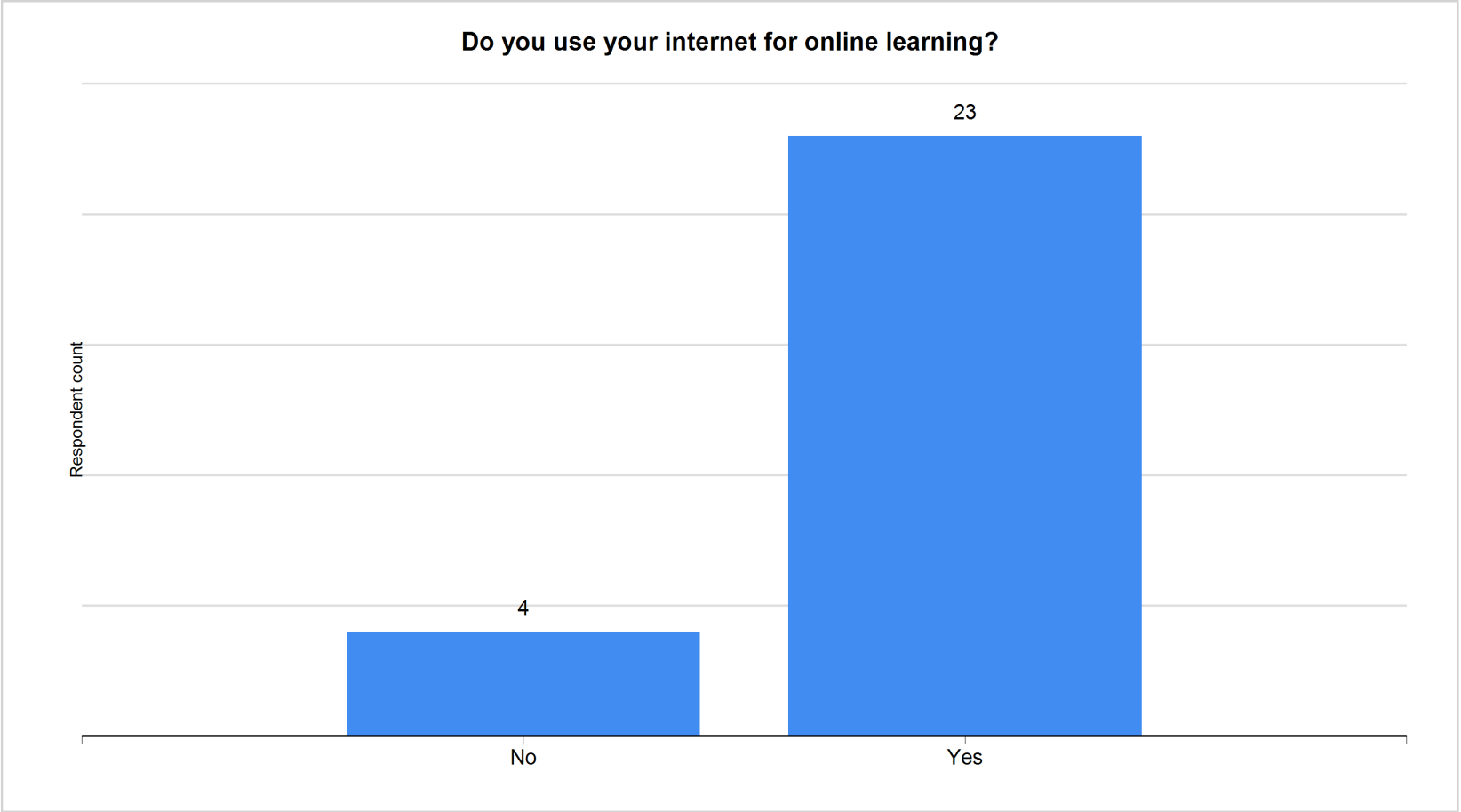


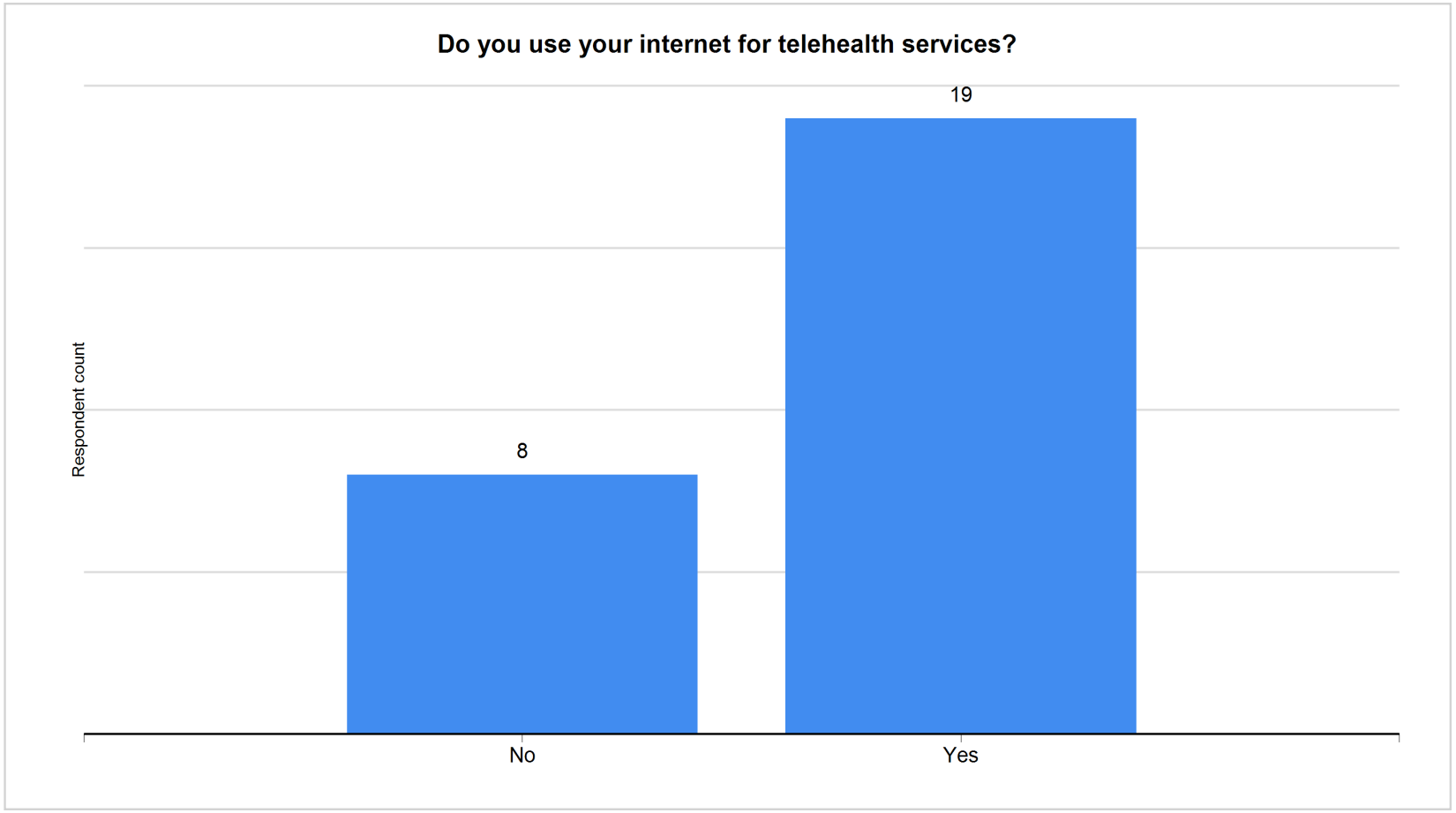
Custom question



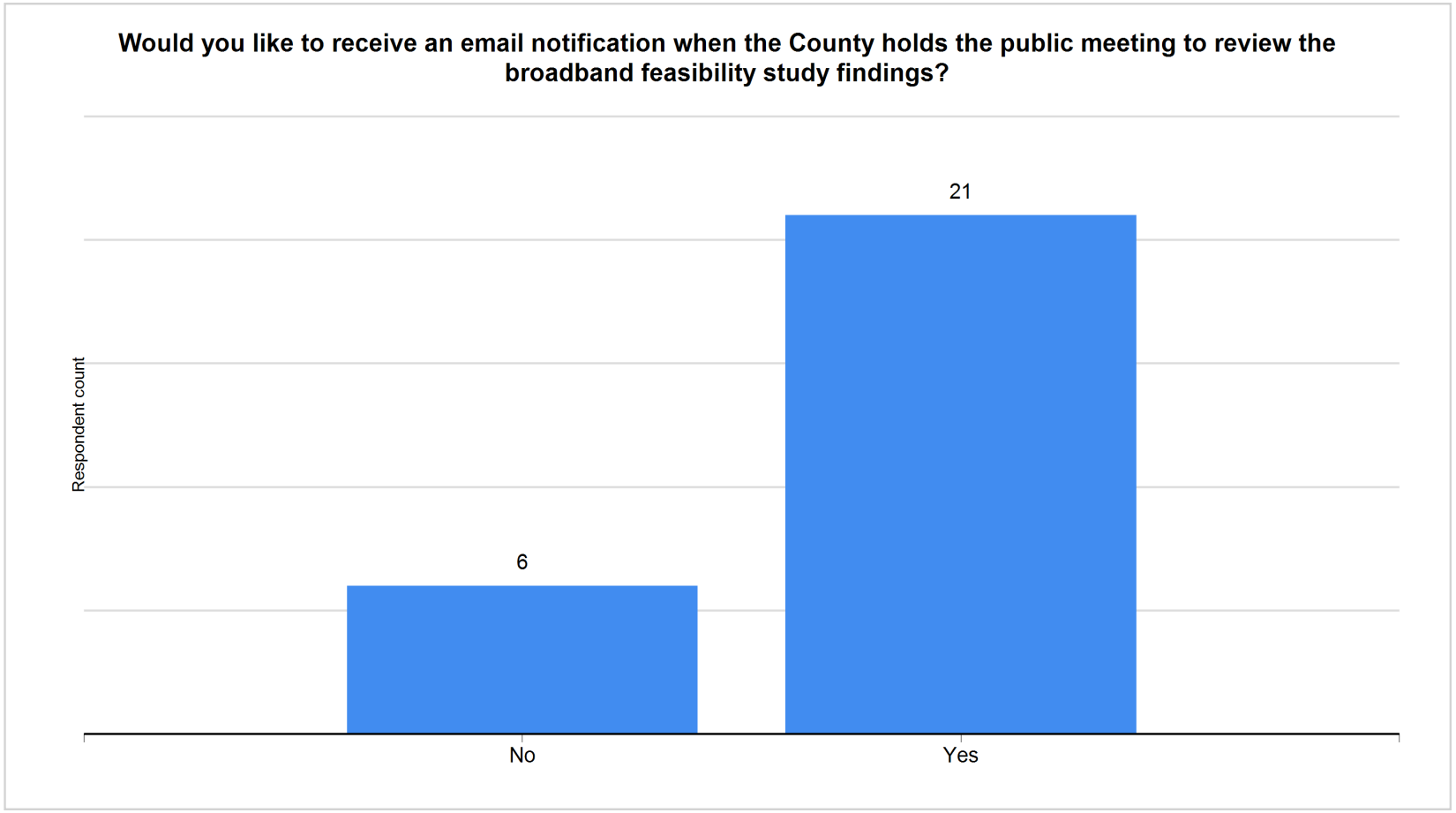
Custom question



Custom question



Custom question



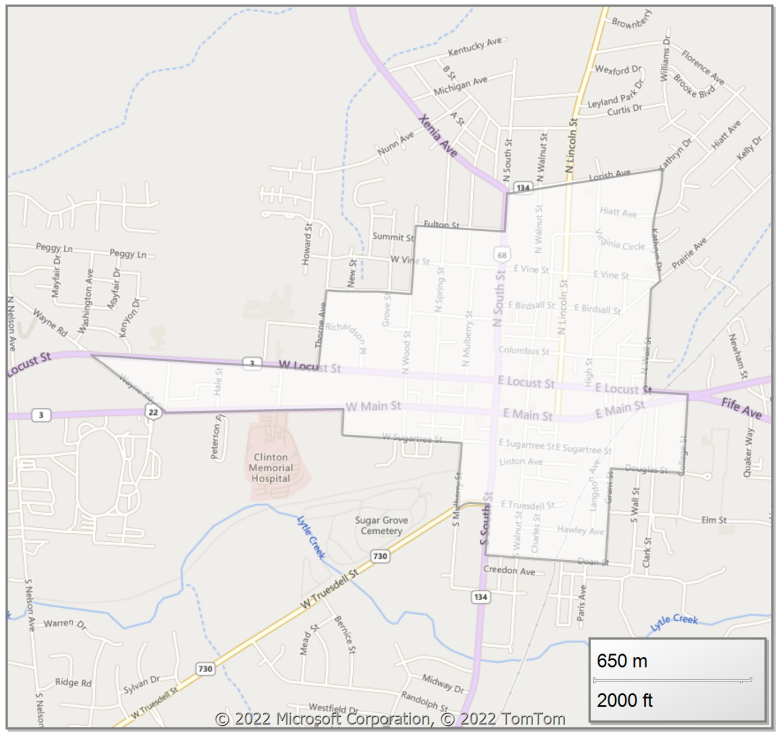
Zone Analyzer™
9646

About 9646

Belongs to service area:
Clinton County

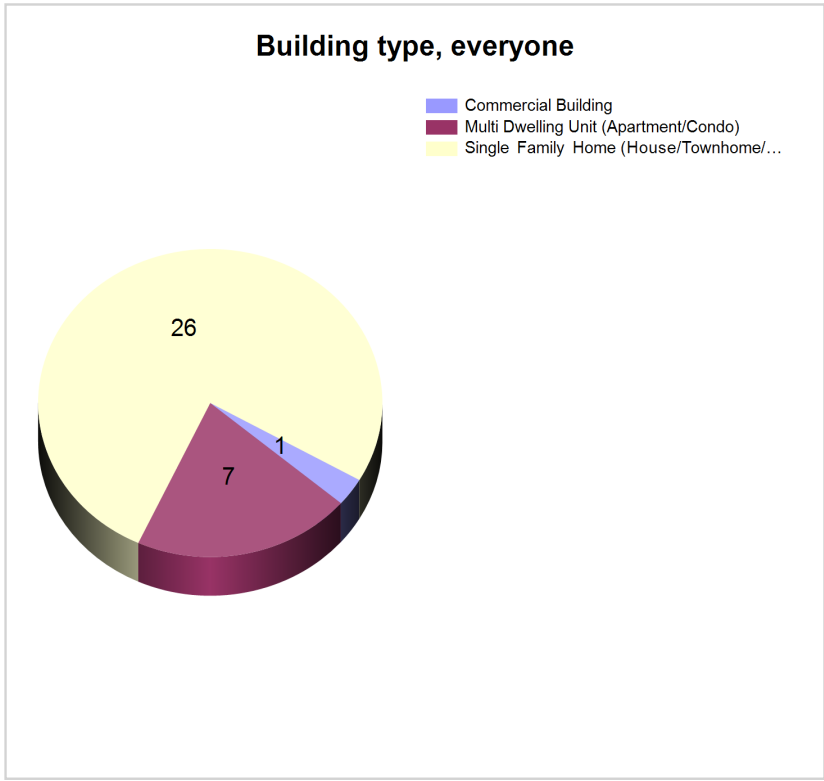
Area:
1.7 sq km (0.7 sq mi)

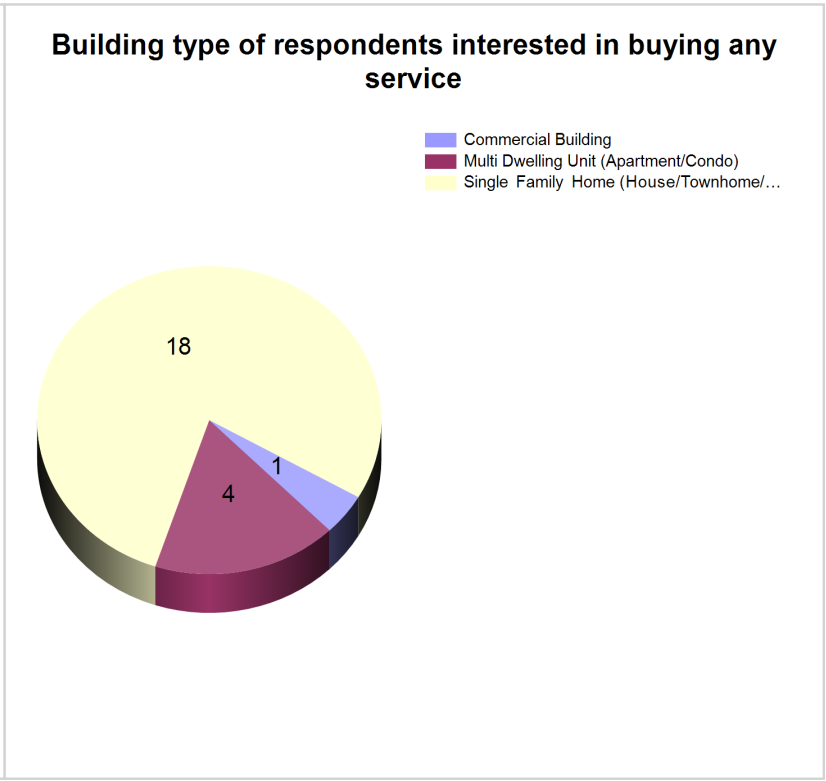
Survey phase started:
1/19/2022 (96 day(s) ago)



Information about respondents

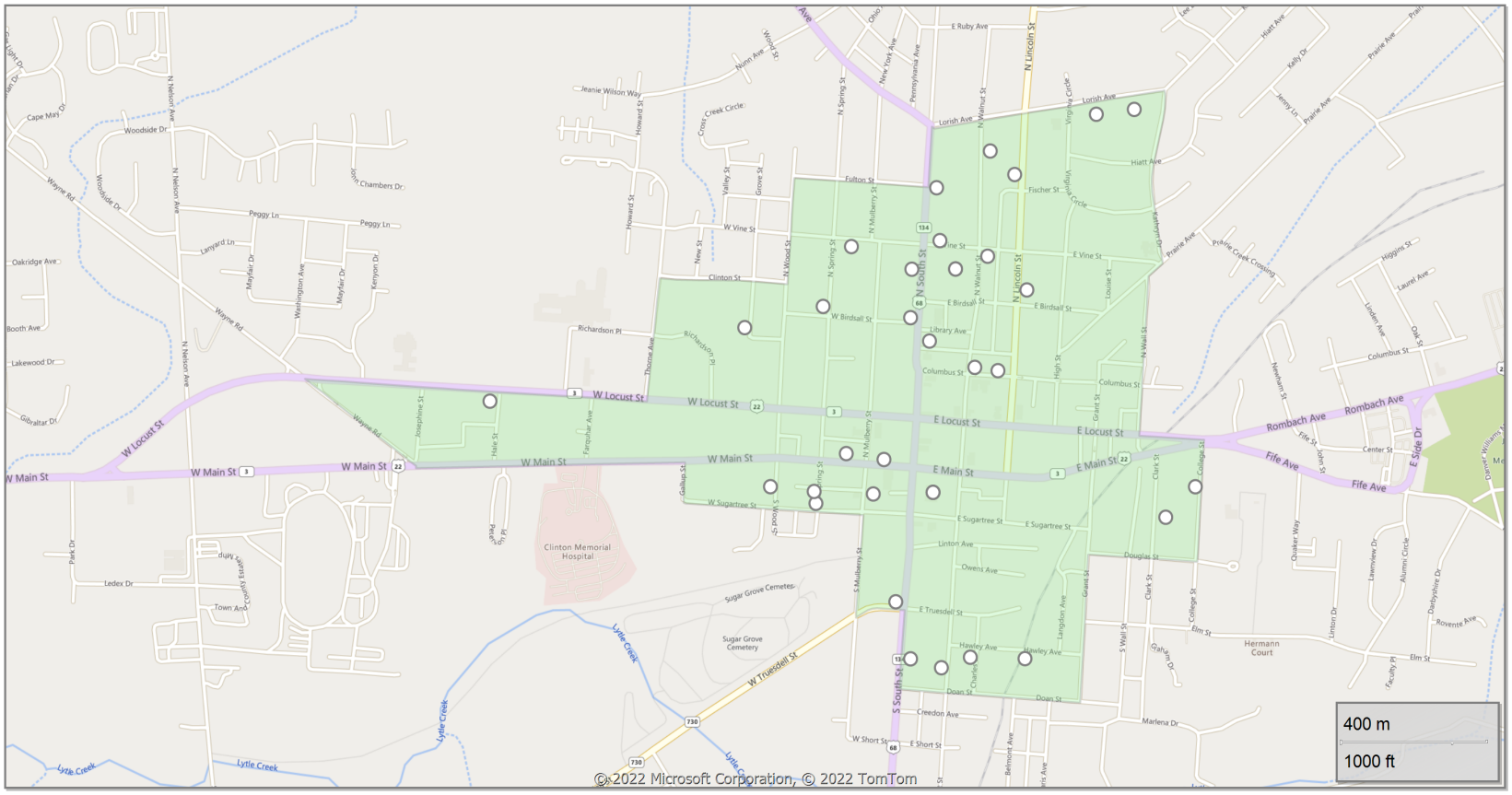
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



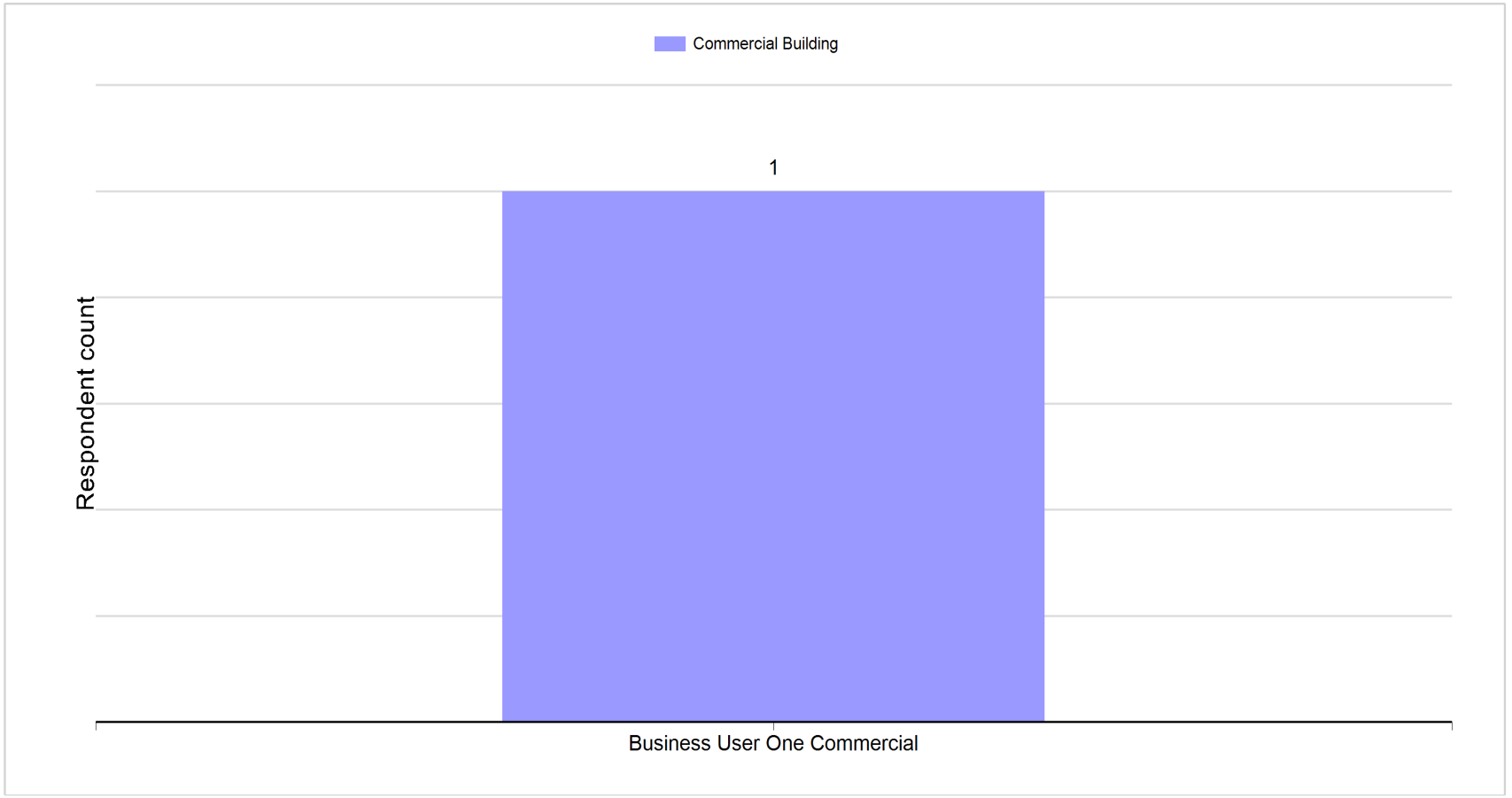


Survey responses on a map

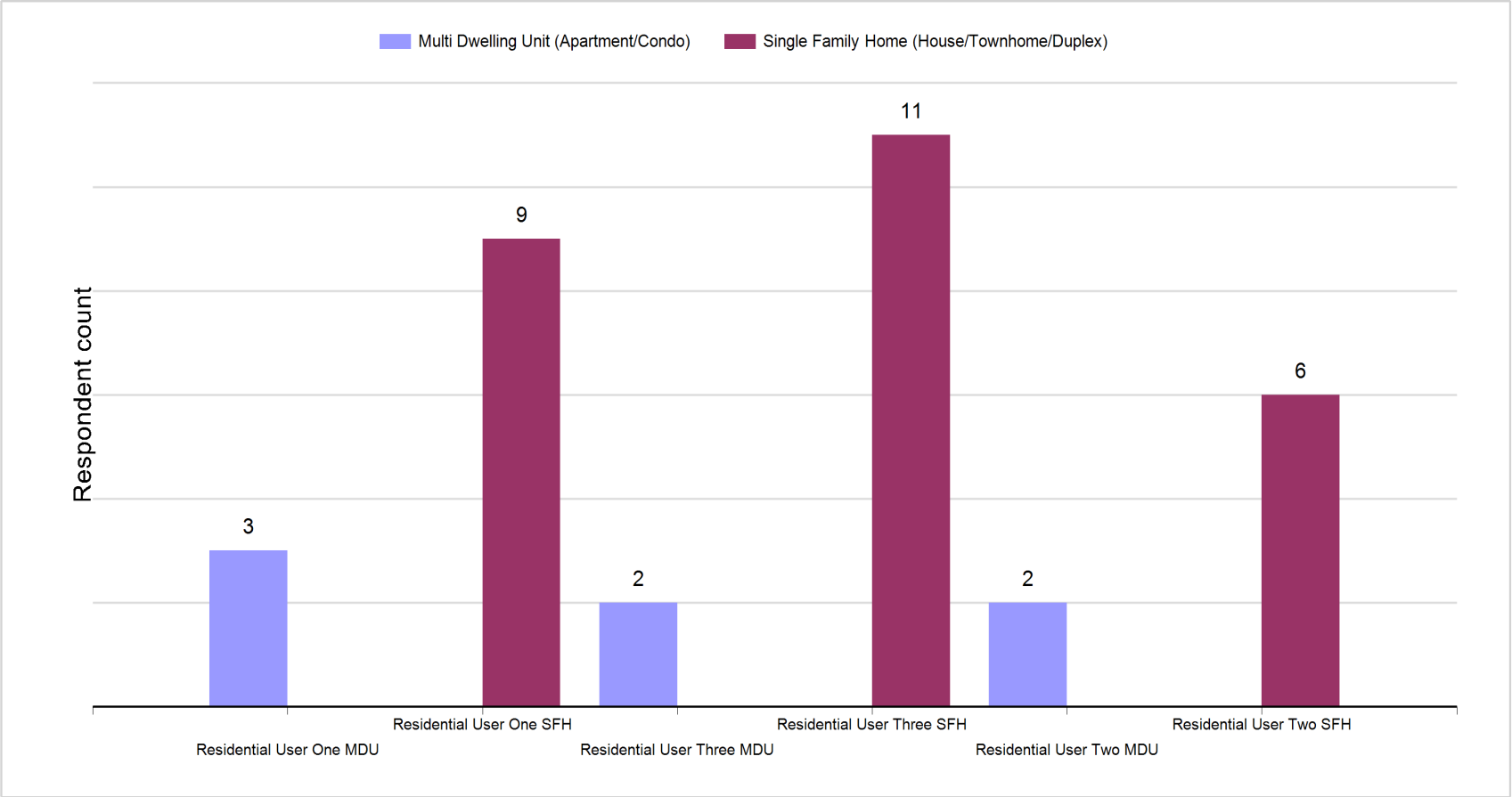
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



Selected service offering - Business

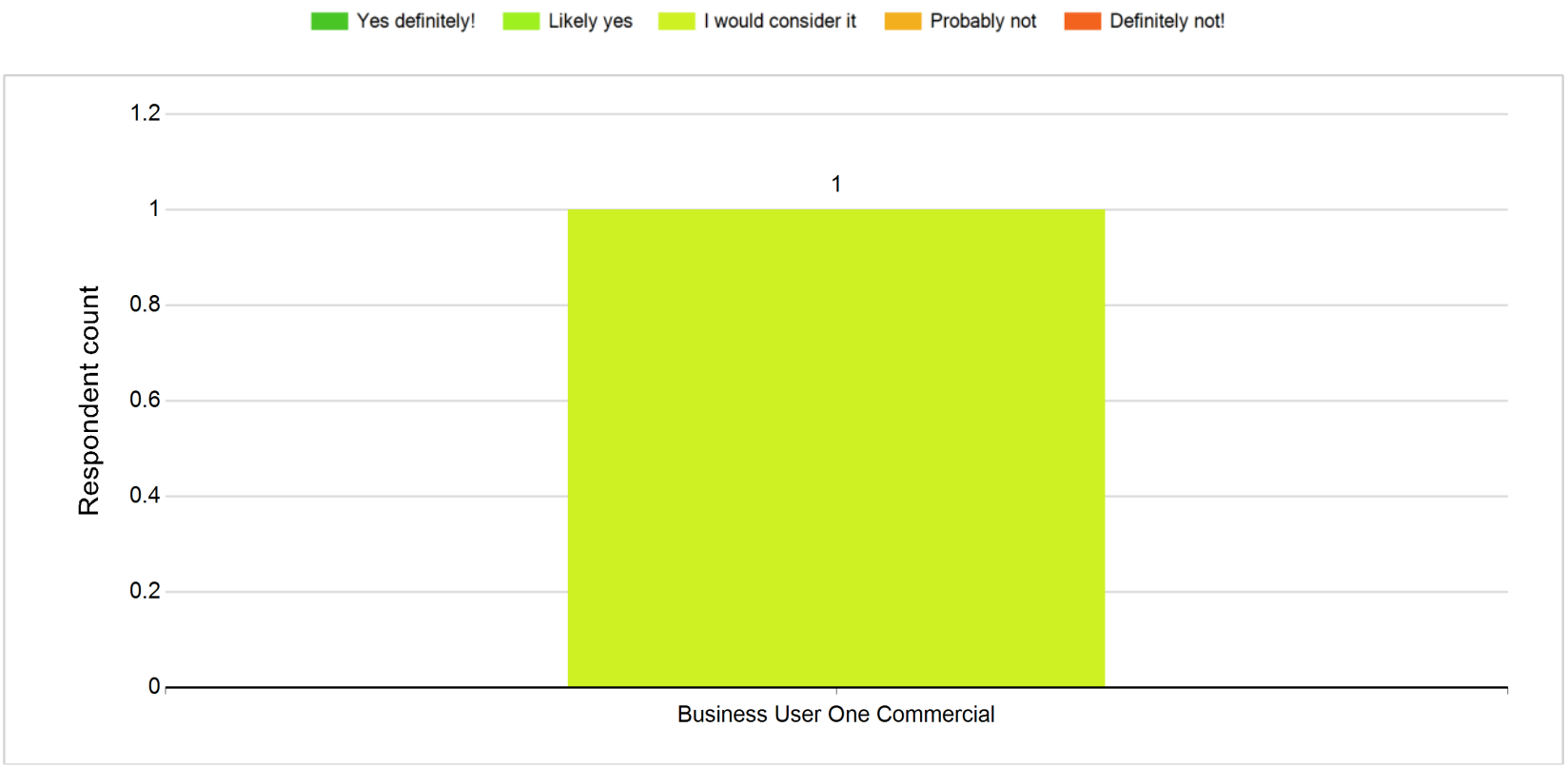


Selected service offering - Residential



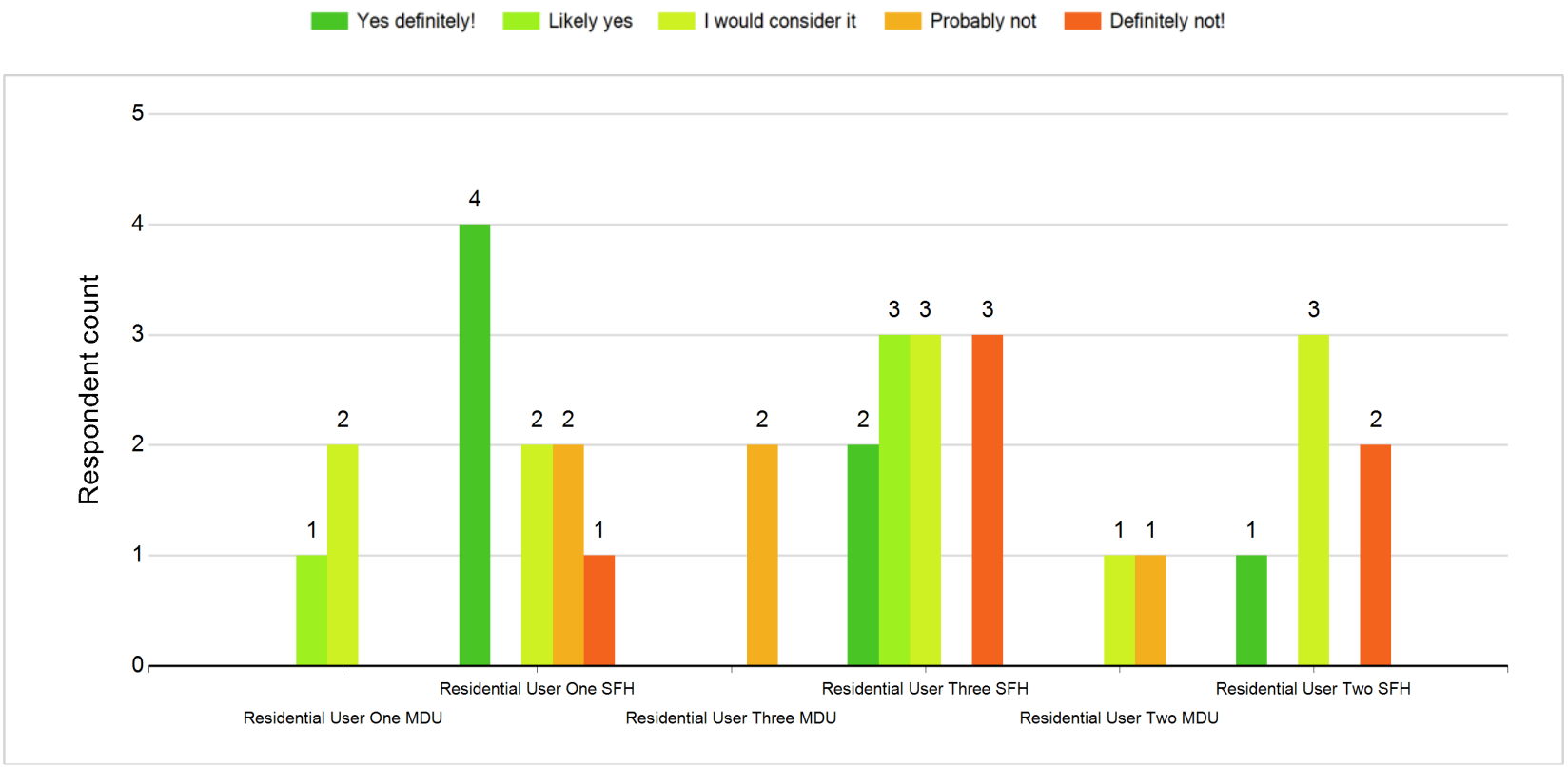
How likely to purchase - Business

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



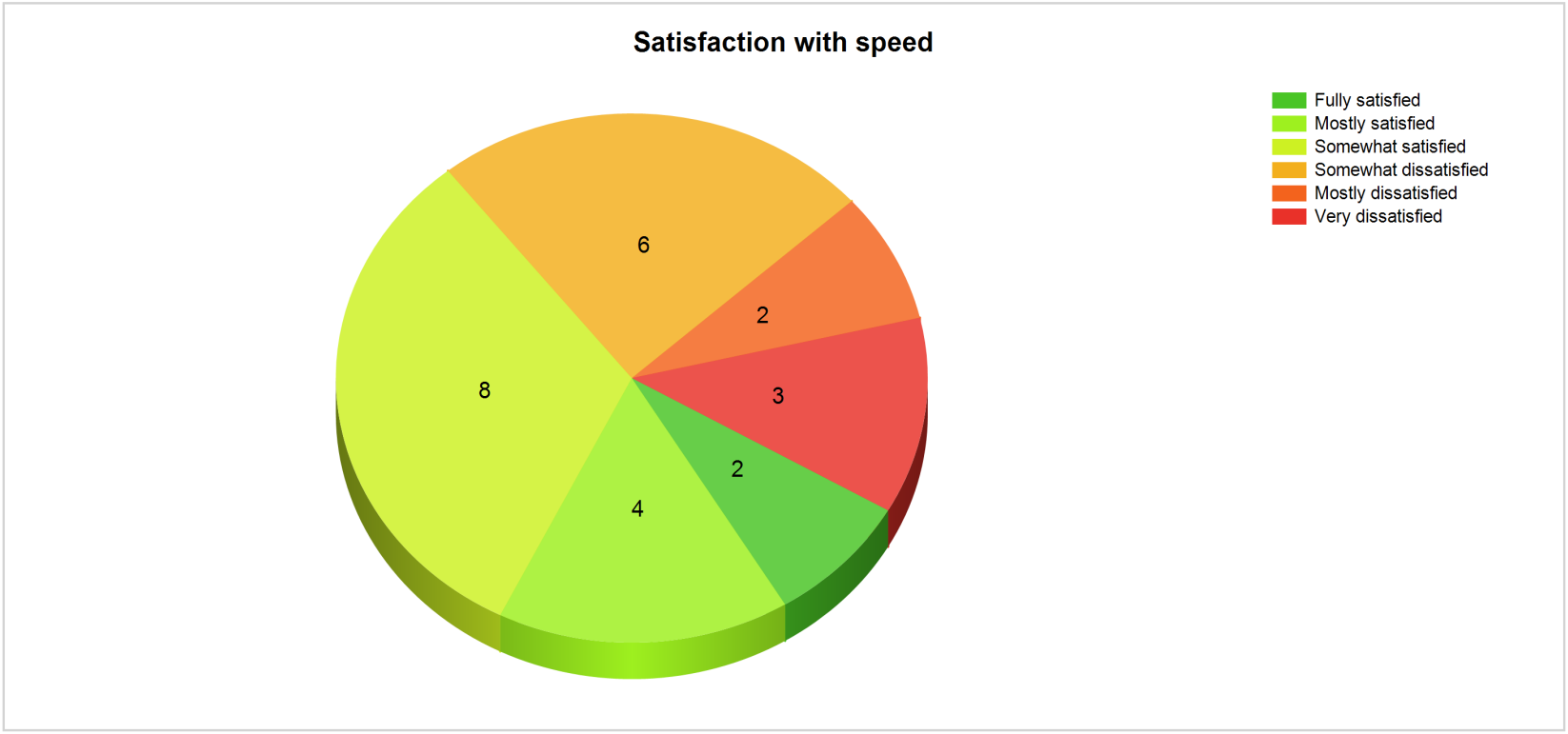
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



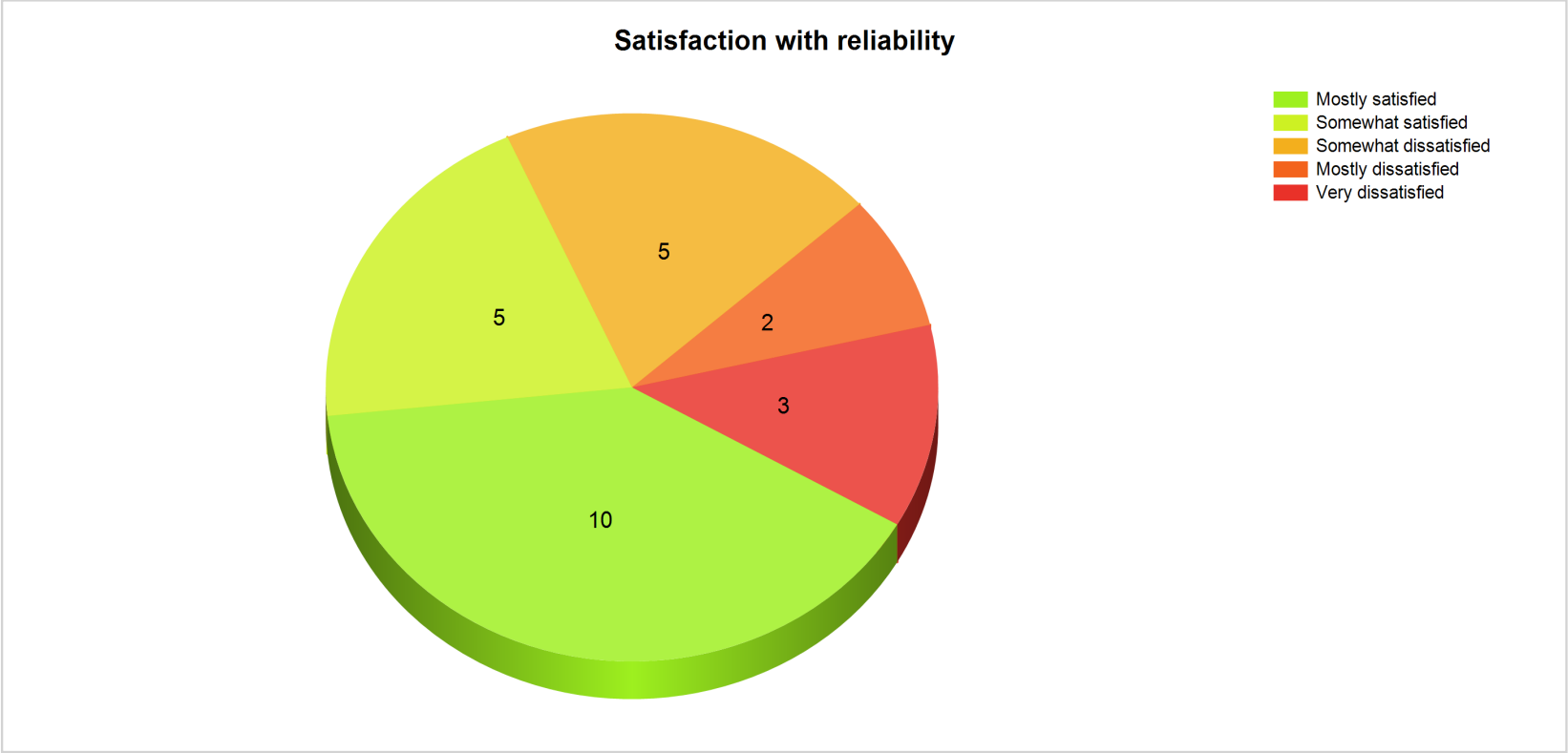
Satisfaction with speed

Of the respondents who currently have Internet service **11 (44.0%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



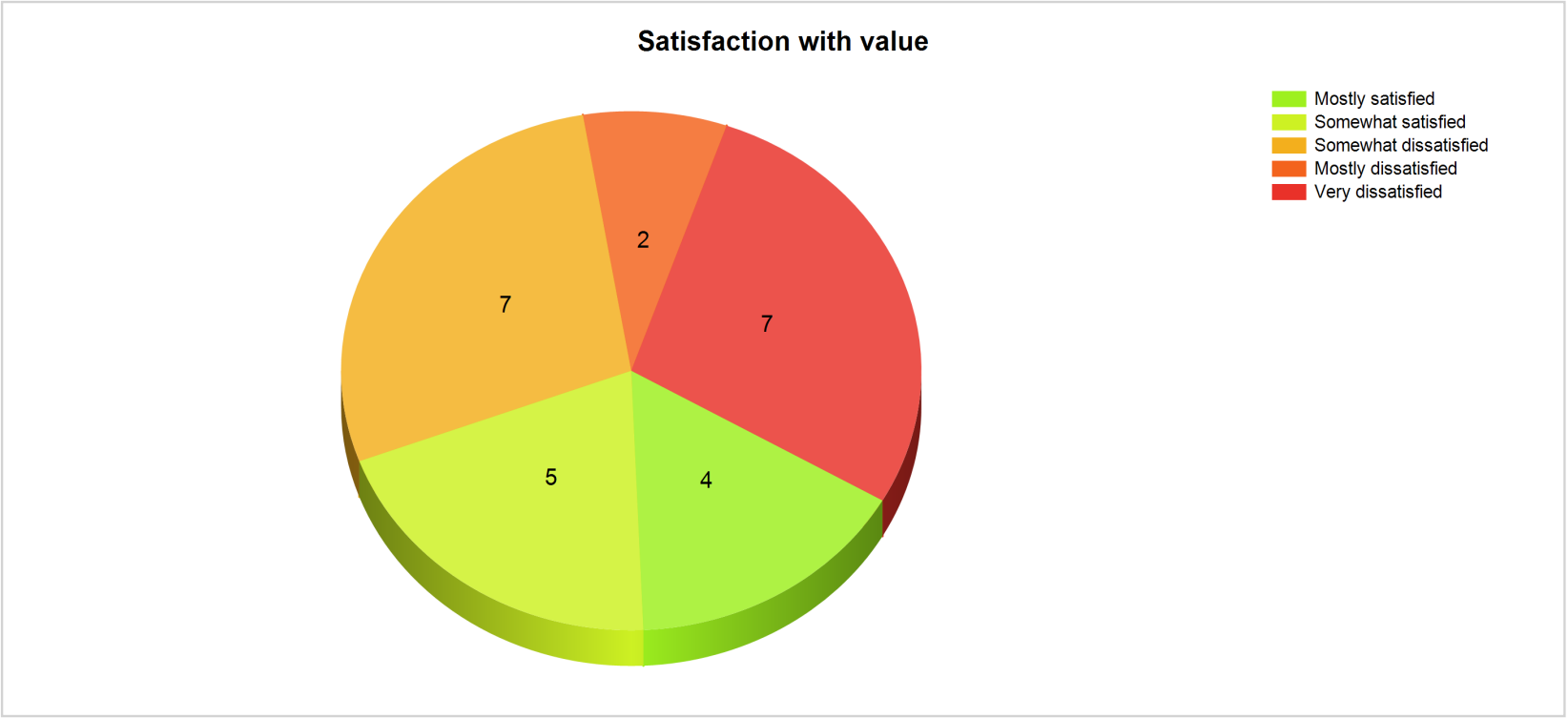
Satisfaction with reliability

Of the respondents who currently have Internet service **10 (40.0%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **16 (64.0%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

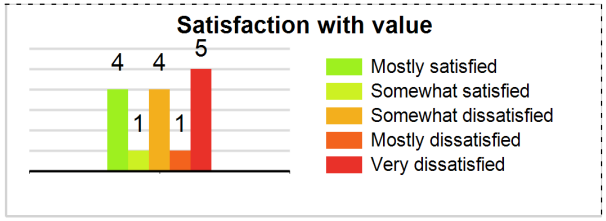
Type:

Count: 15

Satisfied with speed: 66.7%

Satisfied with reliability: 73.3%

Satisfied with value: 33.3% (see graph)



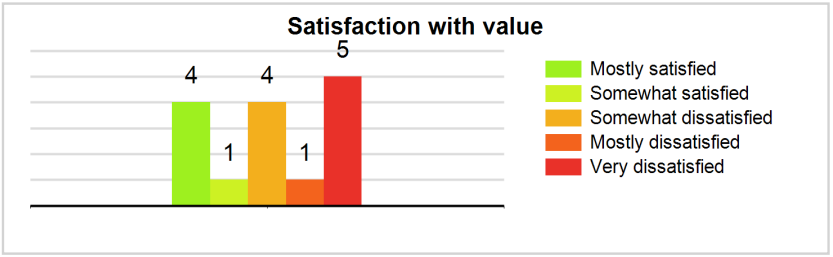
Totals for TWC-10796-MIDWEST, US:

Count: 15

Satisfied with speed: 66.7%

Satisfied with reliability: 73.3%

Satisfied with value: 33.3% (see graph)



FRONTIER-FRTR, US

By survey type:

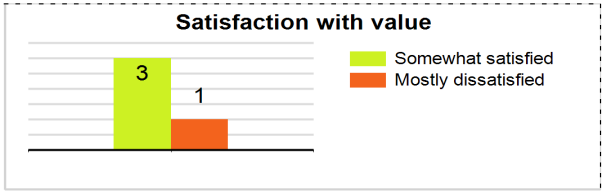
Type:

Count: 4

Satisfied with speed: 50.0%

Satisfied with reliability: 25.0%

Satisfied with value: 75.0% (see graph)



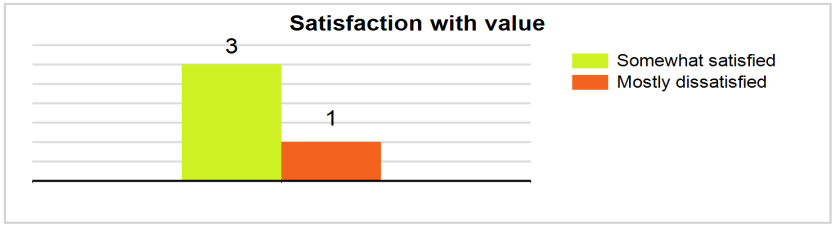
Totals for FRONTIER-FRTR, US:

Count: 4

Satisfied with speed: 50.0%

Satisfied with reliability: 25.0%

Satisfied with value: 75.0% (see graph)



COMCAST-7922, US

By survey type:

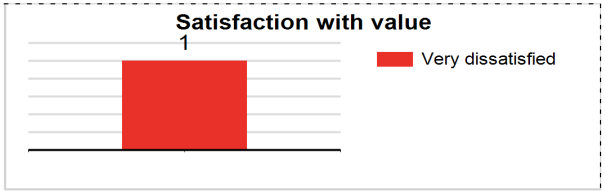
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



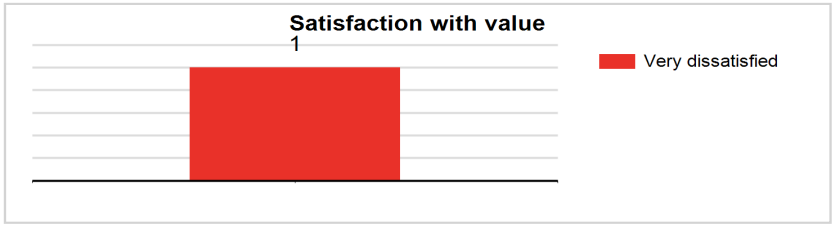
Totals for COMCAST-7922, US:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



RIKSNET, SE

By survey type:

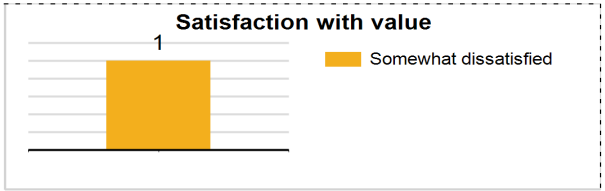
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



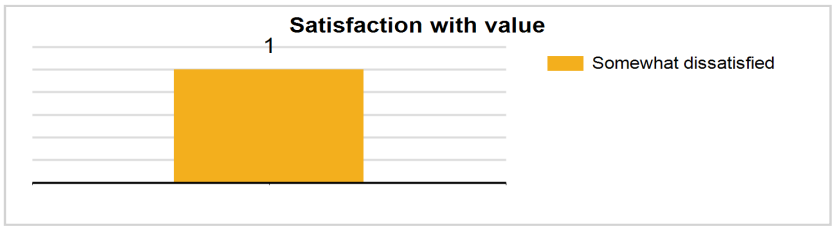
Totals for RIKSNET, SE:

Count: 1

Satisfied with speed: 0.0%

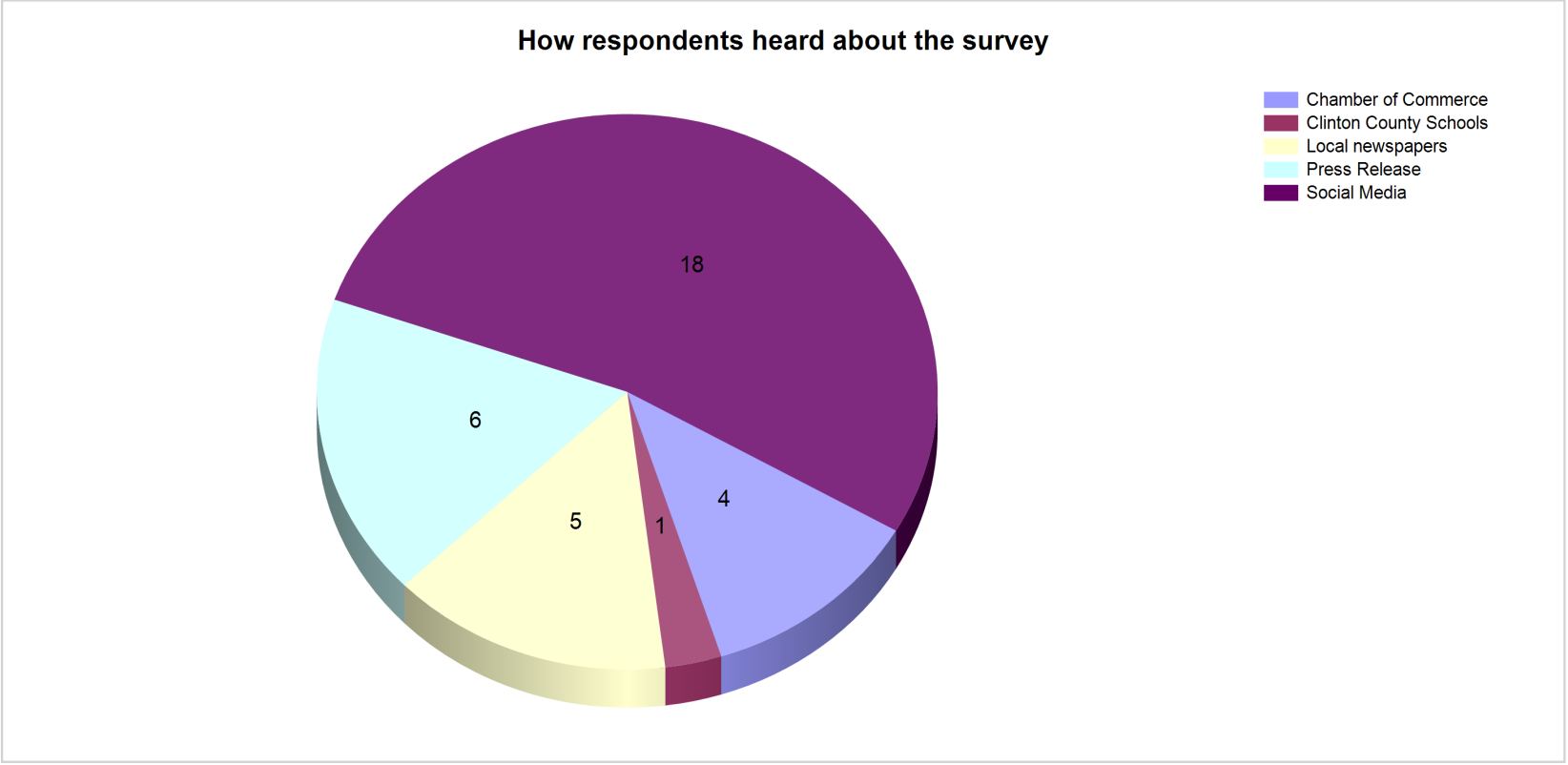
Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)

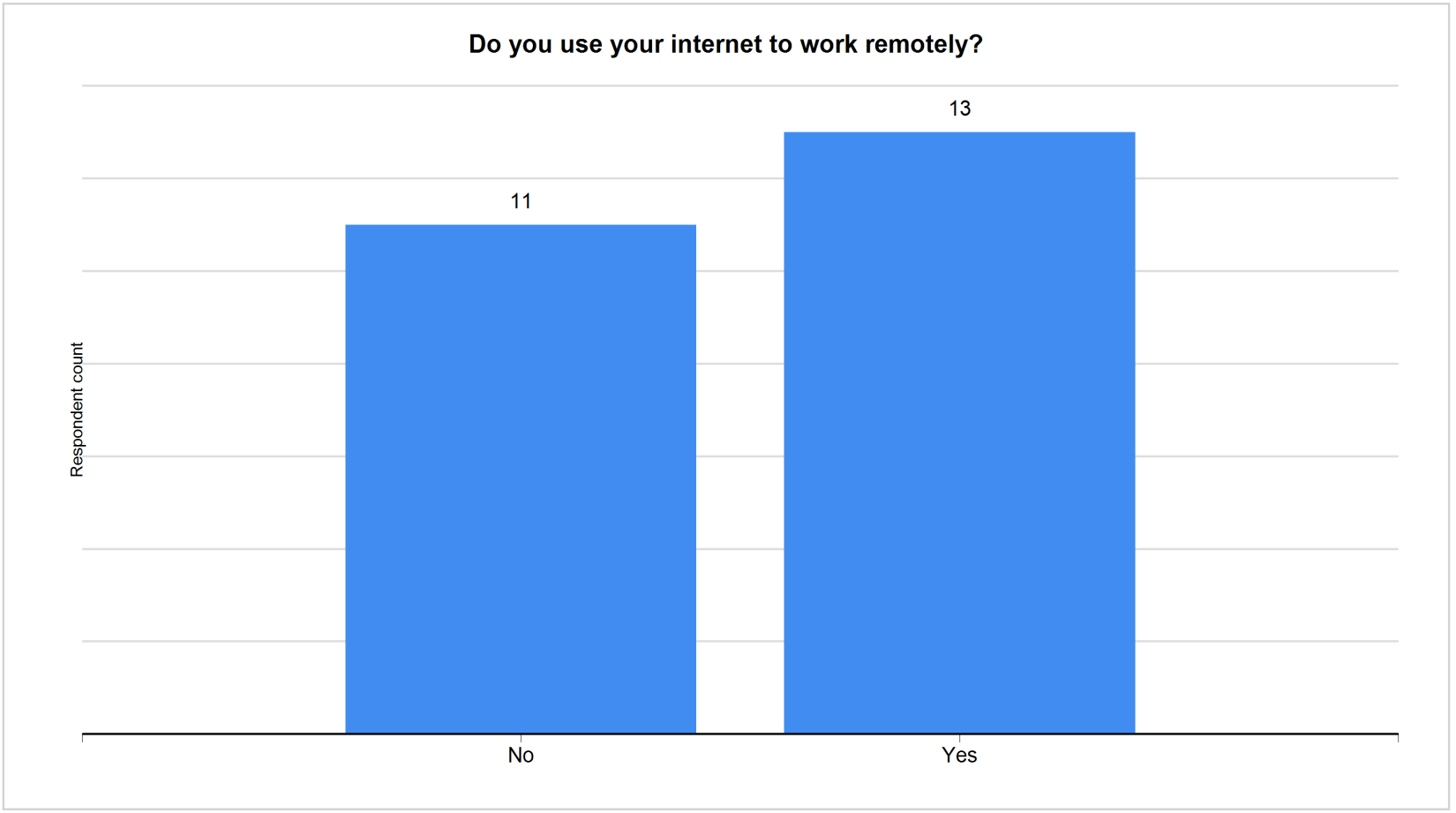


Additional information

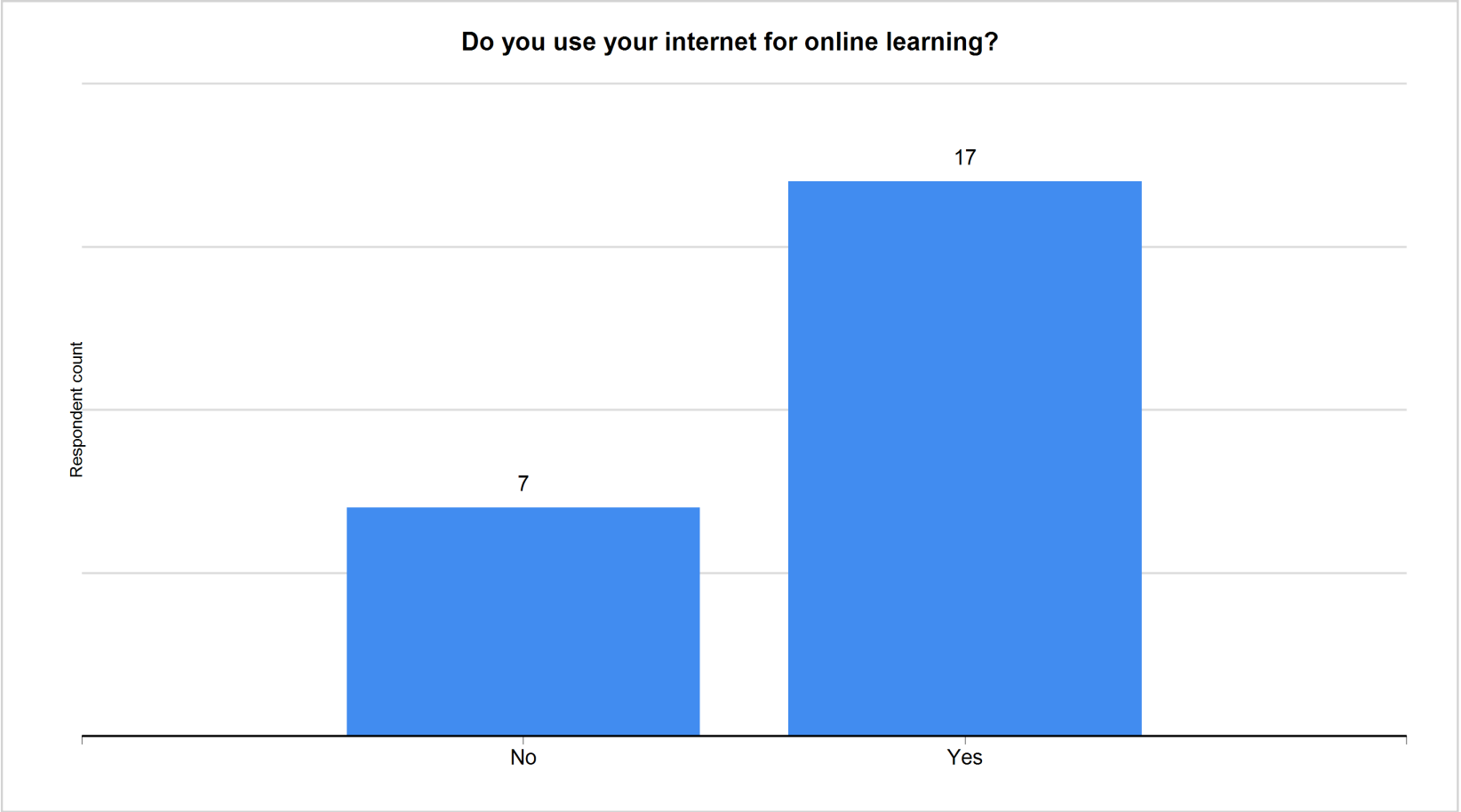
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



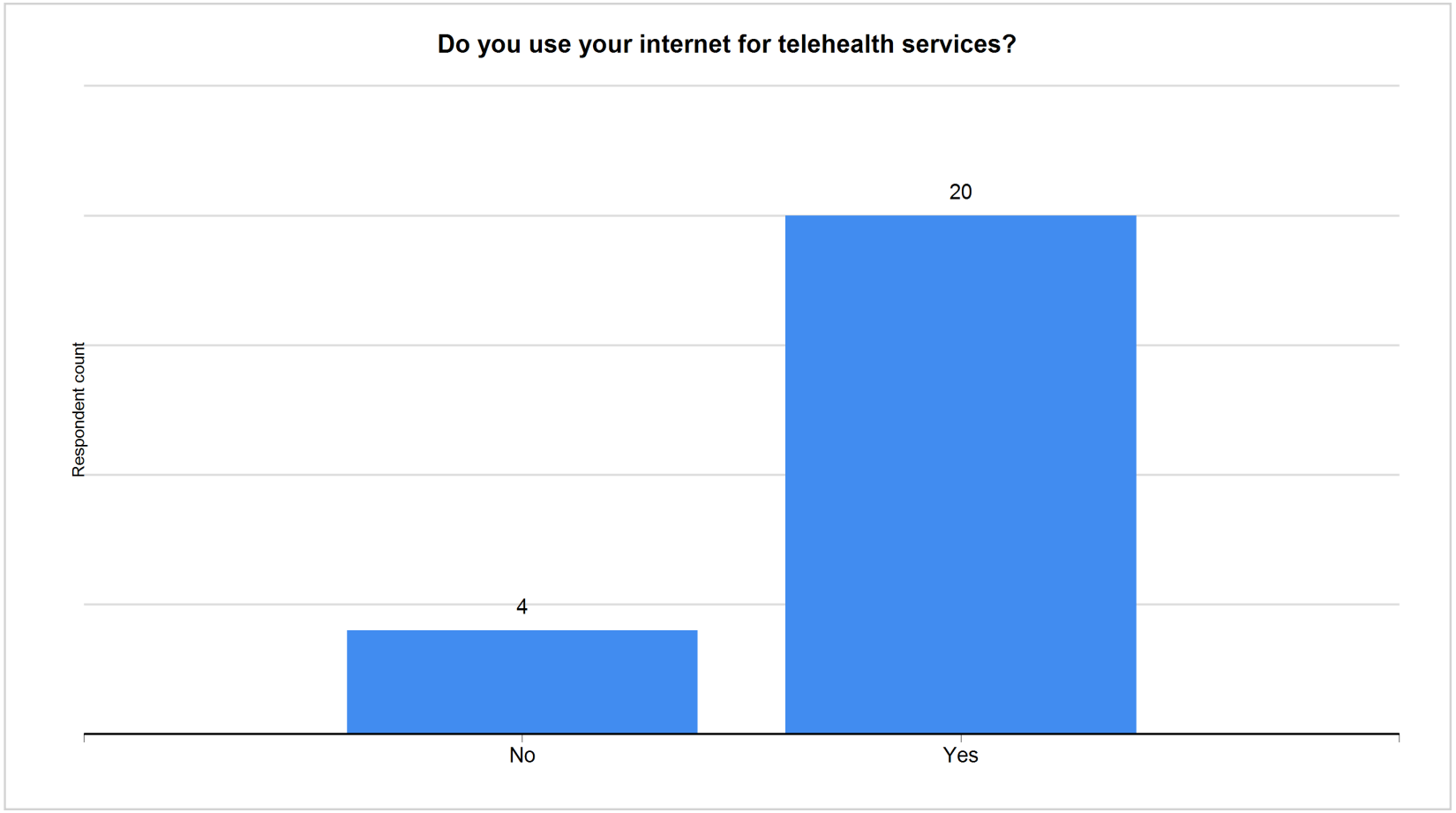
Custom question



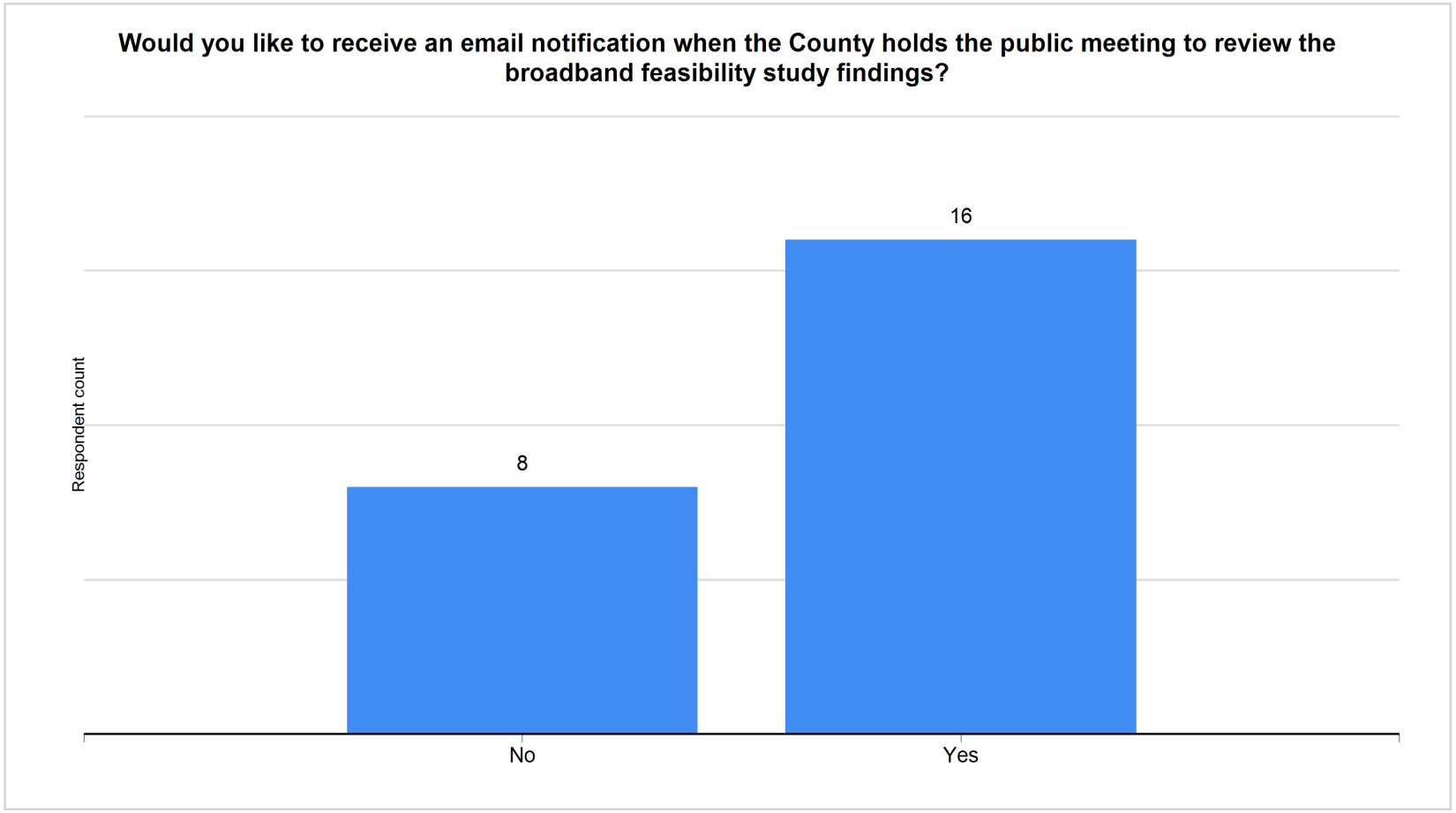
Custom question



Custom question



Custom question



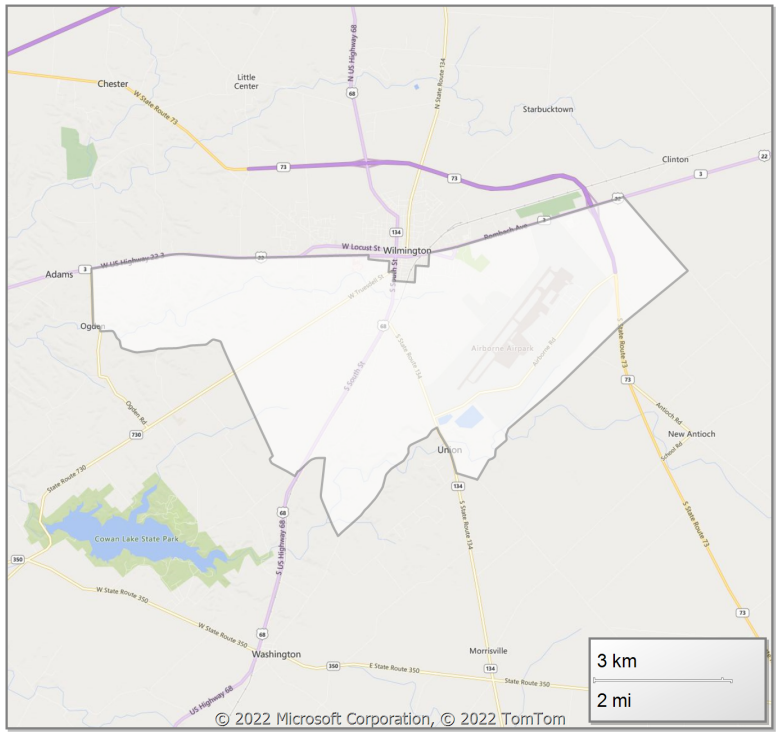
Zone Analyzer™
9647

About 9647

Belongs to service area:
Clinton County

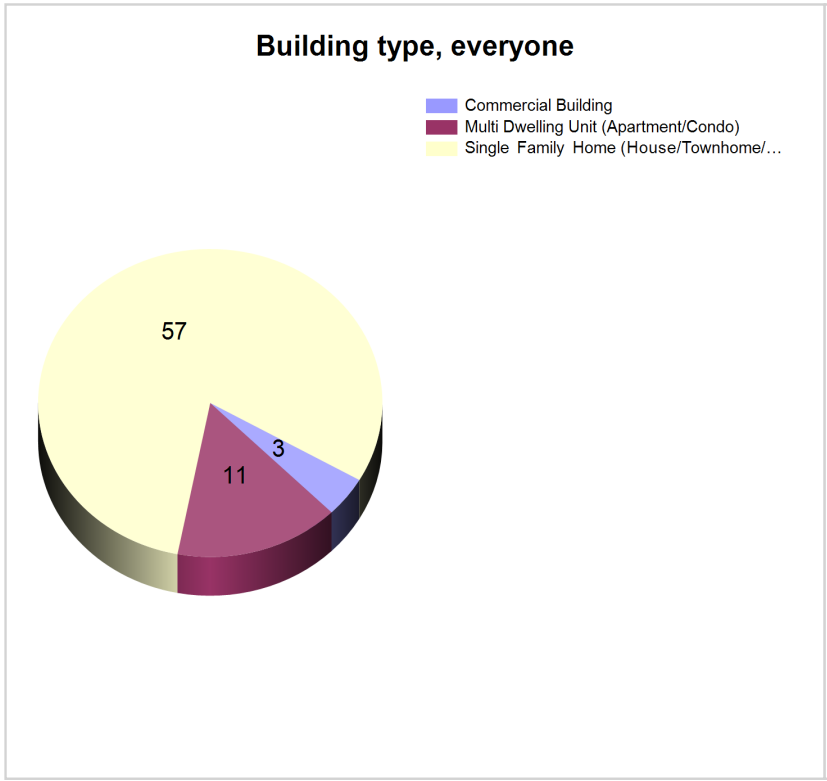
Area:
51.7 sq km (20.0 sq mi)

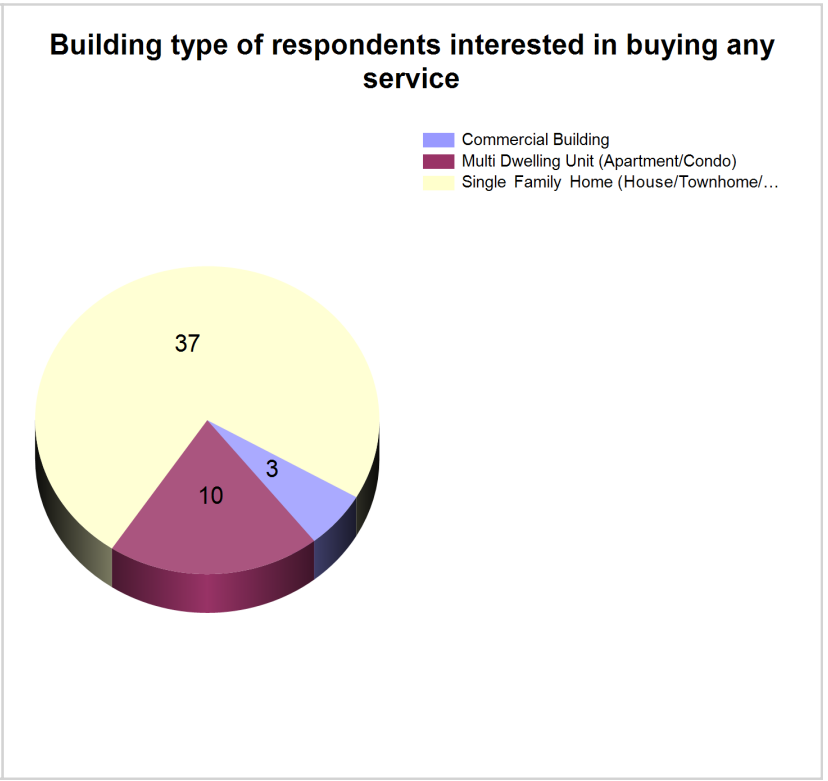
Survey phase started:
1/19/2022 (96 day(s) ago)



Information about respondents

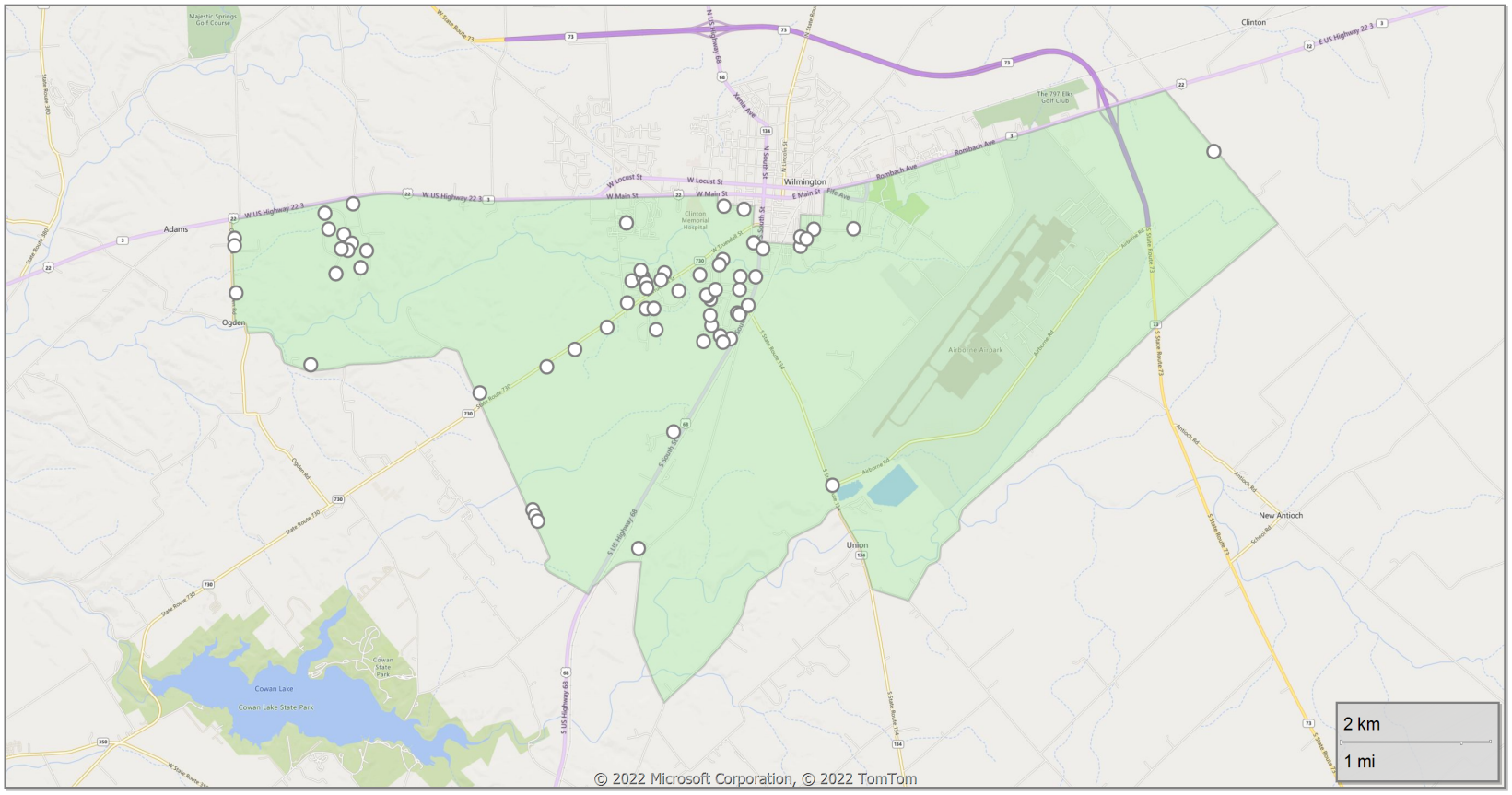
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



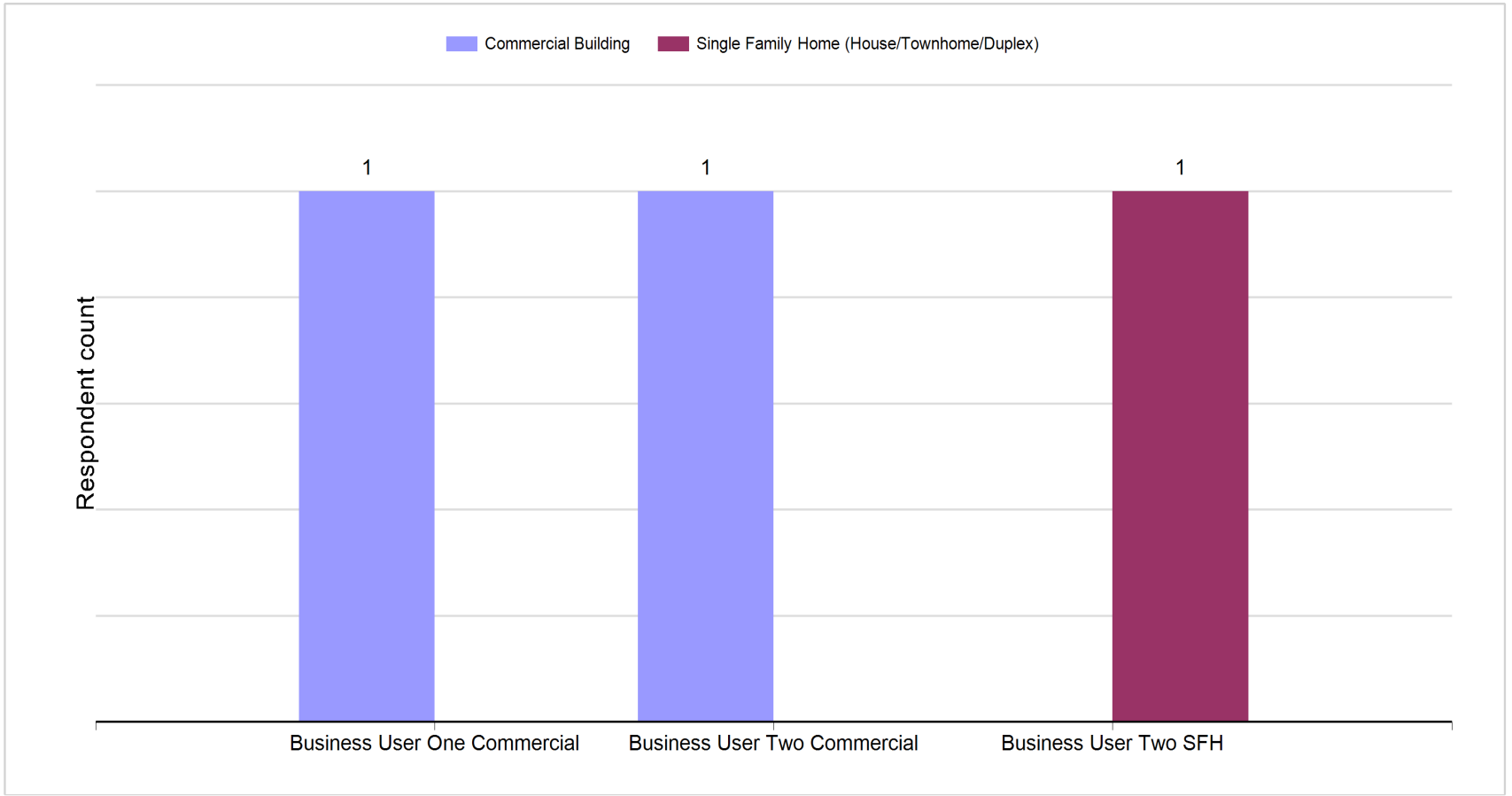


Survey responses on a map

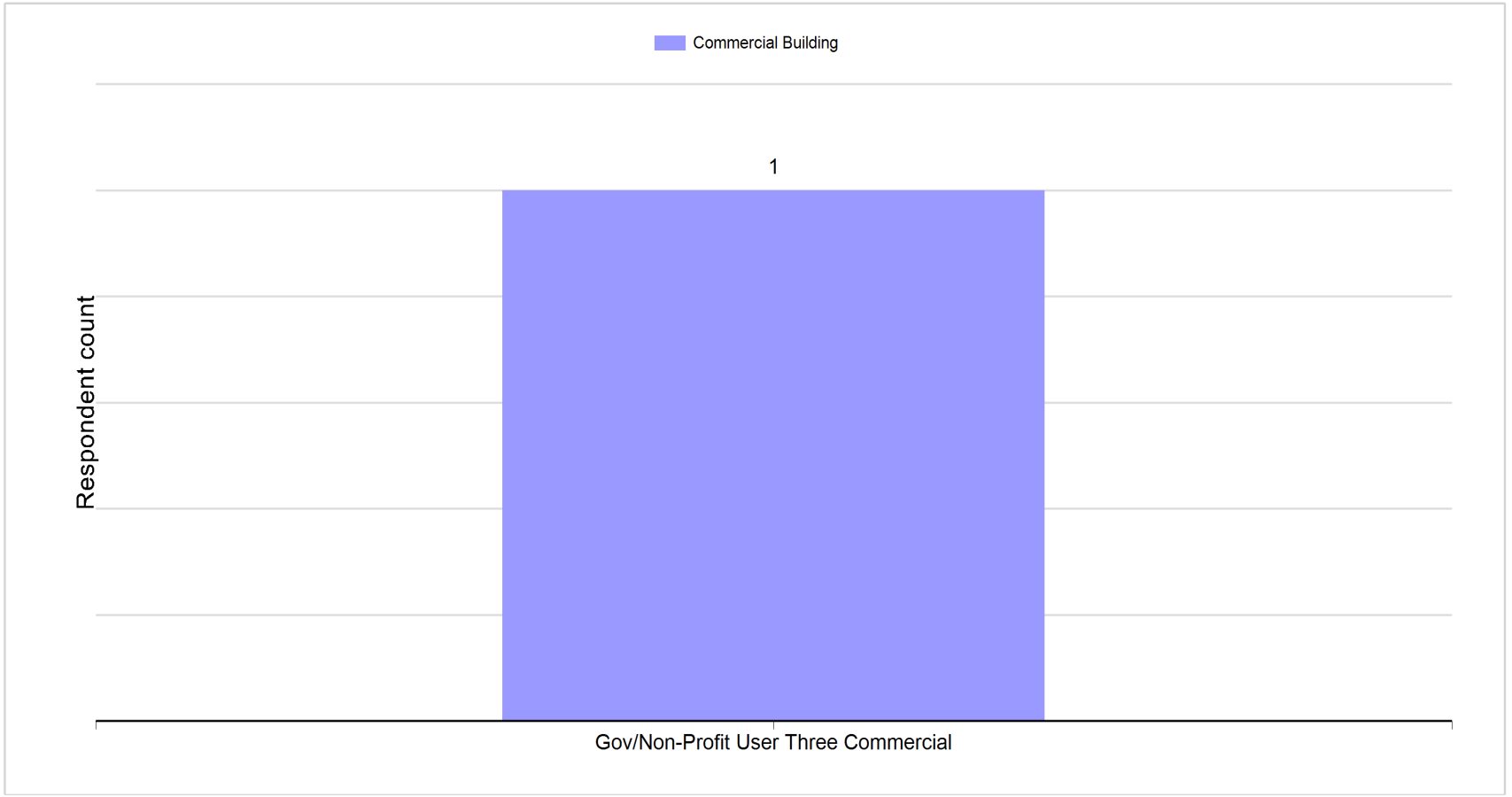
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



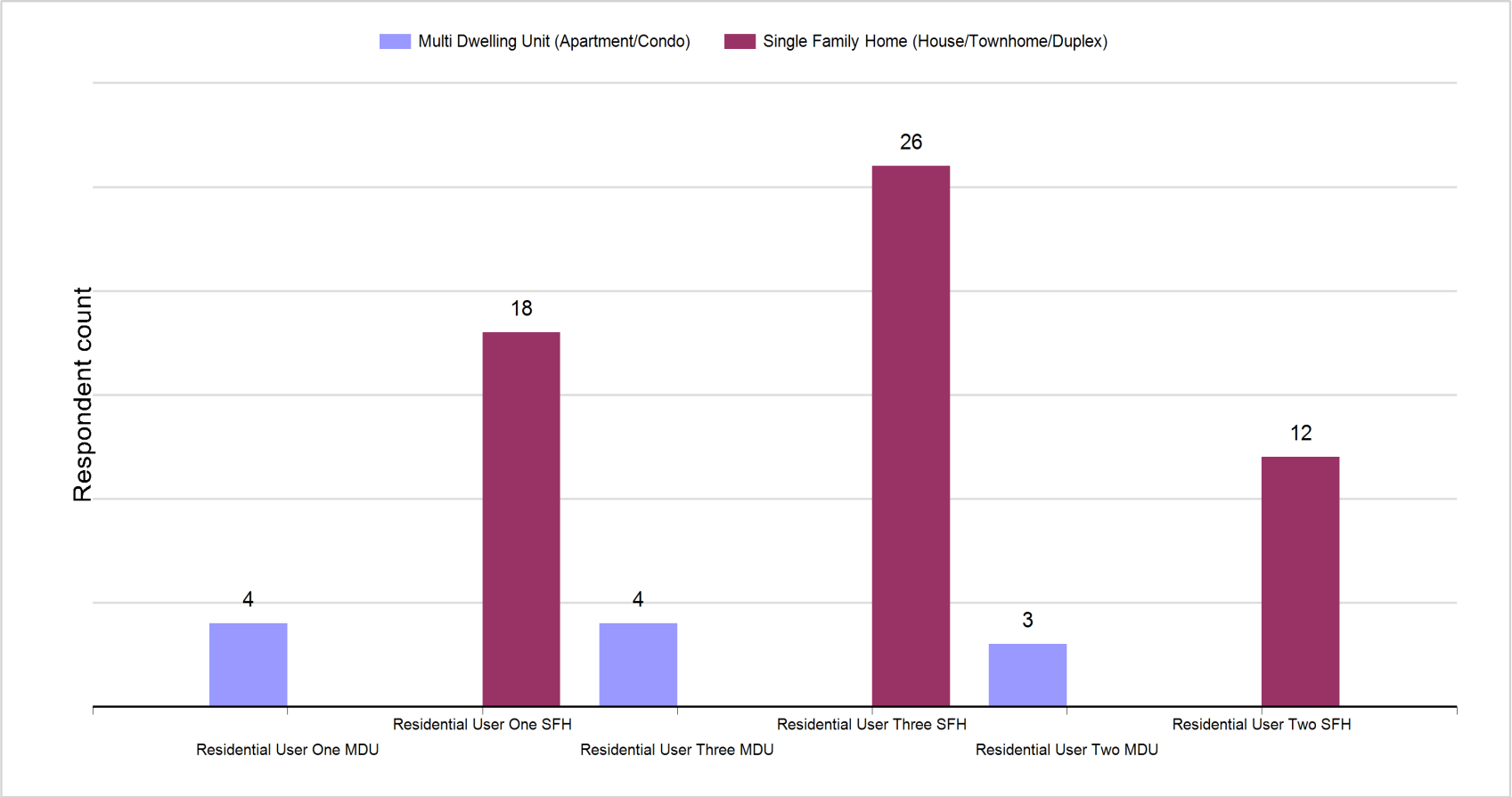
Selected service offering - Business



Selected service offering - Government/Non-Profit Organization

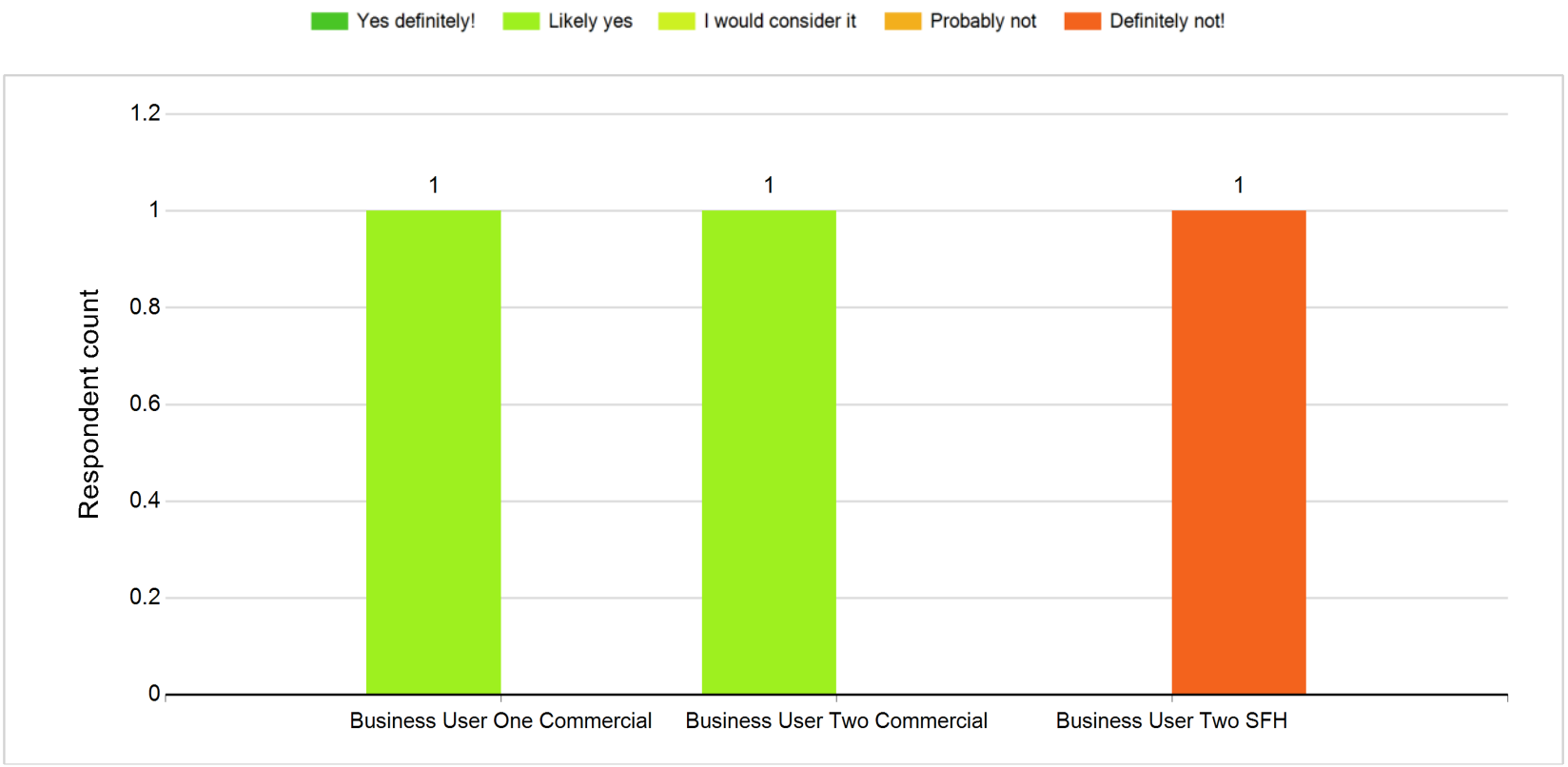


Selected service offering - Residential



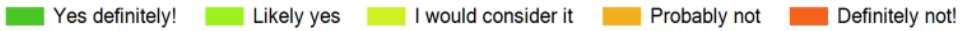
How likely to purchase - Business

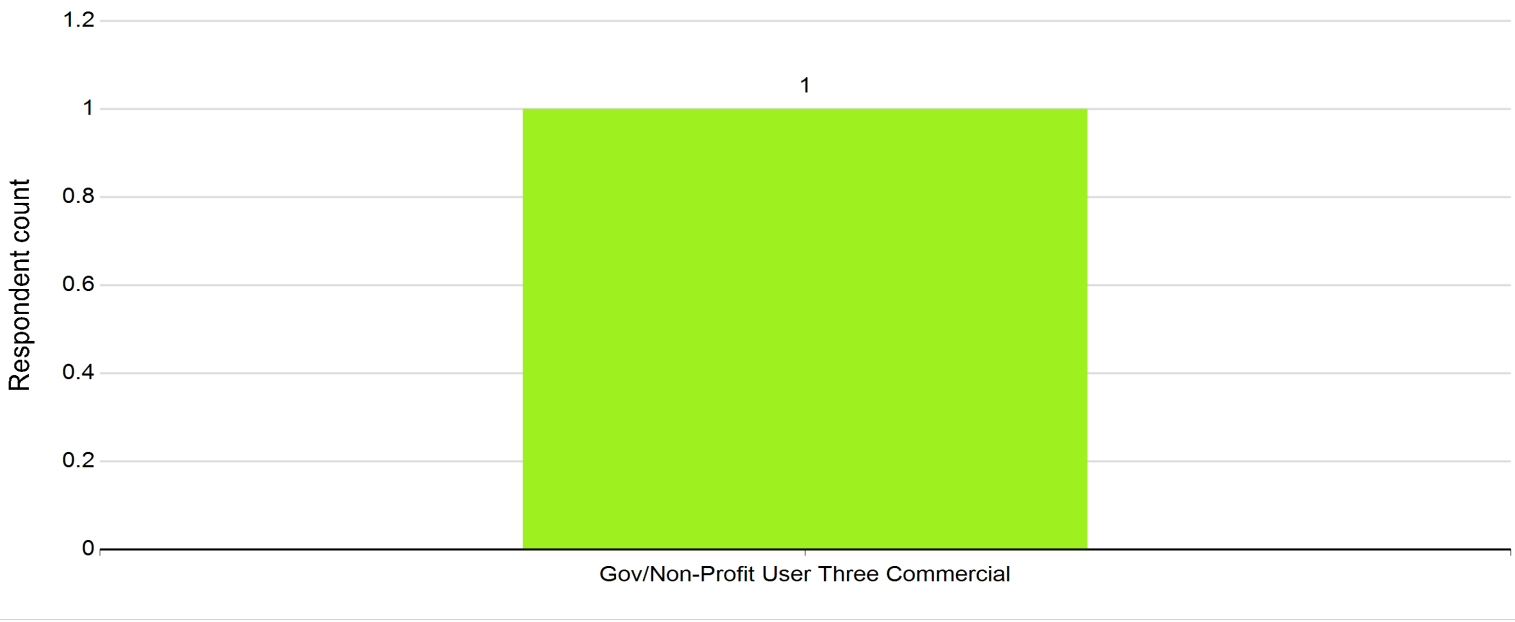
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



How likely to purchase - Government/Non-Profit Organization

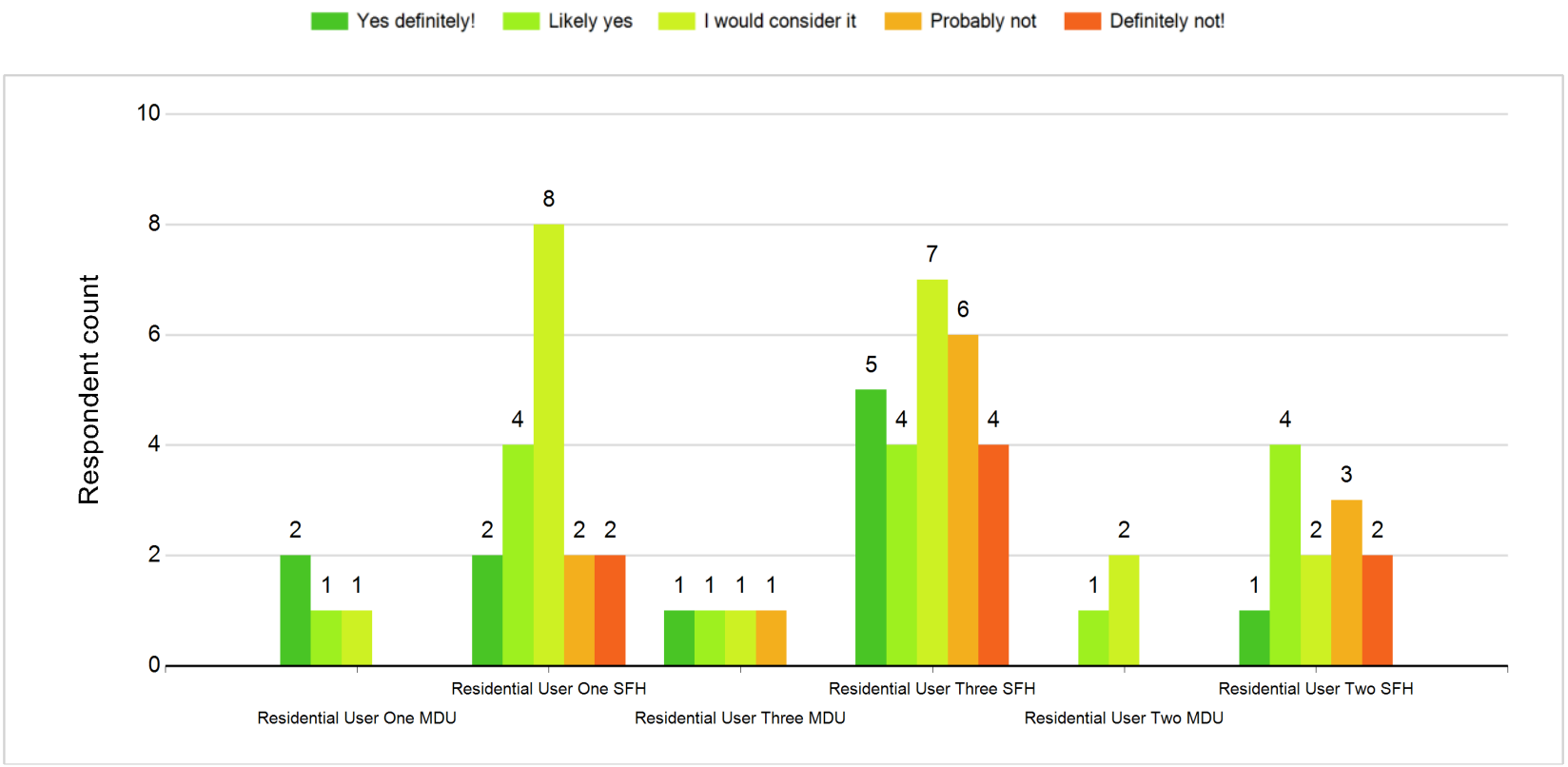
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.





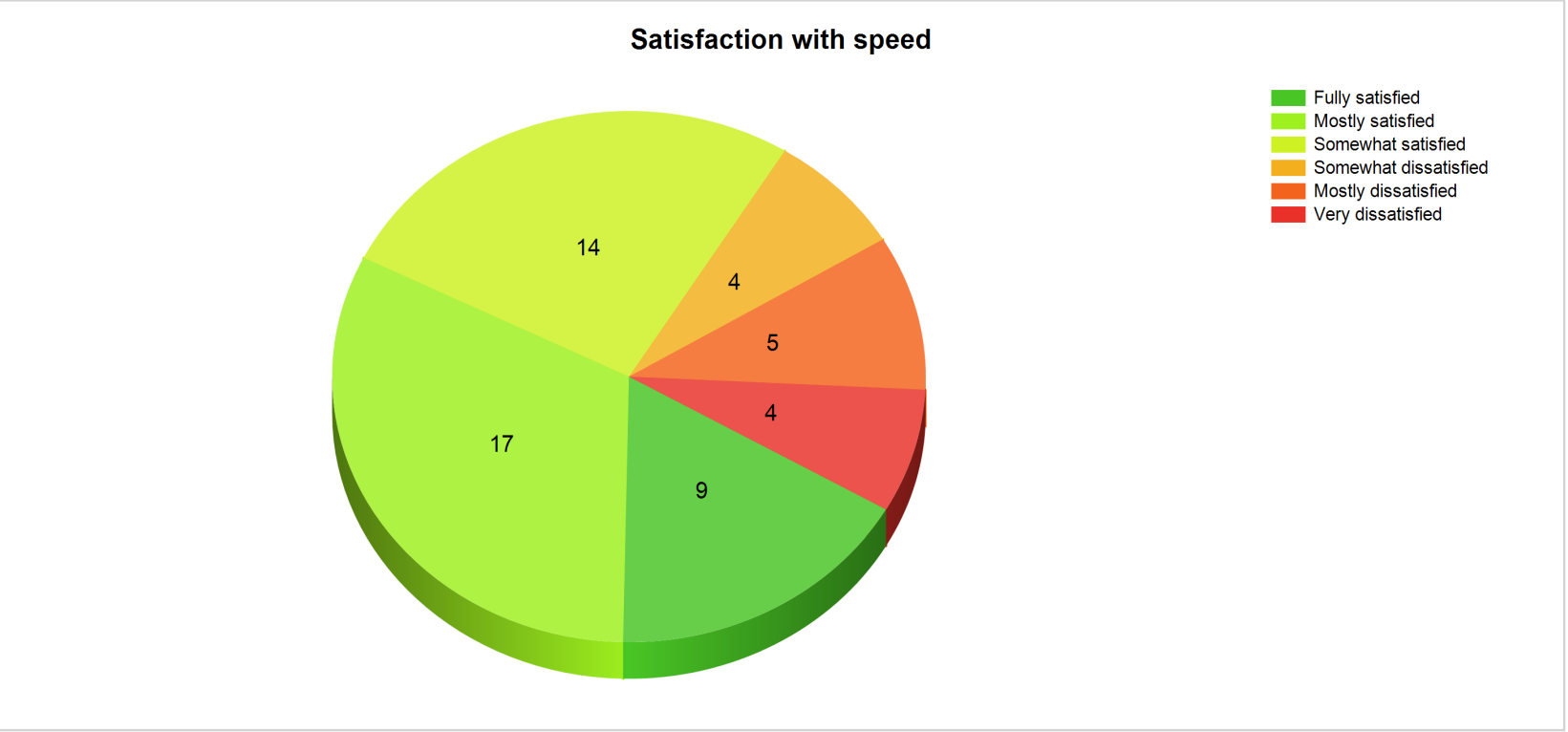
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



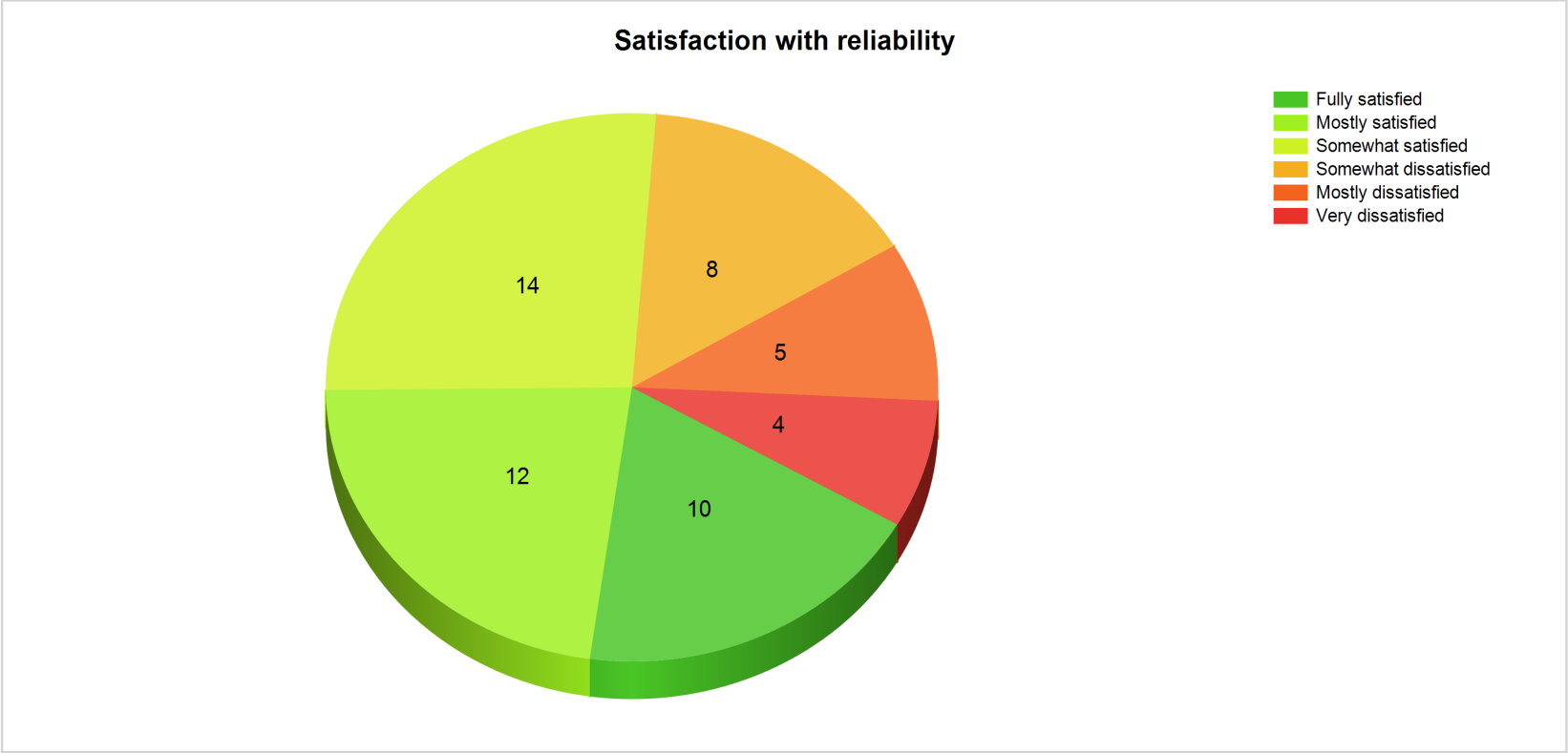
Satisfaction with speed

Of the respondents who currently have Internet service **13 (24.5%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



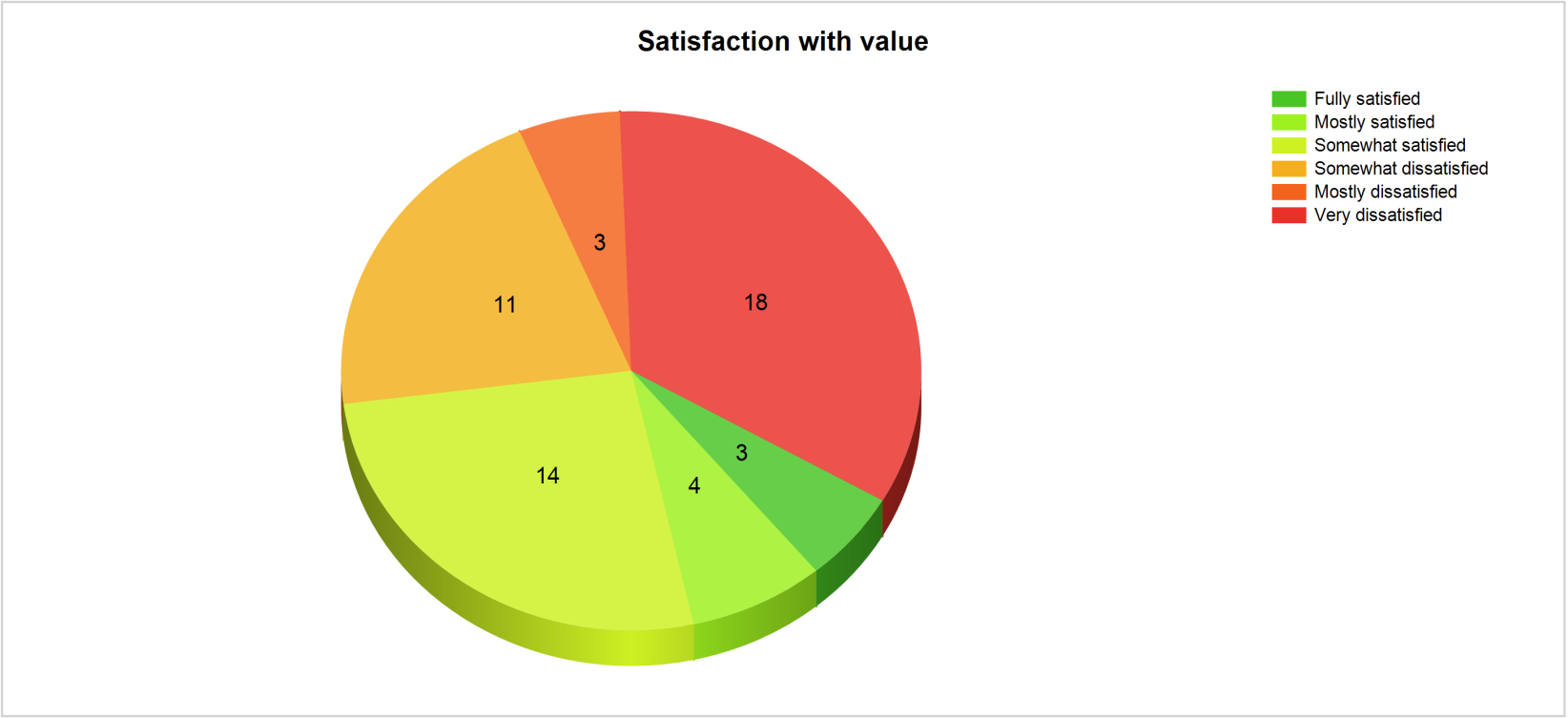
Satisfaction with reliability

Of the respondents who currently have Internet service **17 (32.1%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **32 (60.4%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

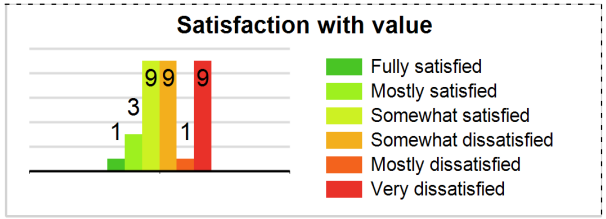
Type:

Count: 32

Satisfied with speed: 75.0%

Satisfied with reliability: 62.5%

Satisfied with value: 40.6% (see graph)



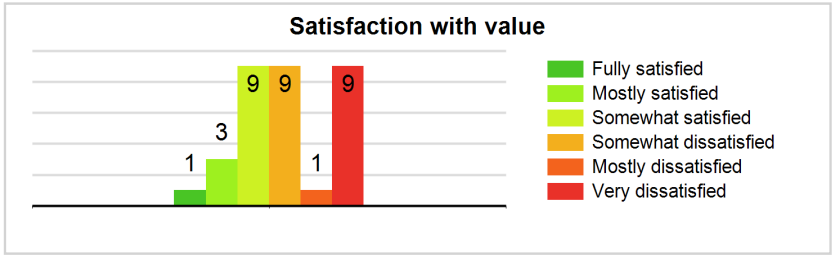
Totals for TWC-10796-MIDWEST, US:

Count: 32

Satisfied with speed: 75.0%

Satisfied with reliability: 62.5%

Satisfied with value: 40.6% (see graph)



FRONTIER-FRTR, US

By survey type:

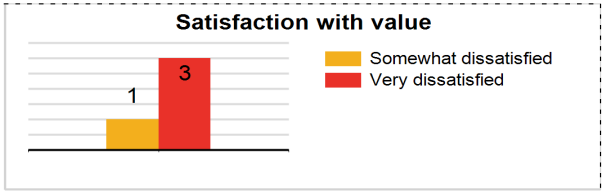
Type:

Count: 4

Satisfied with speed: 0.0%

Satisfied with reliability: 25.0%

Satisfied with value: 0.0% (see graph)



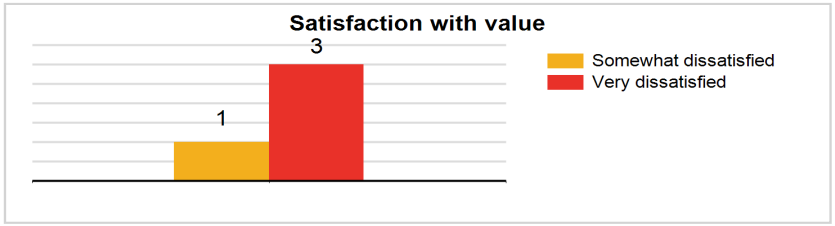
Totals for FRONTIER-FRTR, US:

Count: 4

Satisfied with speed: 0.0%

Satisfied with reliability: 25.0%

Satisfied with value: 0.0% (see graph)



CELLCO-PART, US

By survey type:

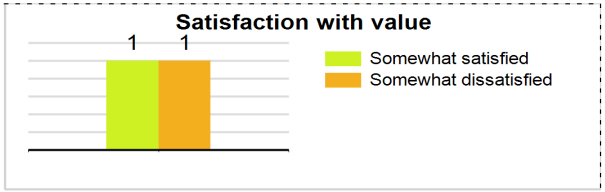
Type:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 100.0%

Satisfied with value: 50.0% (see graph)



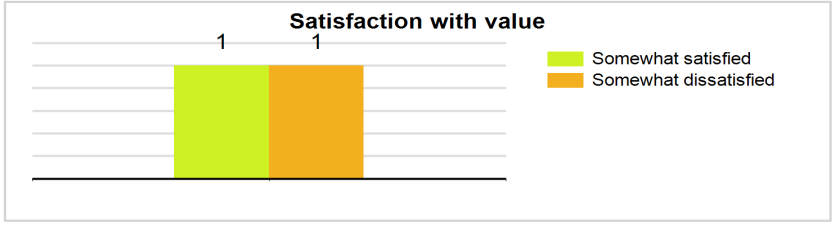
Totals for CELLCO-PART, US:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 100.0%

Satisfied with value: 50.0% (see graph)



LVLT-3549, US

By survey type:

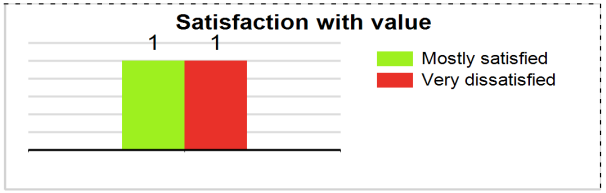
Type:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



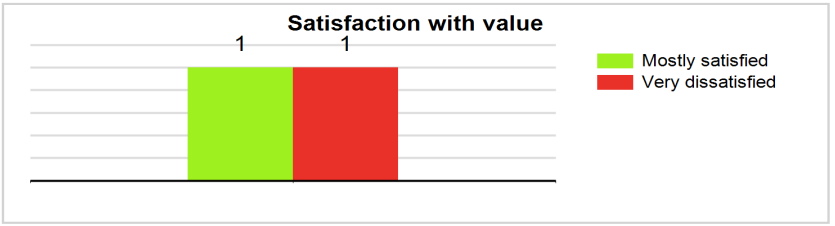
Totals for LVLT-3549, US:

Count: 2

Satisfied with speed: 100.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



ATT-INTERNET4, US

By survey type:

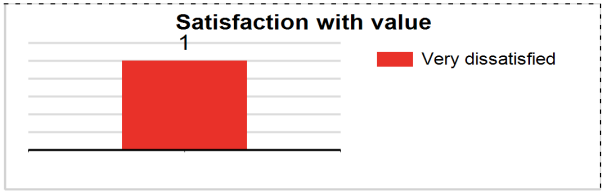
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



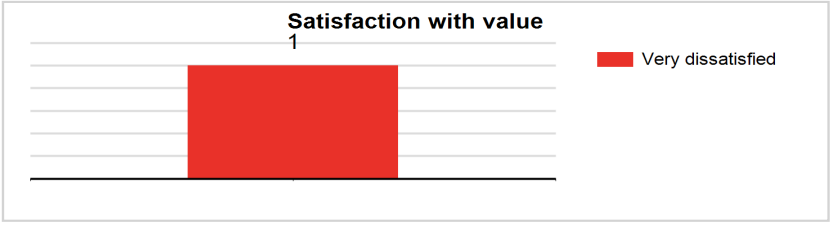
Totals for ATT-INTERNET4, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



AVAST-AS-DC, CZ

By survey type:

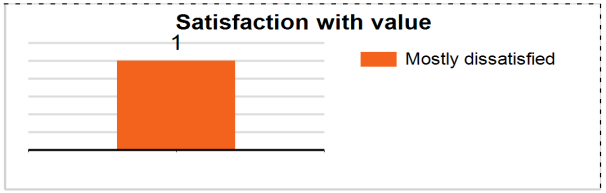
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



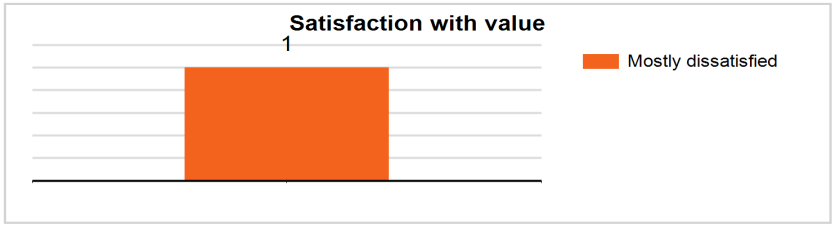
Totals for AVAST-AS-DC, CZ:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



CATHOLIC-HEALTHCARE-PARTNERS, US

By survey type:

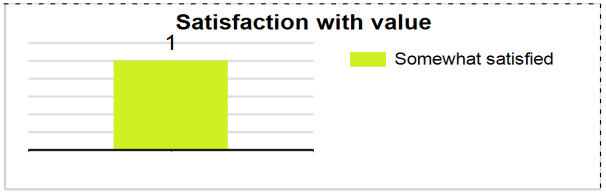
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



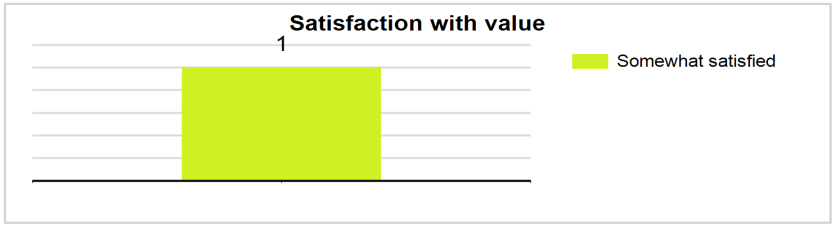
Totals for CATHOLIC-HEALTHCARE-PARTNERS, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



LEASEWEB-USA-PHX, US

By survey type:

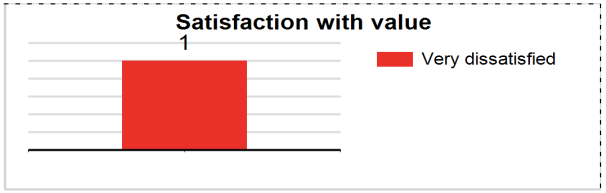
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



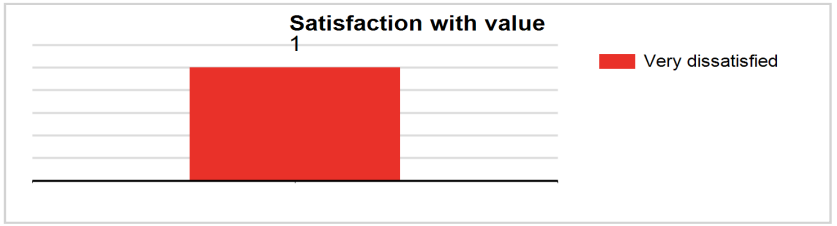
Totals for LEASEWEB-USA-PHX, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



NEXEON, US

By survey type:

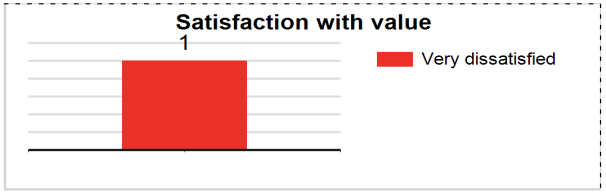
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)



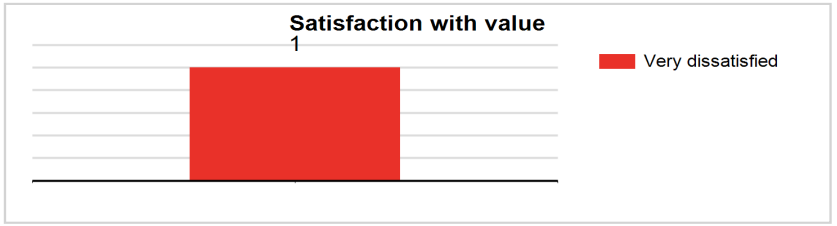
Totals for NEXEON, US:

Count: 1

Satisfied with speed: 100.0%

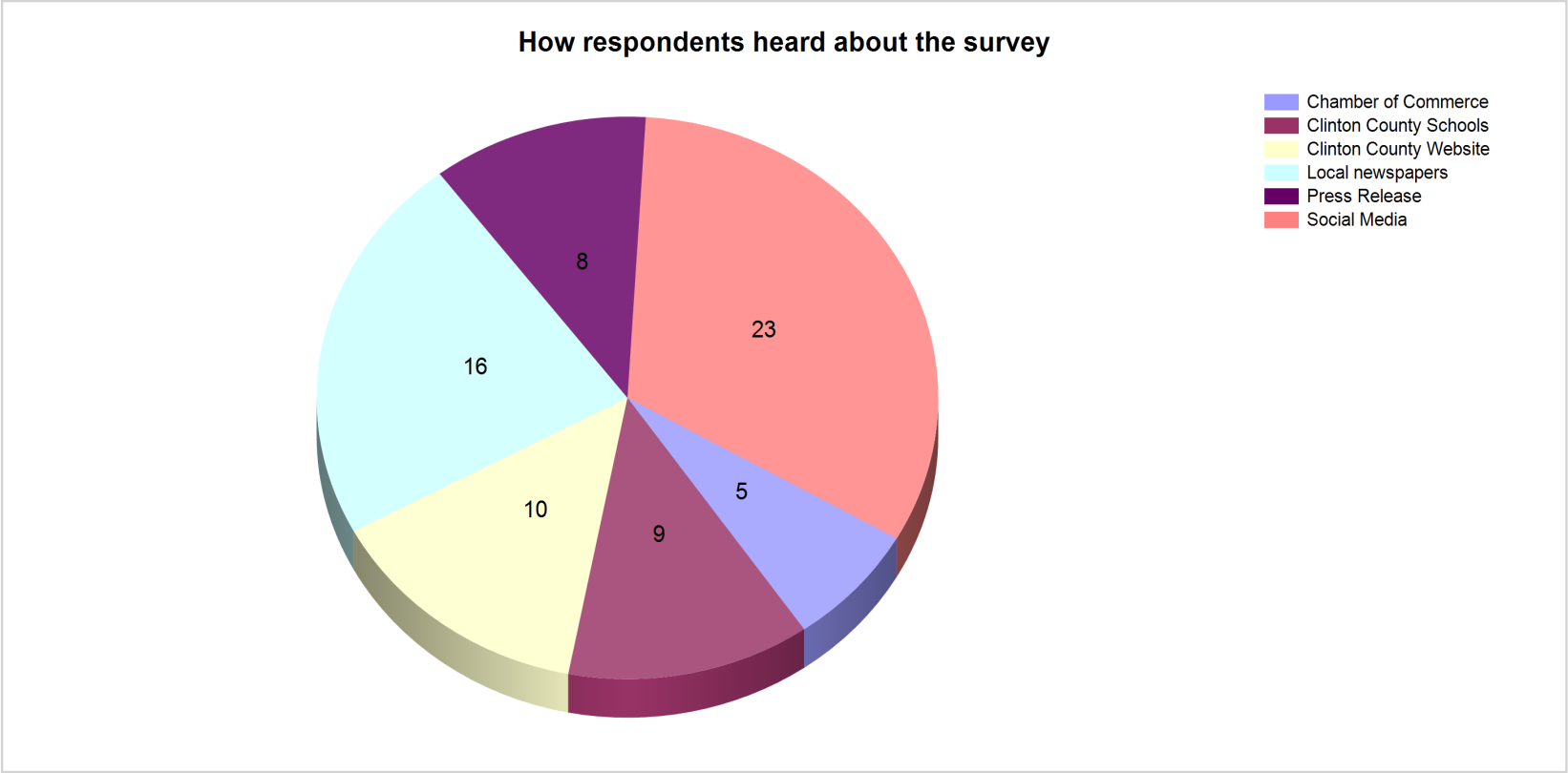
Satisfied with reliability: 100.0%

Satisfied with value: 0.0% (see graph)

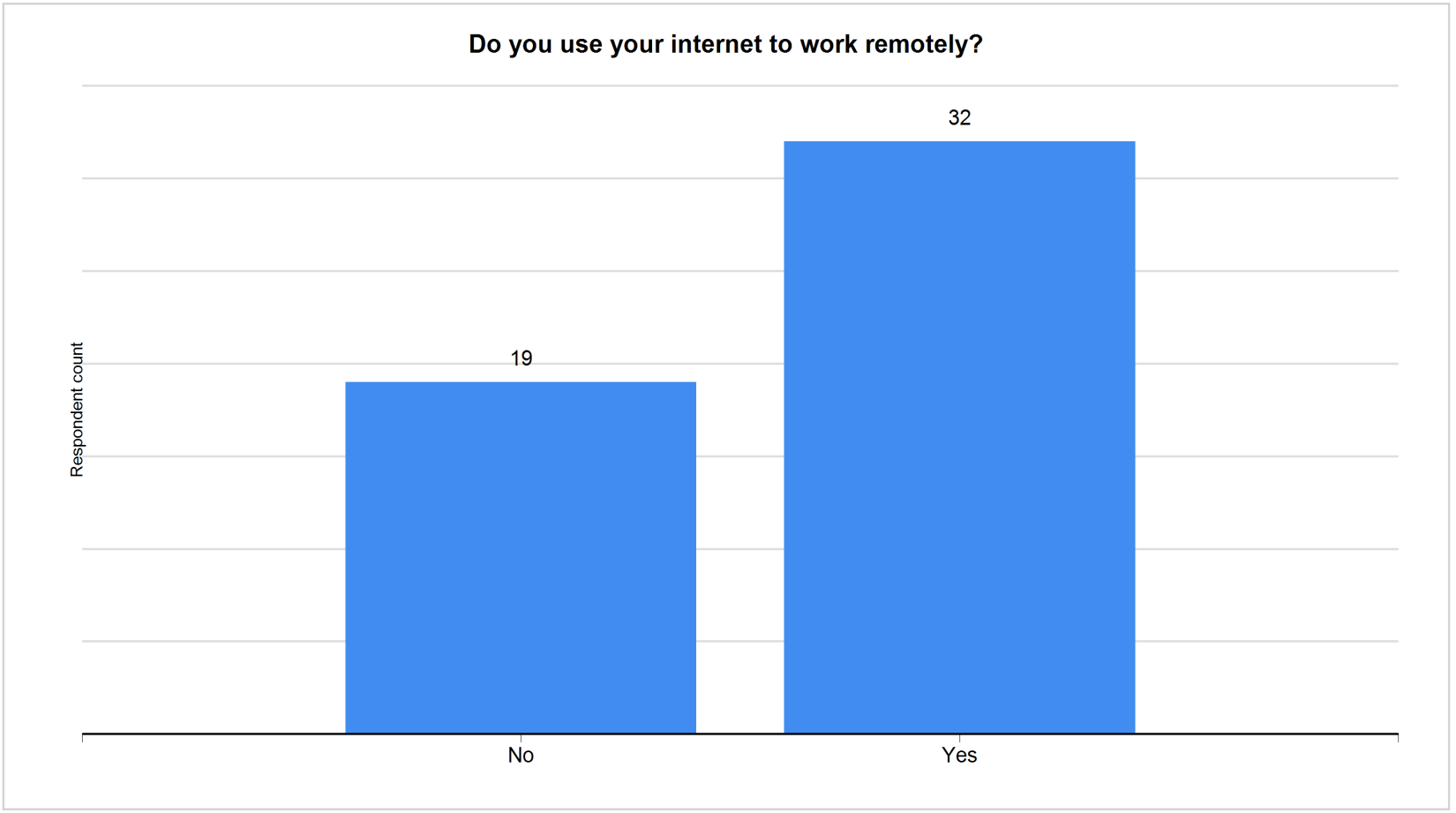


Additional information

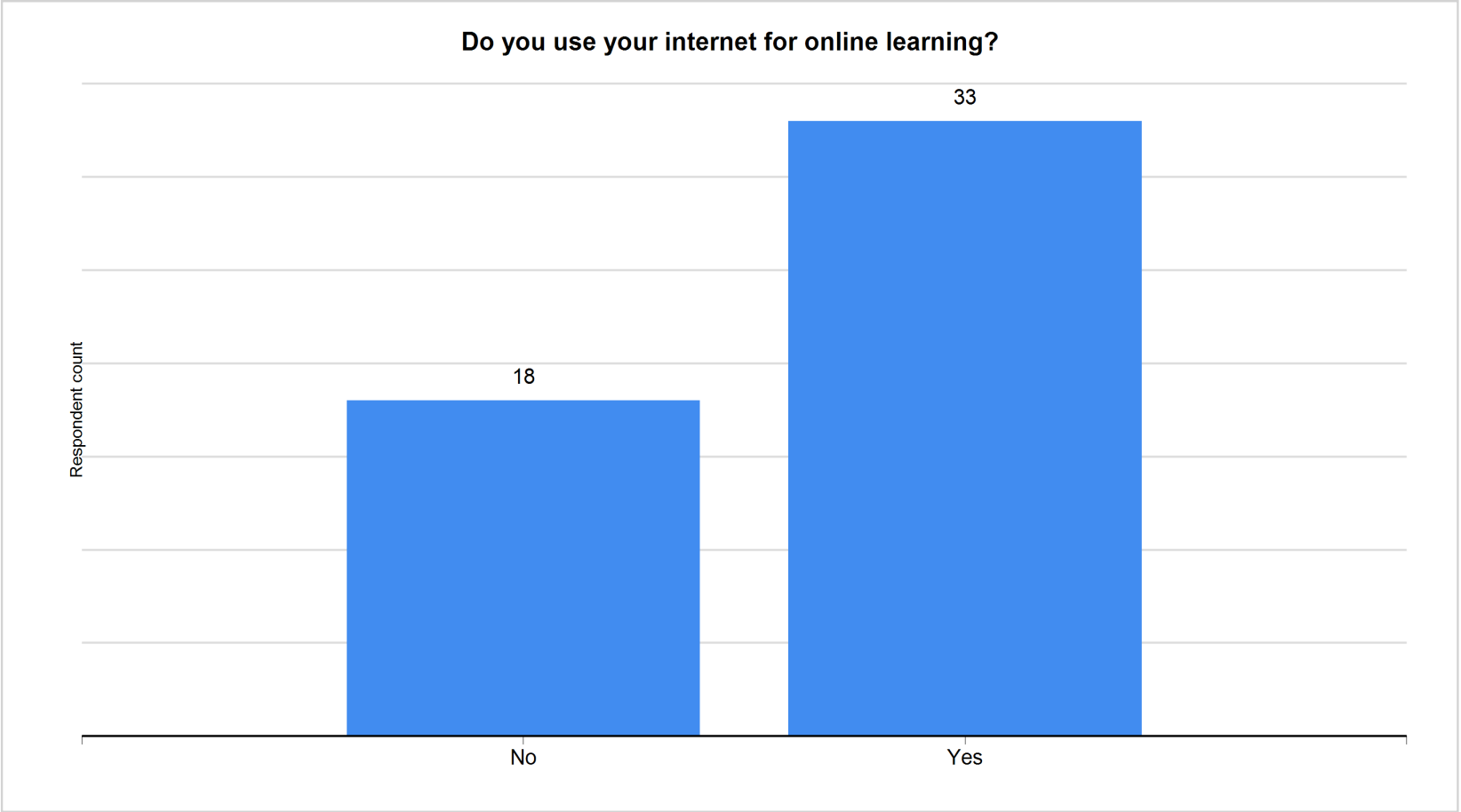
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



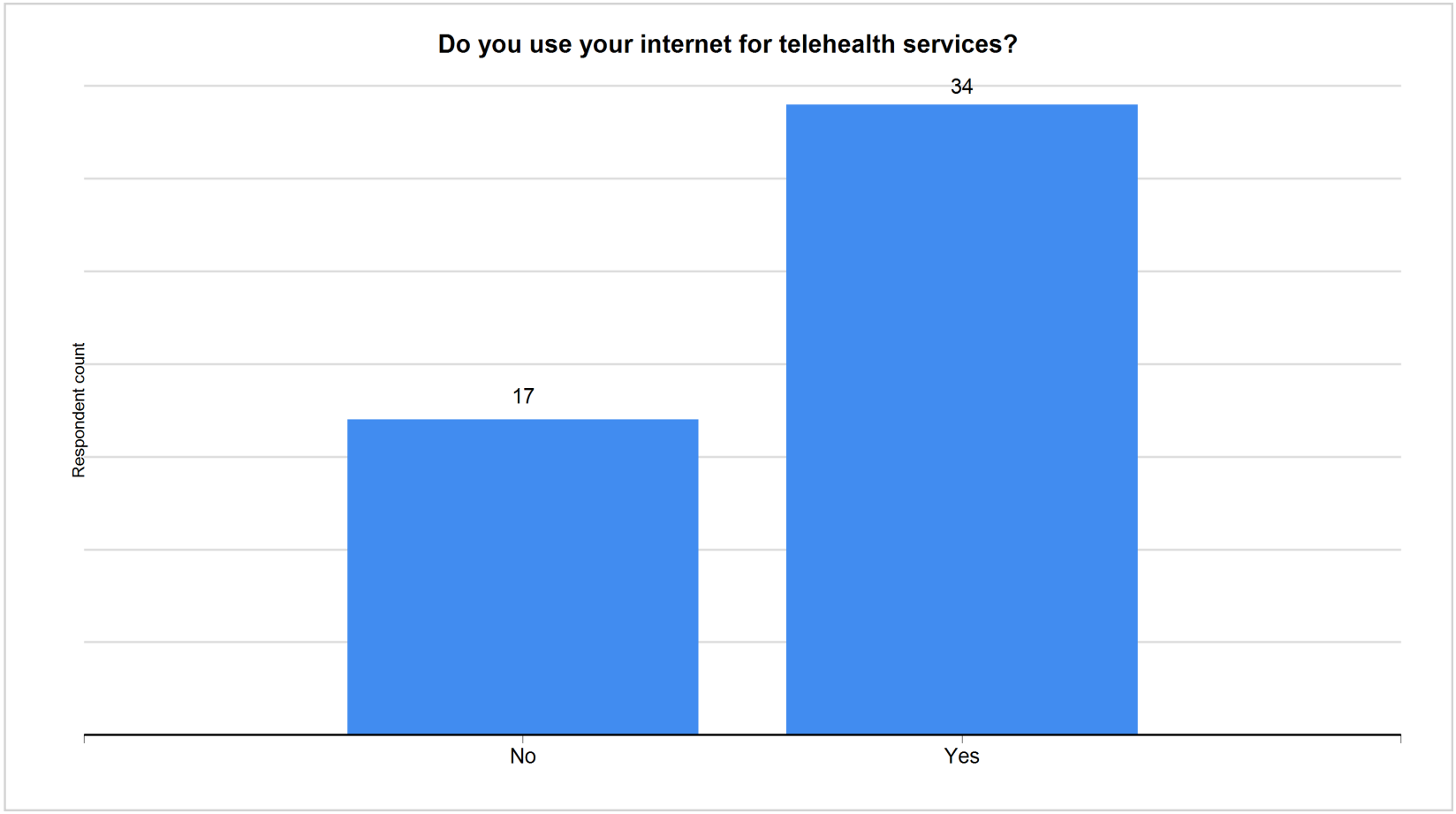
Custom question



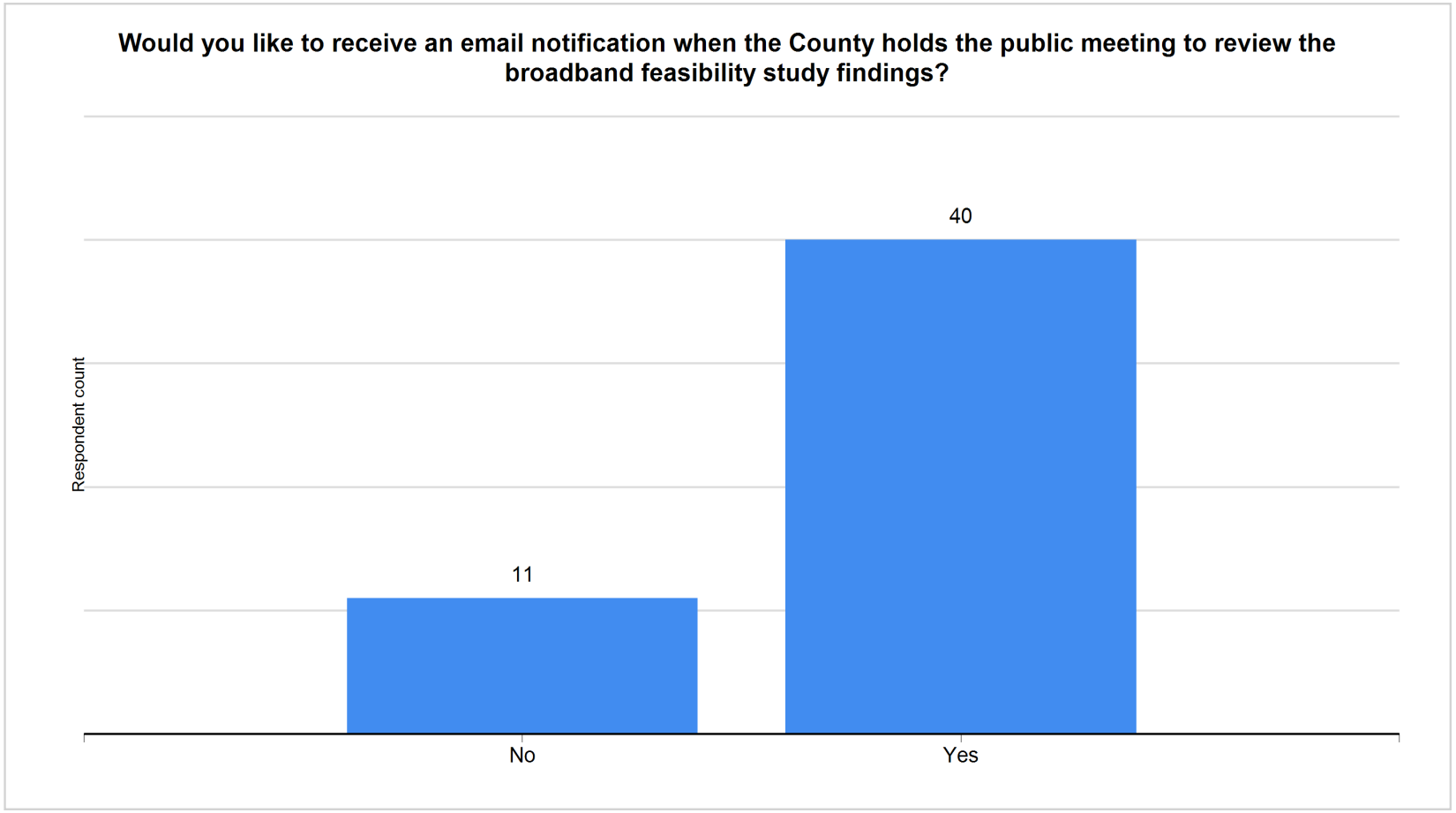
Custom question



Custom question



Custom question



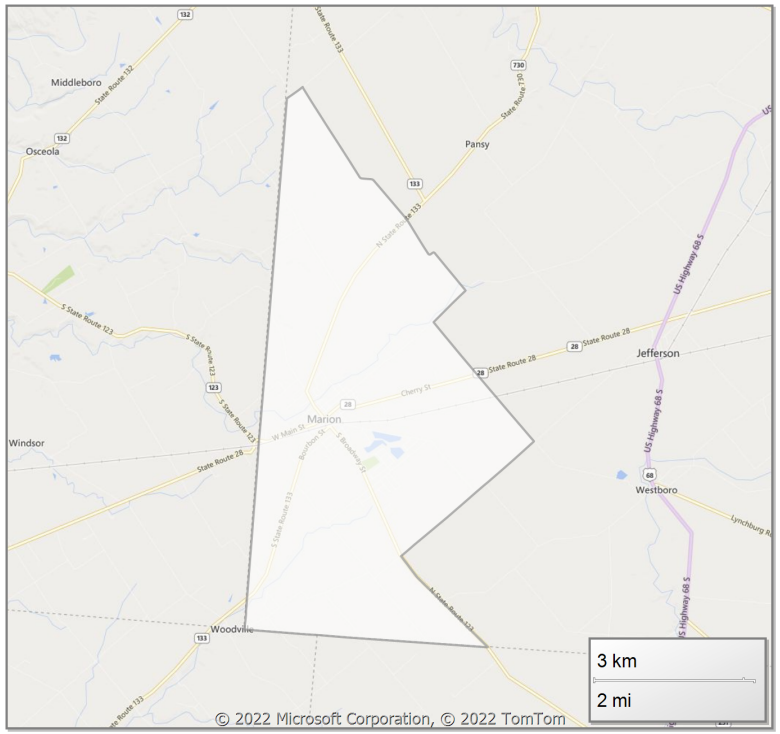
Zone Analyzer™
9649

About 9649

Belongs to service area:
Clinton County

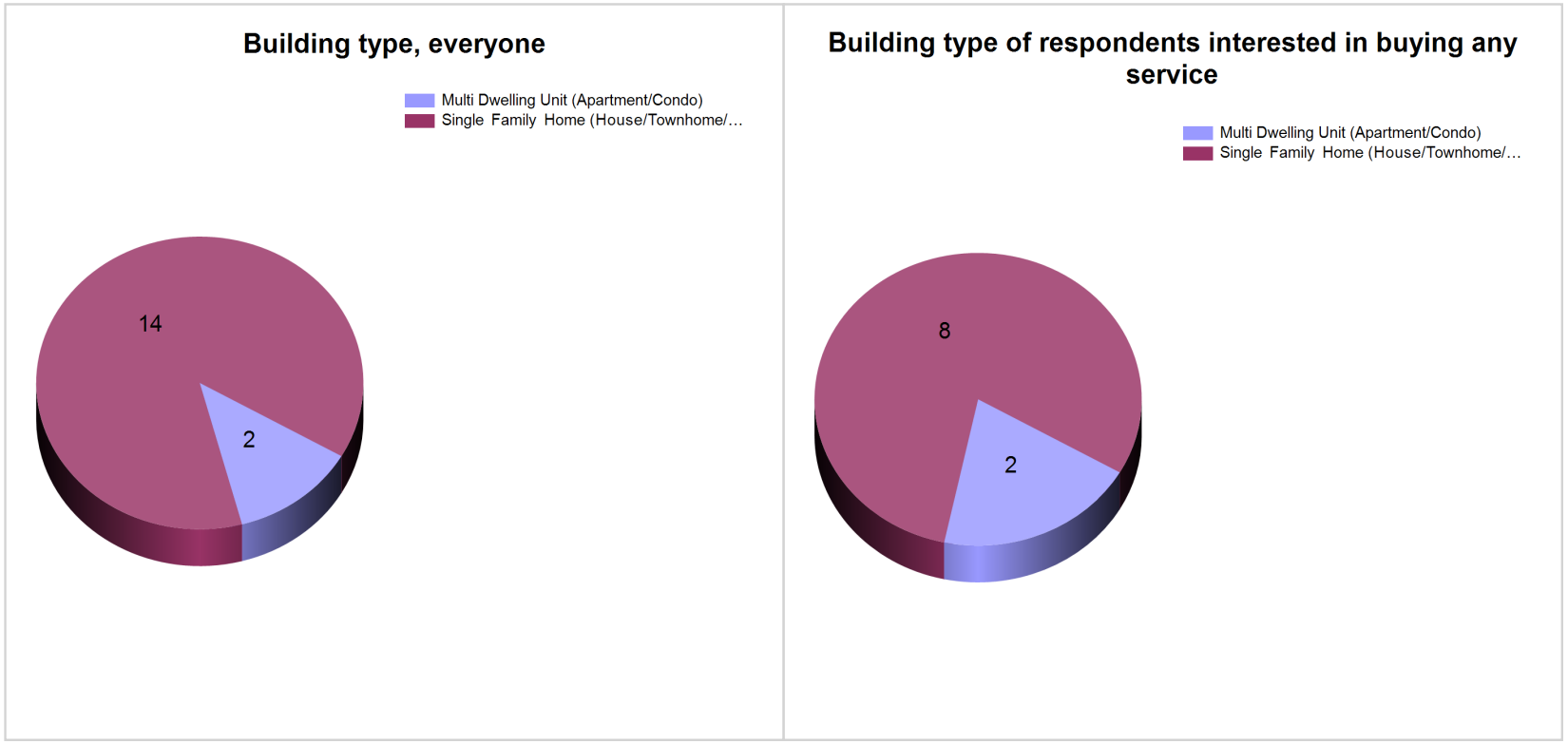
Area:
37.7 sq km (14.6 sq mi)

Survey phase started:
1/19/2022 (96 day(s) ago)



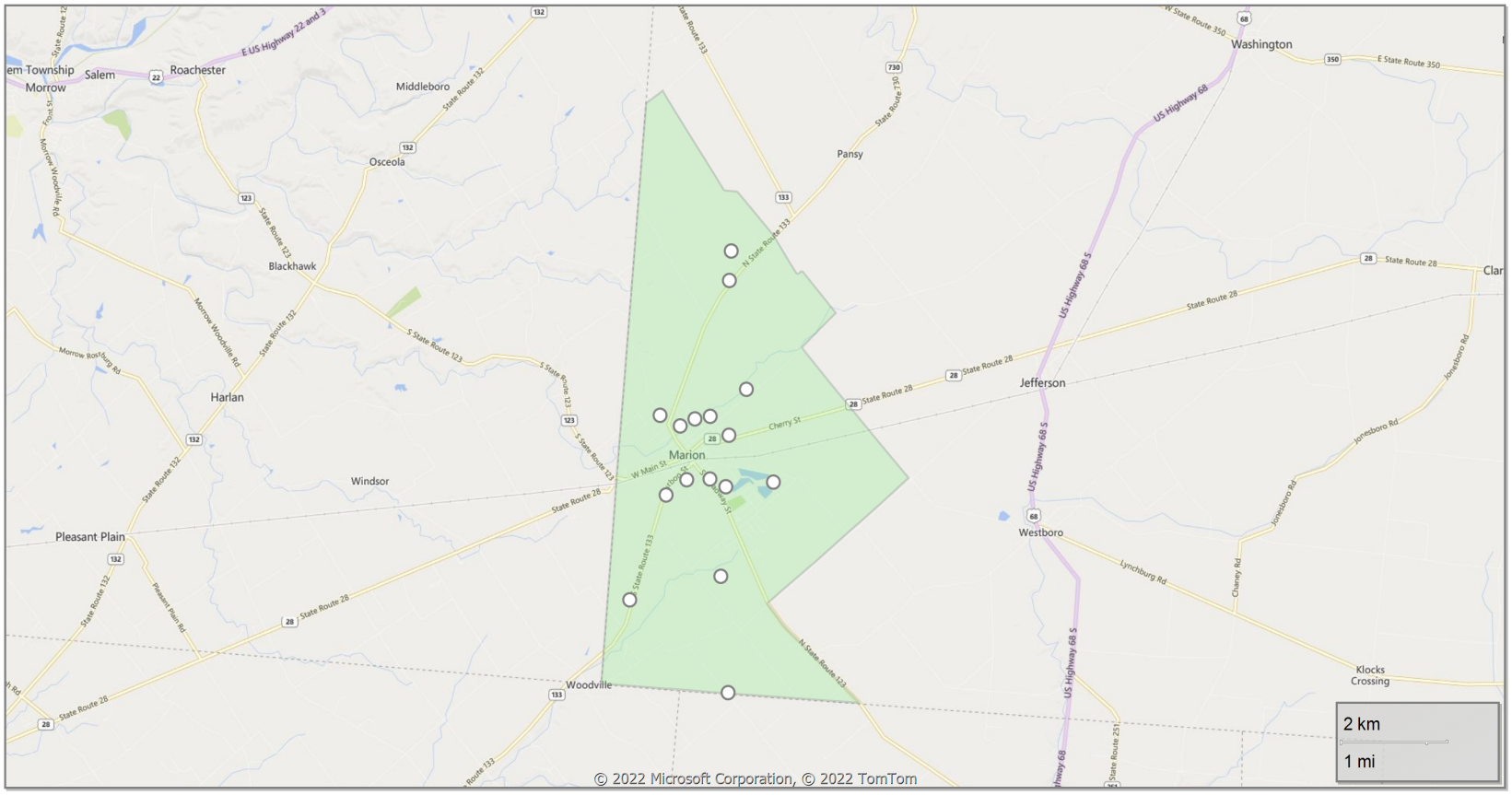
Information about respondents

The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.

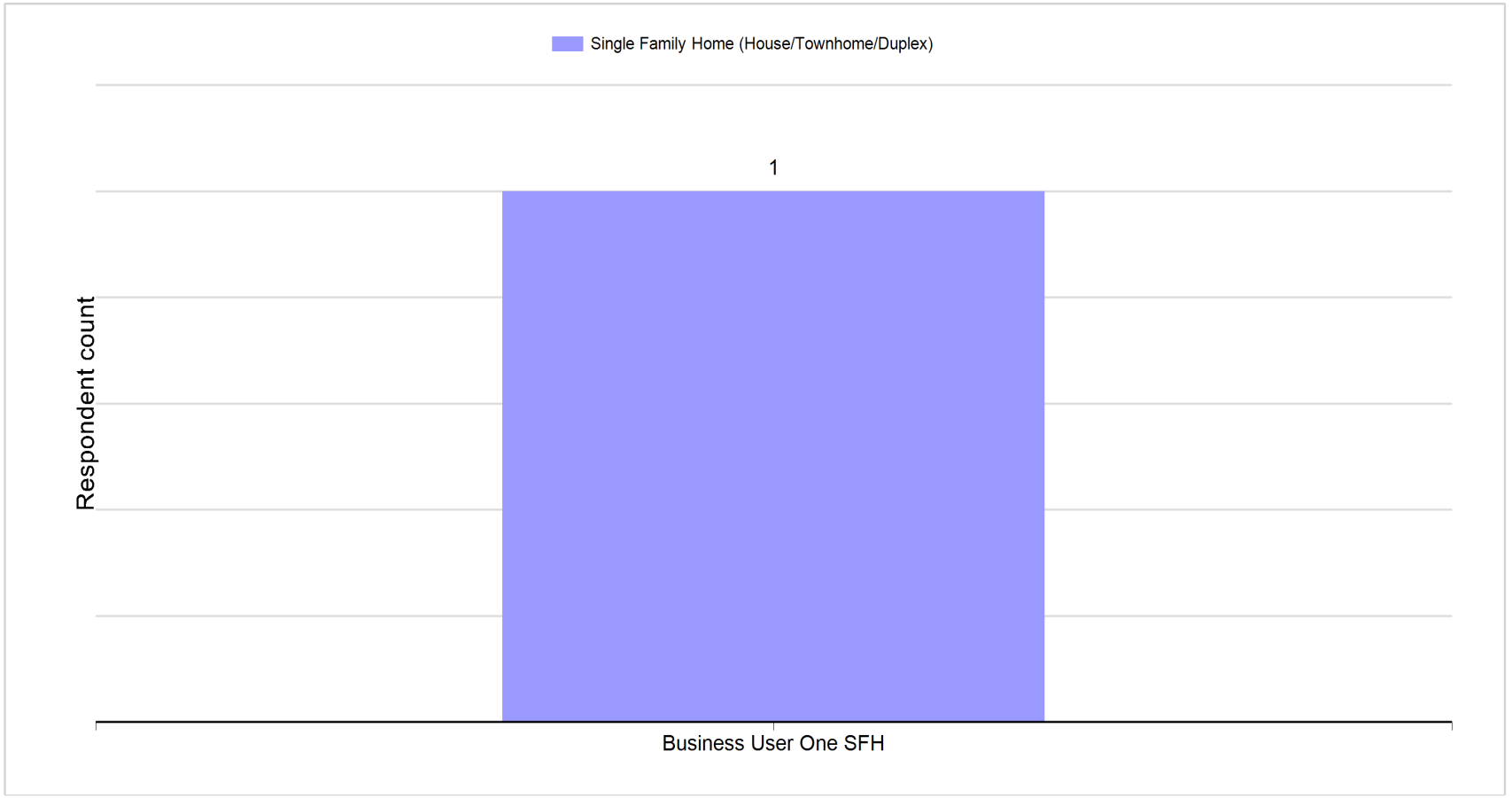


Survey responses on a map

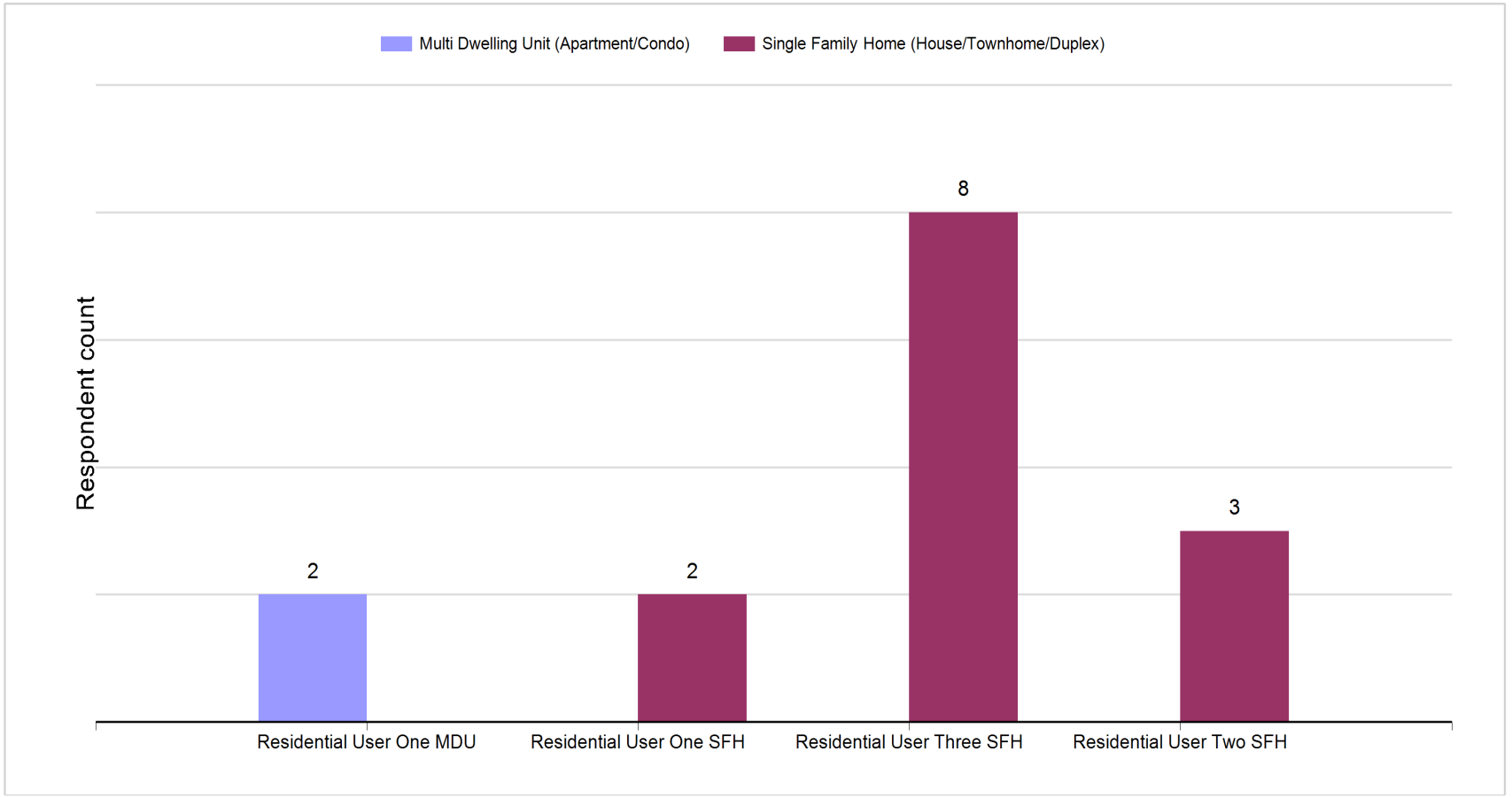
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



Selected service offering - Business

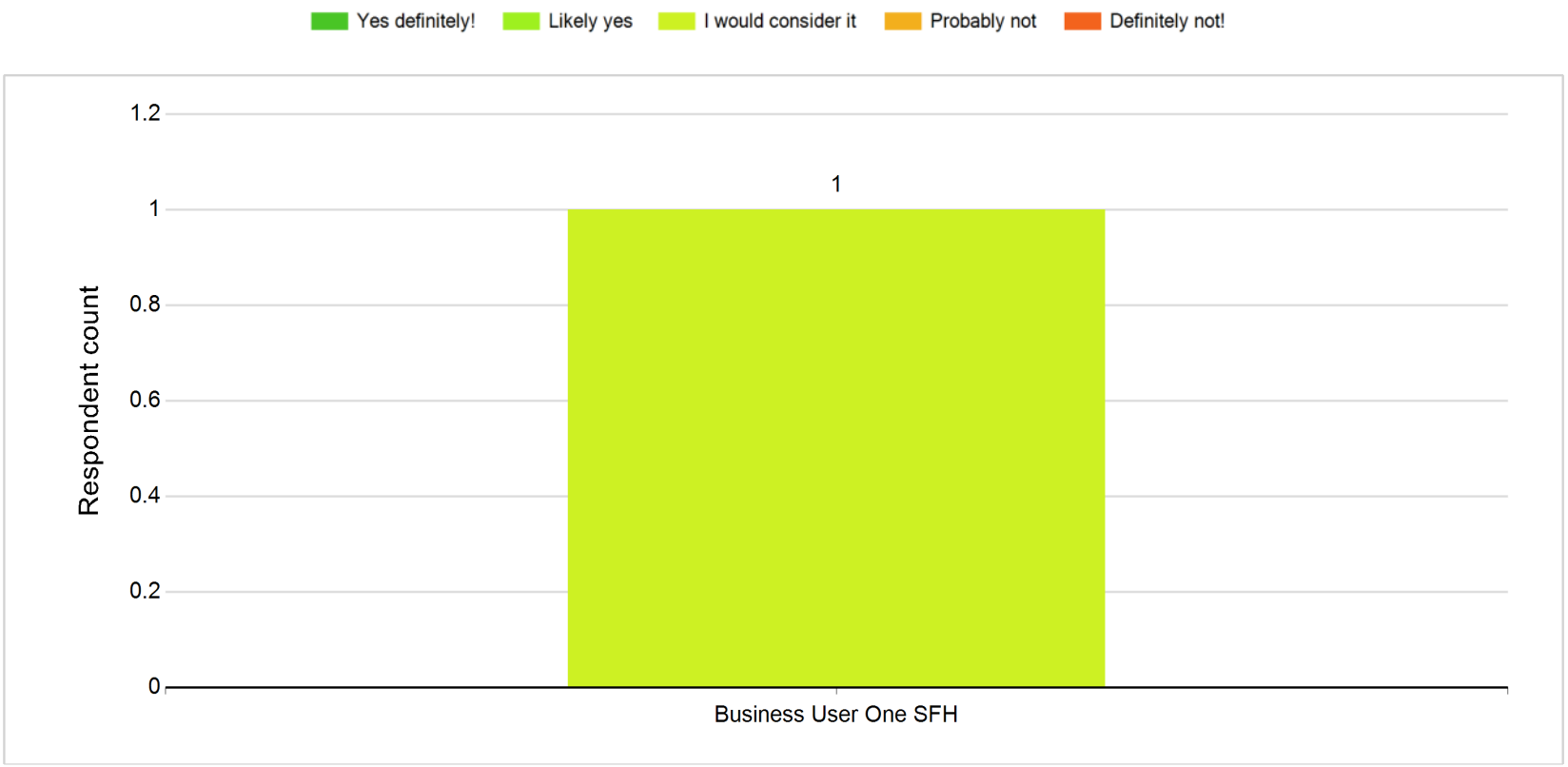


Selected service offering - Residential



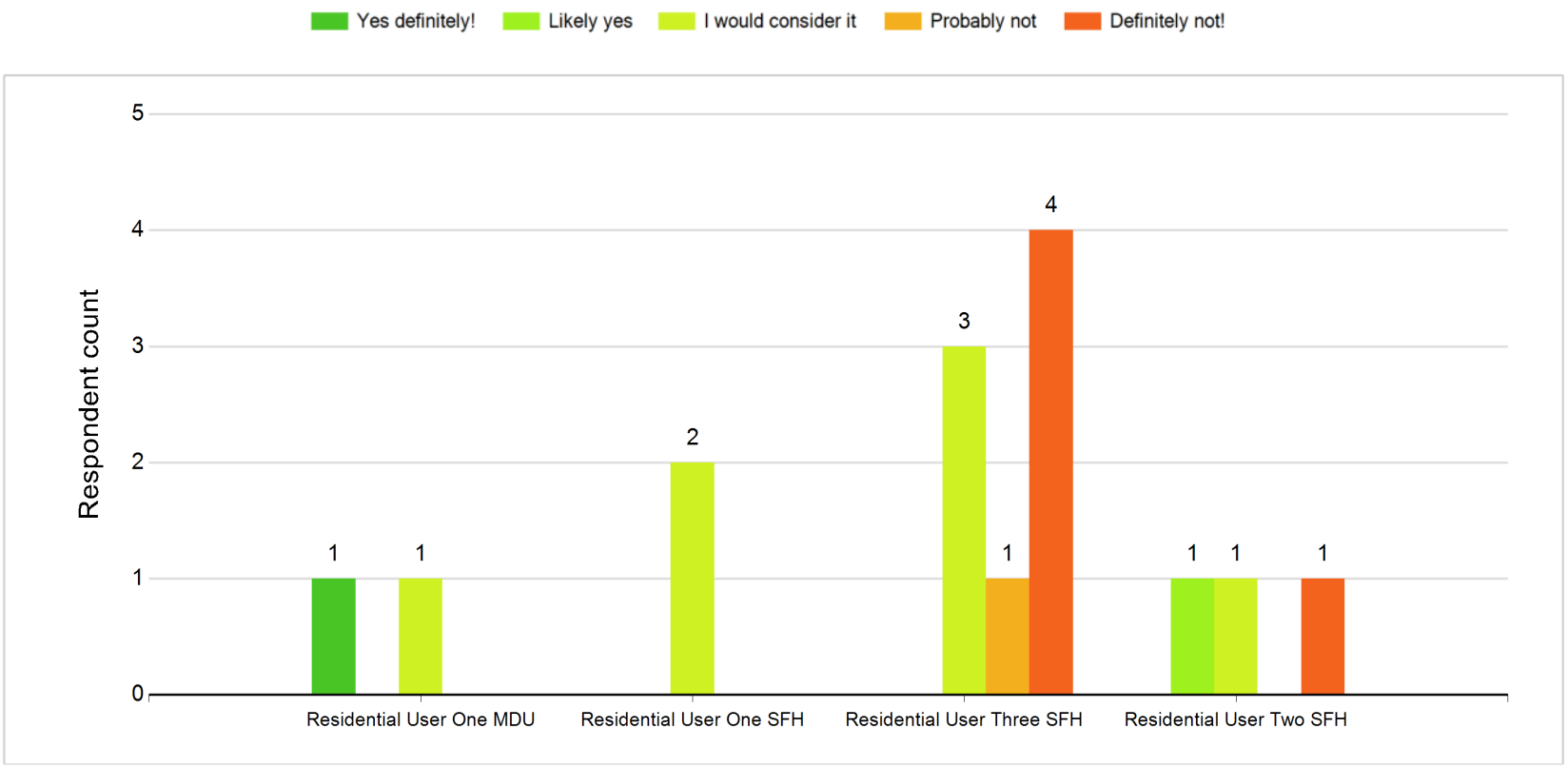
How likely to purchase - Business

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



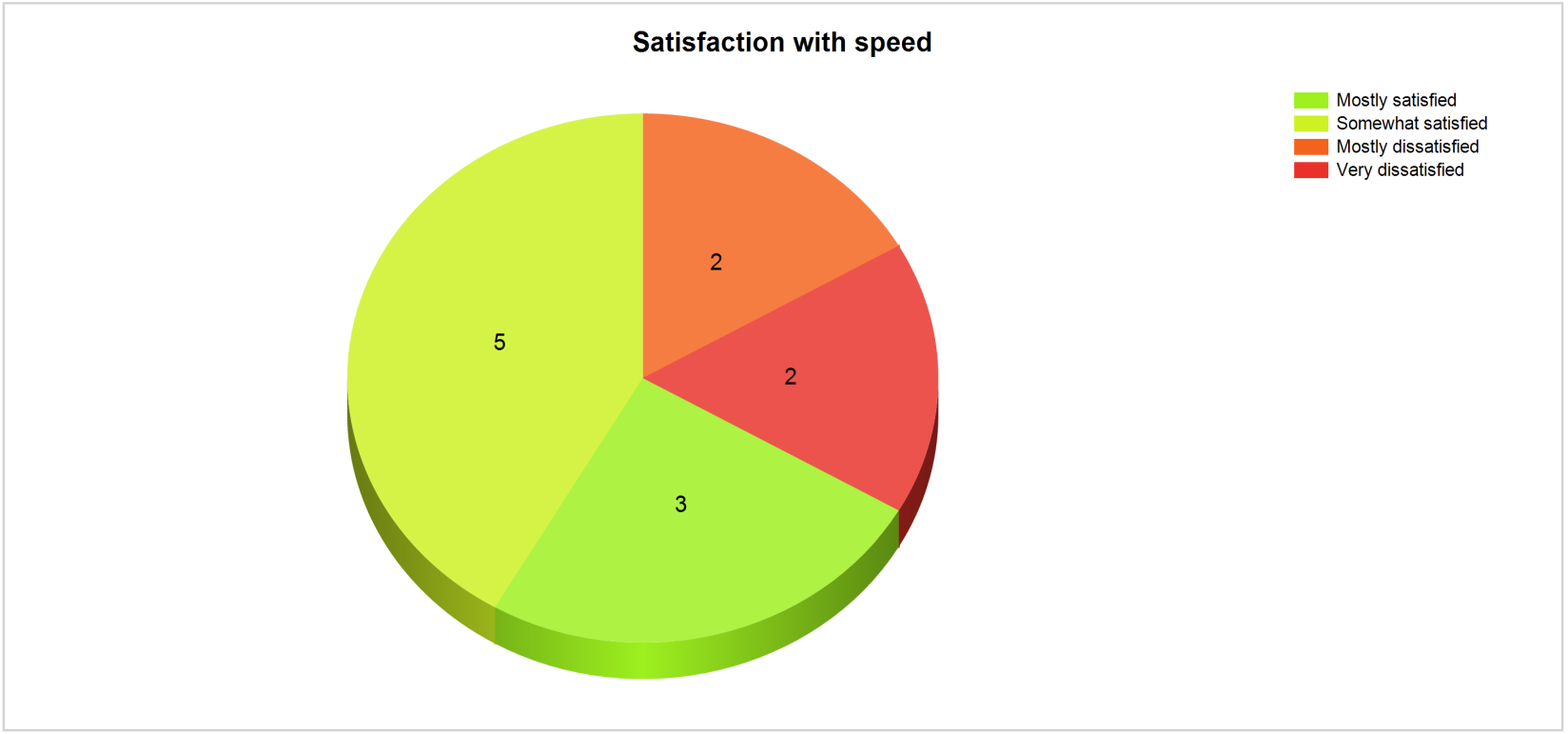
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



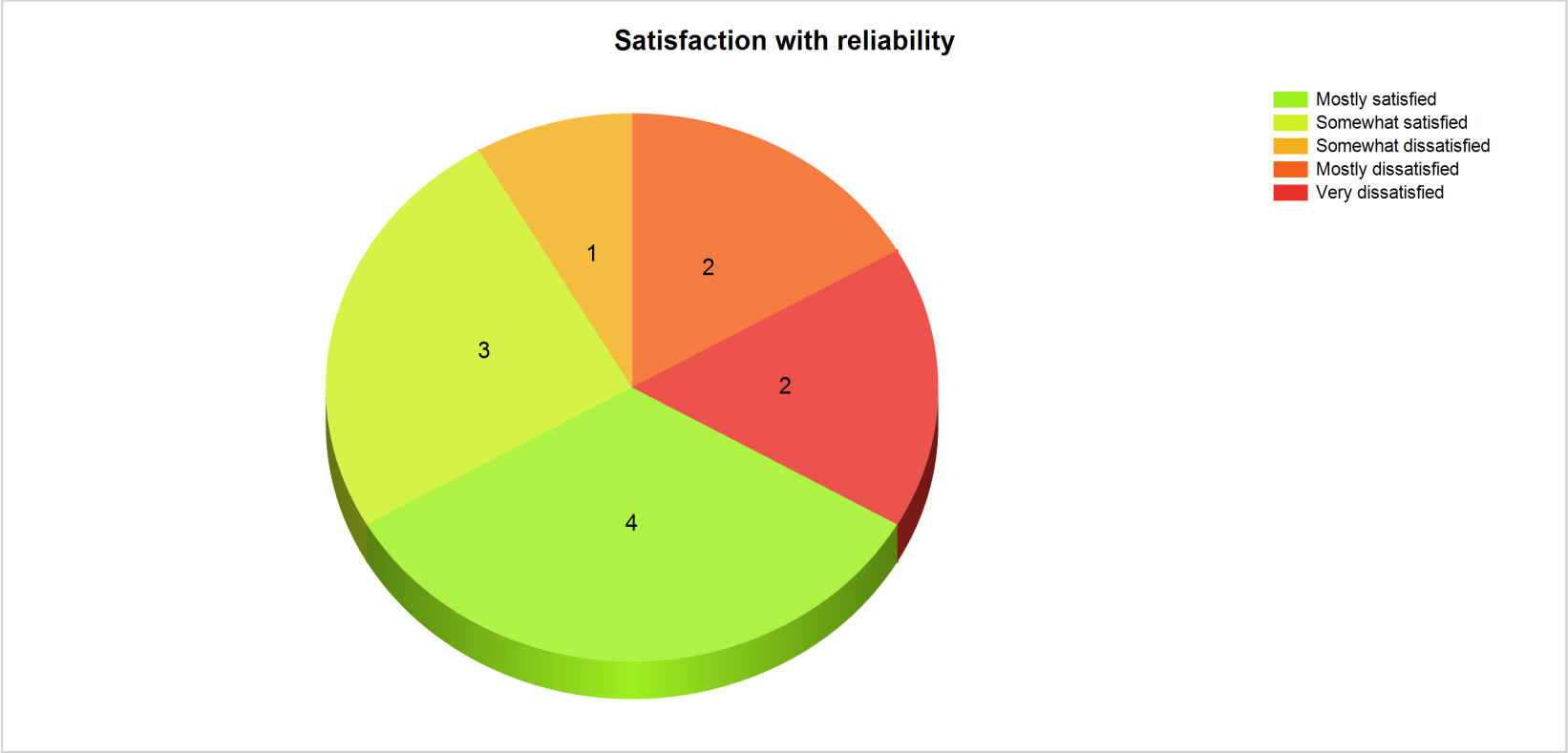
Satisfaction with speed

Of the respondents who currently have Internet service **4 (33.3%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



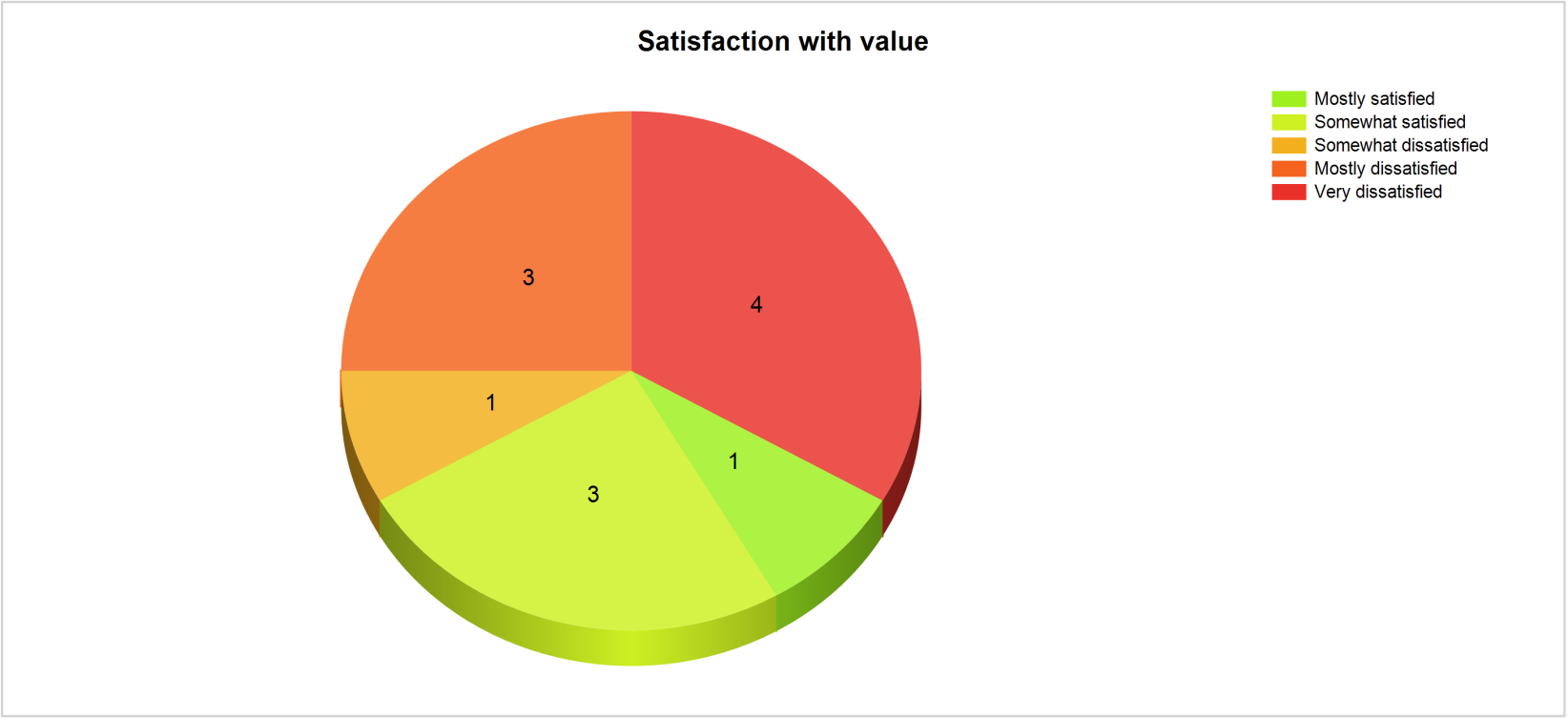
Satisfaction with reliability

Of the respondents who currently have Internet service **5 (41.7%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **8 (66.7%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

TWC-10796-MIDWEST, US

By survey type:

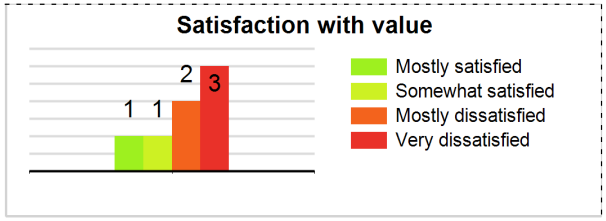
Type:

Count: 7

Satisfied with speed: 85.7%

Satisfied with reliability: 71.4%

Satisfied with value: 28.6% (see graph)



Totals for TWC-10796-MIDWEST, US:

Count: 7

Satisfied with speed: 85.7%

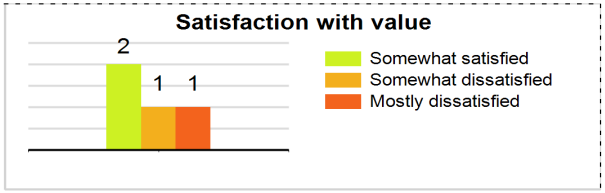
Satisfied with reliability: 71.4%

Satisfied with value: 28.6% (see graph)

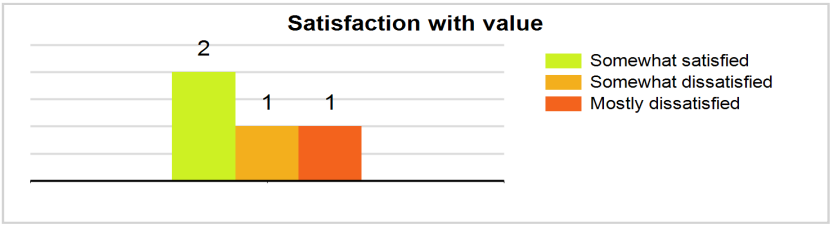
FRONTIER-FRTR, US

By survey type:

Type:	Satisfied with speed: 50.0%
	Satisfied with reliability: 50.0%
Count: 4	Satisfied with value: 50.0% (see graph)

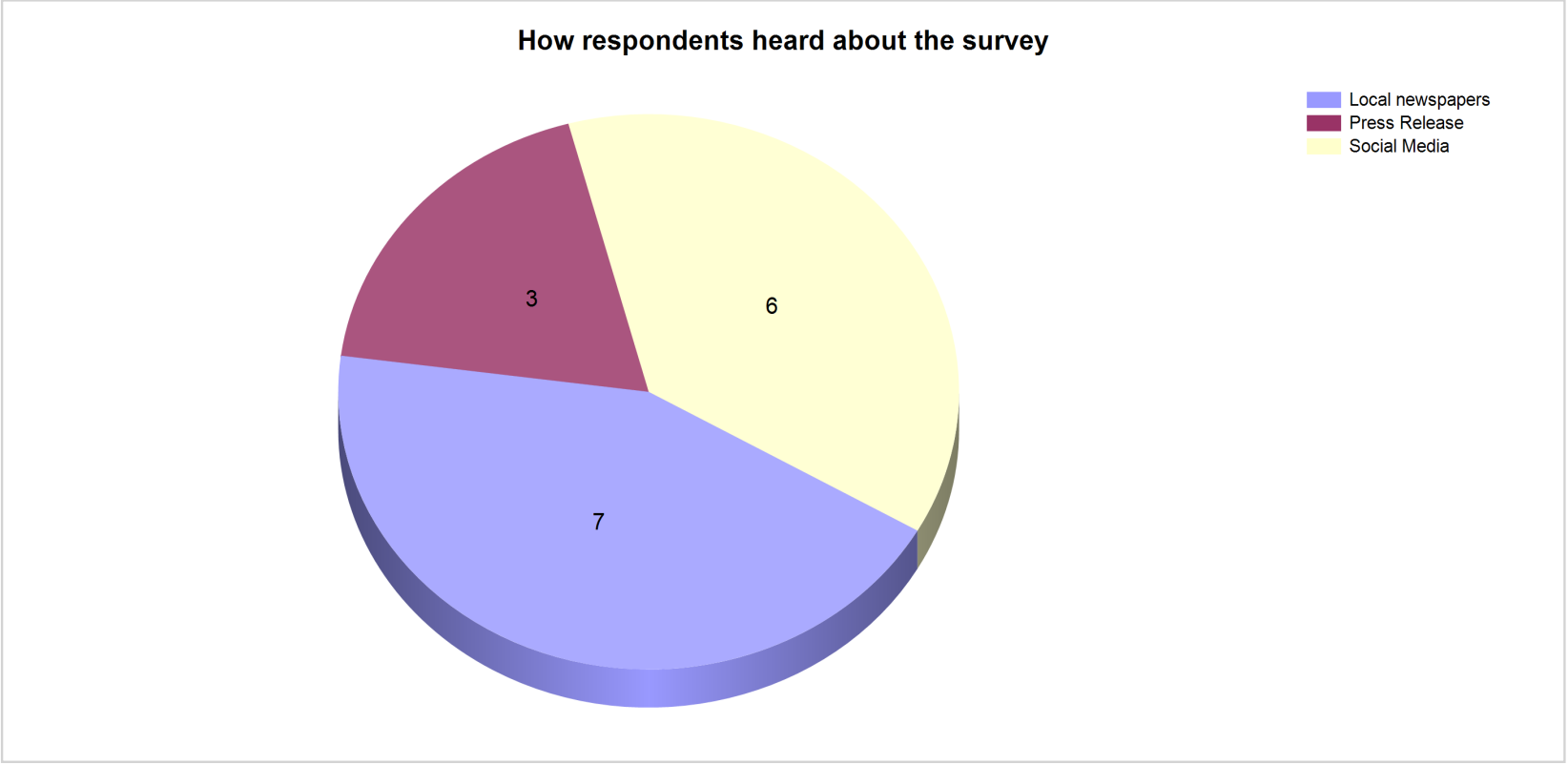


Totals for FRONTIER-FRTR, US:	**Satisfied with speed: 50.0%**
	Satisfied with reliability: 50.0%
Count: 4	**Satisfied with value: 50.0% (see graph)**

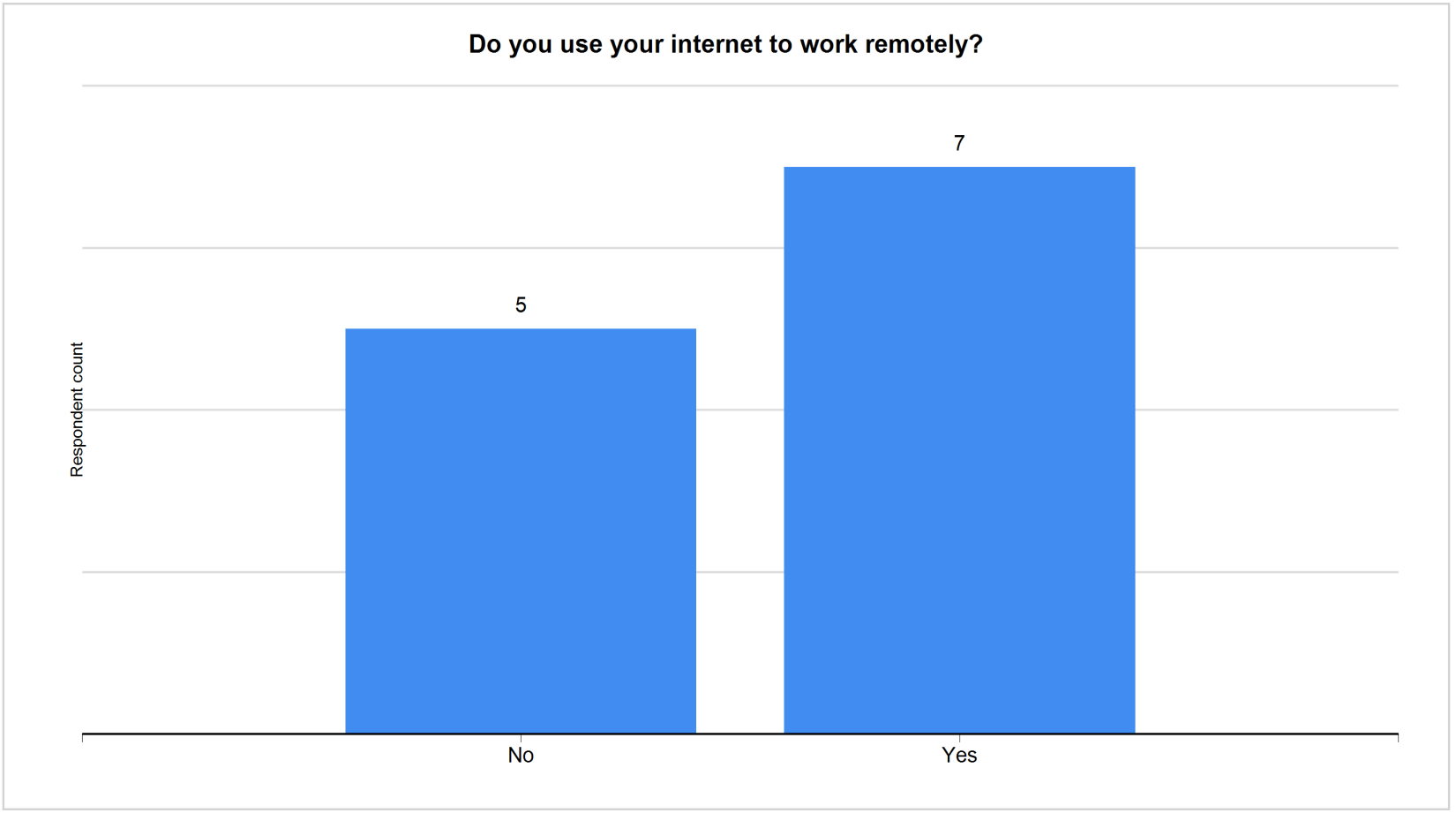


Additional information

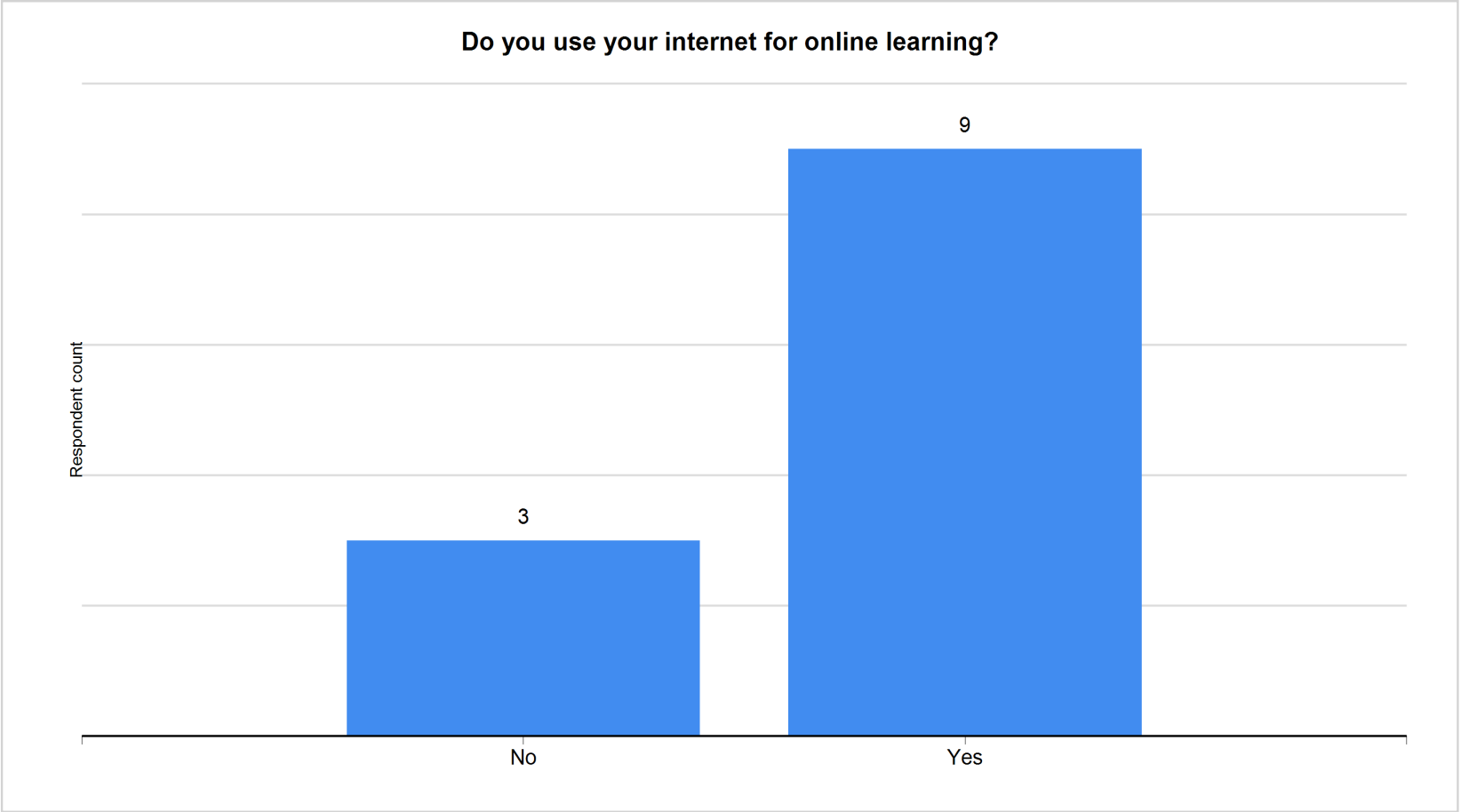
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



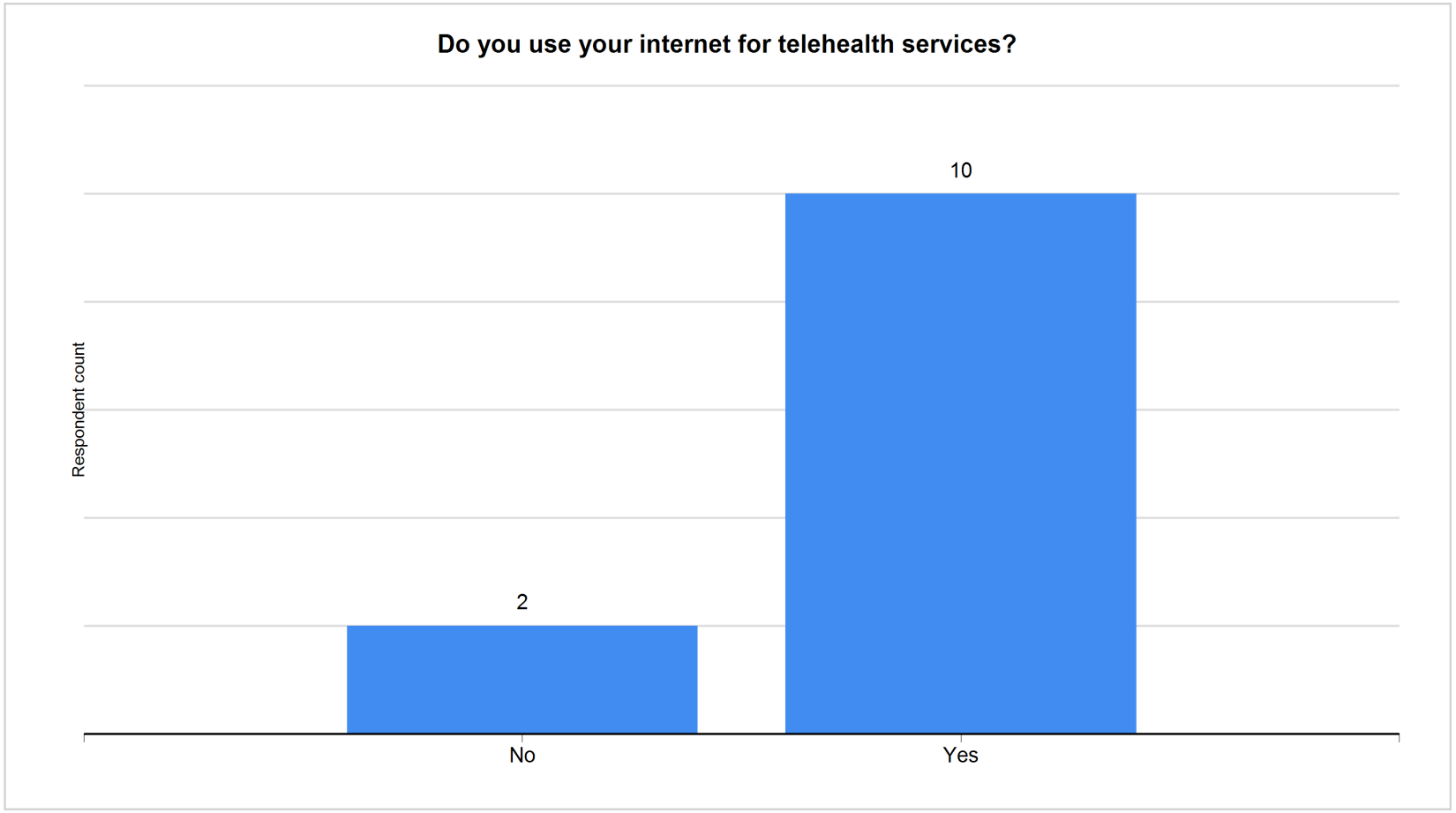
Custom question



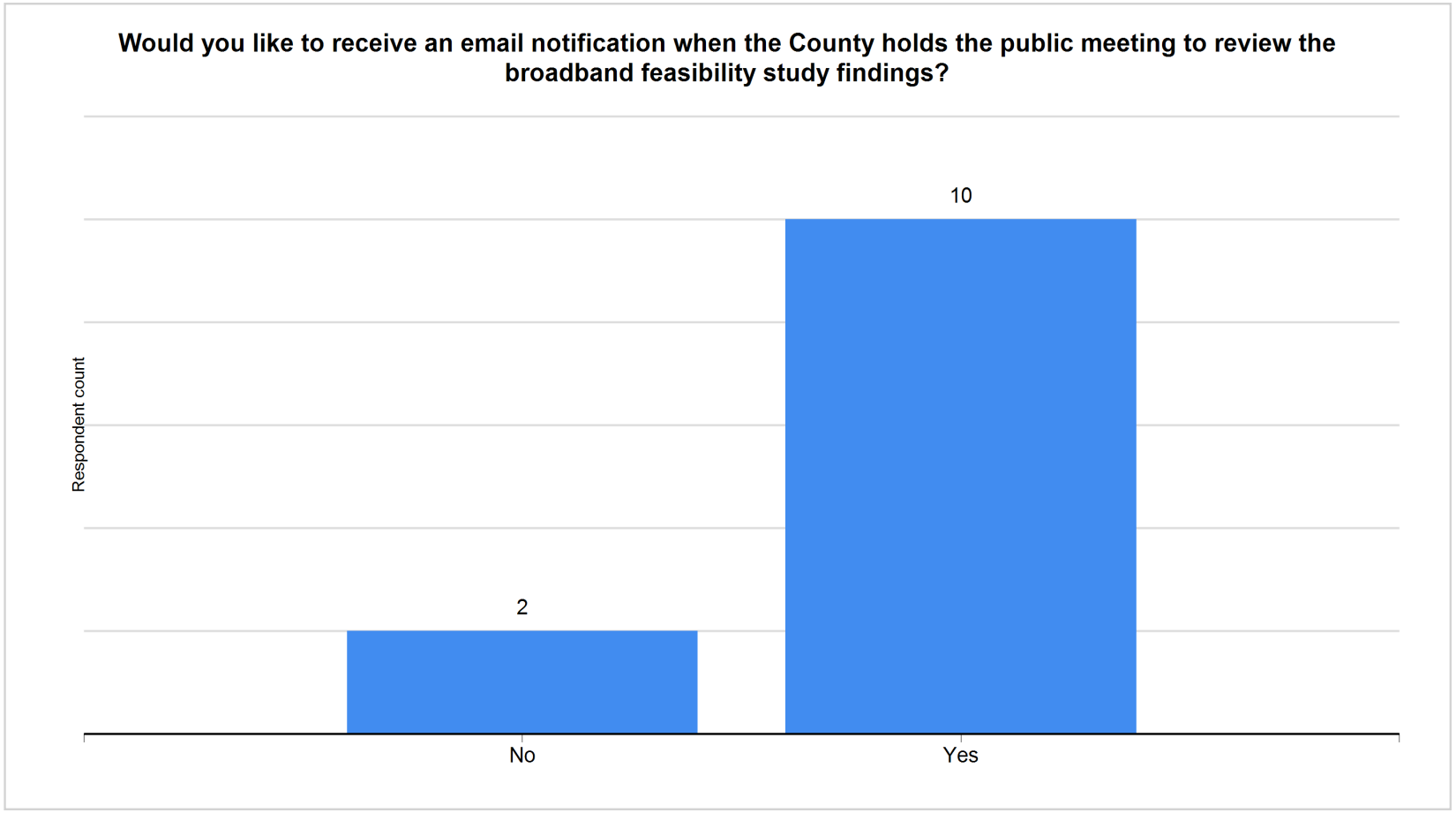
Custom question



Custom question



Custom question



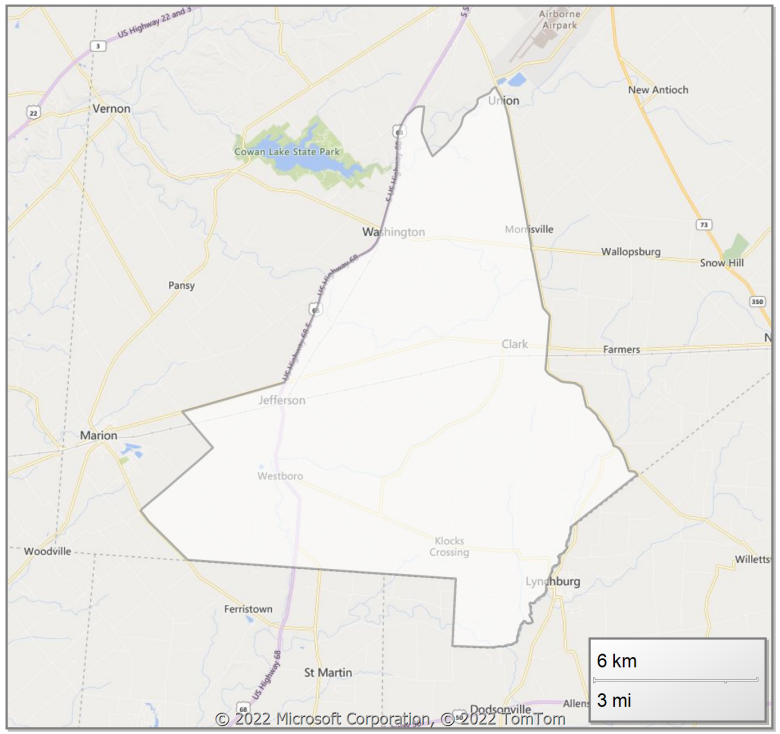
Zone Analyzer™
9650

About 9650

Belongs to service area:
Clinton County

Area:
178.1 sq km (68.8 sq mi)

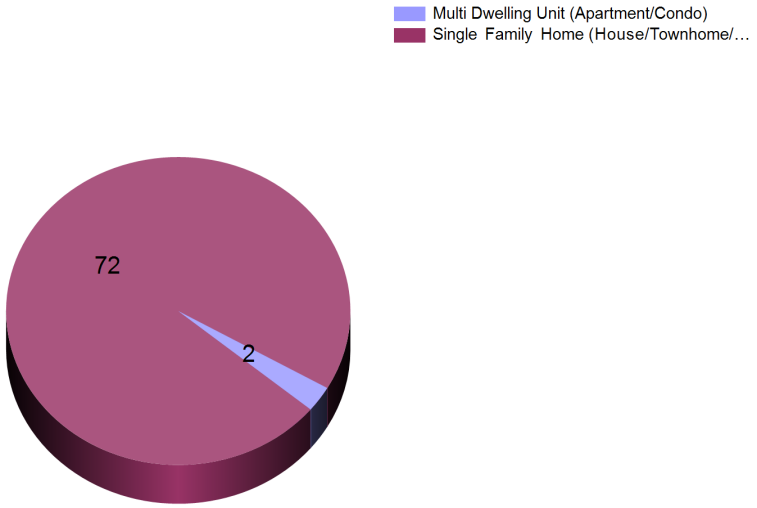
Survey phase started:
1/19/2022 (96 day(s) ago)



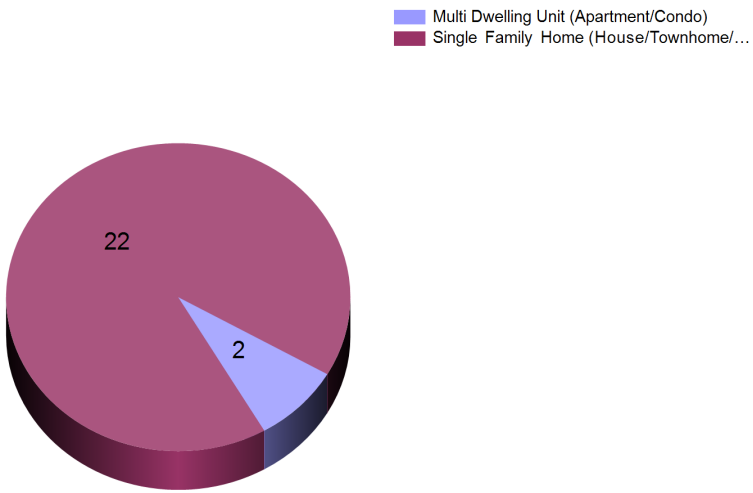
Information about respondents

The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.

Building type, everyone



Building type of respondents interested in buying any service



Survey responses on a map

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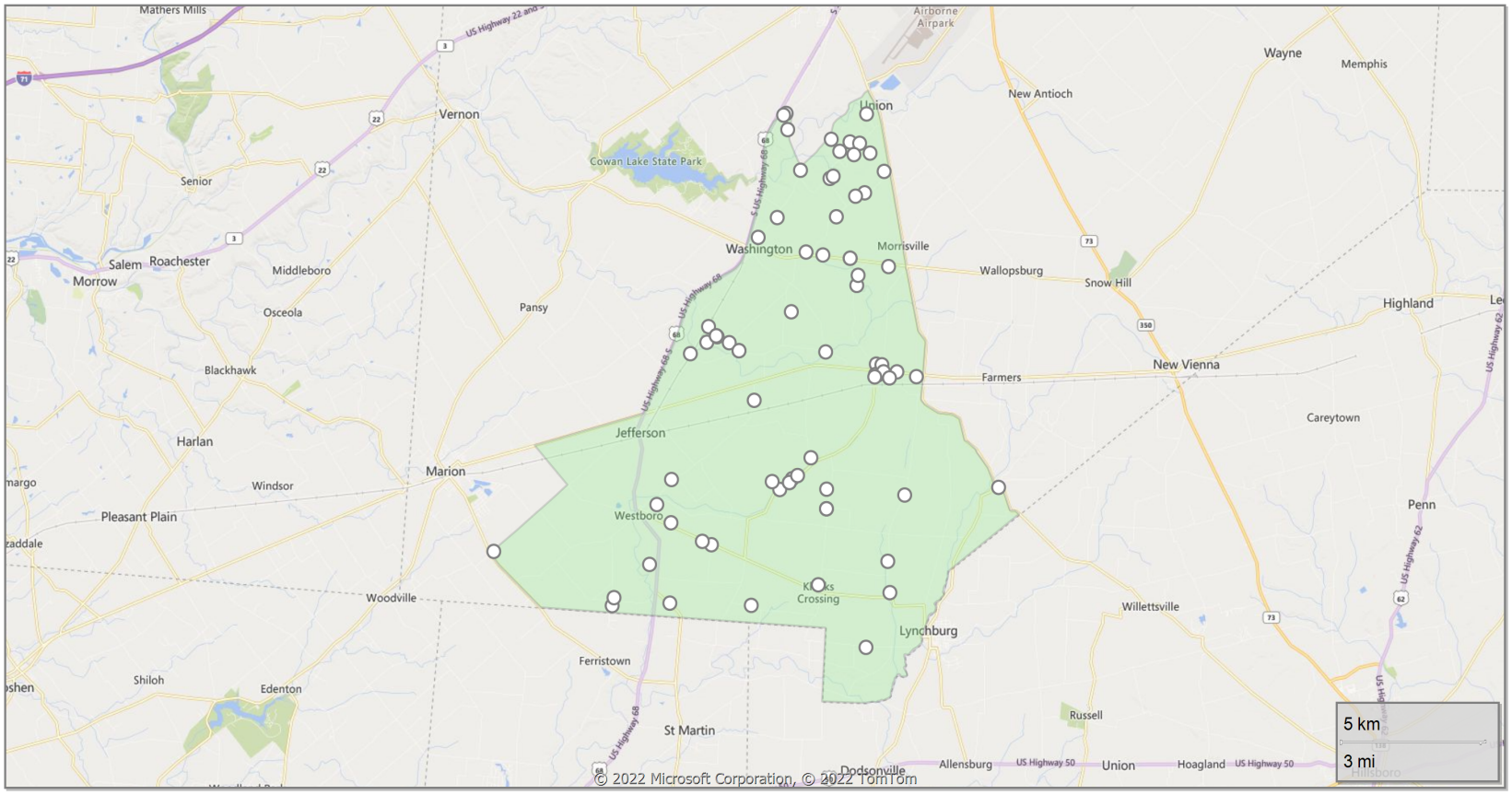
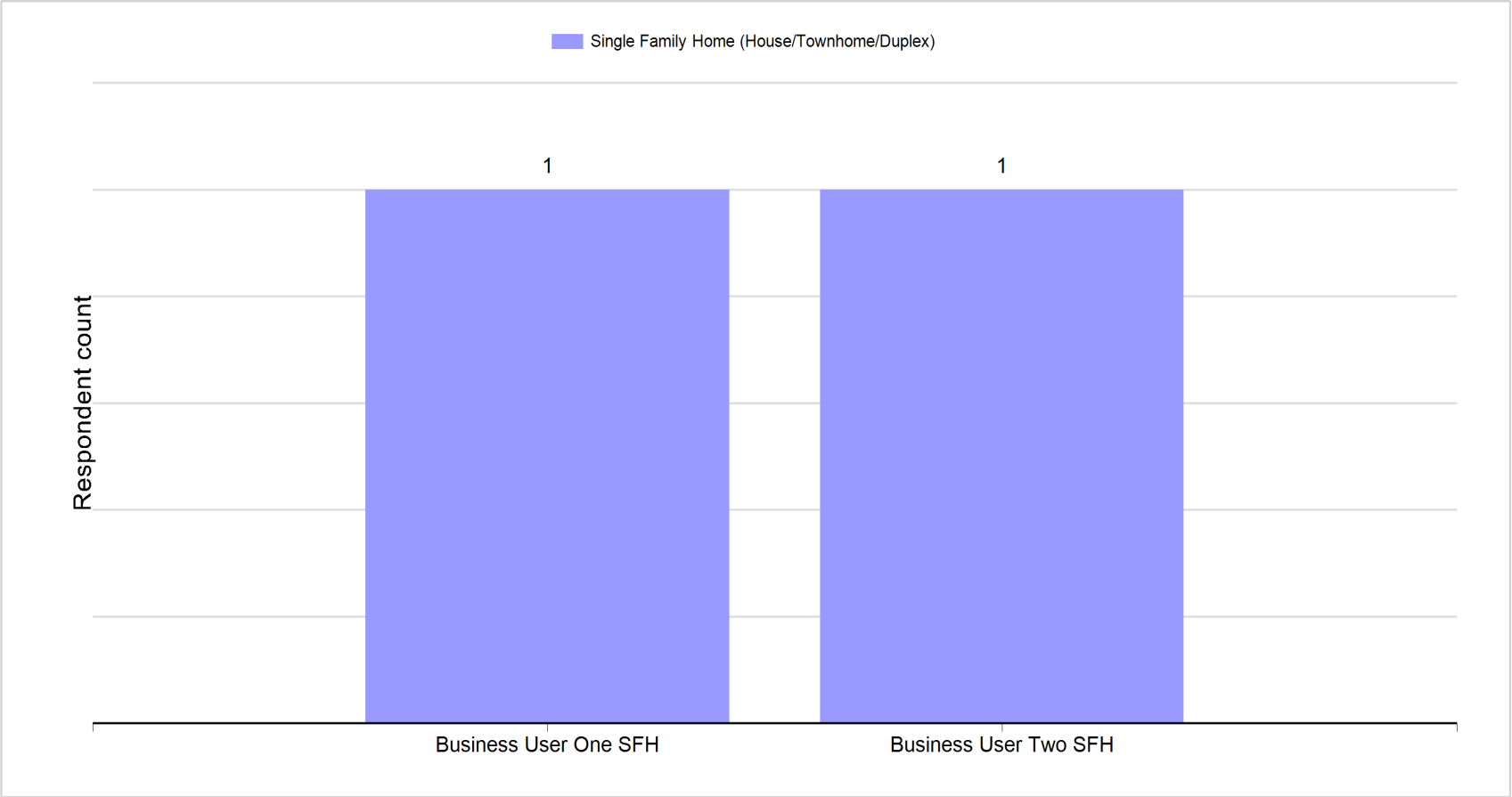
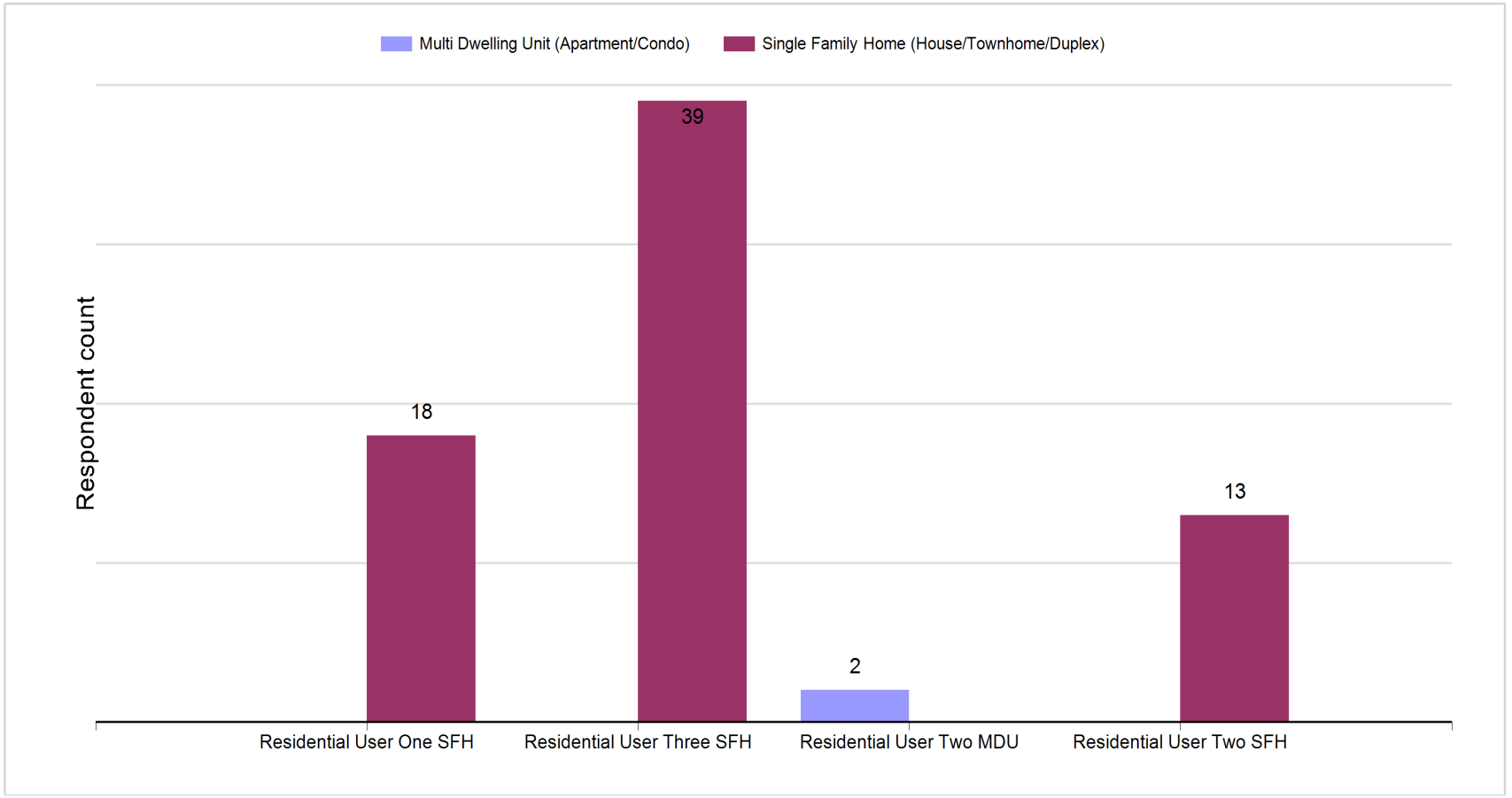


Selected service offering - Business

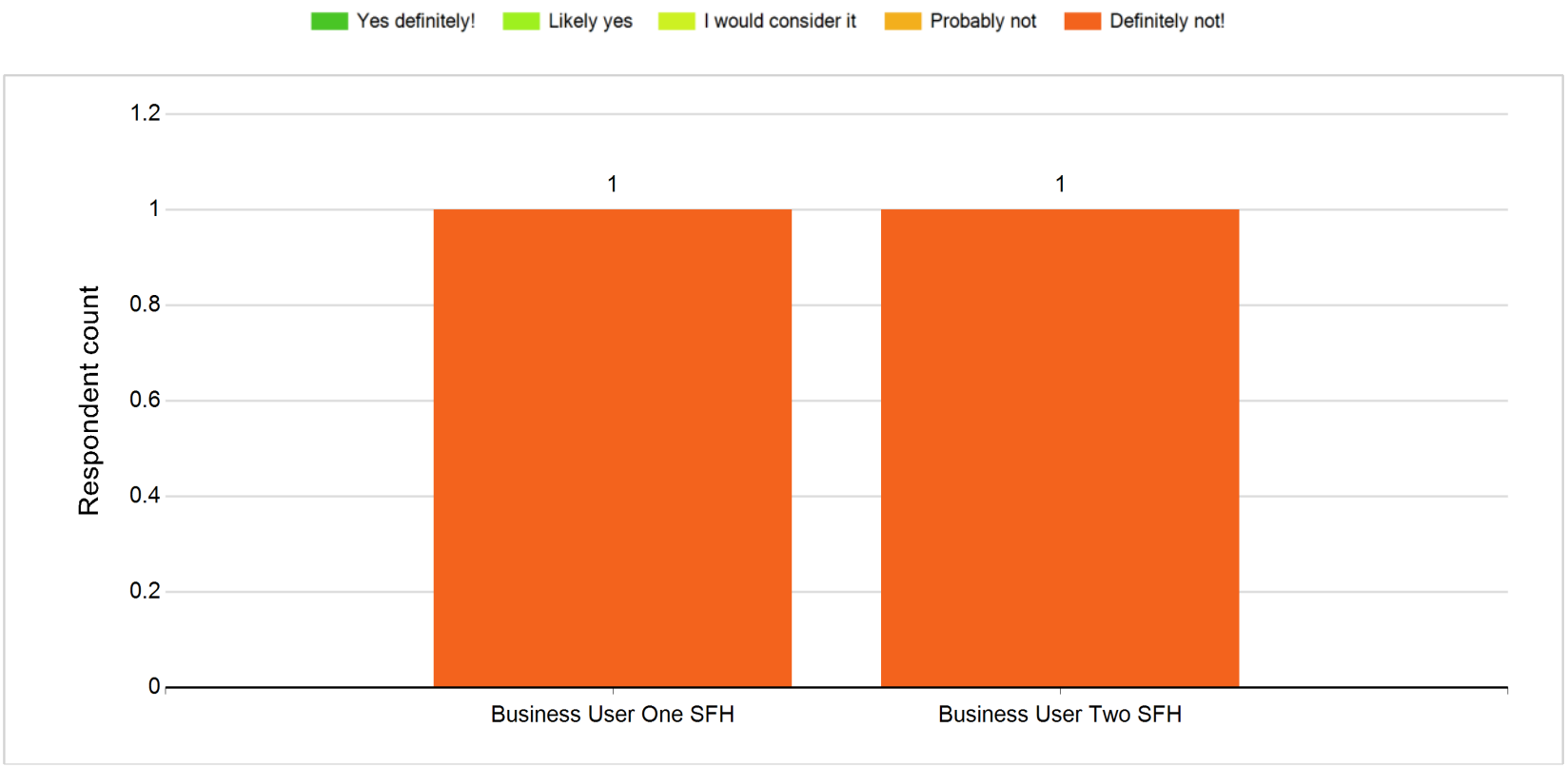


Selected service offering - Residential



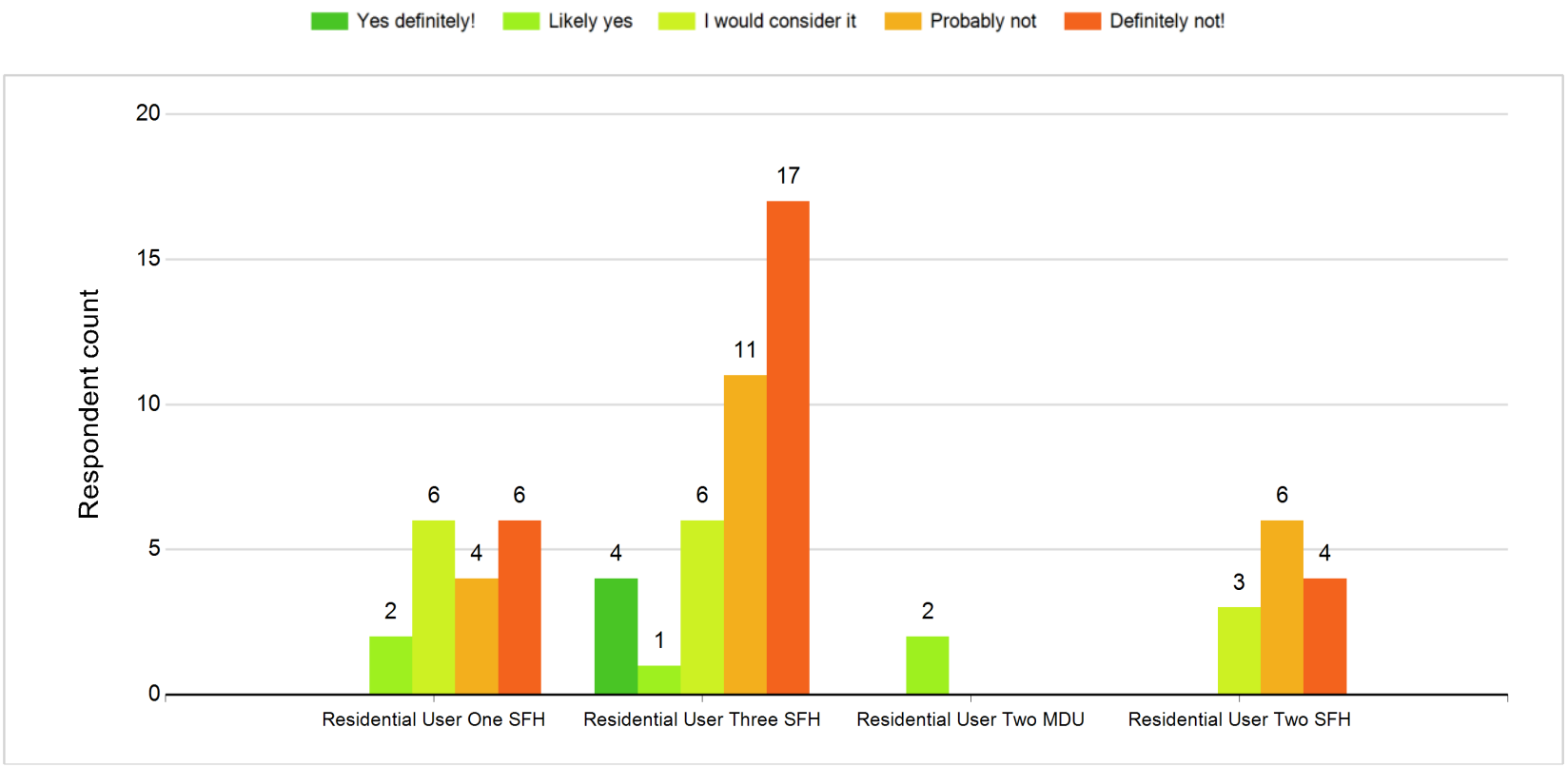
How likely to purchase - Business

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



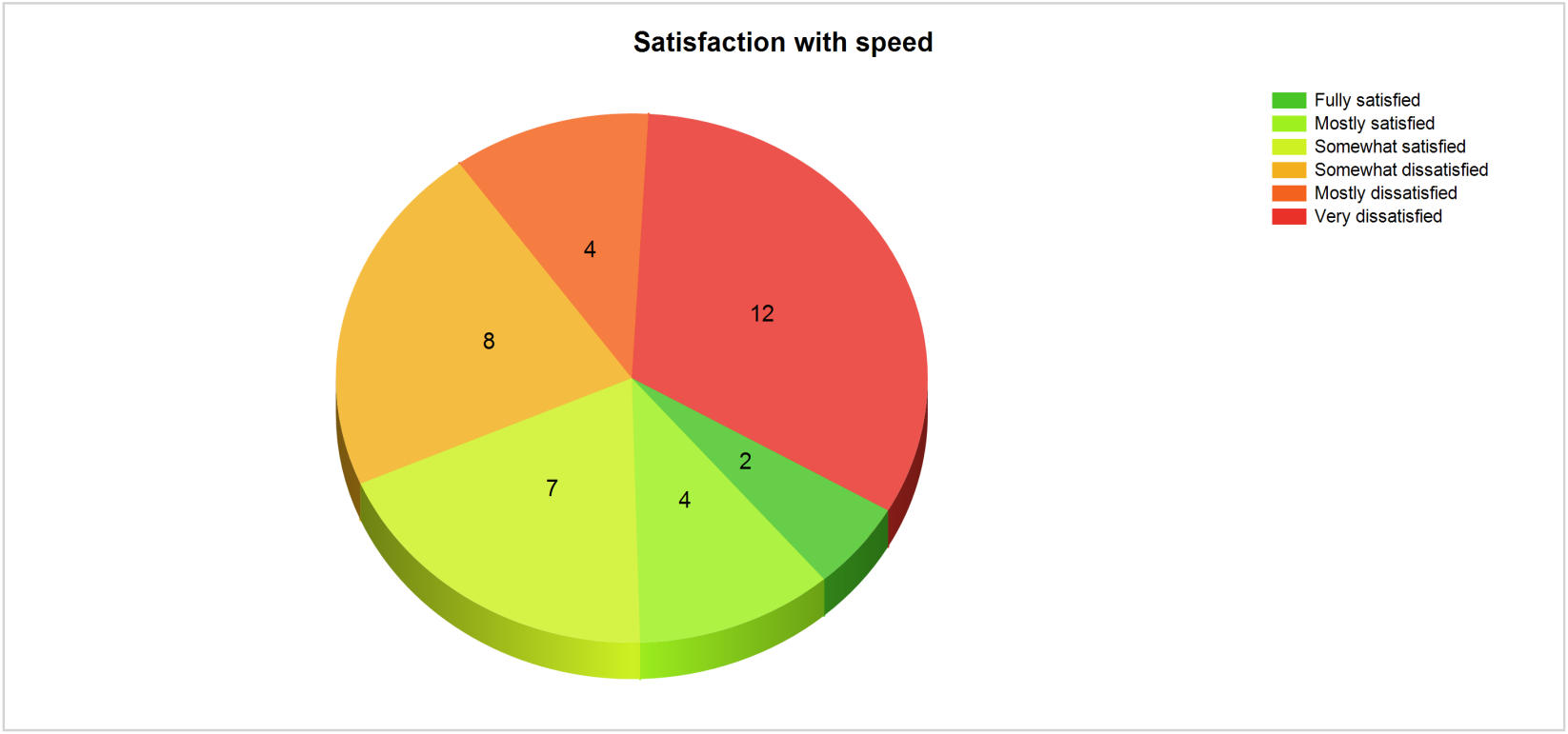
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



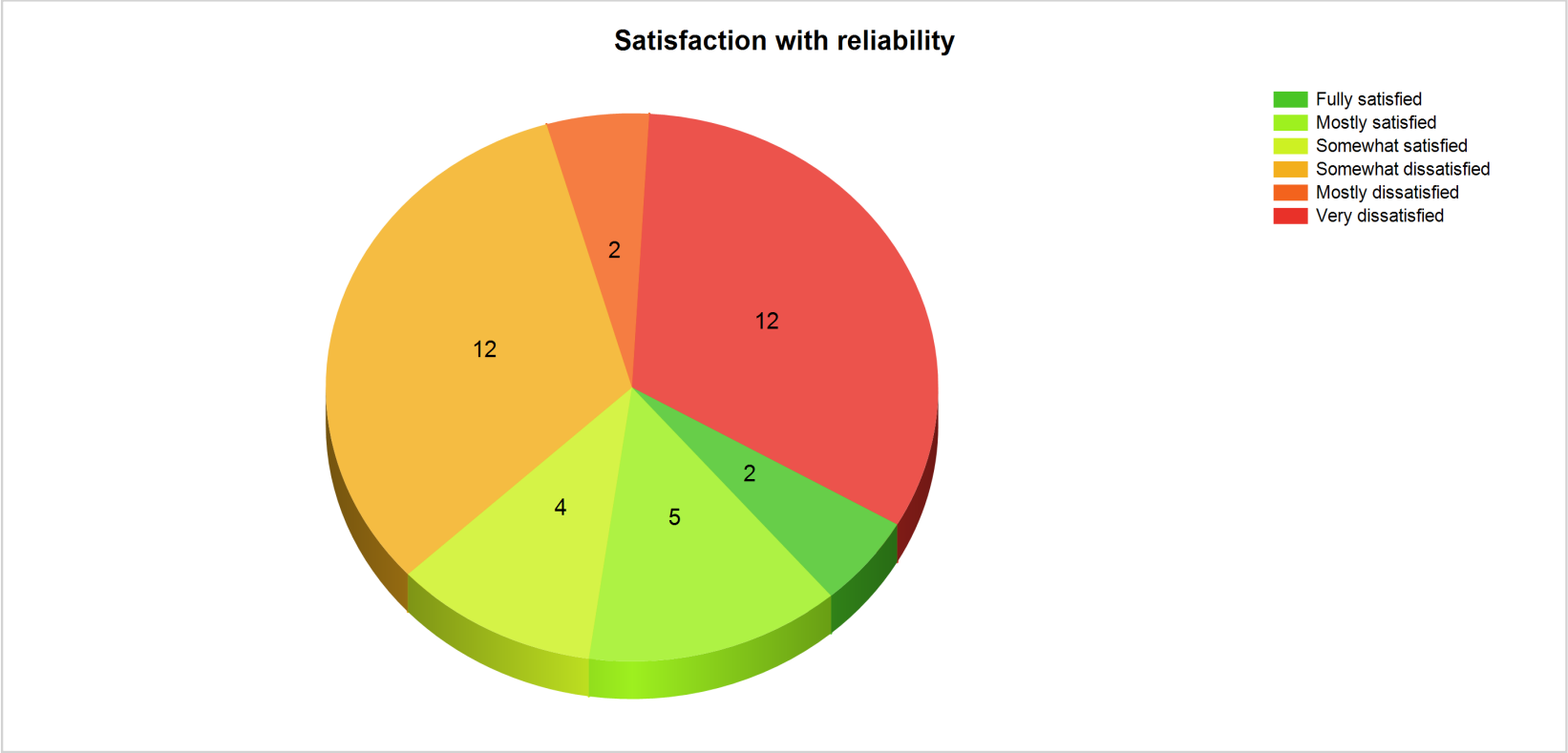
Satisfaction with speed

Of the respondents who currently have Internet service **24 (64.9%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



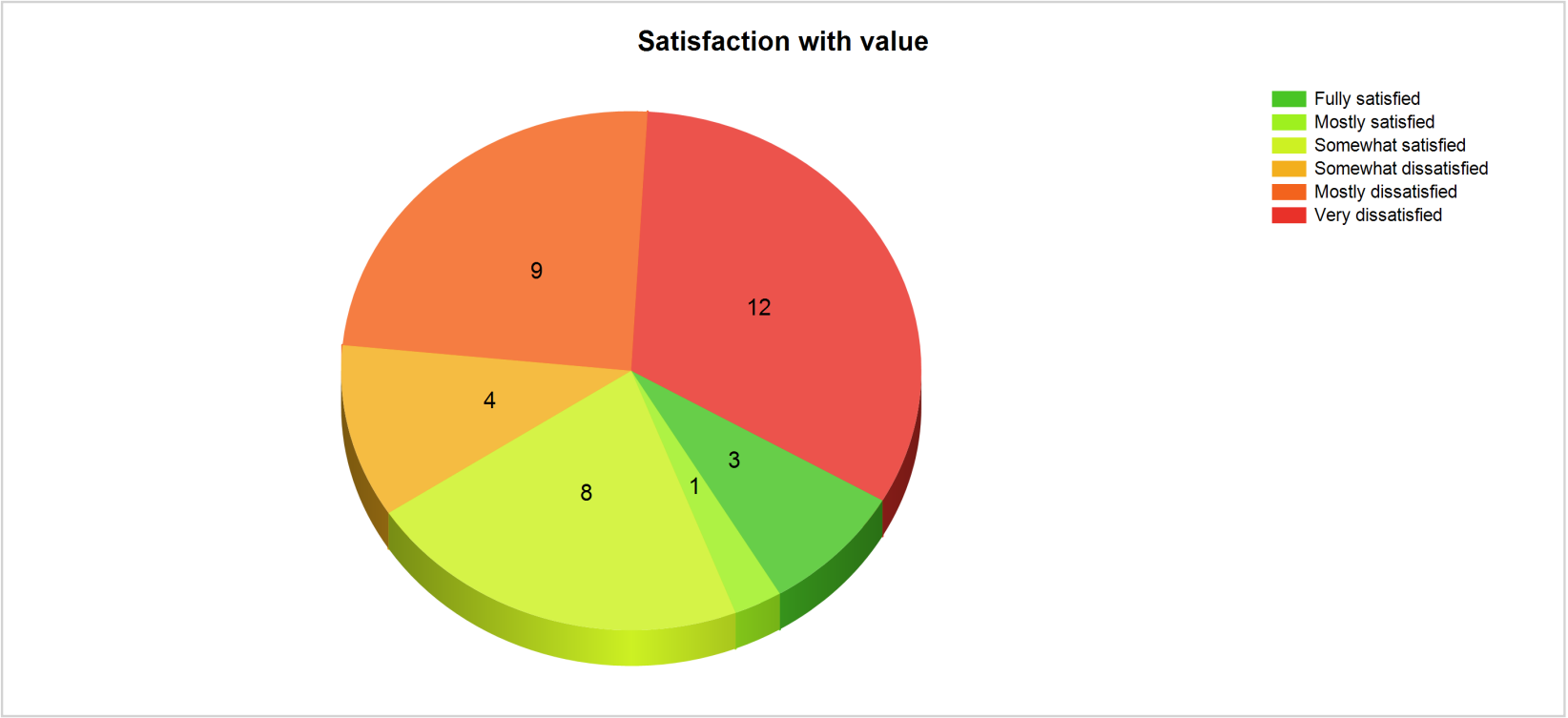
Satisfaction with reliability

Of the respondents who currently have Internet service **26 (70.3%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **25 (67.6%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



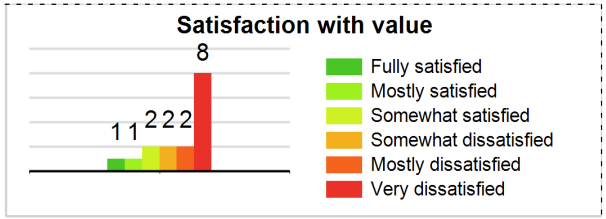
Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

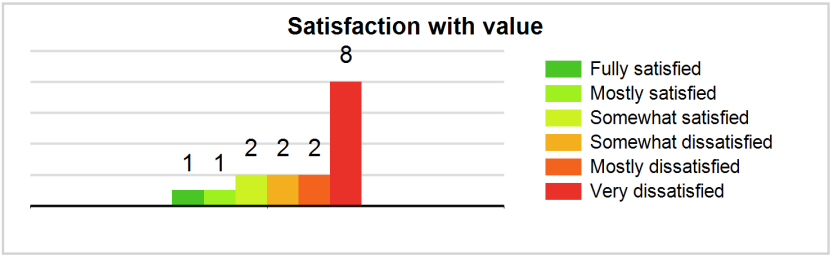
FRONTIER-FRTR, US

By survey type:

Type:	Satisfied with speed: 25.0%
	Satisfied with reliability: 12.5%
Count: 16	Satisfied with value: 25.0% (see graph)



Totals for FRONTIER-FRTR, US:	**Satisfied with speed: 25.0%**
	Satisfied with reliability: 12.5%
Count: 16	**Satisfied with value: 25.0% (see graph)**



TWC-10796-MIDWEST, US

By survey type:

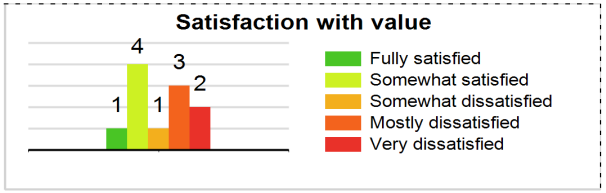
Type:

Count: 11

Satisfied with speed: 63.6%

Satisfied with reliability: 63.6%

Satisfied with value: 45.5% (see graph)



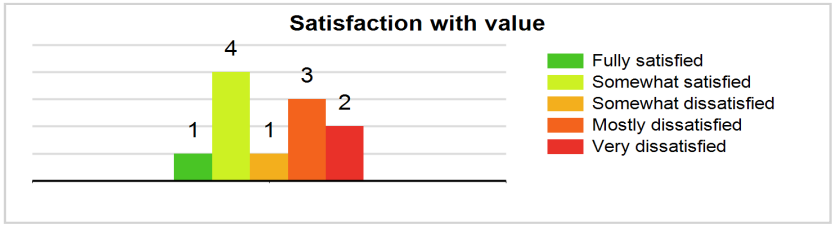
Totals for TWC-10796-MIDWEST, US:

Count: 11

Satisfied with speed: 63.6%

Satisfied with reliability: 63.6%

Satisfied with value: 45.5% (see graph)



CELLCO-PART, US

By survey type:

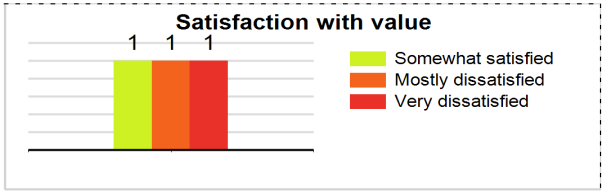
Type:

Count: 3

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 33.3% (see graph)



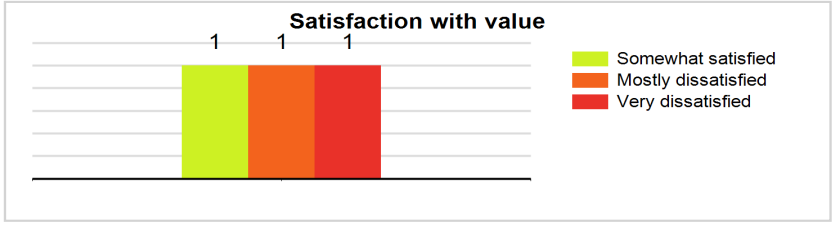
Totals for CELLCO-PART, US:

Count: 3

Satisfied with speed: 0.0%

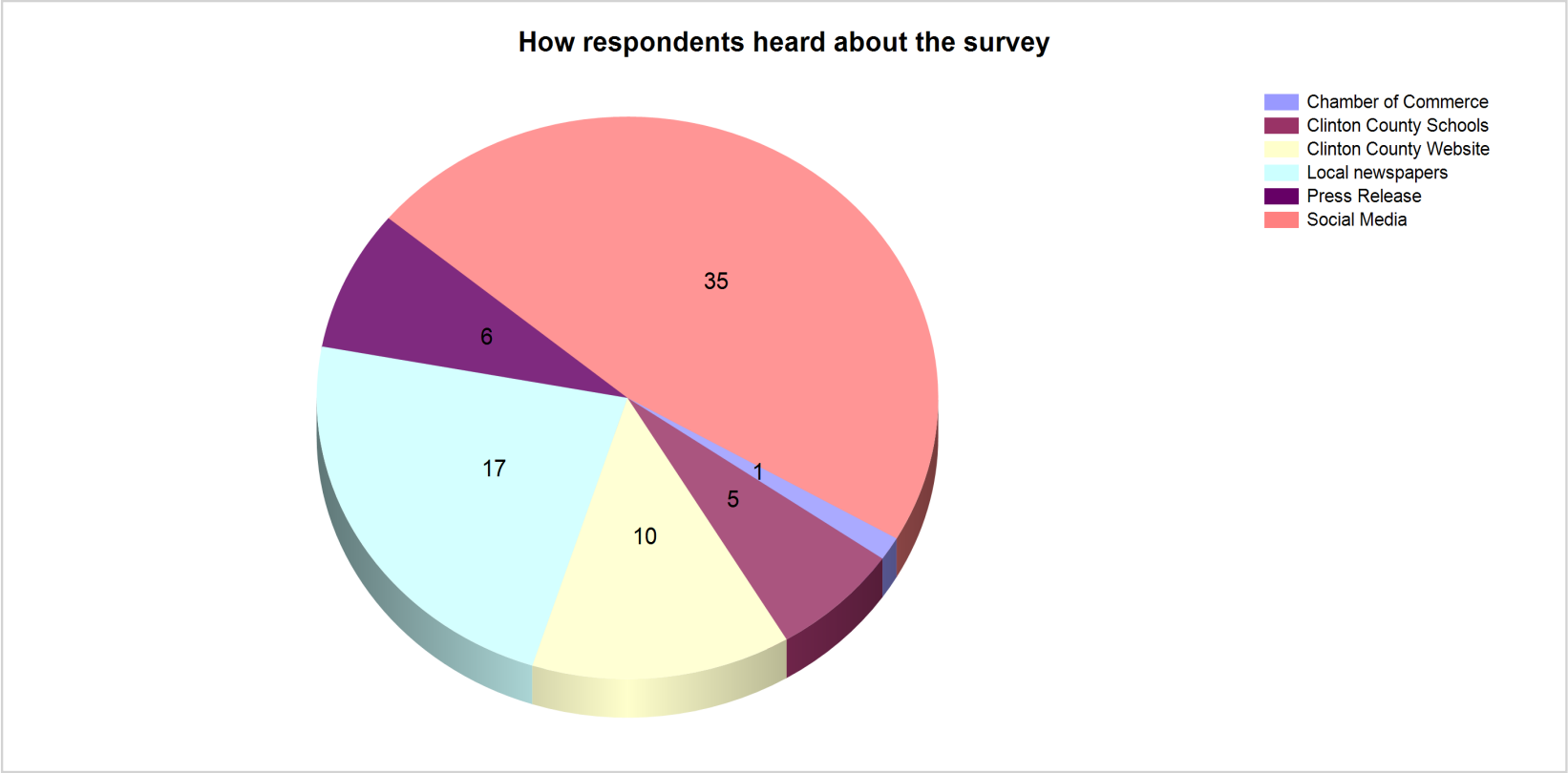
Satisfied with reliability: 0.0%

Satisfied with value: 33.3% (see graph)

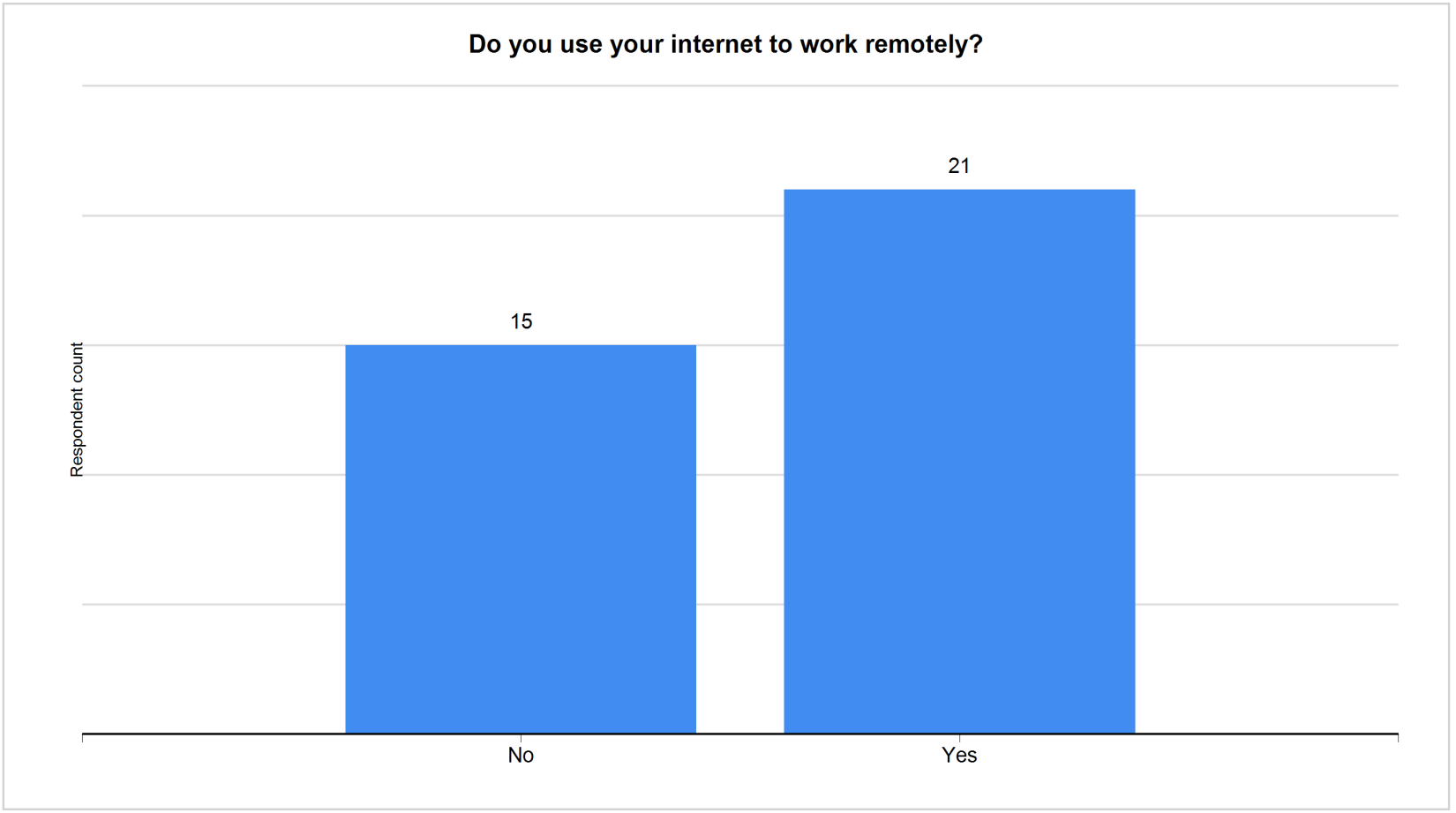


Additional information

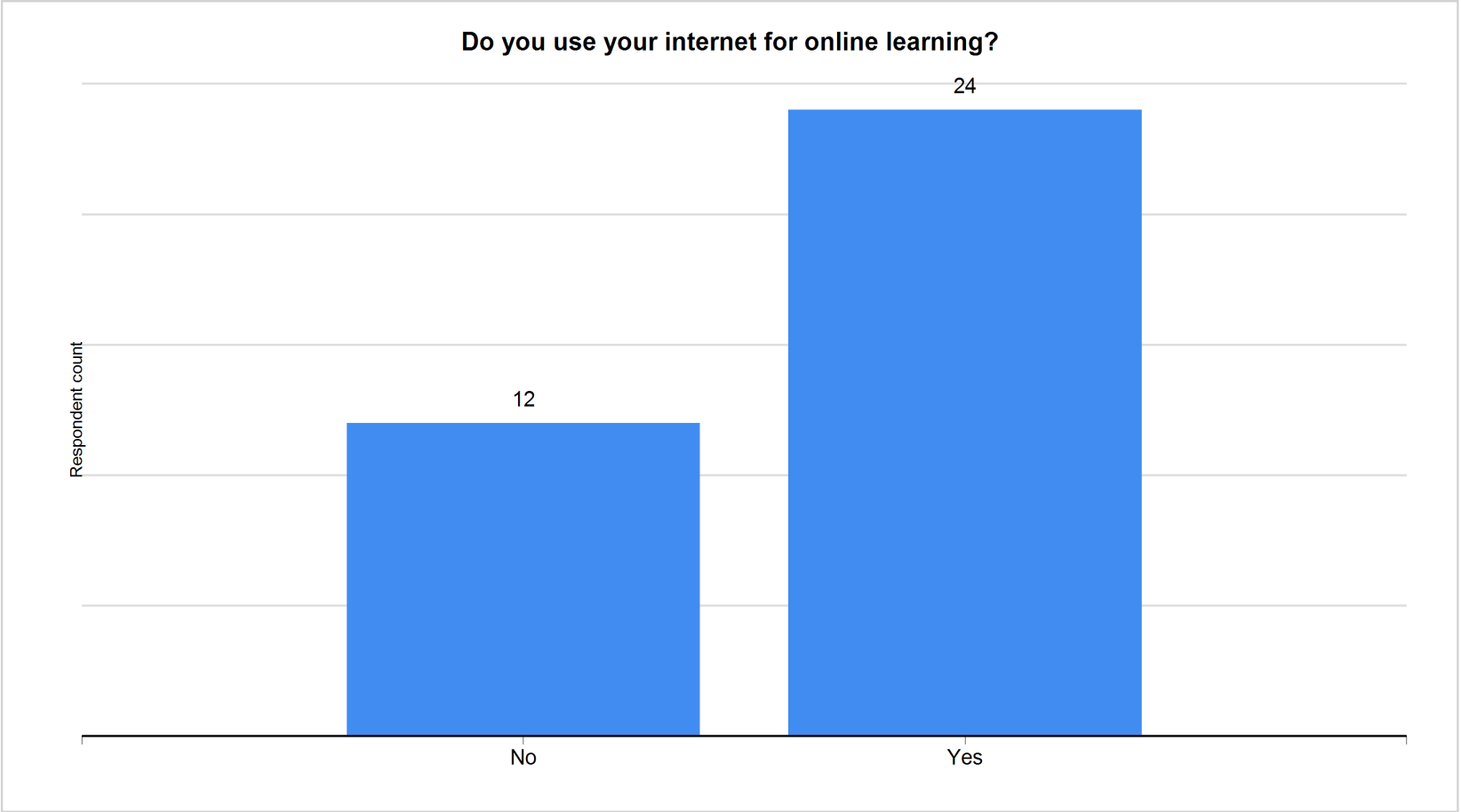
How respondents heard about the survey is a good way to analyze which kind of marketing and communication platforms worked best when reaching out to potential customers. The channels that seem to work best should be emphasized in the marketing efforts done in the following zones.



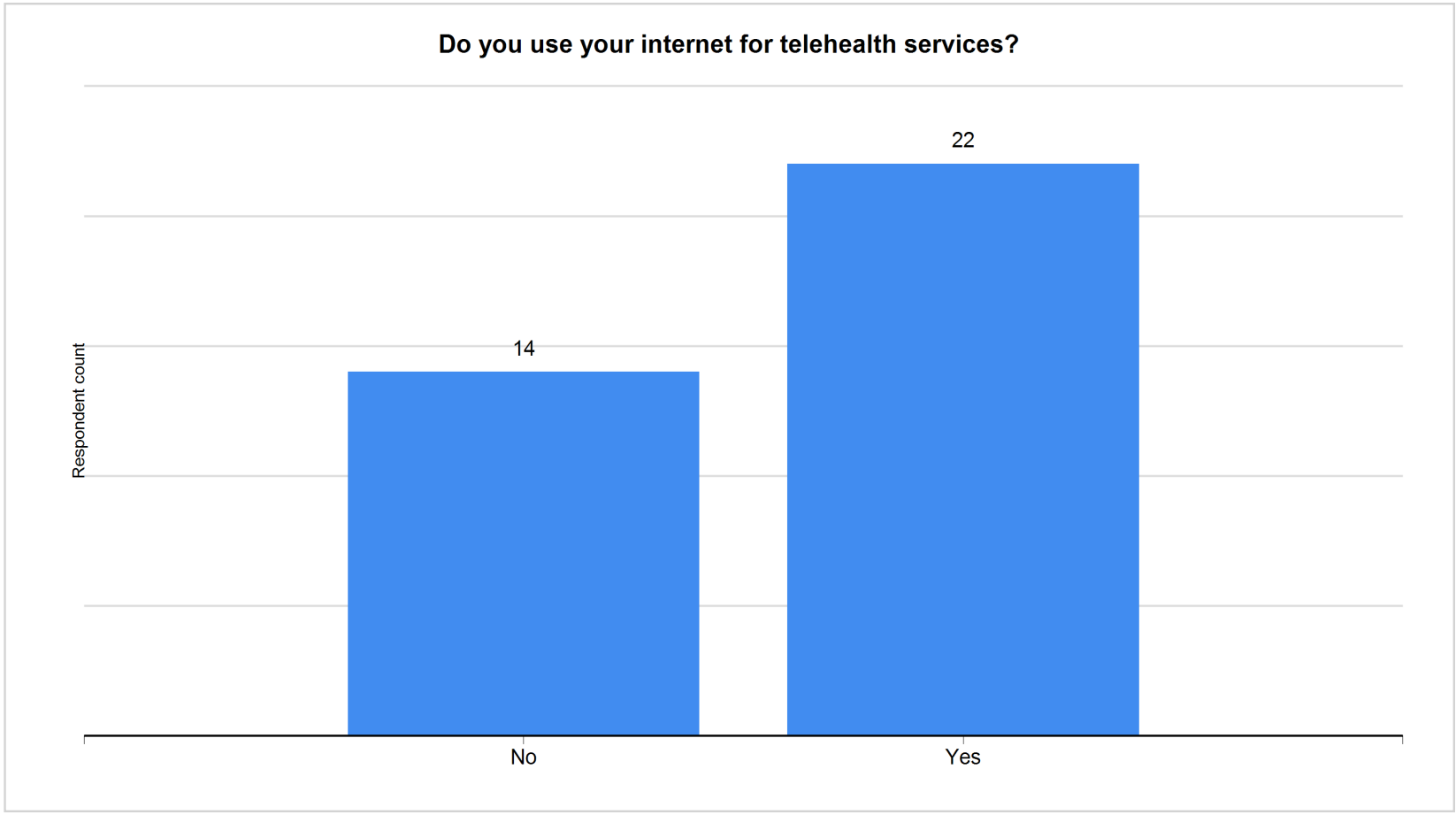
Custom question



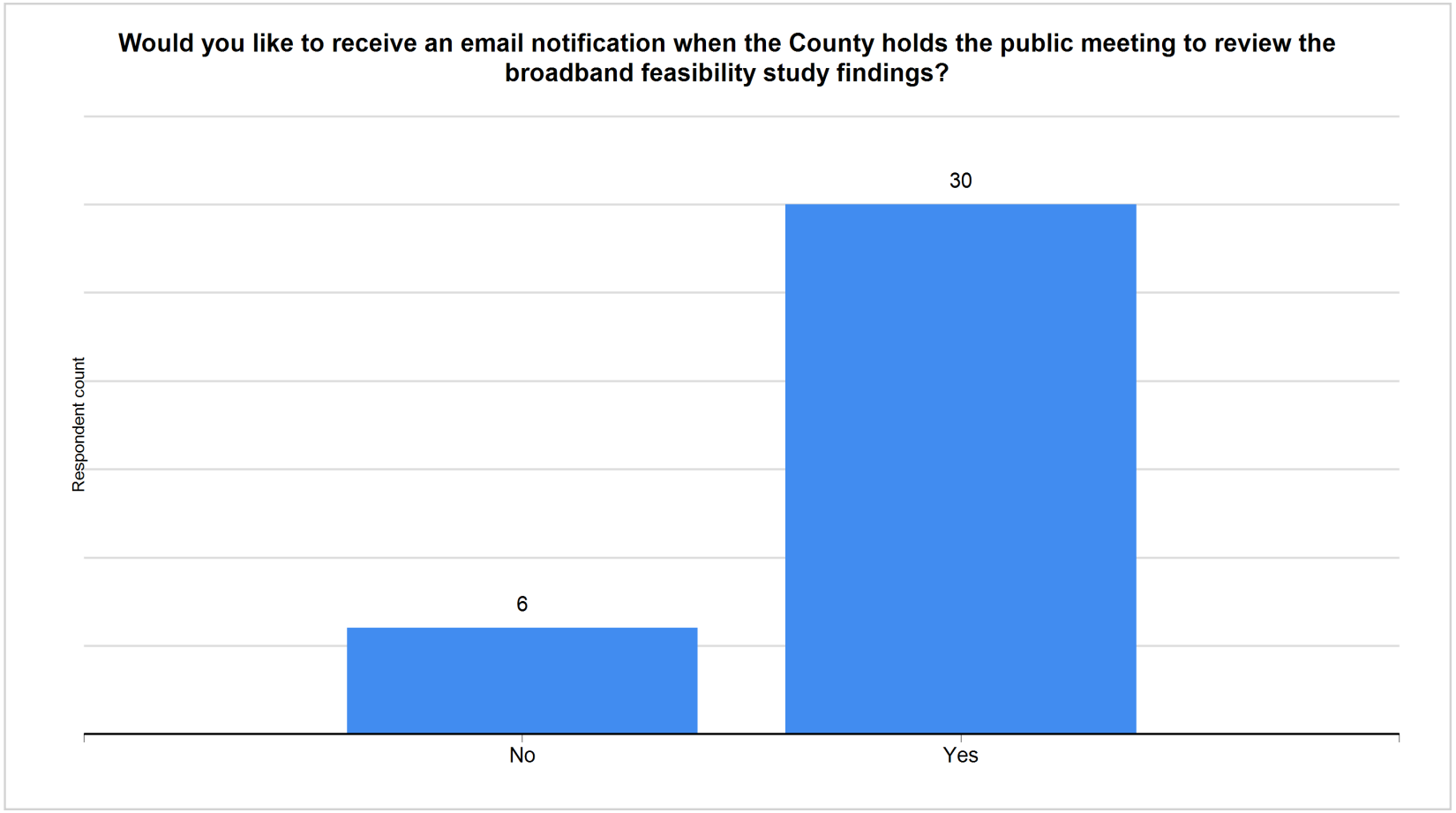
Custom question



Custom question



Custom question



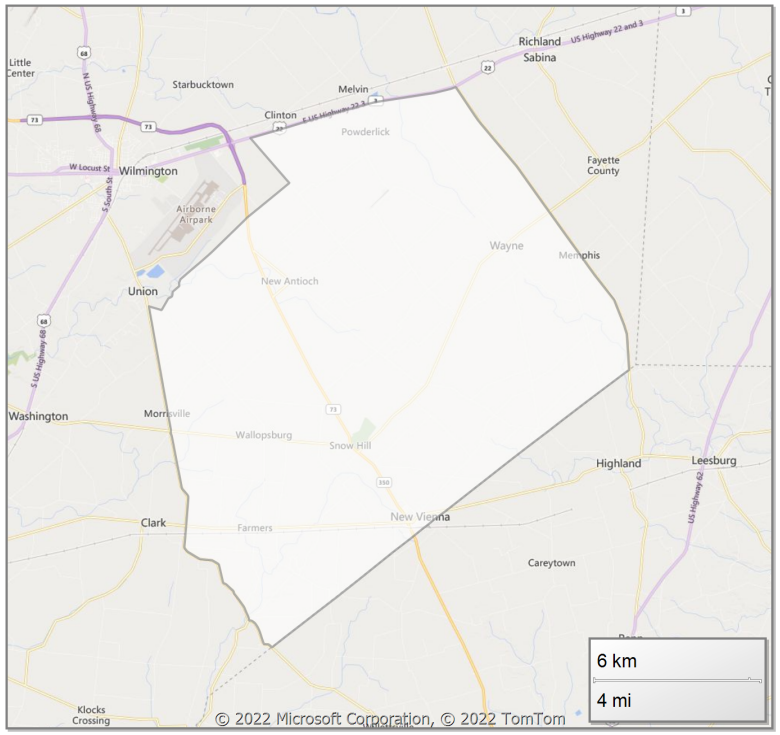
Zone Analyzer™
9651

About 9651

Belongs to service area:
Clinton County

Area:
243.2 sq km (93.9 sq mi)

Survey phase started:
1/19/2022 (96 day(s) ago)



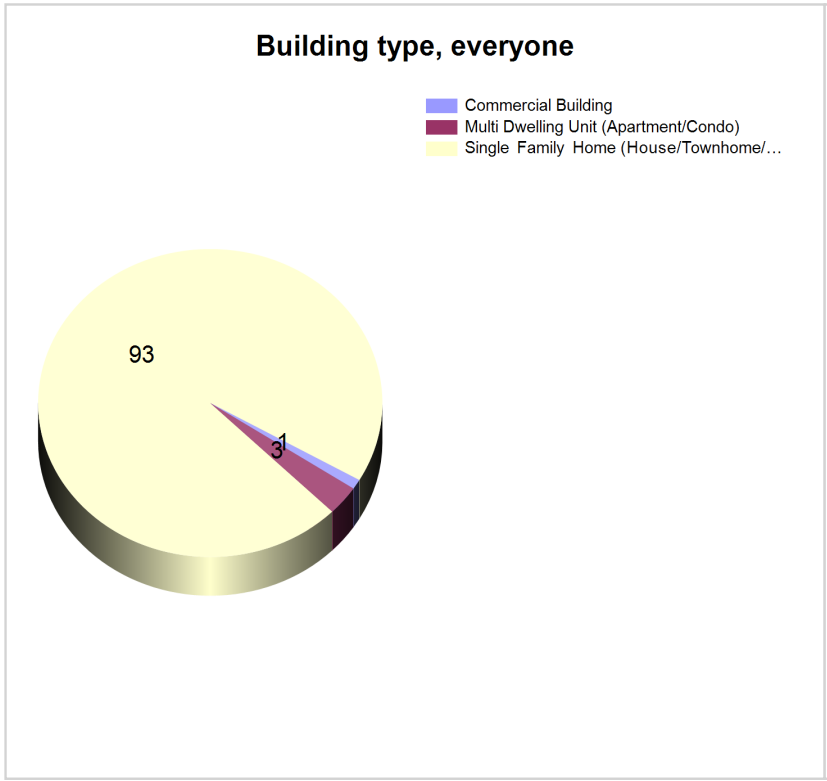
Input parameters

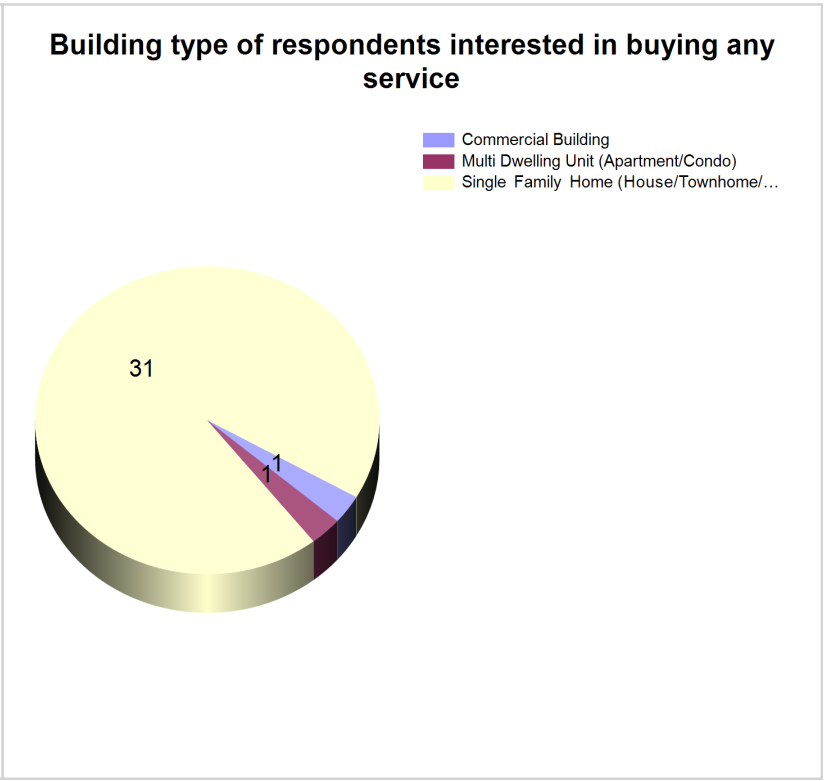
COS Service Zones™ uses a number of customer input values and a general assumption regarding the potential subscribers' likelihood to sign up for the service they have shown interest in when responding to the survey. This input and the assumptions are used for the income and cost calculations. The input values are set by the user on a service area level, but can be adjusted for individual zones. The assumption is only used in this report, as zones in the Signup Visualizer™ will contain actual signup data.

Point of Presence Construction Cost: $100,000.00	Cost for hardware and deployment of the Point of Presence within the zone.
Monthly Transit Cost: $1,500.00	Average monthly cost for data traffic to the Internet Point of Presence for the zone.
Payback Period Goal: 120 months	Targeted maximum number of months with full income to cover the total deployment cost and monthly transit cost.
Planned construction start:	The date when construction is planned to start within this zone.
Build-out Pace: 100 connections/month	Number of connected subscribers per 30 days
Construction cost per meter (foot): $60.00 ($18.29)	This is the average deployment cost per meter (per foot), including the cost to connect the signed up service locations. Based on the chosen construction company's quoted price, if available.

Information about respondents

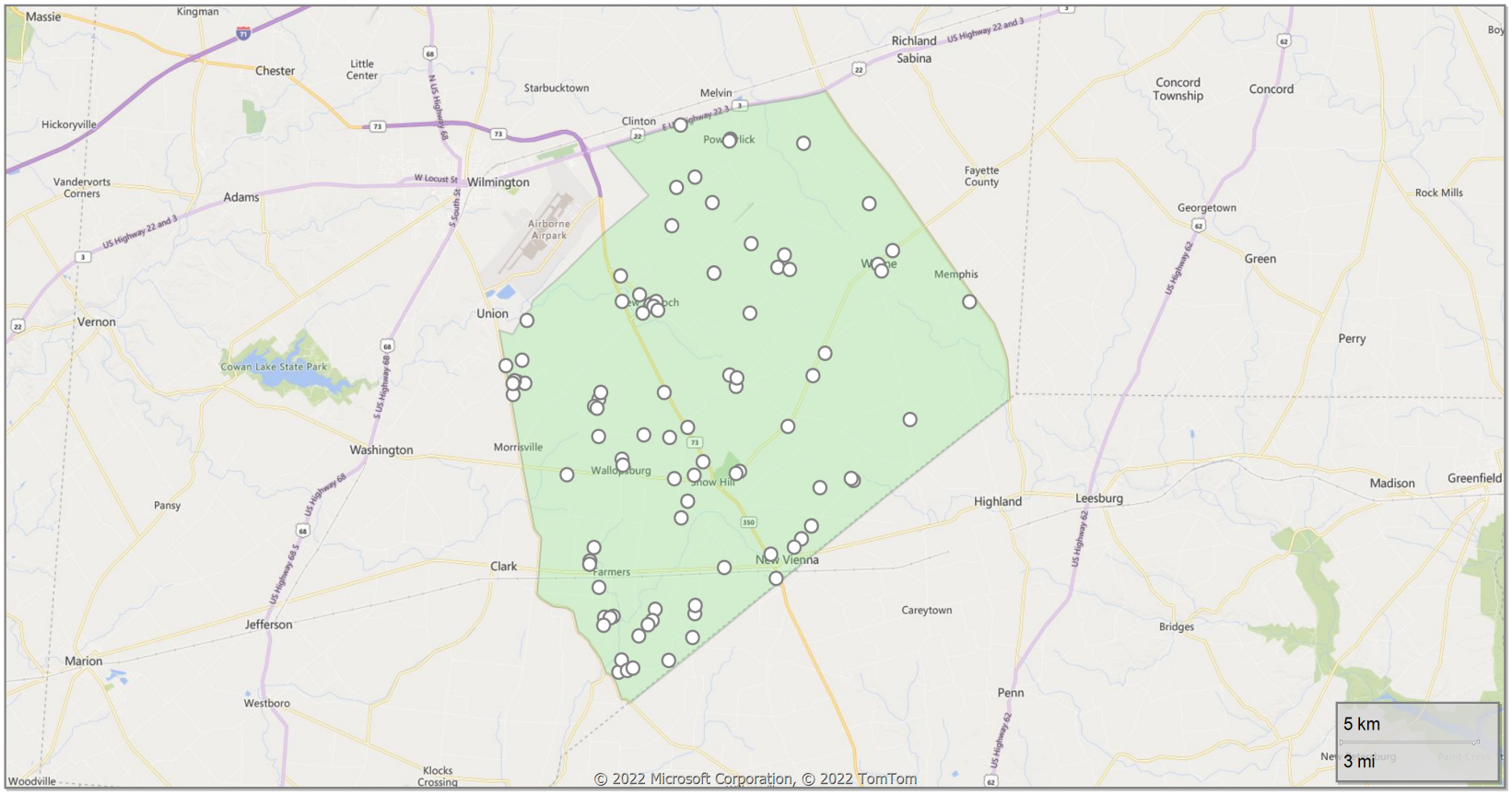
The below charts present the ratio between the different types of buildings the respondents answering the survey reside. It also shows to which extent potential subscribers living in different building types are interested in buying a connection to the network and a service. This will present a good indication of the building types where more marketing and sales efforts should be focused.



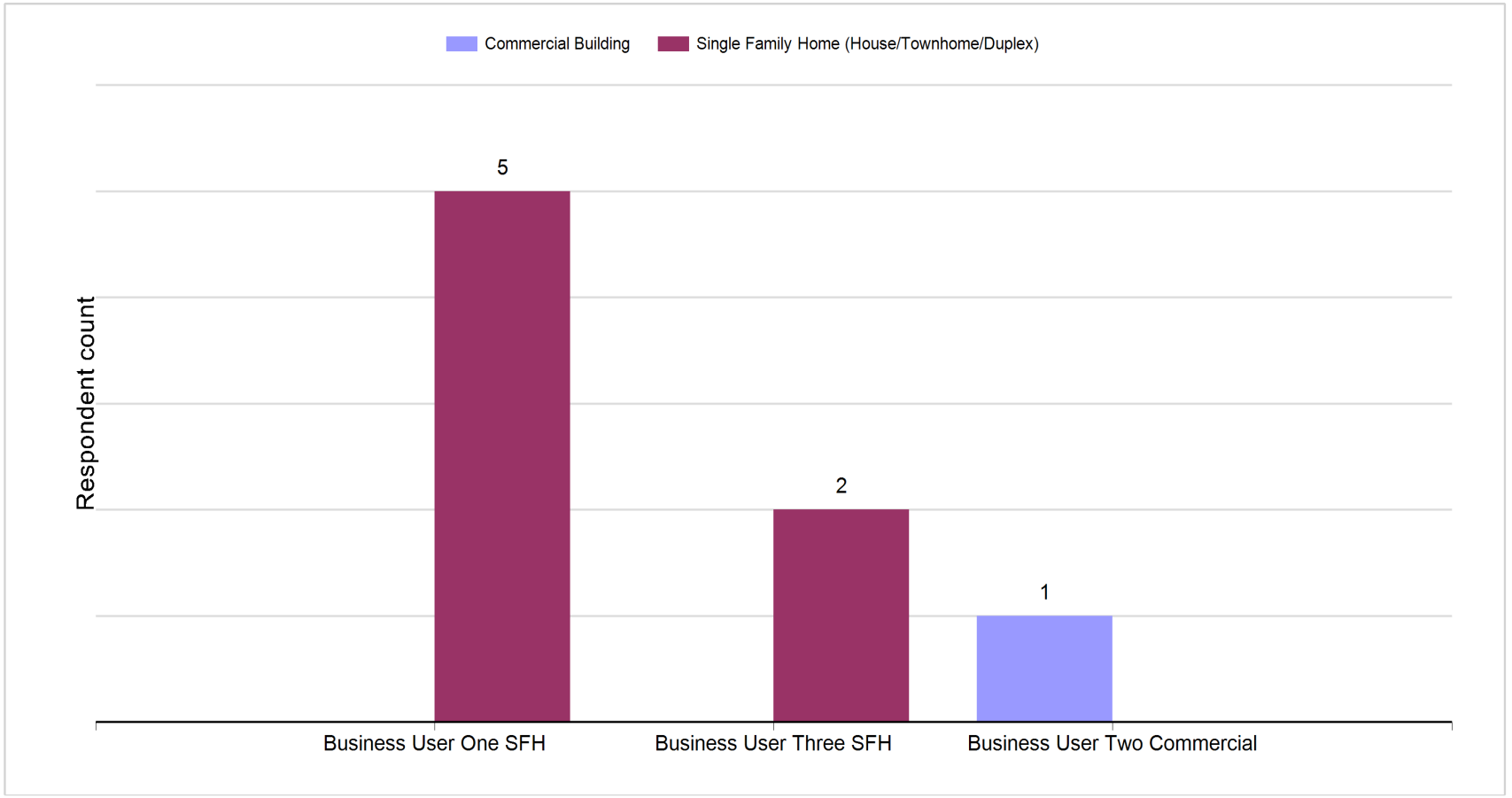


Survey responses on a map

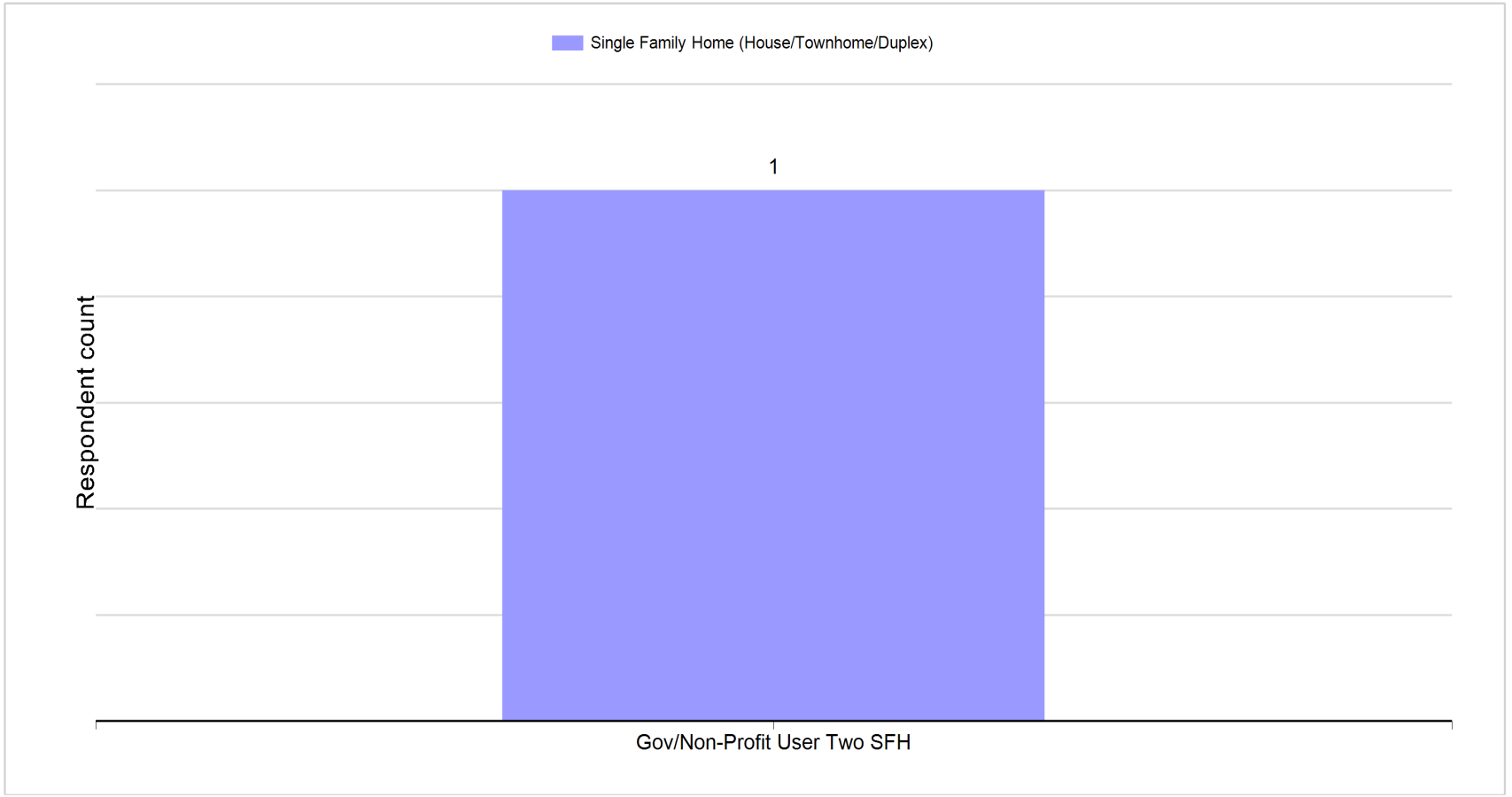
This is the map of the zone with the survey responses clearly plotted to show where a concerted effort of sales and marketing should be done to increase the number of survey responses.



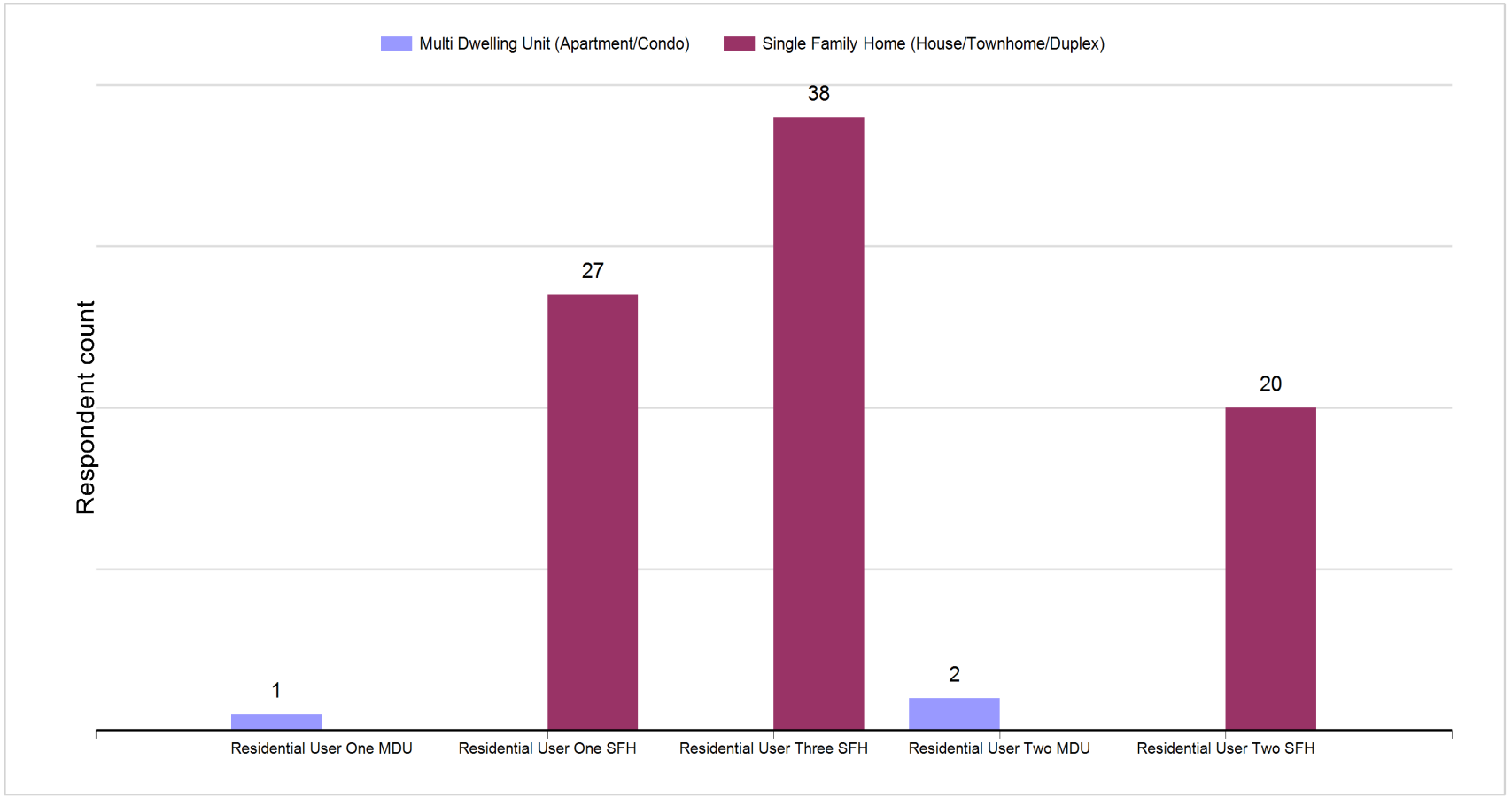
Selected service offering - Business



Selected service offering - Government/Non-Profit Organization

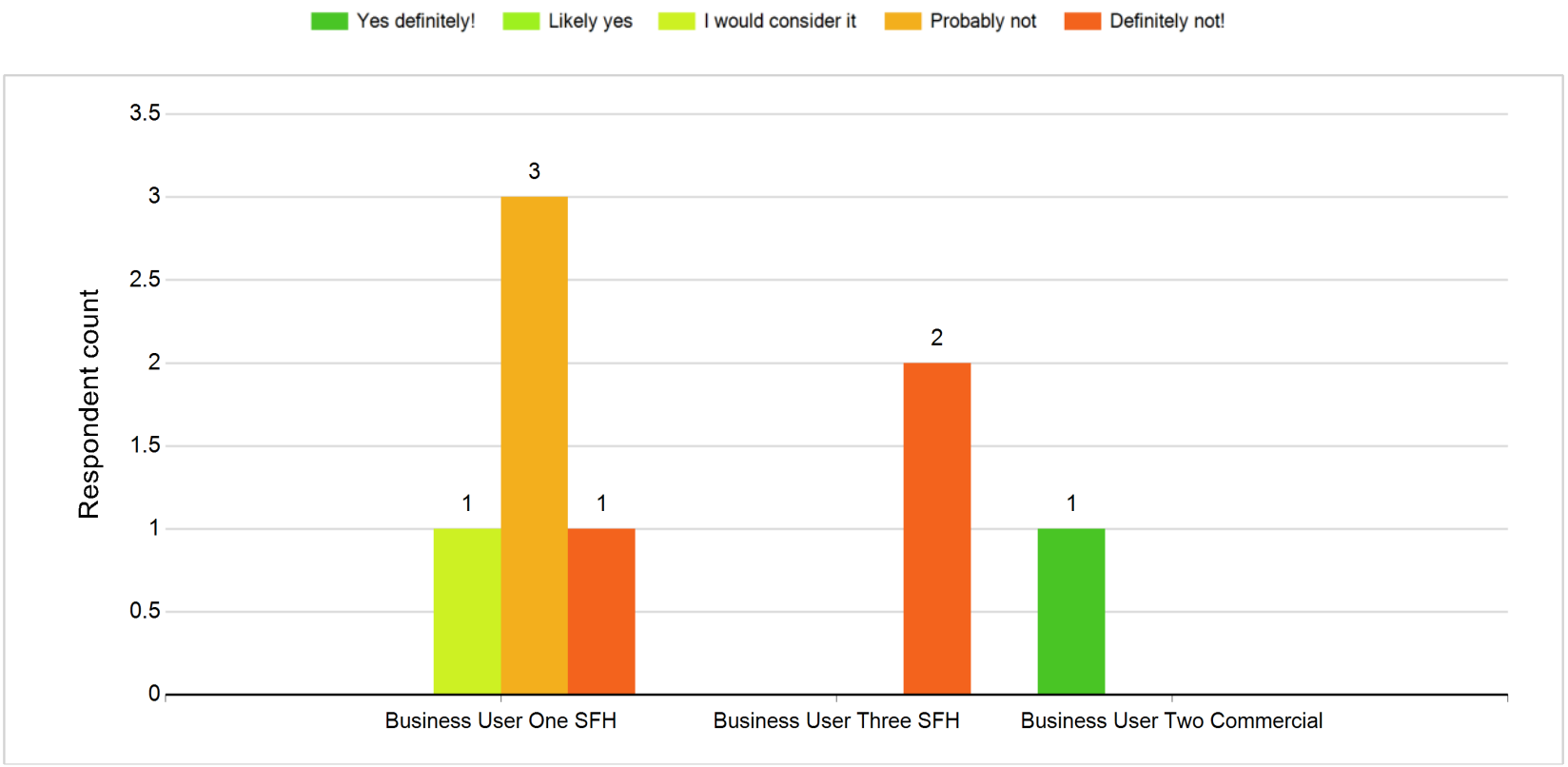


Selected service offering - Residential



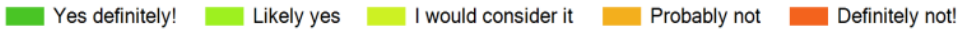
How likely to purchase - Business

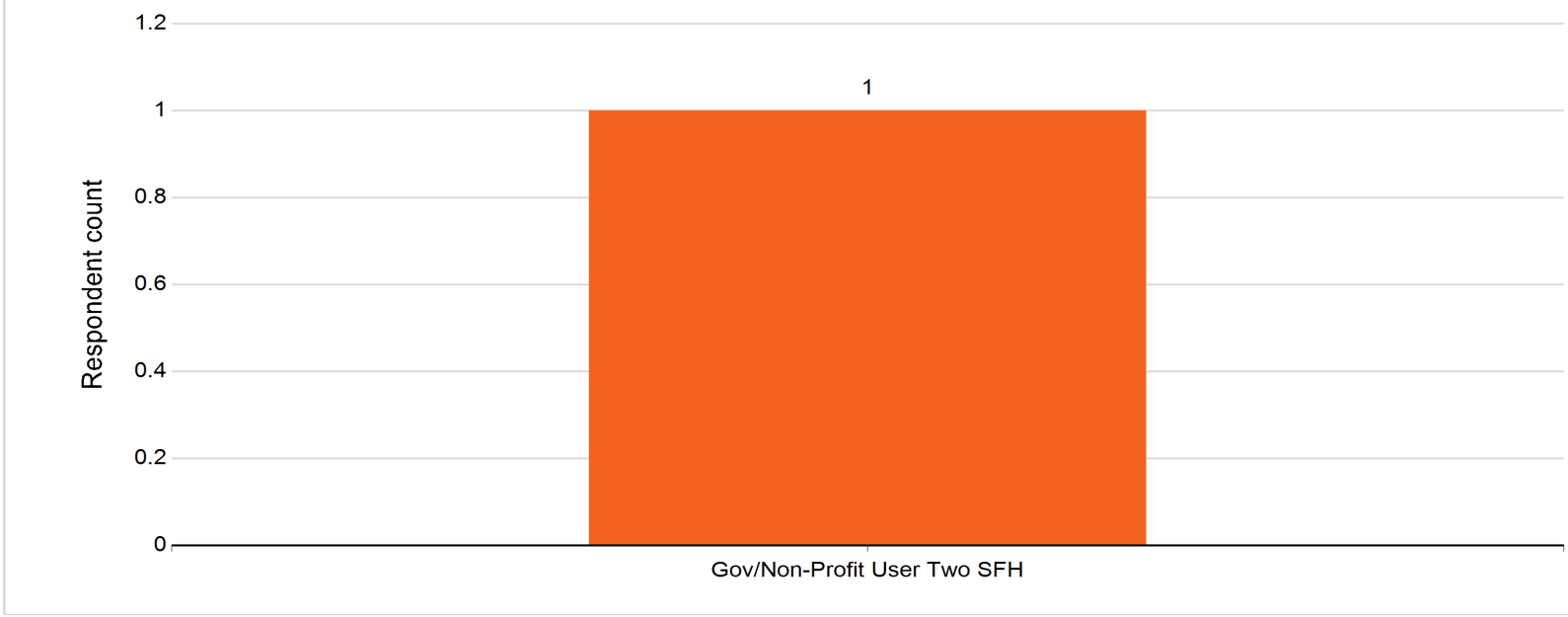
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



How likely to purchase - Government/Non-Profit Organization

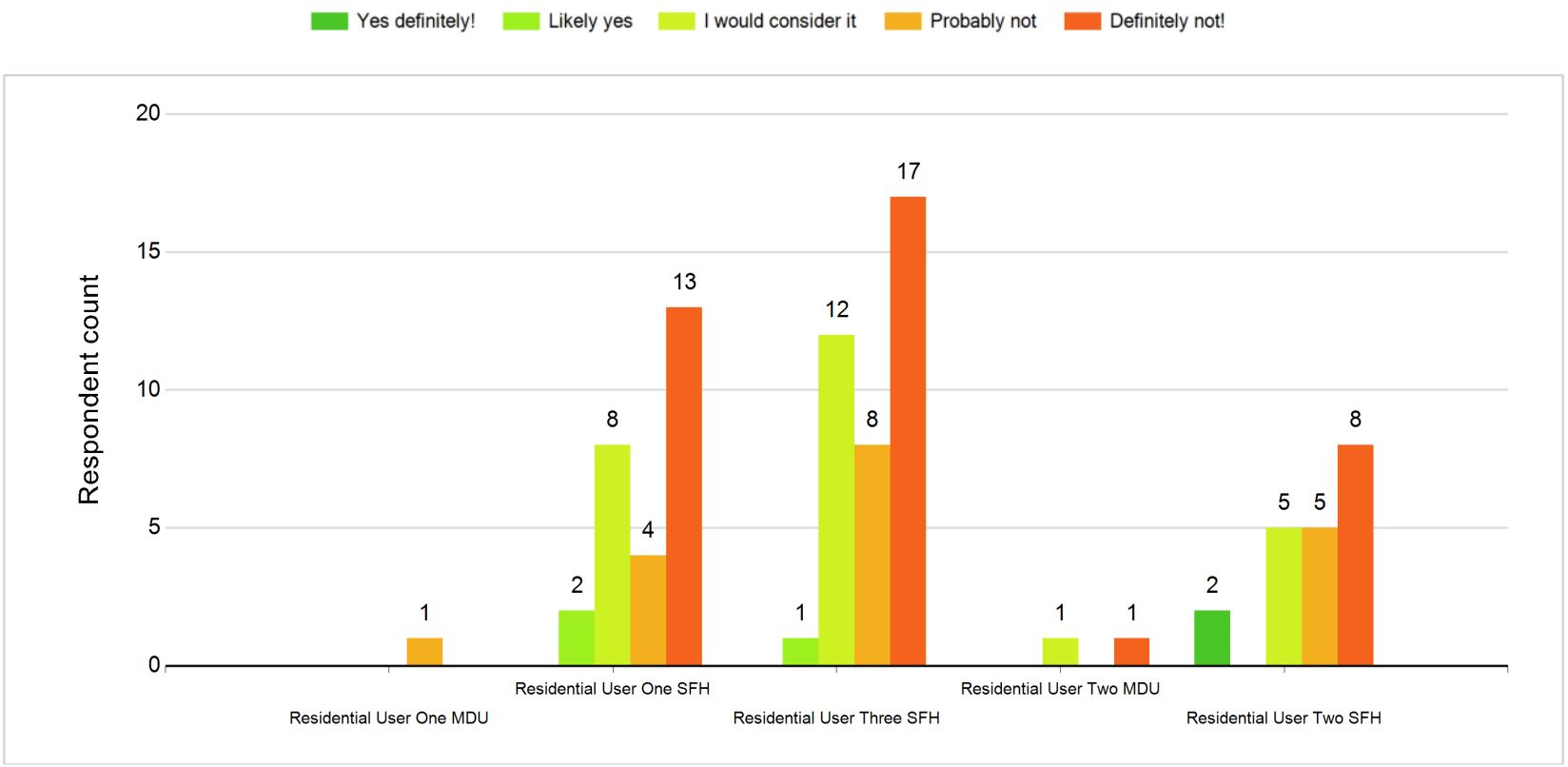
How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.





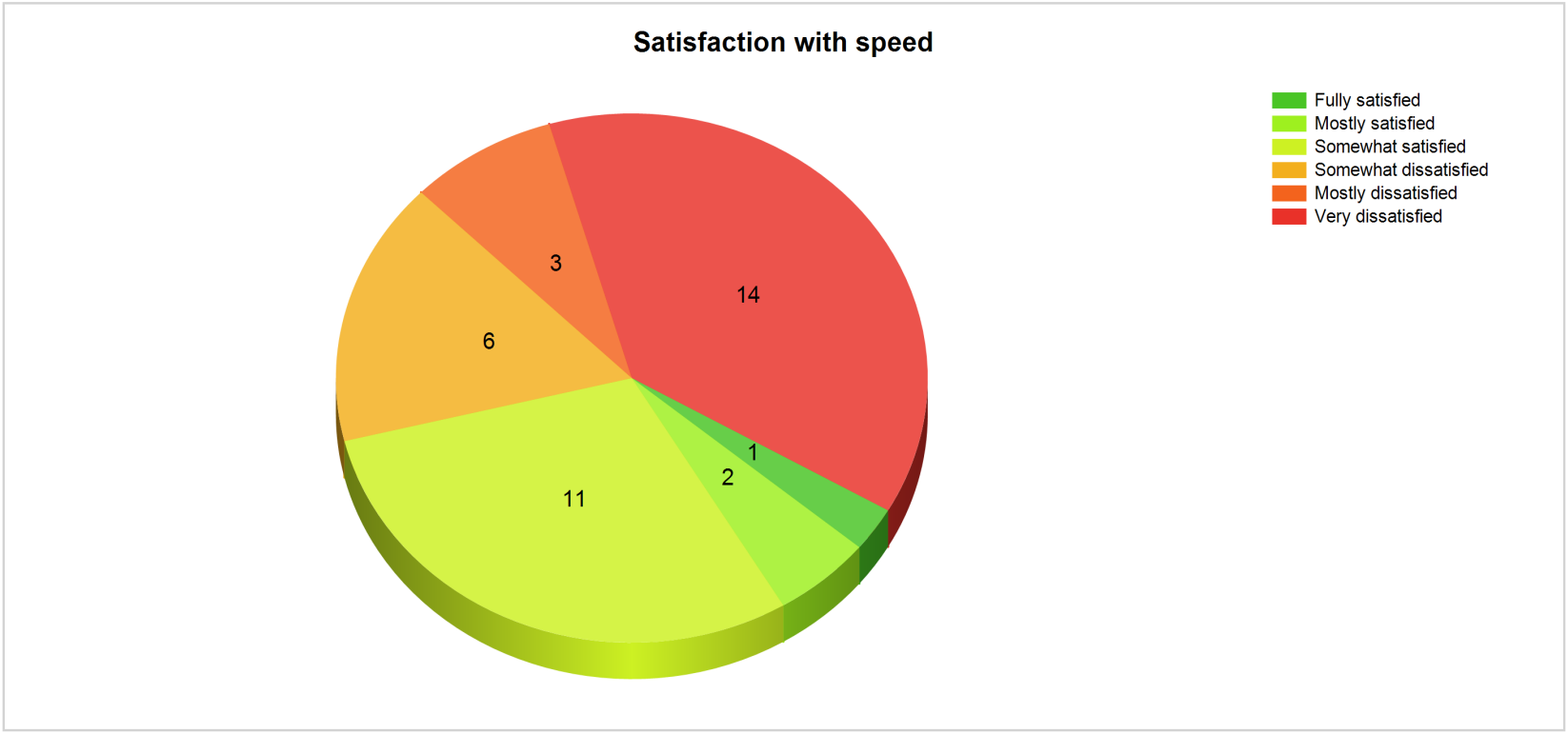
How likely to purchase - Residential

How likely the respondent are to signup with their selected offer. A simple "Yes" or "No" in the survey has a big impact on how the customer will actually react when presented an offer. By asking them to describe how positive or negative they are at buying the service will help make a more accurate analysis of the expected outcome in the signup phase.



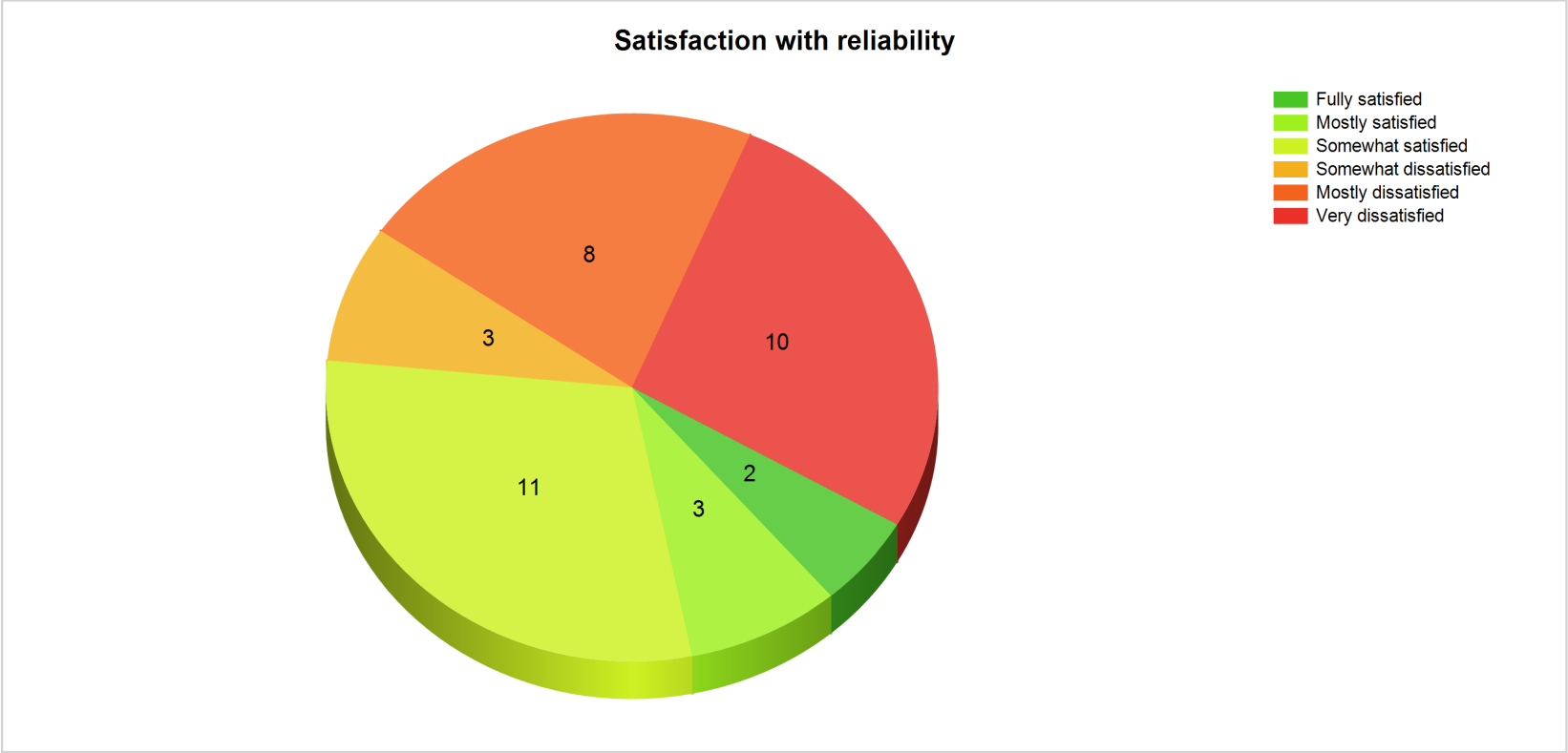
Satisfaction with speed

Of the respondents who currently have Internet service **23 (62.2%)** are less than satisfied with their current service's speed. If speed is identified as the major factor for satisfaction by the majority of potential subscribers. Then the high speed capacity of fiber should be emphasized in the marketing material.



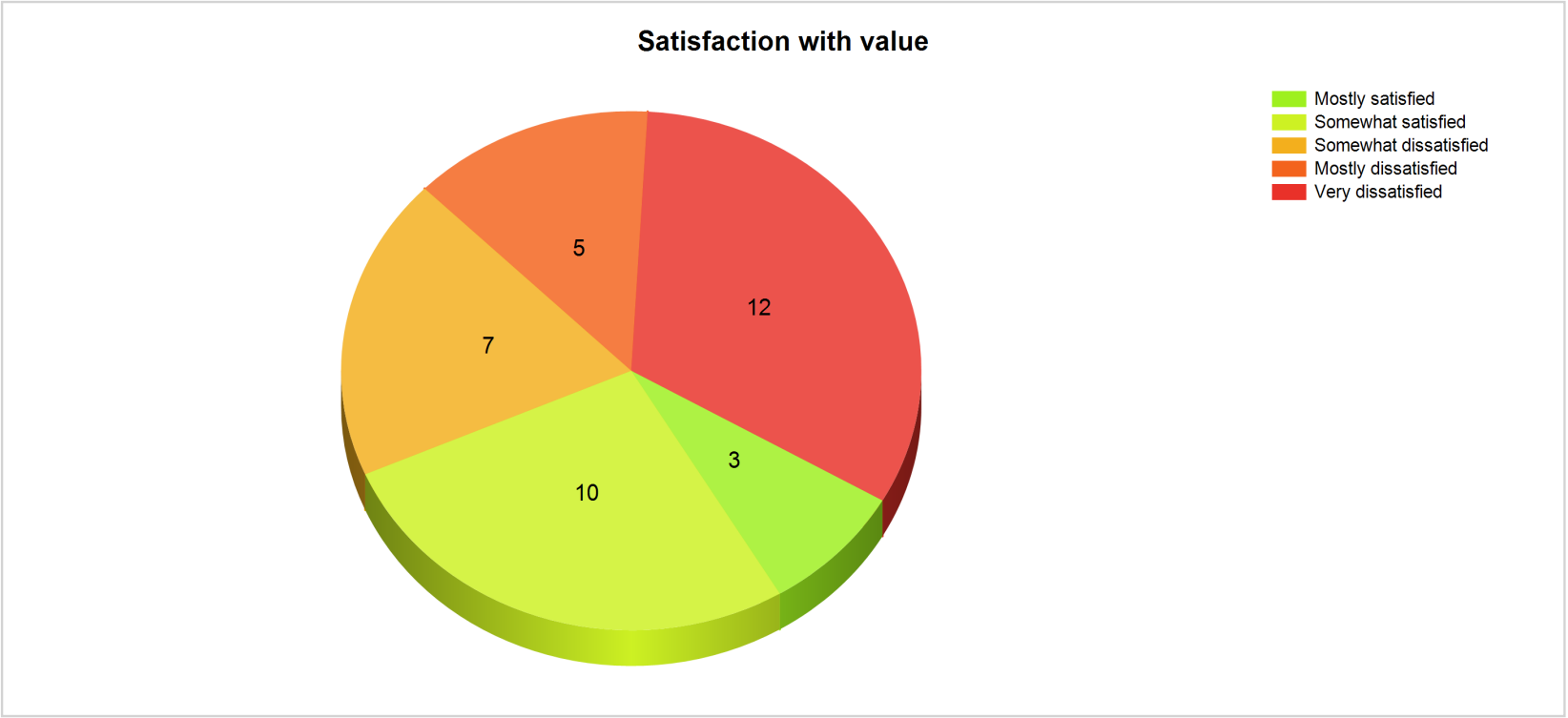
Satisfaction with reliability

Of the respondents who currently have Internet service **21 (56.8%)** are less than satisfied with its reliability. If reliability is identified as the major factor for satisfaction by the majority of potential subscribers. Then the robustness and stability of a fiber connection should be emphasized in the marketing material.



Satisfaction with value

Of the respondents who currently have Internet service **24 (64.9%)** are less than satisfied with its price value. If the price is identified as the major factor for satisfaction by the majority of the potential subscribers. Then the affordability of fiber should be emphasized in the marketing material. This is often done by describing dollars per megabit ratio, where high speed fiber connections normally have the advantage.



Opinions on existing service providers

If there is a Service Zone with a particular competitor with a strong presence then it will be of great benefit to identify their weak points, so that your fiber option can be designed and presented in the most favorable way through the competition with the competitor's offers.

FRONTIER-FRTR, US

By survey type:

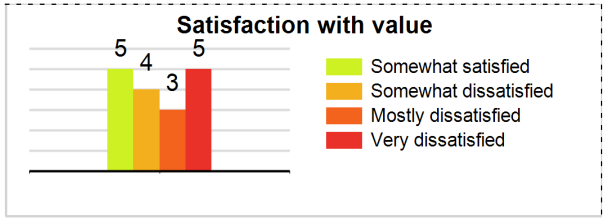
Type:

Count: 17

Satisfied with speed: 23.5%

Satisfied with reliability: 29.4%

Satisfied with value: 29.4% (see graph)



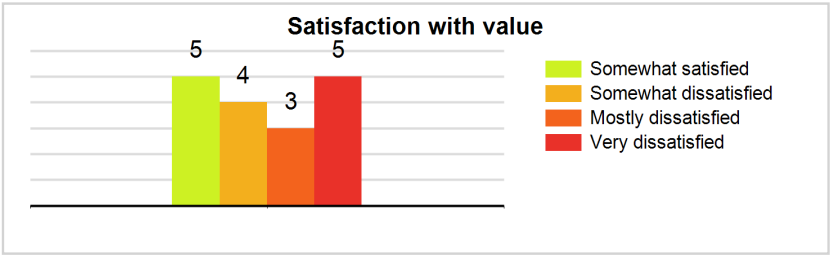
Totals for FRONTIER-FRTR, US:

Count: 17

Satisfied with speed: 23.5%

Satisfied with reliability: 29.4%

Satisfied with value: 29.4% (see graph)



TWC-10796-MIDWEST, US

By survey type:

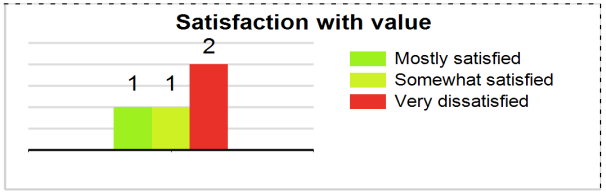
Type:

Count: 4

Satisfied with speed: 50.0%

Satisfied with reliability: 75.0%

Satisfied with value: 50.0% (see graph)



Totals for TWC-10796-MIDWEST, US:

Count: 4

Satisfied with speed: 50.0%

Satisfied with reliability: 75.0%

Satisfied with value: 50.0% (see graph)

CELLCO-PART, US

By survey type:

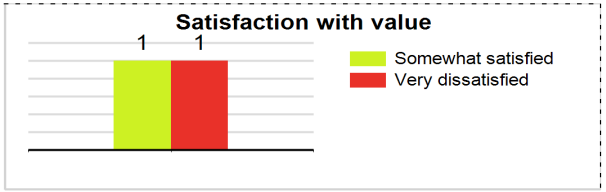
Type:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



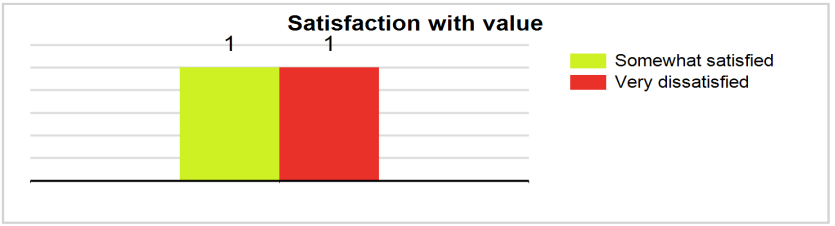
Totals for CELLCO-PART, US:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



COUNTRY-CONNECTIONS-LLC, US

By survey type:

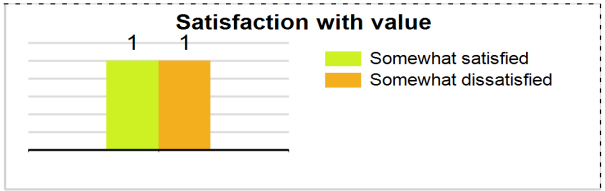
Type:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



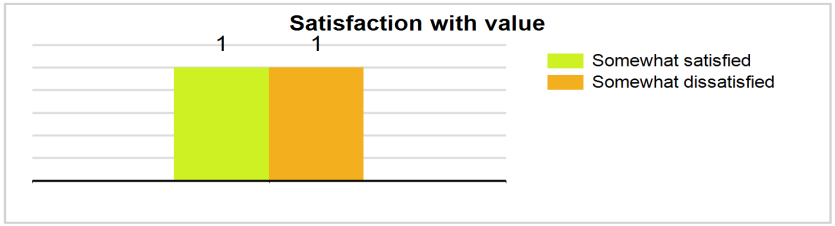
Totals for COUNTRY-CONNECTIONS-LLC, US:

Count: 2

Satisfied with speed: 50.0%

Satisfied with reliability: 50.0%

Satisfied with value: 50.0% (see graph)



HNS-DIRECPC, US

By survey type:

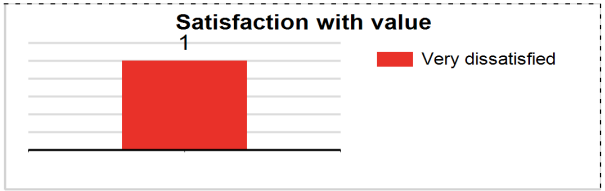
Type:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



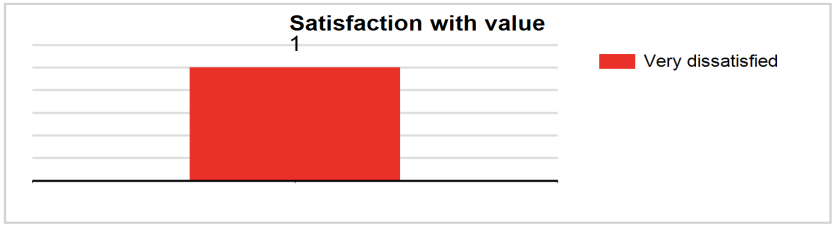
Totals for HNS-DIRECPC, US:

Count: 1

Satisfied with speed: 0.0%

Satisfied with reliability: 0.0%

Satisfied with value: 0.0% (see graph)



MVECA-AS, US

By survey type:

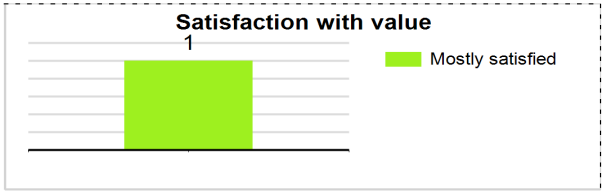
Type:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



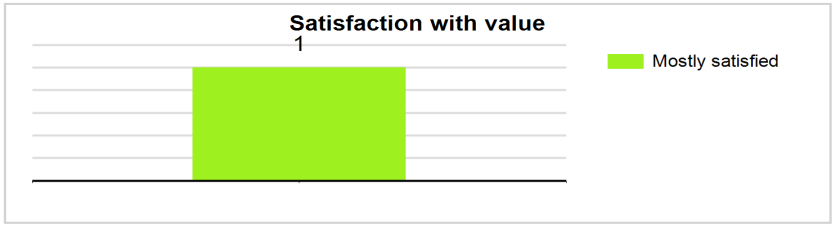
Totals for MVECA-AS, US:

Count: 1

Satisfied with speed: 100.0%

Satisfied with reliability: 100.0%

Satisfied with value: 100.0% (see graph)



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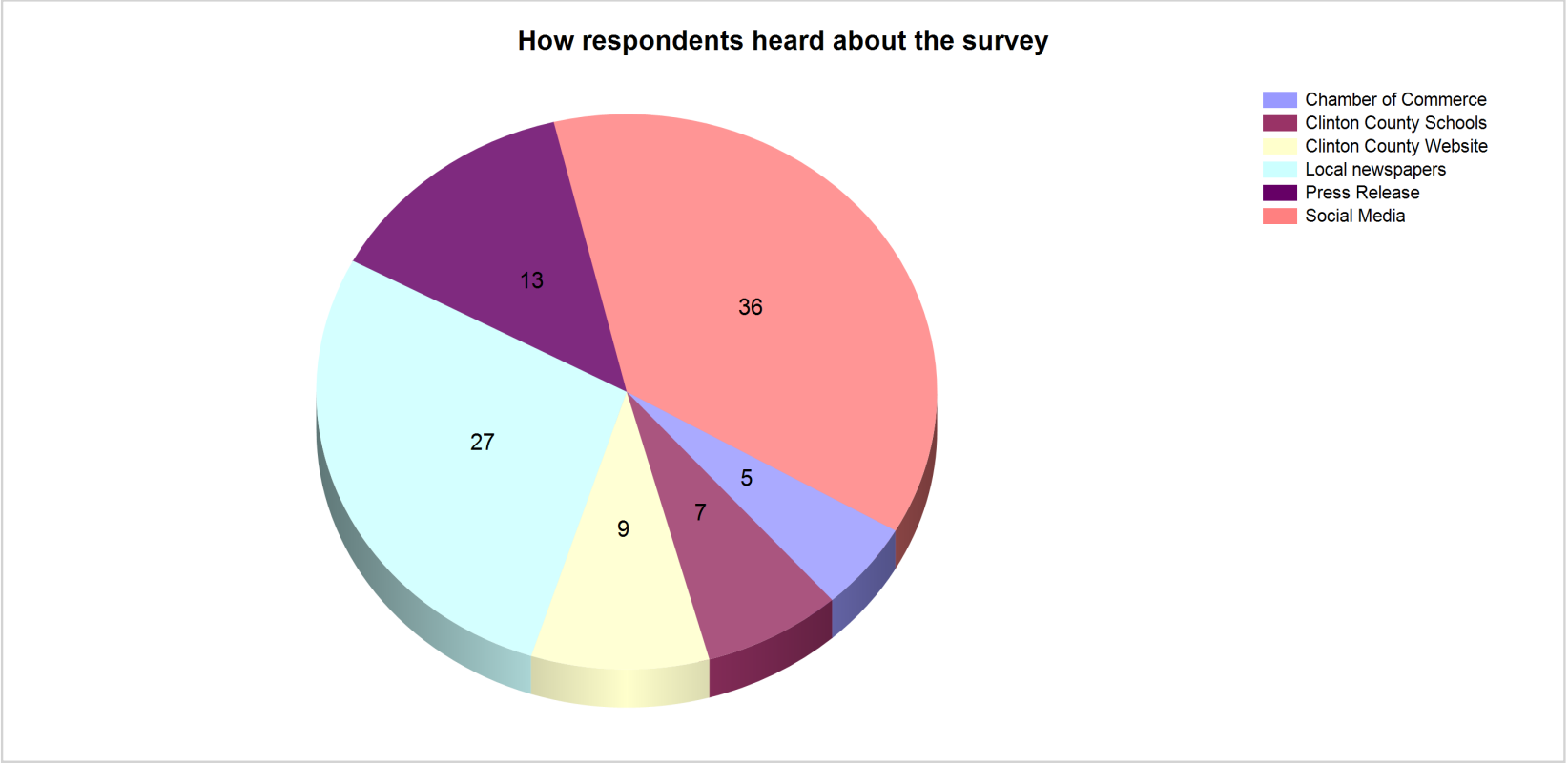
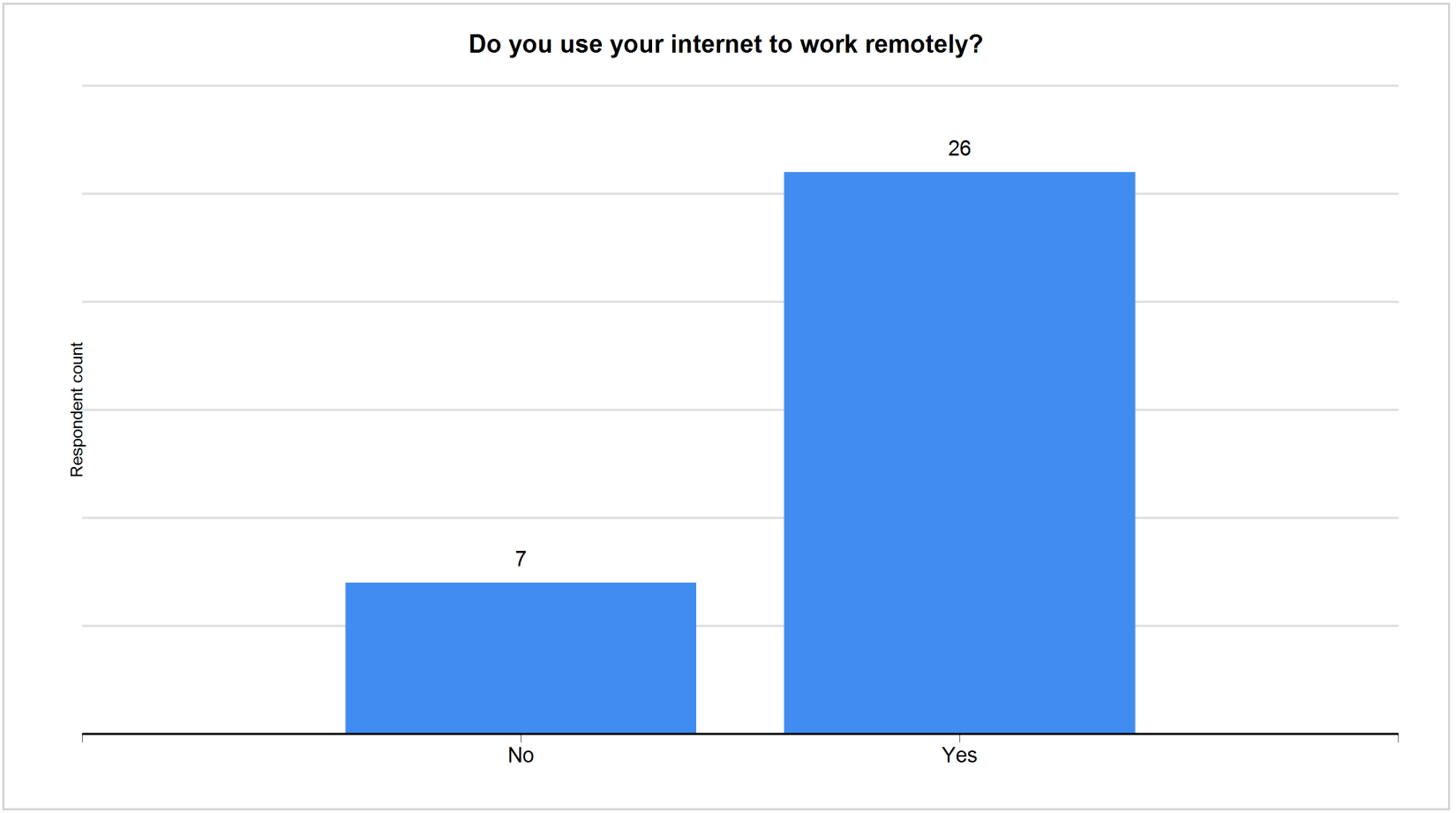
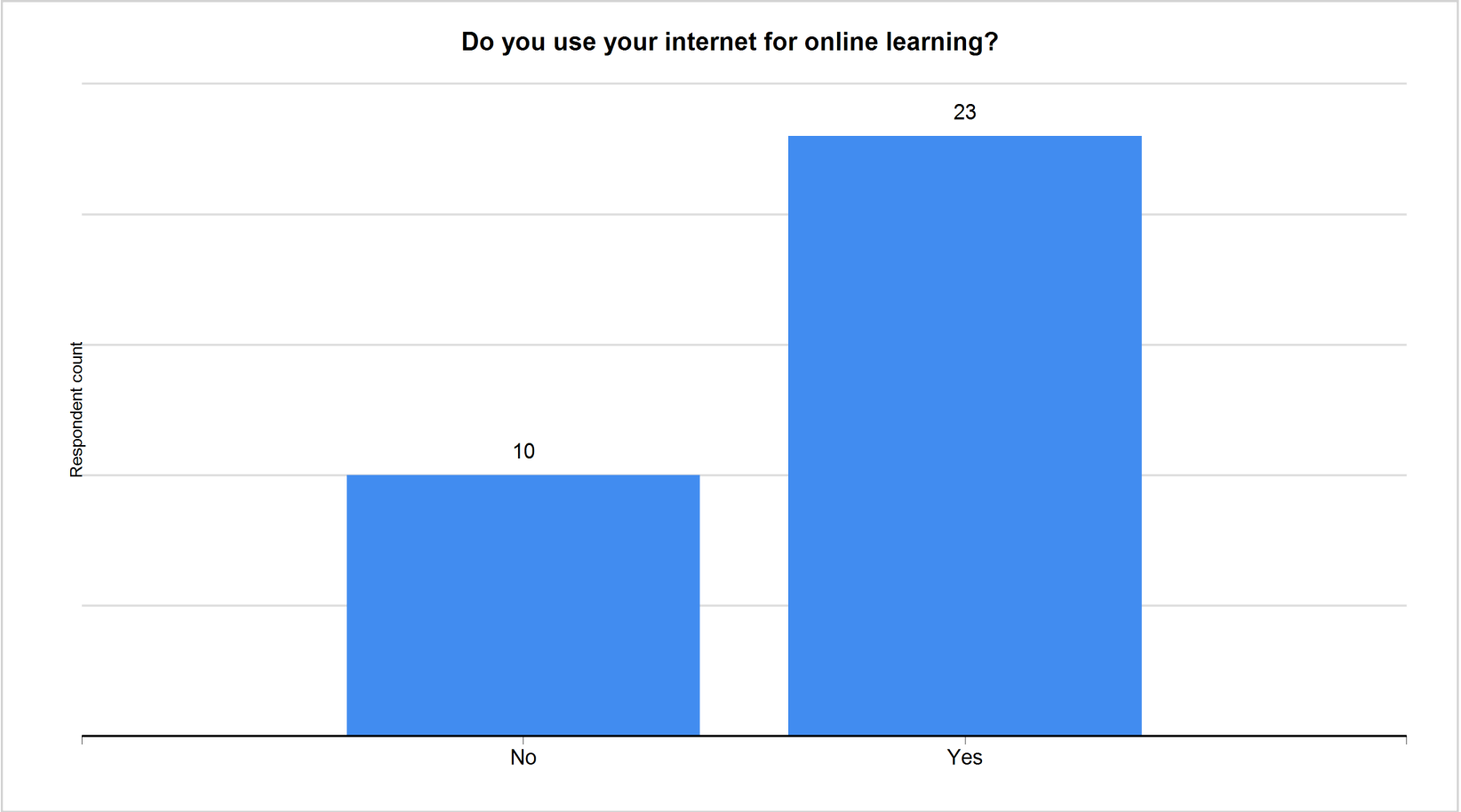


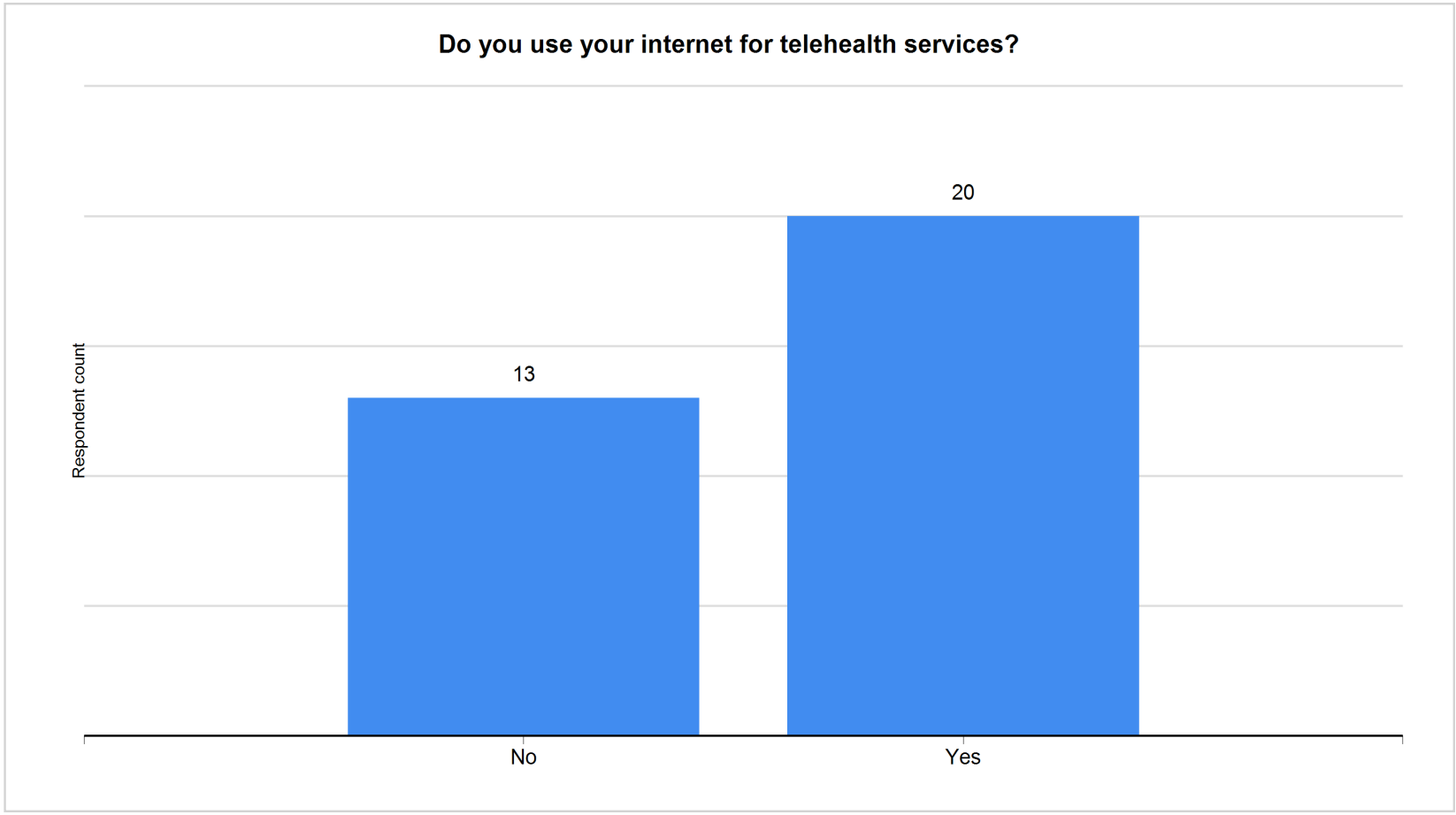
Custom question



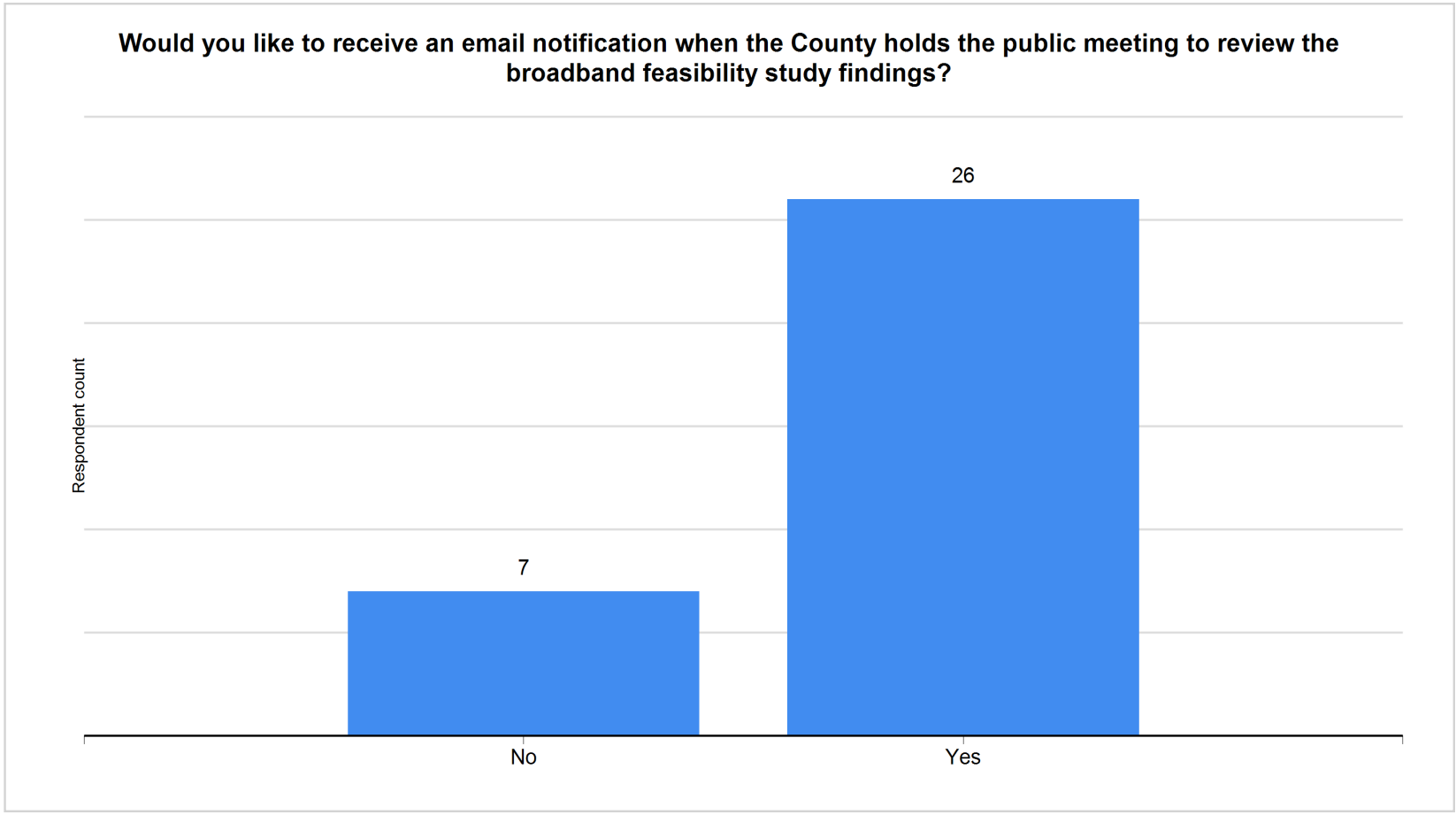
Custom question

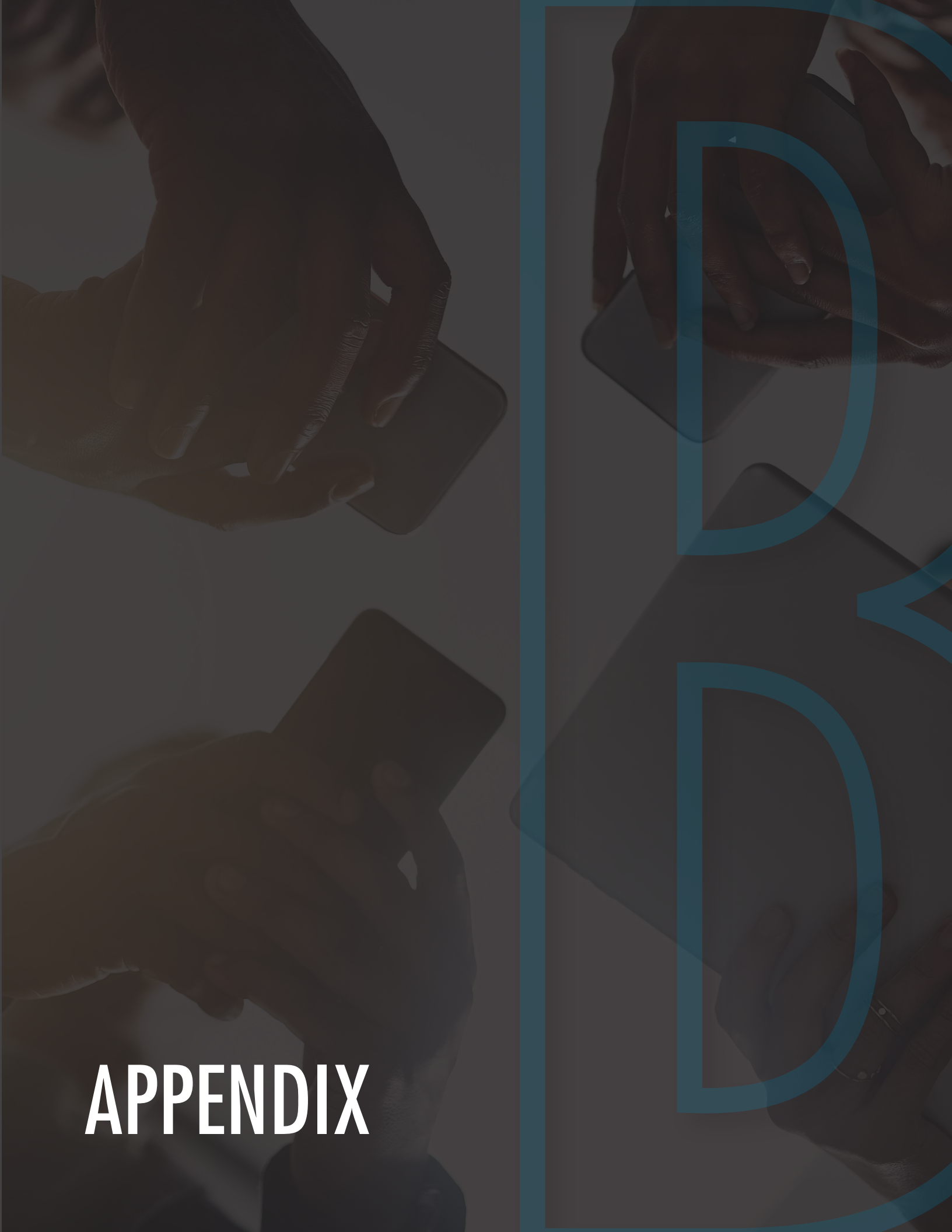


Custom question



Custom question





APPENDIX

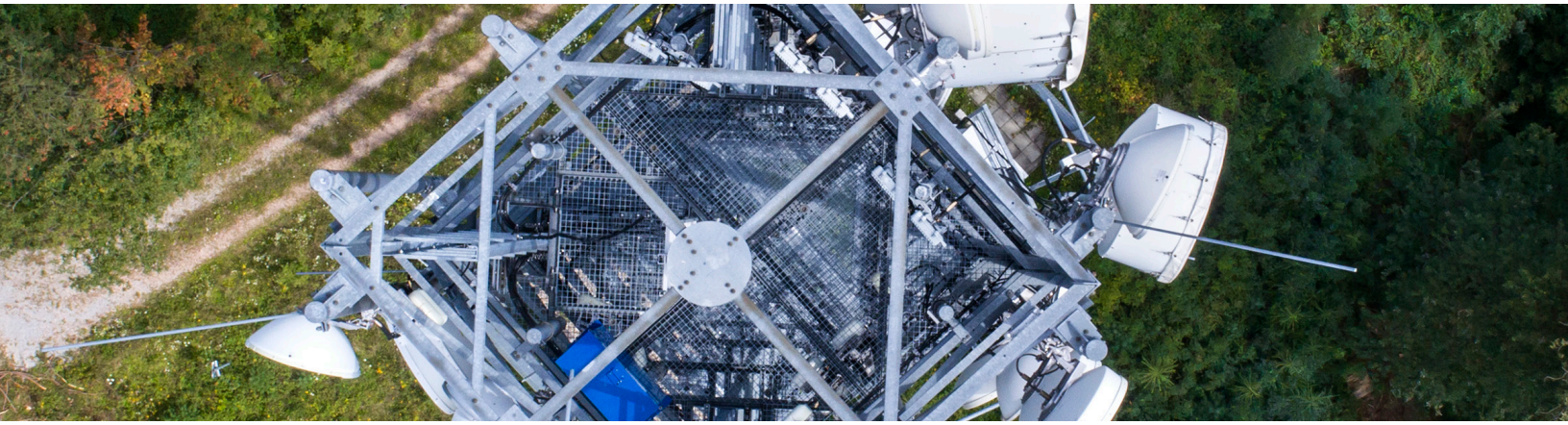
B | The FCC's Digital Opportunity Data Collection

> *It has become increasingly clear that the fixed and mobile broadband deployment data collected on the Form 477 are not sufficient to understanding where universal service support should be targeted and supporting the imperative of our broadband-deployment policy goals.*
>
> https://docs.fcc.gov/public/attachments/DOC-358433A1.pdf

The FCC adopted the Digital Opportunity Data Collection (DODC) in August 2019, which Congress largely codified in the Broadband Deployment Accuracy and Technological Availability Act (DATA ACT) in March 2020, to improve federal broadband data.[i] The DODC was later renamed the Broadband Data Collection (BDC).

In accordance with the DATA Act, in July 2020, the FCC took further steps to improve broadband availability data by adopting broadband coverage and availability reporting requirements for fixed and mobile broadband service providers. In particular, the FCC will require providers to submit: (1) where the providers have actually built out broadband infrastructure such that they are able to provide service; and (2) where the providers could perform a standard broadband installation.[ii] Among other requirements, all fixed and satellite service providers must report either polygon shapefiles or lists of addresses or locations that constitute their service areas.

On January 19, 2021, the FCC adopted additional rules for the BDC to ensure that it collects precise and accurate broadband deployment data.[iii] The FCC specified which fixed and mobile broadband internet access service providers are required to report availability and/ or coverage data and adopted speed and latency reporting requirements for fixed service providers. The FCC also now requires fixed broadband internet access providers to report whether broadband services are offered to residential and/ or business customers (they do not have to submit community anchor institution coverage) and created a process whereby providers submit and respond to challenges to fixed and mobile coverage data.



The FCC also now requires mobile service providers to submit, on a case-by-case basis, infrastructure information or on-the-ground test data to verify the provider's coverage data. Additionally, mobile providers are now required to submit, for each 4G LTE or 5G new radio (NR) propagation map that they submit, heat maps showing the signal levels from each active cell site, and terrestrial fixed wireless services providers must report their base station coordinates.

On March 22, 2021, the FCC announced efforts to also collect consumer broadband experiences. A webpage on the FCC's site (www.fcc.gov/BroadbandData) now includes a "share your broadband experience" form for consumers.[iv] The submitted experiences will inform the FCC's Broadband Data Task Force, established in February 2021 by Acting Chairwoman Jessica Rosenworcel, to "implement long-overdue improvements to the agency's broadband data and mapping tools."[v] Further, the FCC has released a speed test app (FCC Speed Test App) to measure speeds through Android and iOS devices in order to further aid in its broadband data collection and deployment efforts.[vi]

In July 2021, the FCC adopted rules to improve broadband mapping through the BDC to better identify connectivity gaps across the country.[vii] In the future, the FCC's broadband maps will include additional layers and functions, including where fixed broadband service is available, or could be connected within ten (10) business days using standard installation methods, on a house-by-house and location-by-location basis. The FCC will also standardize the location data using a "Broadband Serviceable Location Fabric," i.e., a common dataset of all structures where mass market fixed broadband internet access service can be installed. Lastly, the FCC will incorporate systems and processes to validate and verify provider-submitted data, in addition to offering a challenge process that will allow parties to dispute the data contained on the maps.[viii]

In August 2021, the FCC also released new mobile coverage data for the country's largest cellular providers. This map allows consumers to search by address to better determine whether they should be able to make and receive voice calls or use wireless data. The FCC will use the data in this map to assist its ongoing efforts to develop and test the BDC systems and platforms.[ix]

APPENDIX

C | Stakeholder Meetings

MEETING MEMORANDUM

Meeting Date:	3/29/2022	**DATE:**	4/4/2022
Client:	Ice Miller Whiteboard	**WRITTEN BY:**	Mark Kessinger
Project:	Clinton County Broadband		
Project #:	2122101500		
Location of Meeting:	Clinton County Health District Building and via Teams		
Purpose of Meeting:	Provide Overview of Broadband Study to Residents		

MEETING #5 ATTENDEES:

(See attached meeting sign in sheet.)

OPENING REMARKS:

Lindsay Miller opened the meeting by explaining that in 2021, the County issued an RFP seeking a consultant to develop short-term and long-term strategies for broadband expansion in the County. The Ice Miller Whiteboard Team was selected and in February, four meetings were held over the course of two days with stakeholders. One was with internet providers and utility companies, one with businesses and employers, one with government agencies and schools, and the fourth with residents. She said the residence meeting attendance was sparse, probably due to the meeting being held during working hours, so it was decided we would have this meeting in the evening to try to obtain more input from the general public. Hence, the reason for the 6:00 pm start.

INTRODUCTION OF PROJECT TEAM:

Lindsay said that Ice Miller Whiteboard is a full-service law firm with over 100 years of collective experience in broadband and telecommunications and that she is from their Columbus office. She noted that Lit Communities deploys last-mile fiber optic network infrastructure and has diverse experience in preliminary and detailed network design, and that DLZ is a consulting firm headquartered in Columbus that provides engineering, architectural and construction management services as well as surveying, and right-of-way acquisition.

FCC CENSUS BLOCKS:

She explained how broadband data is presented by the FCC by census block and Mr. Tim Smith asked if we could provide a census block map of the County. Ms. Miller replied that, yes, several maps depicting census block level data will be made available. Mr. Smith also asked if census tracks align with census blocks and Ms. Miller responded that she would need to confirm this. She used an analogy of our highway system to make a comparison with a broadband network.

Highway System		**Broadband Network**
Interstate highway	→	Long Haul
County or state routes	→	Middle mile
Your local street	→	Last mile
Your driveway	→	Lateral

COUNTY BROADBAND SURVEY:

Lindsay said the survey kicked off on January 25th, and for everyone's input to be included in the study they must take the survey by April 15th, because the report is to be completed by the end of April. She noted there are two important questions the survey will try to answer: (1) is broadband affordable in Clinton County, and (2) does the general public know how to use it. She stated that to date, 576 persons have completed the survey and 102 are shown as "underway". She noted that hopefully the 102 persons and others will complete the survey because our goal is to have 700 completed surveys. She added that most users are satisfied with their internet speed, but not with the cost of their service. Lindsay noted that we have reached "statistical confidence" with the number of surveys we have received, and the good news is that responses came in from across the county. She said about half of county residents have fixed wireless and the other half do not. No one has reported having 1 gigabit of speed, nor 100 upload/100 download speed. However, lower speeds do show up in the surveys. Mr. Smith suggested that the team conduct a "sentiment analysis" and compare it with the survey results. Sentiment analysis studies the subjective information in an expression, that is, the opinions, appraisals, emotions, or attitudes towards a topic, in this case, broadband service. Expressions can be classified as positive, negative, or neutral.

LOW ORBIT SATELLITE SERVICE:

Lindsay commented that generally Ice Miller does not recommend satellite service because latency is an issue. However, if it is the only option available, she said it is better than nothing. She noted that even Elon Musk said it is supplemental service. She stated that the SpaceX program was piloted in Union County, Ohio and a receiver cost was about $500 so it is costly up front. Mr. Smith added the cost is now $600 for new service plus the $110 monthly fee. He asked if we have coordinated with the County's Planning Commission in regard to long-term development and Lindsay replied we have.

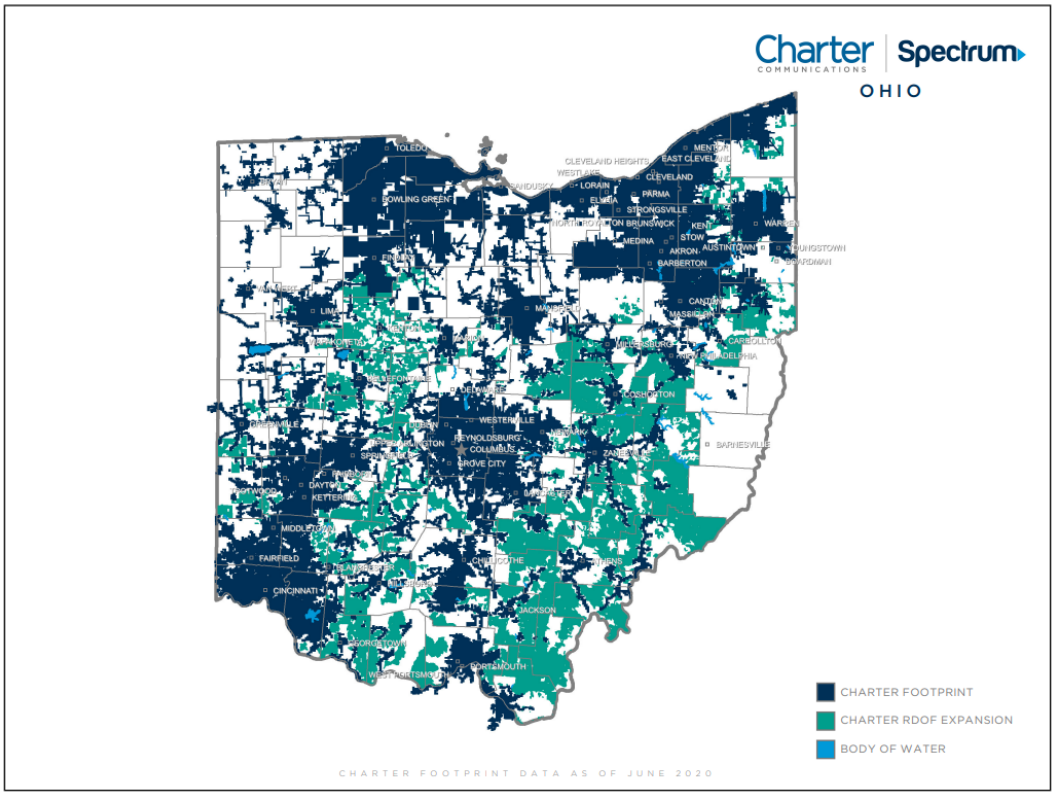
DOWNLOAD AND UPLOAD SPEEDS ACROSS THE COUNTY:

Mr. Smith said it takes 5-6 hours for him to download a Gig of data and about 24 hours for him to upload a Gig of data. Ms. Kathy Rupp added the County's broadband infrastructure is insufficient and she was unable to work from home because her download speed was 3 and her upload speed was only 0.5. She added the problem is not the cost of broadband, it is the value of what she is paying for. Ms. Terry Valentine participated virtually and said that her husband is on an insulin pump, and they are required to upload his medical information via the internet. She has no service, so she uses a "jetpack". Mr. Jason Kershner of Charter Communications (Spectrum) said he would contact her to discuss her situation in more detail. Mr. Bill Kocher stated there is fiber running right past his house to R&L Carriers, but he can't use it. Mr. Daun Yeagley said providers are seeing supply issues and labor issues, and now the "make ready fees" are making buried fiber more cost effective. Lindsay explained there are 2 options to make broadband more feasible. One way is to offer providers financial incentives to build out, and the other way is to reduce build out costs for the providers. Mr. Smith added that we also need to look at the permitting process in Clinton County. Mr. Kershner noted that all their new builds in Clinton County are fiber, and they are doing coaxial drops from houses to the street.

FUNDING FOR BROADBAND:

Lindsay explained the Infrastructure Investment and Jobs Act included $65 billion in funding for broadband and she believes the State of Ohio will fair quite well for getting its share of federal funds. She is not sure when Ohio will see the funding, or what the state's timeline is for distributing the funding. Mr. John Stanley said that if the funding is distributed by FCC data, then the County will not get much. Lindsay replied there is confusion over the FCC data, and the County will be able to supplement that data with what we have determined in this study. Mr. Kershner added that when the FCC comes out with their new maps this summer, they will be much improved.

Mr. Smith noted that when Google did the street mapping in its vehicles it also determined the wireless signals coming out of homes, so the data is available if Google is willing to release it. Mr. Kershner said that Spectrum is building out through the Rural Digital Opportunity Fund (RDOF) and the public can see the FCC map on spectrumruralbuild.com. He noted that Clinton County was one of the first counties in the state for the RDOF Program.



USE OF FARM SILOS FOR POSSIBLE BROADBAND INFRASTRUCTURE:

Mr. Richard Kelso emphasized that Clinton County is a big agricultural county, and that agriculture is becoming more and more dependent on the internet. Since farms are located in the least populated portions of the state, they lack broadband service, so he said we need to consider that in the study. Lindsay replied that is a point well taken and if anyone present knows of farmers who have grain silos and are willing to let providers use them for broadband infrastructure to let us know. Mr. Kelso suggested that we look to determine where the new grain systems are because they are over 100 feet tall. Mr. Yeagley, who has a farm near the airport, said he has a 70-foot tower on his property that providers could use.

USE OF SCHOOLS FOR POSSIBLE BROADBAND INFRASTRUCTURE:

Mr. Stanley added that schools may also have towers on top of their buildings that providers could use for broadband infrastructure. Lindsay said she would coordinate with Mr. Stanley and the team would go back and look into that. Mr. Stanley then asked if broadband funds were going to P3 partnerships and Lindsay replied that state funding is not; it is only going to providers. However, she said that federal funding will be provided to P3 partnerships.

The attendees were very informed about broadband and provided excellent input that will be incorporated into the study. The meeting adjourned shortly before 8:00 pm.

Respectfully submitted,

Mark D. Kessinger, PMP, FSAME | VP for Dam Safety and Water Resources

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MEETING MEMORANDUM

Meeting Date:	2/1/2022	**DATE:**	2/1/2022
Client:	Ice Miller	**WRITTEN BY:**	Tamara Hensley
Project:	Clinton County Broadband		
Project #:	2122101500		
Location of Meeting:	Clinton County Job and Family Services (also via Zoom)		
Purpose of Meeting:	Provide Overview of Broadband Study and Receive Stakeholder Input		

MEETING #1 ATTENDEES:

Clinton County Broadband Feasibility Study Stakeholder Meeting – Meeting 1: Residents @ 10:30

Attendees: Lindsay Miller, Ice Miller Whiteboard

Chris Miller, Ice Miller Whiteboard

Mark Kessinger, DLZ

Tim Strohl, DLZ

Tami Hensley, DLZ (via Zoom)

John Seaver, DLZ (via Zoom)

All the resident attendees were virtual

PRESENTATION:

Welcome - Lindsay gave the presentation.

Background and purpose of study – In 2021, the County issued an RFP seeking a consultant to develop short-term and long-term strategies for broadband expansion in the County.

Introduction of Project Team

Ice Miller Whiteboard Overview - Columbus, Ohio based full-service law firm with over 100 years of collective experience in broadband and telecommunications.

Lit Communities Overview - Deploys last-mile fiber optic network infrastructure and has diverse experience in preliminary and detailed network design.

DLZ Overview - consulting firm headquartered in Columbus that provides engineering, architectural and construction management services as well as surveying, and right-of-way acquisition.

Data Overview – 70.7% of the County has broadband coverage of at least 25 Mbps down and 3 Mbps up. Enhanced download and upload speeds of 100 Mbps down/ 10 Mbps up and 50 Mbps down/ 5 Mbps up are available depending on location within the County.

Online Survey - will provide an analysis of service and infrastructure needs as well as methods for increasing broadband access in Clinton County. Survey questions will help identify the level of service needed in various areas of the County and will address issues like cost, speed and current service satisfaction. The survey will remain open until April 15, 2022, and the results are to be included in our final report.

QUESTION AND ANSWER SESSION:

A resident noted that he was a fixed cellular user and has variable speed throughout the day. He would like a solution that does not require a large upfront cost and provides more consistent speeds throughout the day – perhaps from low orbit satellite or SpaceX.

The meeting ended at 11:15 am.

MEETING #2 ATTENDEES:

Clinton County Broadband Feasibility Study Stakeholder Meeting – Meeting 2: Businesses & Anchors @ 1:00 pm

Attendees: Lindsay Miller, Ice Miller Whiteboard

Kip Wahlers, Ice Miller Whiteboard

Mark Kessinger, DLZ

Tim Strohl, DLZ

Tami Hensley, DLZ (via Zoom)

John Seaver, DLZ (via Zoom)

Brenda Woods, Clinton County

Jane Newkirk, Clinton County Community Action Plan

Jennifer Ekey, Clinton County Port Authority

Ruth Brindle, Clinton County Port Authority

Other business attendees were virtual

Lindsay gave the presentation and covered the same information as the 10:00 session.

QUESTION AND ANSWER SESSION:

Ms. Ekey of the Port Authority commented they have a direct fiber connection. They are good but curious to see what others think. She sees lots of drag/buffering with those they meet with online during Zoom meetings. The Port Authority is involved from an economic standpoint and has concerns with the ability for employees to work remotely and for remote education in order to attract job opportunities. She emphasized that childcare, housing, transportation, and broadband are the 4 tangibles, along with the cadre of infrastructure requirements like water and sewer.

Lindsay replied that one way to expand broadband is to incentivize the build out or subsidize the build out. The strategy would be to target areas that would not otherwise be built out at all, and to determine if there is infrastructure already there from which to build.

Lindsay asked for feedback from any townships, cities, or towns to speak up if they are online.

Ms. Newkirk said broadband needs to be affordable. She said the CCCAP is giving out 100 iPads - 50 to seniors who are primarily isolated and 50 to families who have children doing remote learning.

Lindsay encouraged those listening and in attendance to take the survey and speed test, so their experience is captured.

Lindsay also encouraged the Port Authority to share information about areas where they are missing out on development opportunities because of lack of broadband availability or infrastructure.

The meeting ended at 1:56 pm.

MEETING MEMORANDUM

Meeting Date:	2/2/2022	**DATE:**	2/2/2022
Client:	Ice Miller	**WRITTEN BY:**	Tamara Hensley
Project:	Clinton County Broadband		
Project #:	2122101500		
Location of Meeting:	Clinton County Job and Family Services Building & (also via Zoom)		
Purpose of Meeting:	Provide Overview of Broadband Study and Receive Stakeholder Input		

MEETING #3 ATTENDEES:

Meeting 3: Clinton County Local Governments @ 10:30

Attendees: Lindsay Miller, Ice Miller Whiteboard

Chris Magill, Ice Miller Whiteboard

Chris Kirkland, Lit Communities

Karen Billingsley, Lit Communities

Mark Kessinger, DLZ

Tim Strohl, DLZ

Tami Hensley, DLZ (via Zoom)

John Seaver, DLZ (via Zoom)

Thor Sage, Miami Valley Educational Computer Association (MVECA)

Bob Peterson, Ohio State Senator District 17

PRESENTATION:

Welcome - Lindsay gave the presentation.

Background and purpose of study – In 2021, the County issued an RFP seeking a consultant to develop short-term and long-term strategies for broadband expansion in the County.

Introduction of Project Team

Ice Miller Whiteboard Overview - Columbus, Ohio based full-service law firm with over 100 years of collective experience in broadband and telecommunications.

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Online Survey - will provide an analysis of service and infrastructure needs as well as methods for increasing broadband access in Clinton County. Survey questions will help identify the level of service needed in various areas of the County and will address issues like cost, speed and current service satisfaction. The survey will remain open until April 15, 2022, and the results are to be included in our final report.

QUESTION AND ANSWER SESSION:

Lindsay went around the room for introductions and comments:

Thor Sage, Executive Director of Miami Valley Educational Computer Association (MVECA) https://www.mveca.org/ He said they have provided dedicated fiber service to all but 1 school district in Clinton County and the County government. They are still seeing a lot of issues with education so they brokered a large number of hot spot services for school districts through emergency connectivity funds. He said the students may keep connection as long as school is in. He thinks work from home needs more attention and access. He added he doesn't believe an upload speed of 3 Mbps, or even 5 Mbps will be sufficient for remote work from home in the future.

Lindsay replied with highlights of Port Authority conversation from 2/1 meeting #2 regarding work from home, attracting businesses, workers, and providing work from home opportunities.

Chris Kirkland then gave an overview about Lit Communities. He said he and Karen are on the ground in Clinton Co this week to survey broadband infrastructure assets.

Lindsay asked Chris to share what they are seeing in the way of infrastructure around the county. Chris said they look at two things: rights-of-way and poles. They are pleased with what they are seeing so far - good, clear rights-of-way, and the poles are very accessible and do not appear to be in bad shape nor do they already have multiple attachments. He noted there appears to be a lot of fiber, but it's mostly long haul or middle mile, not distribution terminal or last mile, and there are no distribution drops. He added the County is set up for future access but not current access, and the fiber is mostly copper and coax networks.

Lindsay asked Mr. Sage if he agrees with Chris' assessment and he did. He said options are available for premium service in neighborhoods, but not in rural areas. He said the primary option for residents is to go to a large telecom for service and the options available are expensive.

Lindsay asked for feedback on what would be a miss if not included in the study, what are the expectations of the study, and what information should the study cover?

Thor Sage replied the study needs to cover infrastructure and a structure to move forward. He added Government entities need to address technology and associate it with public services like traffic. He wants the study to show how competition and service enhance the community through better service, better price, higher quality, and greater opportunity, and there is a need for more price options.

Open discussion encouraged and it continues.

Lindsay shares that common questions she often hears include: Why fiber? Why not the next best thing? Why not Satellite? She tells that satellite is a supplementary service even according to Elon Musk.

Chris points out that Starlink is trying to get on Brownsville, TX fiber network for their back haul because their own satellite service is not enough.

Senator Bob Peterson arrived at 11:35.

Senator Peterson said his office gets several calls a day regarding broadband service. Lindsay reviewed maps, data, and site assessment with Senator Peterson. She shared uses and price feedback. Ohio terrain makes wired and wireless options necessary. She said the team will send a link to the survey and today's presentation slides to the Senator's office to share with constituents that ask.

The meeting ended at 11:45 am.

MEETING #4 ATTENDEES:

Meeting 4: Utilities and Internet Service Providers @ 1:00 pm

Attendees: Lindsay Miller, Ice Miller Whiteboard

Chris Magill, Ice Miller Whiteboard

Chris Kirkland, Lit Communities

Karen Billingsley, Lit Communities

Mark Kessinger, DLZ

Tim Strohl, DLZ

Tami Hensley, DLZ (via Zoom)

John Seaver, DLZ (via Zoom)

Nick Hunter, Little Miami Gig (via Zoom)

Tim Berelsman, Little Miami Gig

Mark Romito ATT (via Zoom)

Jason Kershner, Charter Communications

Kevin Wood, IBI Group

Mason Liles, Point Broadband

PRESENTATION:

Welcome - Lindsay gave the presentation.

Background and purpose of study – In 2021, the County issued an RFP seeking a consultant to develop short-term and long-term strategies for broadband expansion in the County.

Introduction of Project Team

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QUESTION AND ANSWER SESSION:

Lindsay opened up the floor and asked everyone to introduce themselves.

Tim Berelsman, Little Miami Gig, is a privately owned entity that provides fiber to home providers. It has service in Holland Township into Jefferson, and bought fiber into Wilmington, to the east of Holland Township. He said they conducted a survey and received about 500 responses, and he is open to sharing that information for this study. He added they participate in ACP, are self-funded through grants and private capital and complete a streaming package with everything which drops the need for cable.

Kevin Wood, IBI Group, said they are an architecture, engineering and planning firm working with the county on the possibility of expanding sewer service.

Jason Kershner, Charter Communications, said Charter Communications currently provides service in the county. He noted that Charter is working with the County Commissioners to expand in 2 areas: 1,800 and 2,000 using grant funds for the expansion.

Mark Romito, ATT Wireless, via Zoom. He said the presentation was very well done and is glad to see consideration of all types of internet options.

Nick Hunter, Little Miami Gig, via Zoom. He is on a family farm that built their own network and expanded it for the community's use and now has taken the service wider.

Lindsay confirmed for Mr. Hunter that Ice Miller Whiteboard takes a layer cake approach to building broadband networks and typically does not encourage satellite as an option unless there is a specific need. She added that satellite is meant to be a supplementary service. A lot of questions have come in locally.

Mr. Berelsman has observed that people are mostly dissatisfied with satellite speed and reliability, so Little Miami Gig has spent lot of time consolidating and streamlining their services and packages.

Chris Kirkland noted that people like fiber once they have it and know what it is capable of including adding devices and increasing usage. Lindsay likened it to once you have an iPhone, you cannot go back to a flip phone.

Lindsay added that Ice Miller Whiteboard is working with Clinton County Community Action to print 300 surveys to provide to seniors in the community.

She then asked if the providers are seeing challenges with infrastructure? Right-of-ways or any other aspects of working in the area? Mr. Berelsman said the county has been great to work with and permitting with the county has been good. He added that Little Miami Gig only installs their lines underground.

Mr. Kershner did not have anything specific to add but noted they install fiber underground and aerial. He noted that poles sometimes cannot support fiber and confirmed the county is good to work with.

Lindsay asked about marketing and how the providers are getting the word out.

Mr. Kershner replied they use the usual methods. He said the challenges are how do you make sure you serve something to everyone and how do you make sure they take what they are offered or what is available to them? He noted another issue is do they have a device and is that device compatible? If so, how do you reach them? He said the American Connectivity Program (ACP) helps.

Lindsay highlighted that it is important to also target the groups that assist the populations that are eligible for the assistance. She said organizations must also know about, and understand, how the ACP can assist their clients with receiving the funds.

Lindsay then asked everyone what a shortcoming would be if it is not covered in the study.

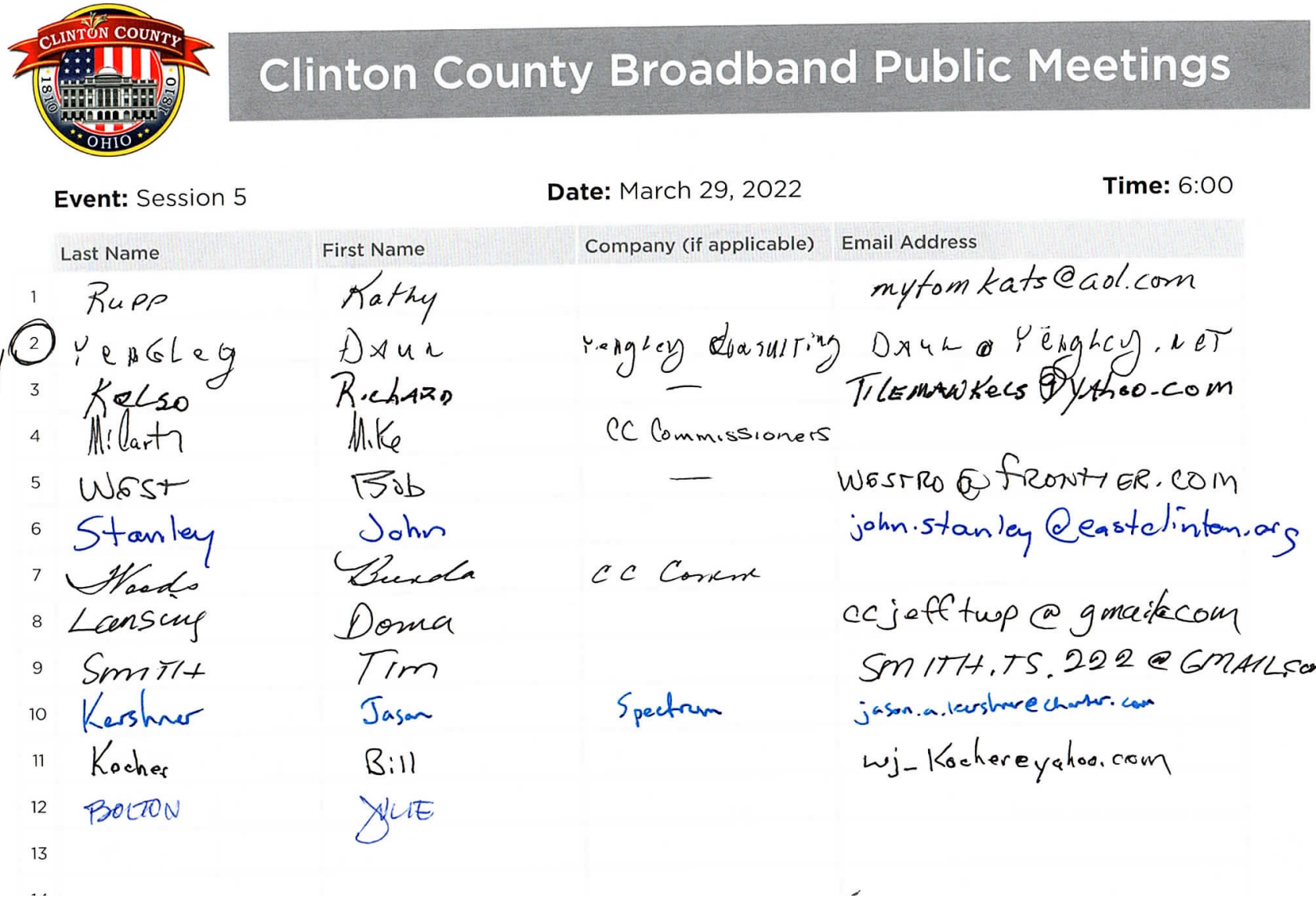
Mr. Berelsman shared Little Miami Gig's grass roots efforts to first identify an area of need and then build a community to serve around it. He said they work with vocational and technical schools to hire locally.

Mr. Liles would like to see feedback from the local townships. He's like to know how they plan to use their ARPA funds and what are the big needs of the townships. Mr. Hunter shared that some townships struggle with knowing how to use the ARPA funds.

Mr. Kershner would like to make sure the county is aware of all of the overlapping and duplication of efforts taking place in the county.

Chris Kirkland stressed the importance of coordinating with communities, utility companies, and services for joint builds. He said these projects can become an issue of profit versus right-of-way.

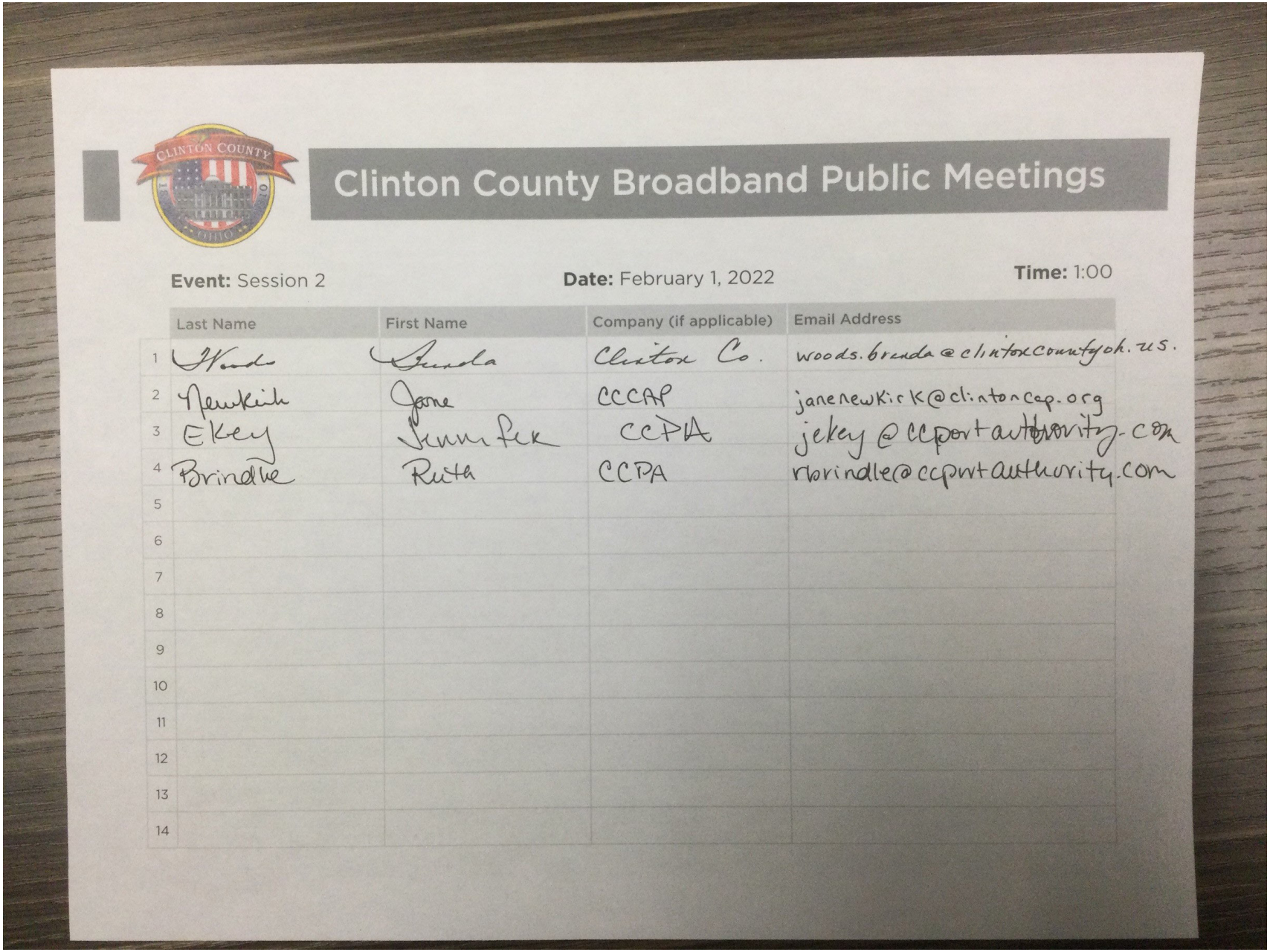
The meeting ended at 2:15 pm.



Clinton County Broadband Public Meetings

Event: Session 5 **Date:** March 29, 2022 **Time:** 6:00

	Last Name	First Name	Company (if applicable)	Email Address
1	Rupp	Kathy		mytomkats@aol.com
2	Yengley (Tower on property)	Dave	Yengley Consulting	Dave@Yengley.net
3	Kelso	Richard	—	TILEMANKELS@yahoo.com
4	McCarty	Mike	CC Commissioners	
5	West	Bob	—	WESTRO@FRONTIER.COM
★ 6	Stanley	John		john.stanley@eastclinton.org
7	Woods	Brenda	CC Comm	
8	Lansing	Donna		ccjefftwp@gmail.com
9	Smith	Tim		SMITH.TS.222@GMAIL.com
10	Kershner	Jason	Spectrum	jason.a.kershner@charter.com
11	Kocher	Bill		wj_Kocher@yahoo.com
12	BOLTON	JULIE		
13				



Clinton County Broadband Public Meetings

Event: Session 2 **Date:** February 1, 2022 **Time:** 1:00

	Last Name	First Name	Company (if applicable)	Email Address
1	Woods	Brenda	Clinton Co.	woods.brenda@clintoncountyoh.us.
2	Newkirk	Jane	CCCAP	janenewkirk@clintonccap.org
3	Ekey	Jennifer	CCPA	jekey@ccportauthority.com
4	Brindle	Ruth	CCPA	rbrindle@ccportauthority.com
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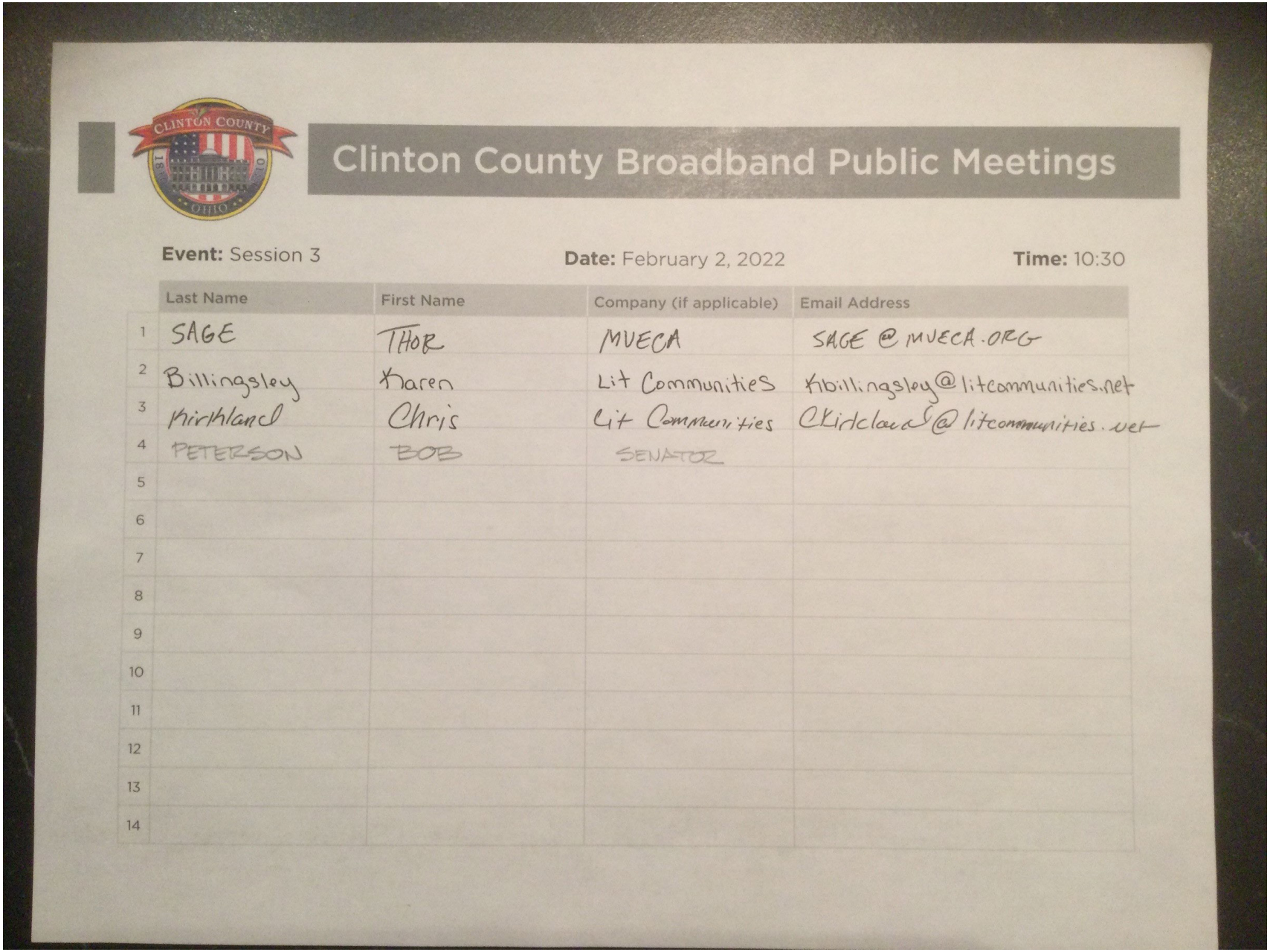
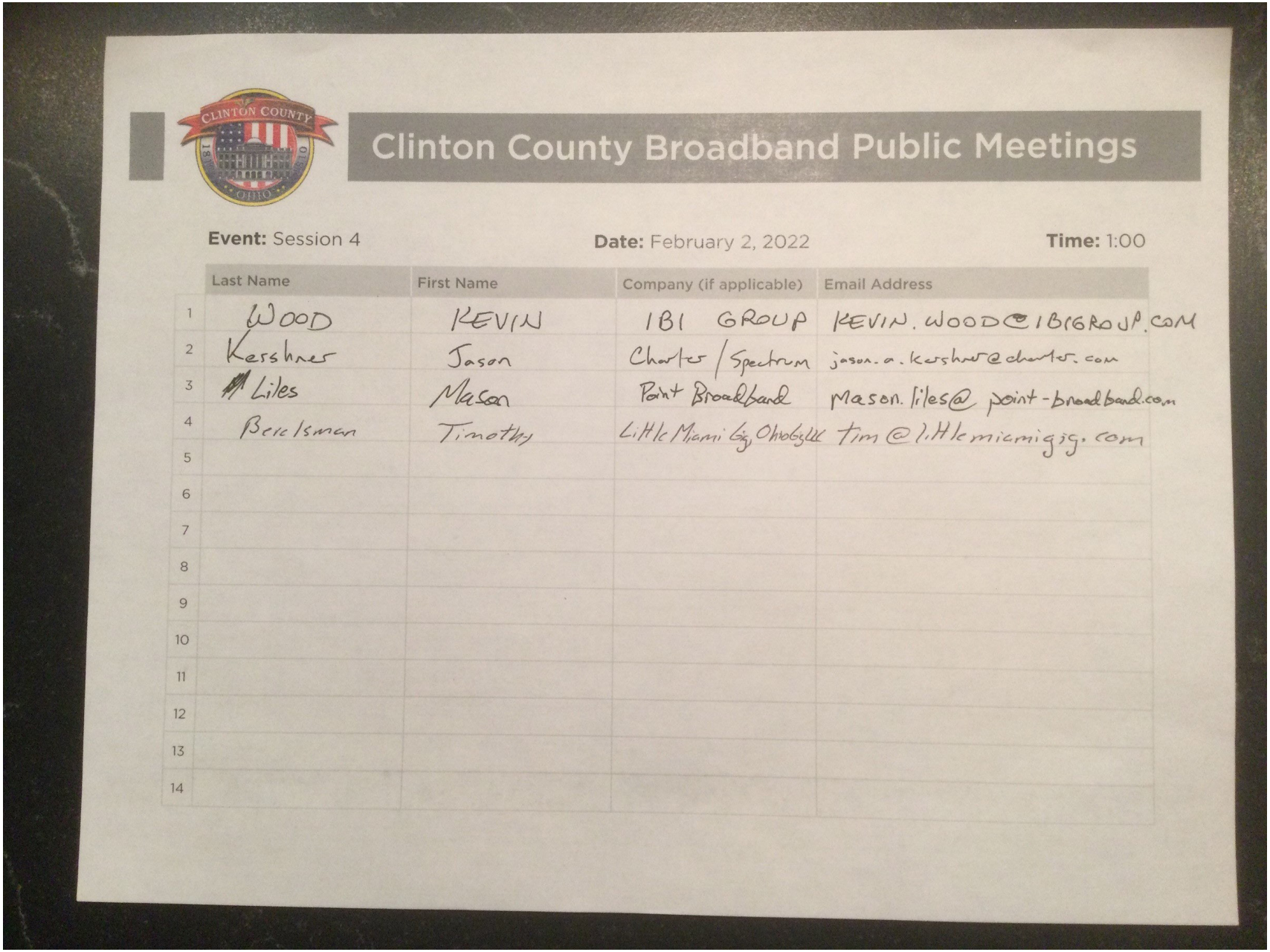


Clinton County Broadband Public Meetings

Event: Session 3 **Date:** February 2, 2022 **Time:** 10:30

	Last Name	First Name	Company (if applicable)	Email Address
1	SAGE	THOR	MVECA	SAGE @ MVECA.ORG
2	Billingsley	Karen	Lit Communities	kbillingsley@litcommunities.net
3	Kirkland	Chris	Lit Communities	CKirkland@litcommunities.net
4	PETERSON	BOB	SENATOR	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				



Clinton County Broadband Public Meetings

Event: Session 4 **Date:** February 2, 2022 **Time:** 1:00

	Last Name	First Name	Company (if applicable)	Email Address
1	WOOD	KEVIN	IBI GROUP	KEVIN.WOOD@IBIGROUP.COM
2	Kershner	Jason	Charter / Spectrum	jason.a.kershner@charter.com
3	Liles	Mason	Point Broadband	mason.liles@point-broadband.com
4	Berelsman	Timothy	Little Miami Gig, OhioGigX	tim@littlemiamigig.com
5				
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14				

Clinton County Broadband Feasibility Study Stakeholder Meeting

IceMiller Whiteboard
Lit Communities DLZ

IceMiller Whiteboard

AGENDA:

- Welcome – Purpose of Feasibility Study
- Introduction of Project Team
- Presentation by Project Team
  - Project Timeline
  - Project Scope of work
- Questions and Guided Discussions
  - Identify needs and issues for the project
  - Gain insight from Clinton County stakeholders
  - Answer your questions about the project

1

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Lit Communities DLZ

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The project team will coordinate and facilitate four (4) stakeholder meetings to incorporate citizen knowledge and input into the broadband plan process.

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Lit Communities
DLZ

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LINDSAY
MILLER
Lead

MATTHEW
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DUNN

KRISTOPHER
WAHLERS

CHRIS
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JOHN B.
GREGG

CHRIS
MAGILL

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HORNEDO

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Lit Communities DLZ

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- Deploys last-mile fiber optic network infrastructure
- Diverse experience in preliminary and detailed network design, GIS, data science, engineering, construction, operations and management, municipal government relations, federal and state grants consulting, private and public financing, strategic planning, and smart cities initiatives
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Lit Communities DLZ

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DLZ Project Manager

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TIFFANY
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Stakeholder Engagement

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Report Preparation and Graphics

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Lit Communities DLZ

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- Enhanced download and upload speeds of 100 Mbps down/ 10 Mbps up and 50 Mbps down/ 5 Mbps up are available depending on location within the County.

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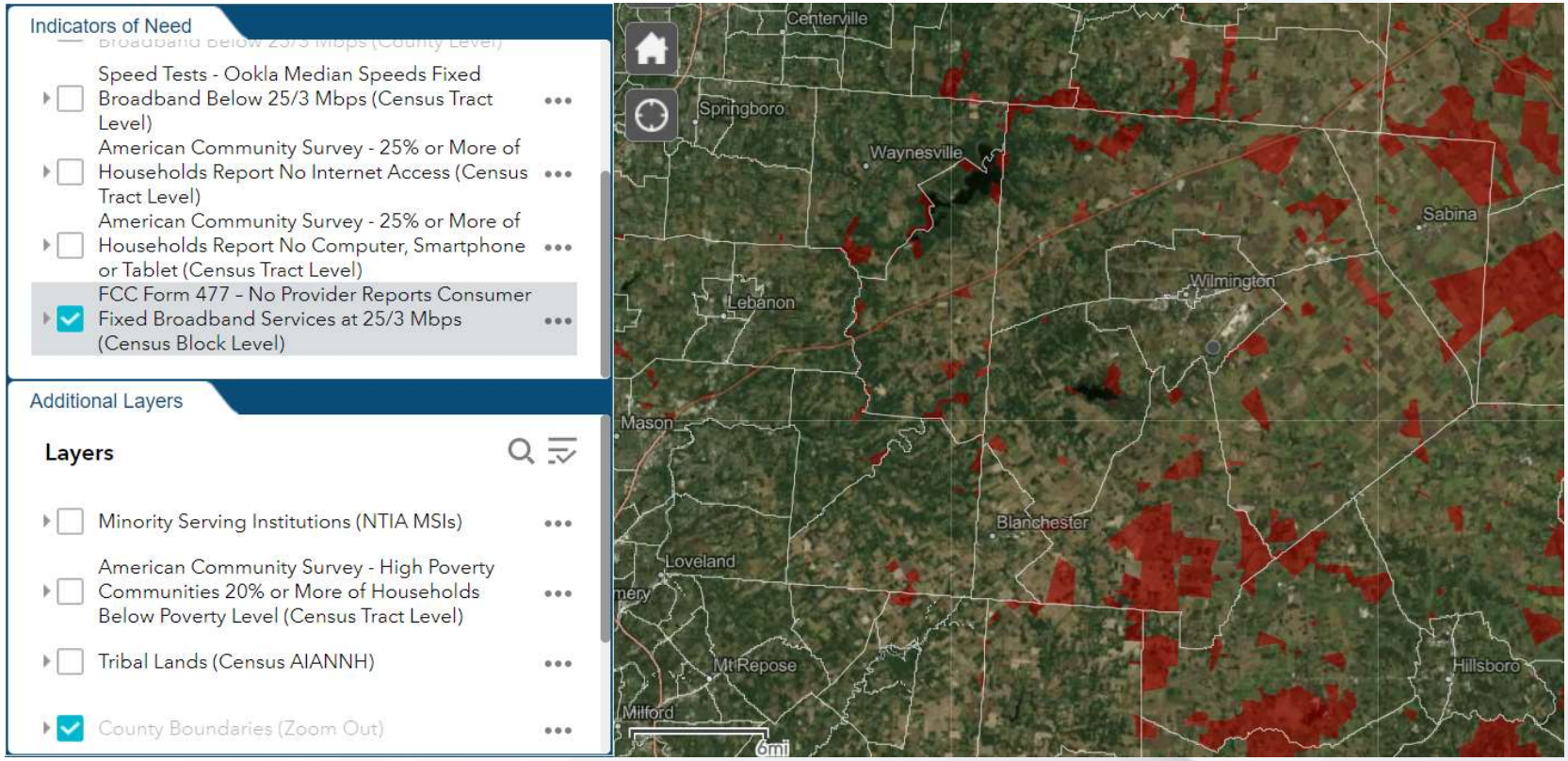

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Lit Communities
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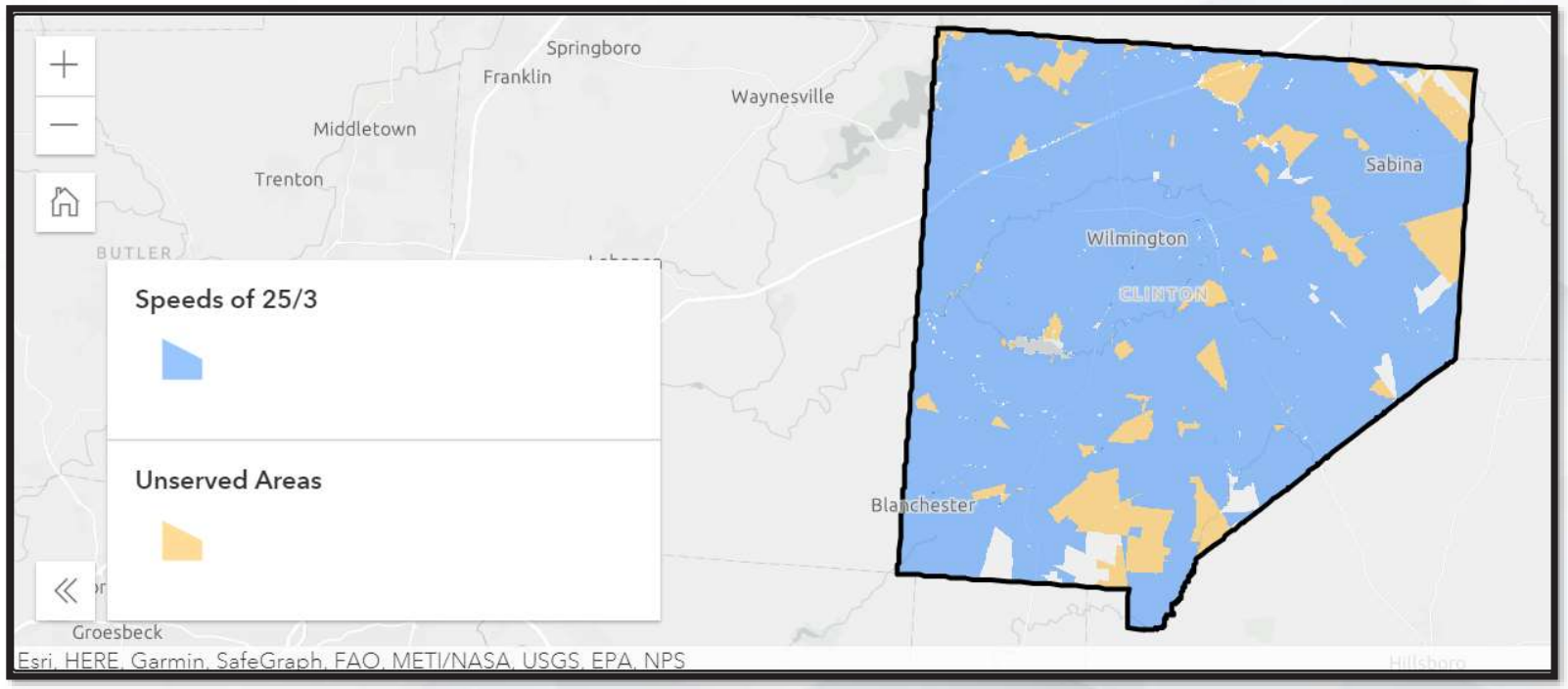

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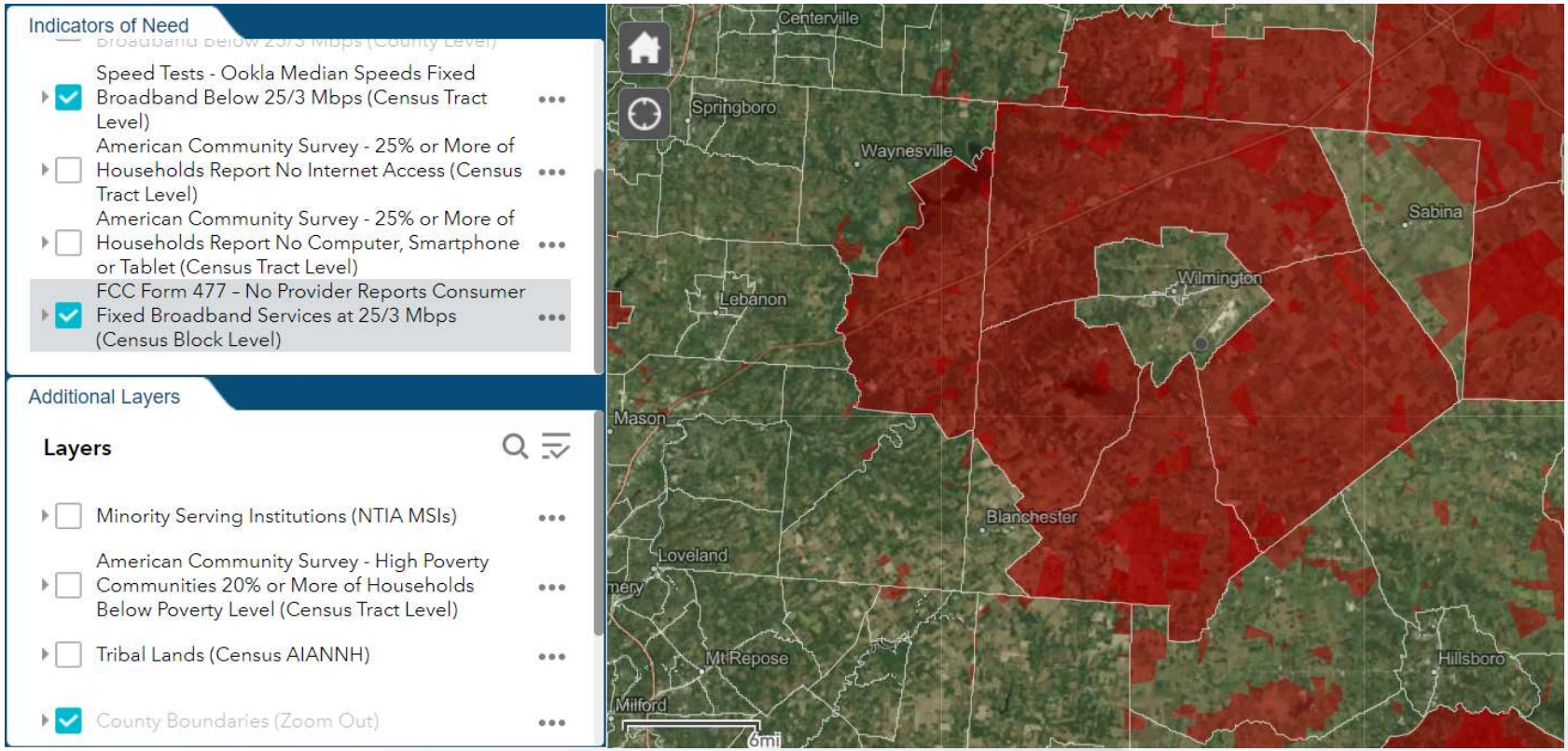

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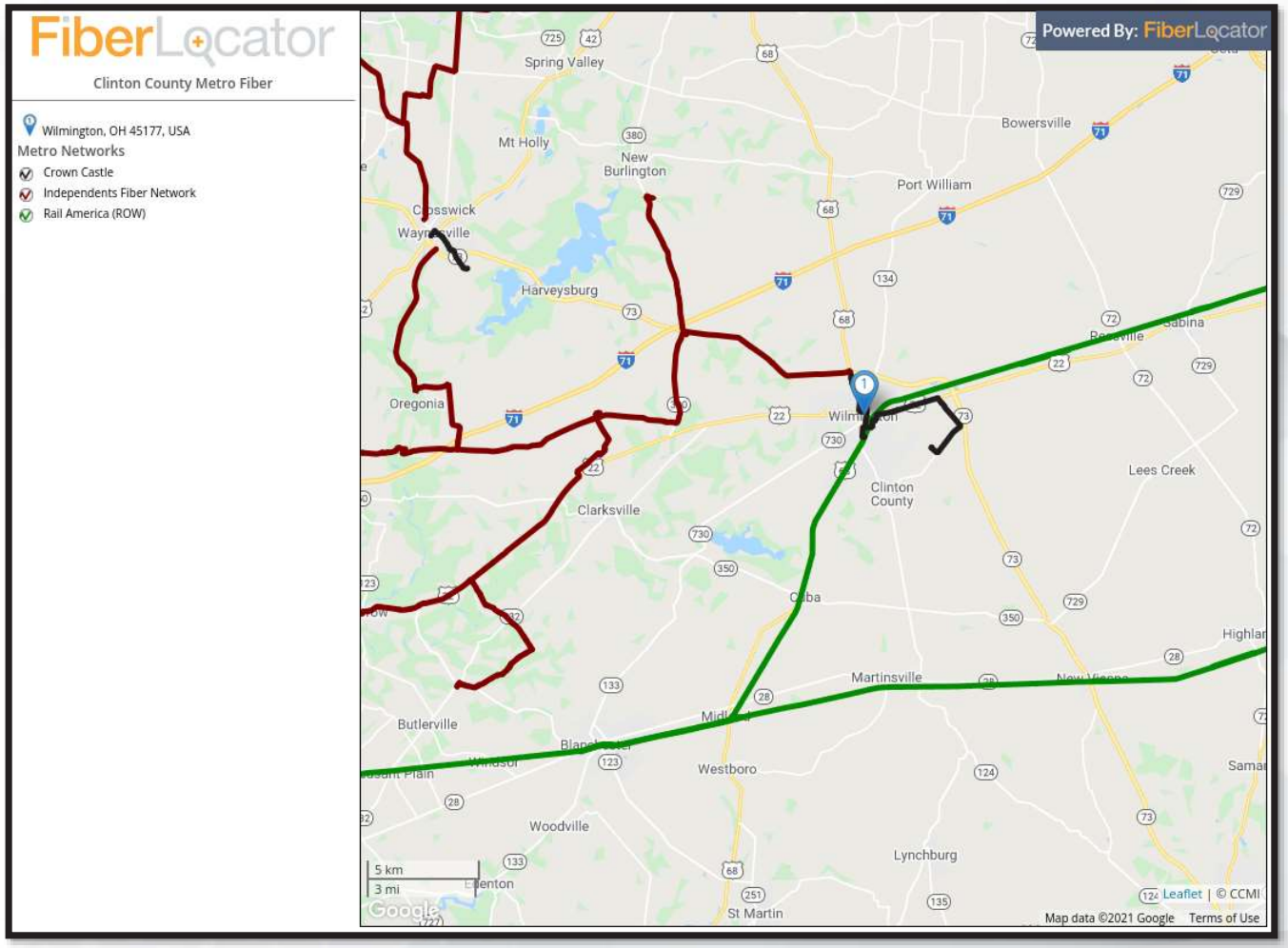

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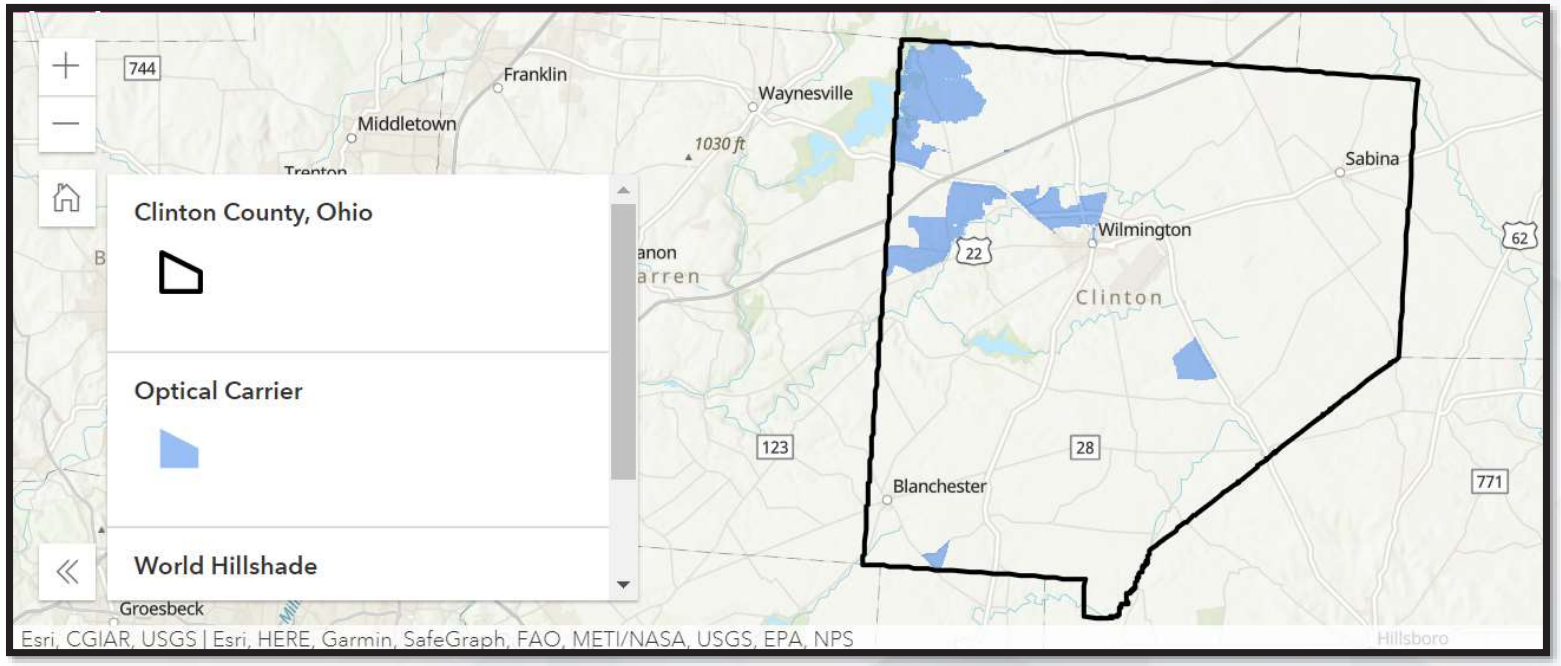

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https://clintonfiber.servicezones.net/

12

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Survey

Clinton County Survey Highlights:

- 155 Survey responses received in one week
- High percentage of respondents indicated they would sign up if a better service was available
- Respondents are mostly satisfied with current speeds and reliability but mostly dissatisfied with value (price paid)
- Majority of survey respondents are using the internet for Remote work, online learning and telehealth services

https://clintonfiber.servicezones.net

Survey

Would you sign up for a better service if available?

Response	Weight
Yes definitely	85%
Likely yes	60%
I would consider it	20%
Probably not	5%
Definitely not	0%

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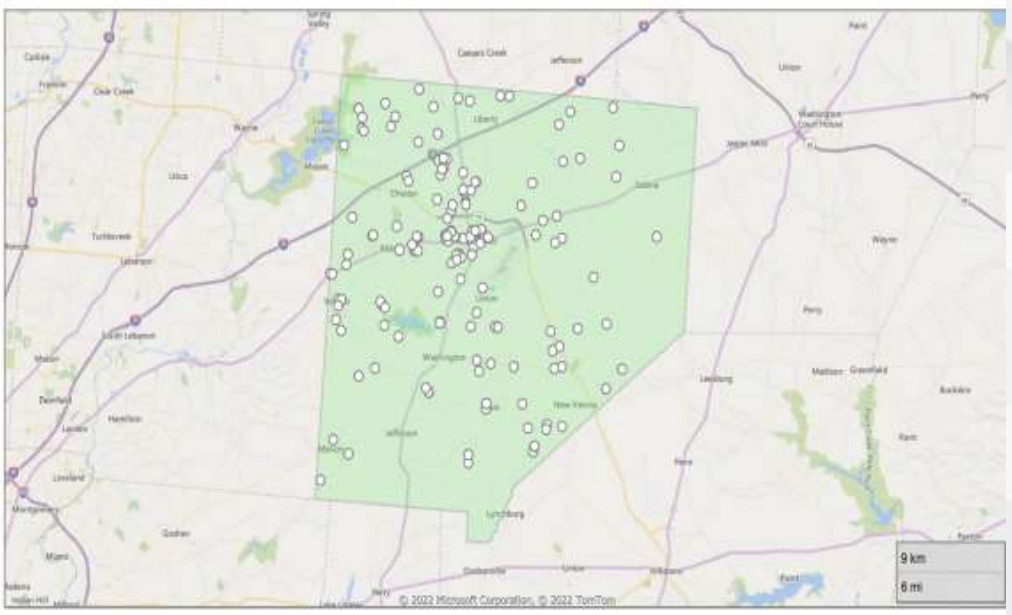
Survey responses on a map

Survey



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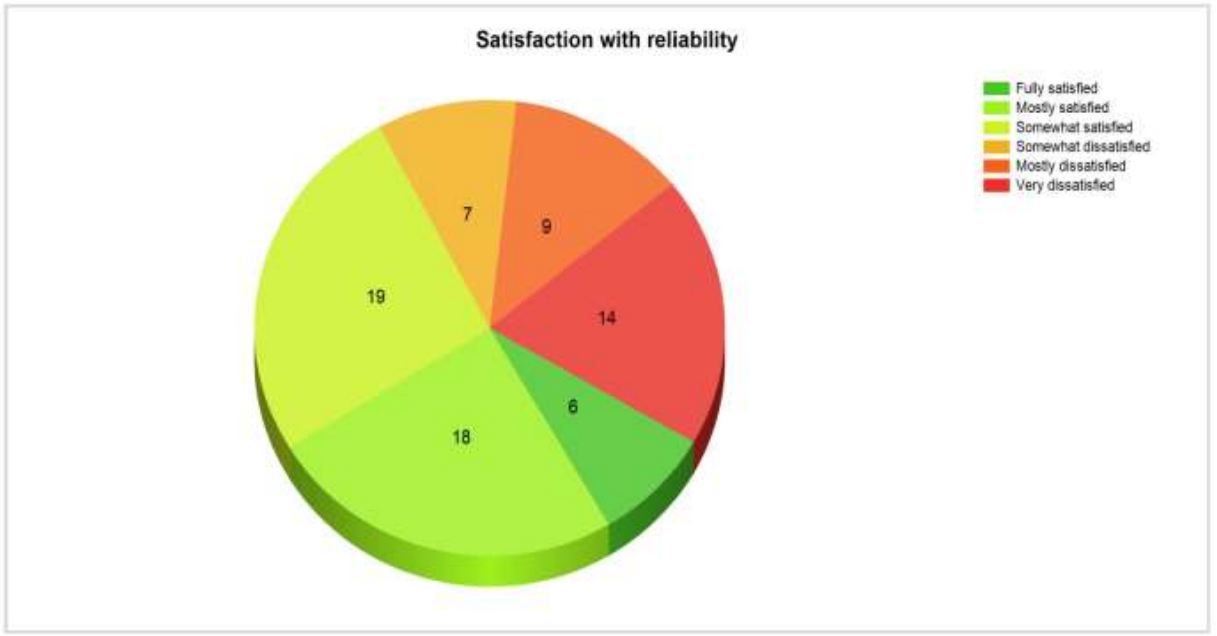
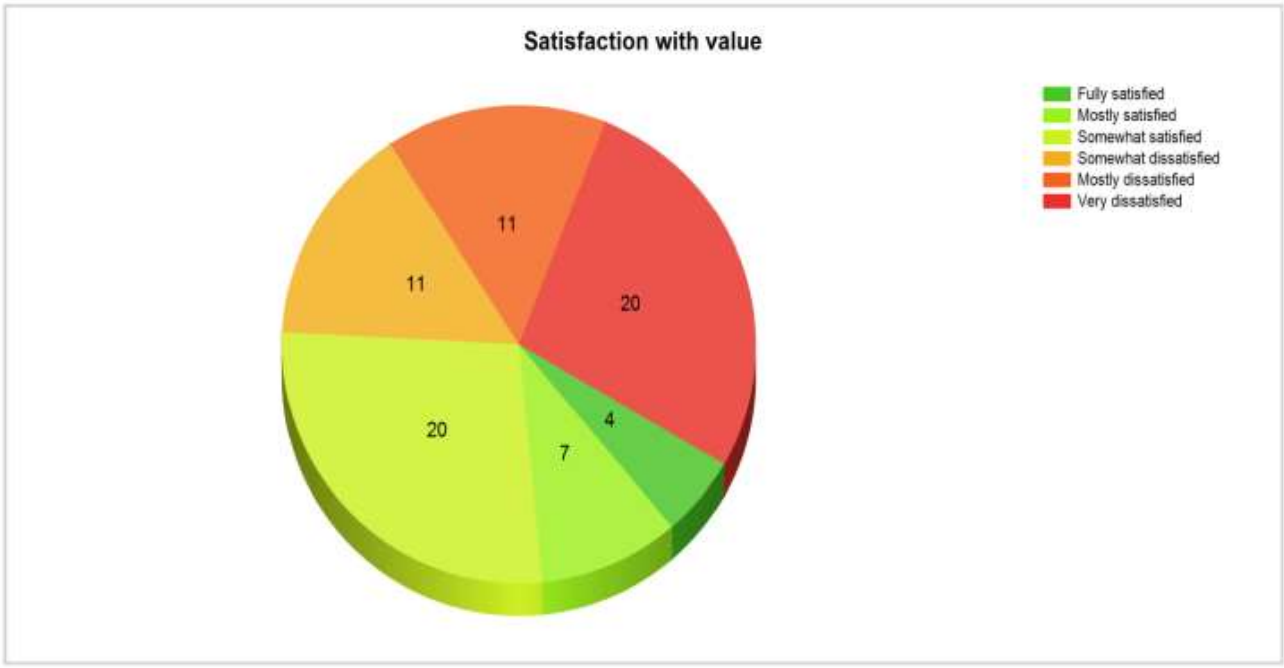
Satisfaction with reliability

Survey



Satisfaction with value

Survey



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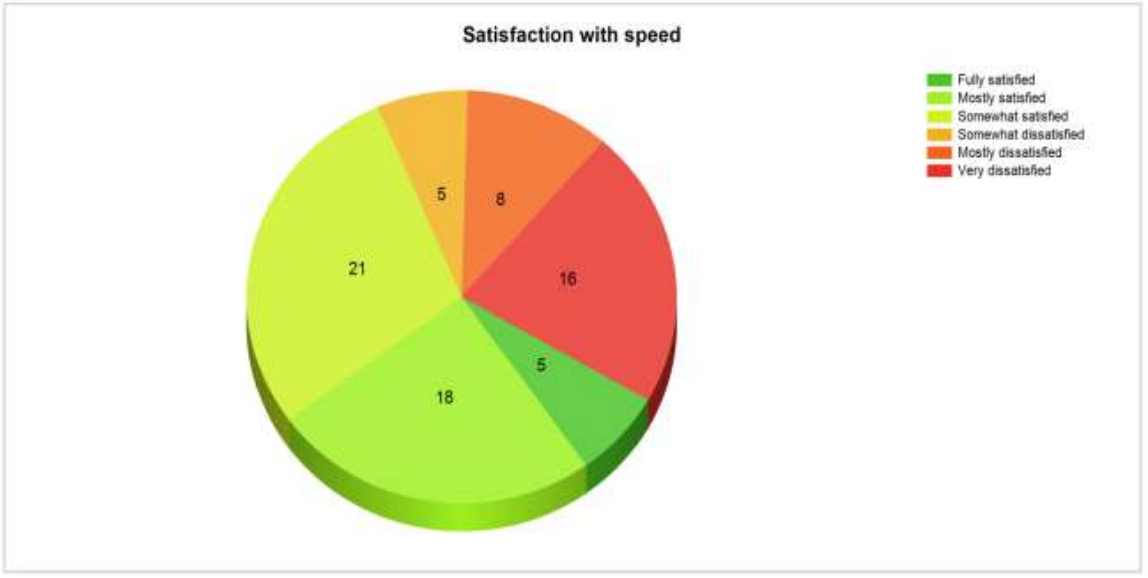
Satisfaction with speed

Survey



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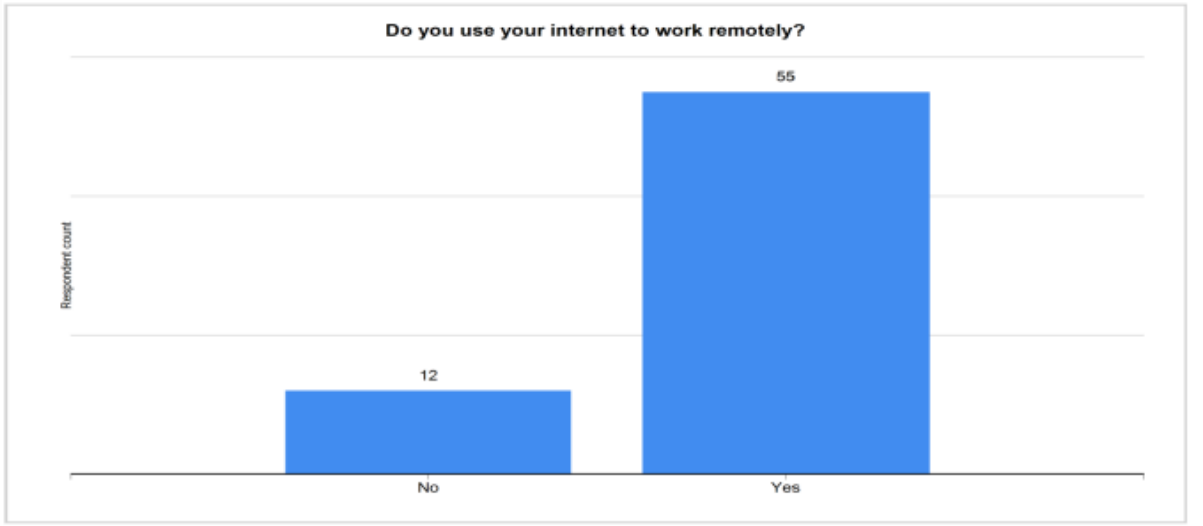
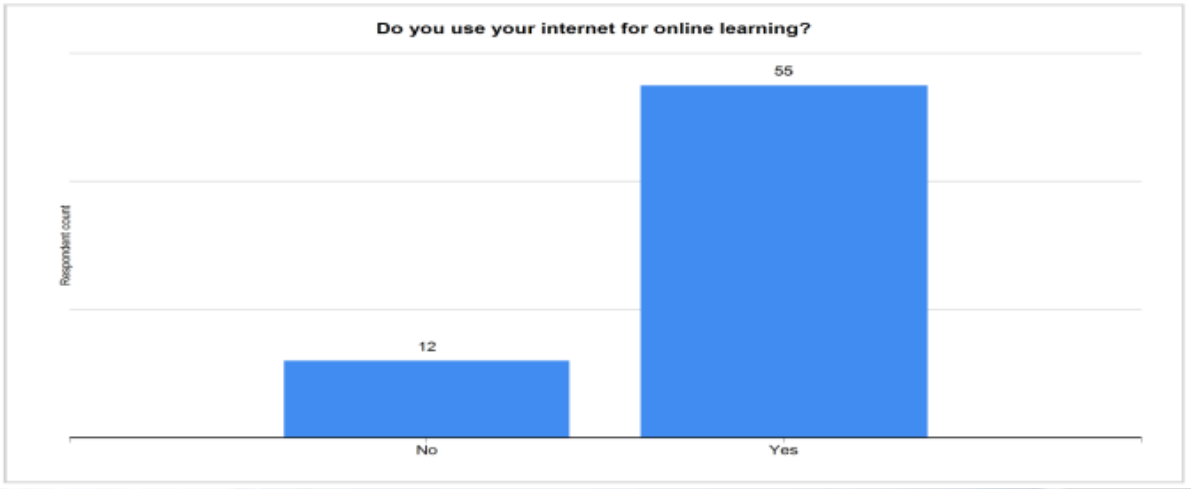
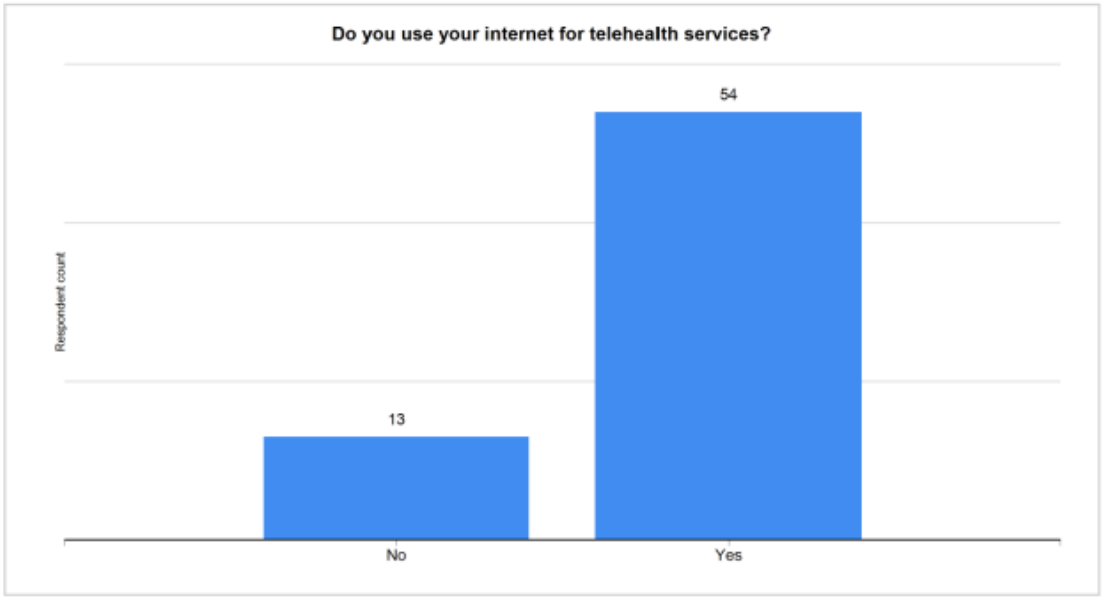

Do you use your internet to work remotely?
Respondent count
55
12
No
Yes


Do you use your internet for online learning?
Respondent count
55
12
No
Yes

Survey



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Questions for Discussion

1. Are the existing **broadband speeds** in the County sufficient to meet local broadband needs? Are there online tasks that you are unable to perform as a result of insufficient broadband access?

2. What is the level of interest amongst stakeholders for higher speed broadband?

3. Is the existing **broadband infrastructure** in the County sufficient to meet local broadband needs? What are the perceived gaps?

4. How do stakeholders without at-home broadband access the internet?

5. How do the broadband services that are currently available impact local stakeholders in setting and realizing short term objectives and long range plans (positively or negatively)?

6. What educational, economic, public health, civic engagement, and other goals would stakeholders wish to address with wider broadband access and/ or adoption? Are there specific individuals within these organizations whom we should contact?

Questions for Discussion

7. How do internet service providers currently market speed and service packages?

8. Does your organization own or operate broadband infrastructure within the County? If so, would you be willing to provide information regarding this infrastructure to the Project Team?

9. If you are an internet service provider, how will you be assessing the County's need for broadband over the next 6, 12, 24 months, and beyond?

10. If you are a local utility, do you have any "smart" infrastructure currently in place? If not, is there interest in such infrastructure (e.g., smart meters, etc.)? Is broadband a barrier to such usages?

11. How is the interaction among the various units of government, and levels thereof, within the County? To your knowledge, do the local governments own/ operate broadband in the County?

12. How is the interaction between the various units of government, and levels thereof, and the local Internet Service Providers?

13. What are your expectations for the Clinton County Countywide Broadband Feasibility Study?

Clinton County Broadband Feasibility Study Stakeholder Meeting

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Lit Communities DLZ

IceMiller Whiteboard

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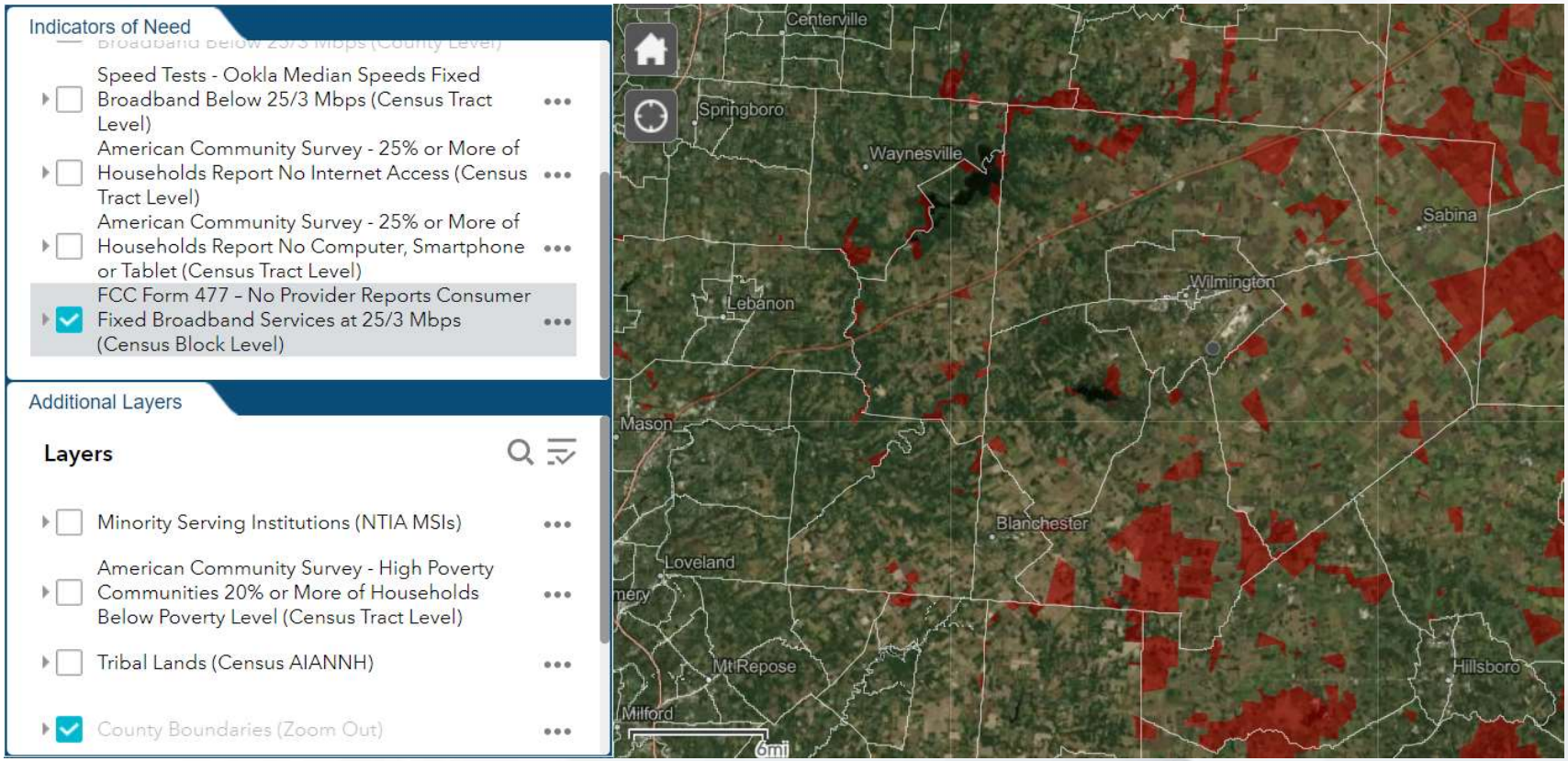

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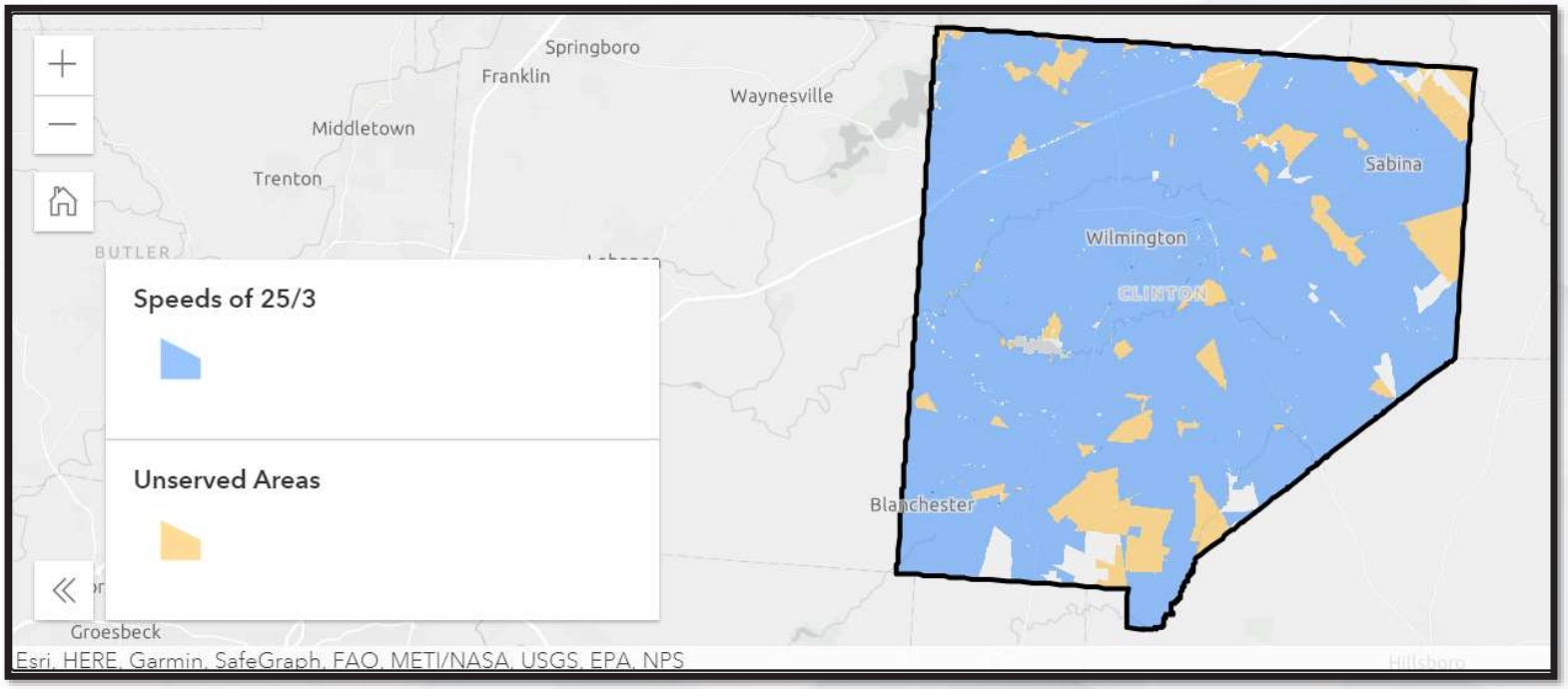

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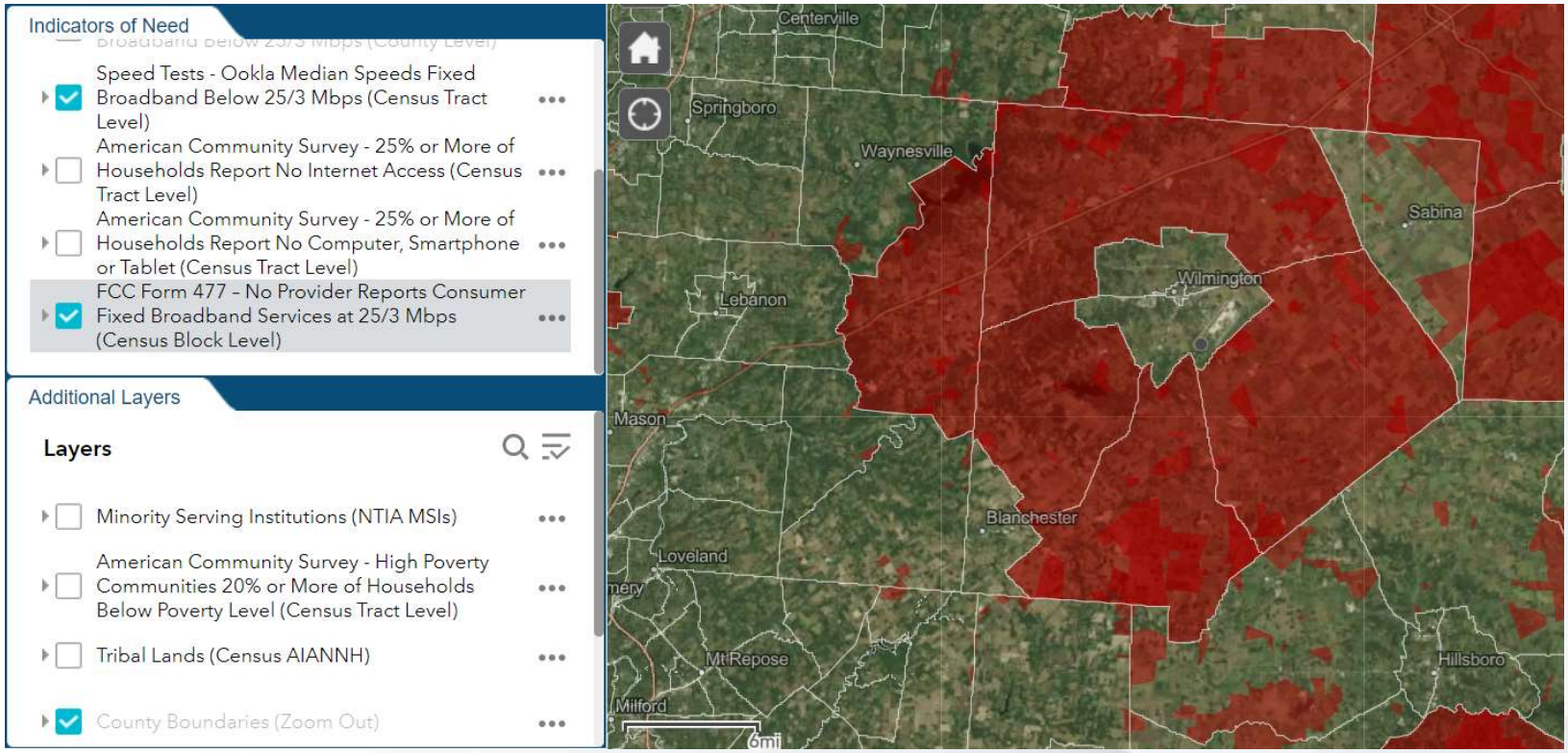

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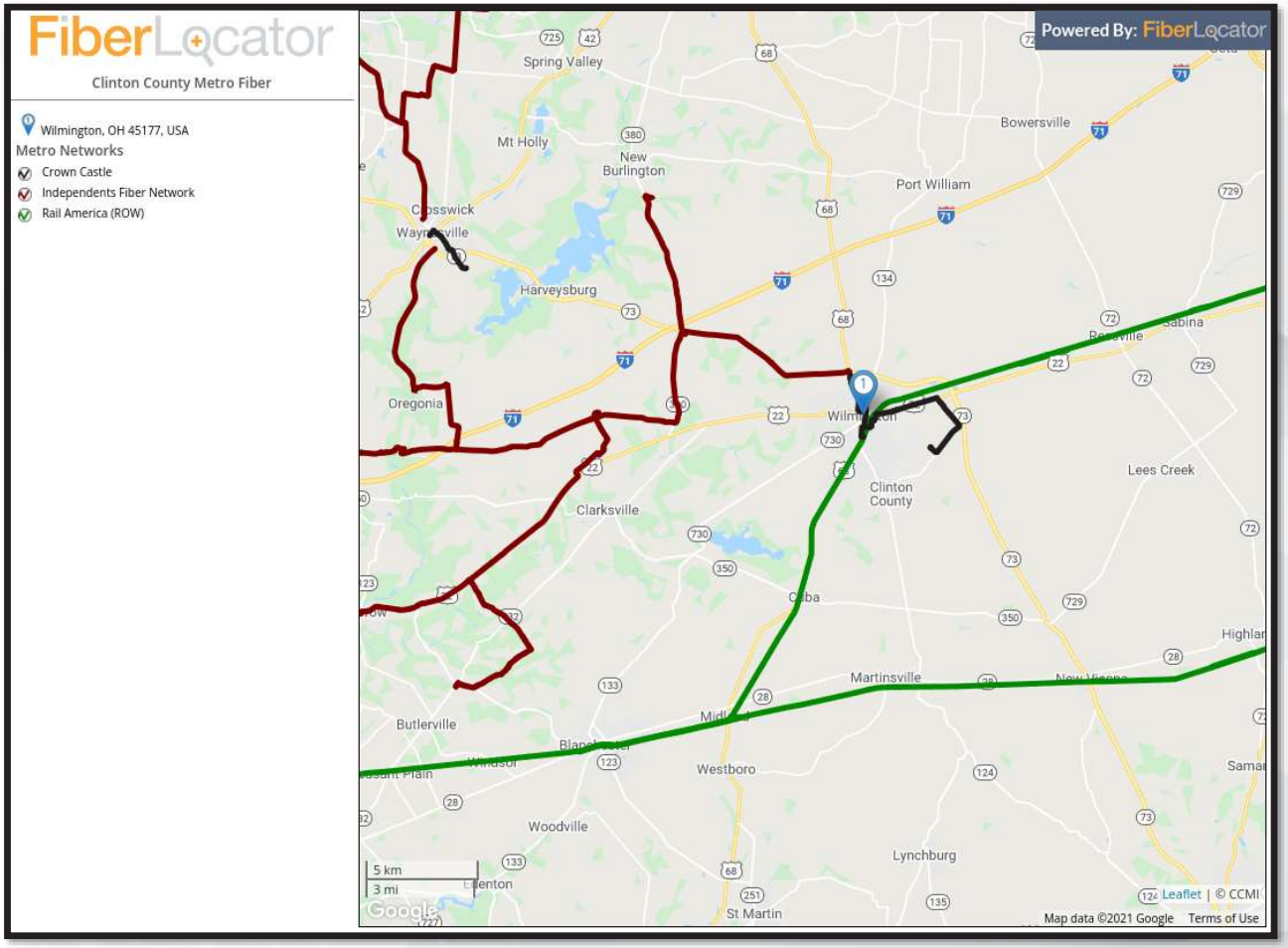

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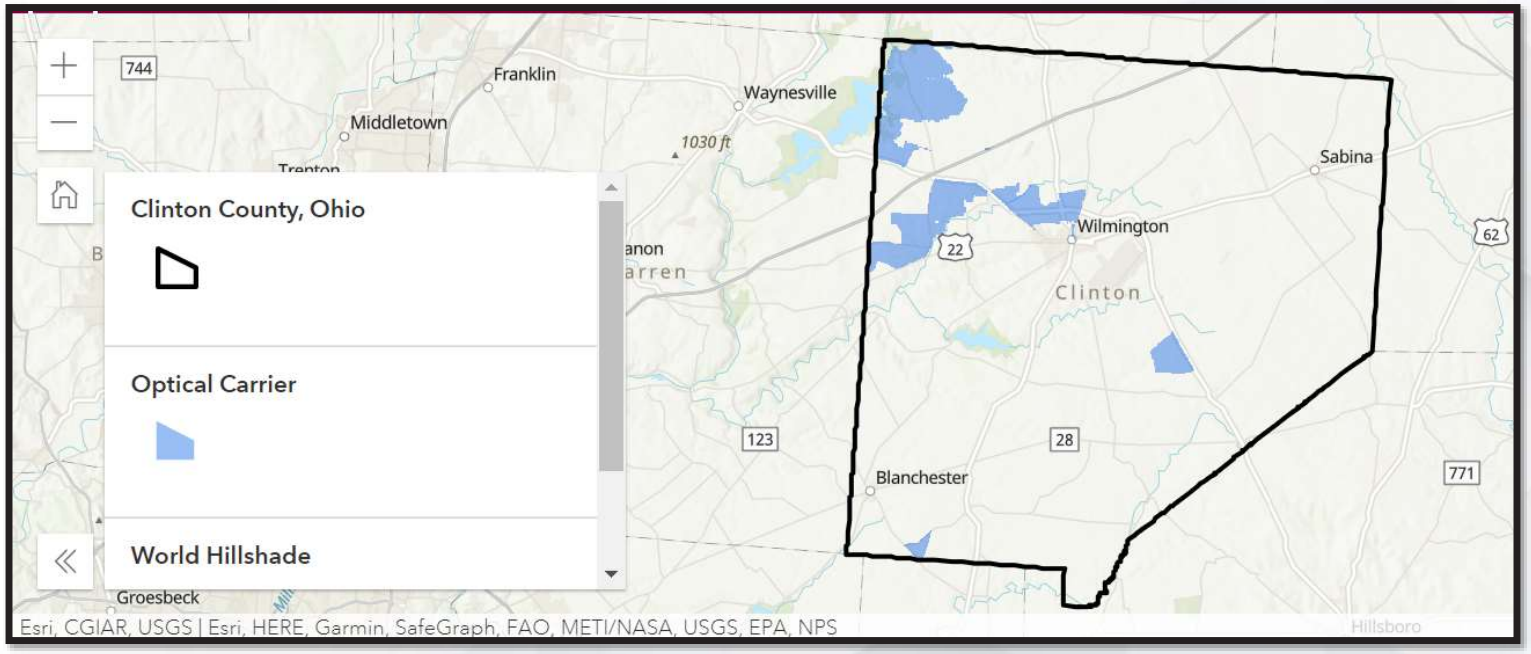

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https://clintonfiber.servicezones.net/

Survey

Clinton County Survey Highlights:

- 576 survey responses received with 102 responses to be completed
- 78% of respondents with fixed wireless do not have FCC minimum requirement of 100 Mbps download /100 Mbps upload
- 49% of all respondents do not have a fixed internet service
- Respondents are mostly satisfied with current speeds and reliability but mostly dissatisfied with value (price paid)
- Very high percentage of respondents indicated they would sign up if a better service was available
- Majority of survey respondents are using the internet for Remote work, online learning and telehealth services

https://clintonfiber.servicezones.net

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Survey

Clinton County Survey has reached statistical confidence:

- Clinton has achieved statistical significance with the current sample size of 576. The survey is at almost a 95% confidence level with a 4% margin of error. This would mean that statistically speaking we can have 95% confidence (with a 4% margin of error) that the findings are representative of the greater County.
- Lit uses Survey Monkey's Sample Size Calculator to determine confidence level and margin of error based on the population size.
- **1,770:** 99% confidence with a 3% margin of error.
- **7,000**: 99% confidence level with a 1% margin of error.
- **1,352:** This is double the number of completed and incomplete surveys. We would have a 95% response rate with a 3% margin or error.

https://clintonfiber.servicezones.net

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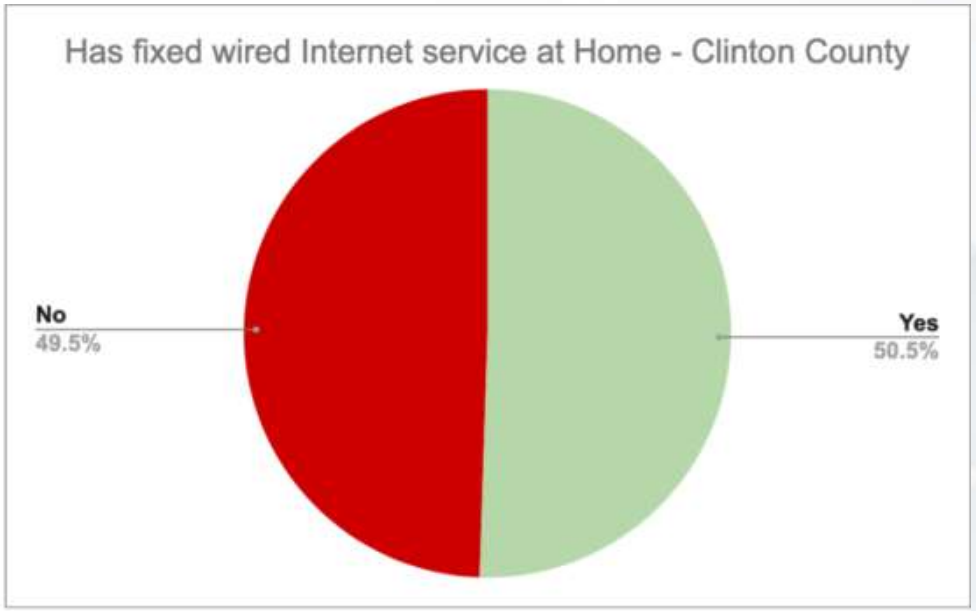
Survey



- Respondents who answered no to having fixed wired internet service at home were not able to take the speed test
- Fixed wired internet defined as (DSL, Cable, Fiber or Fixed Wireless)- NOT mobile wireless/cellular

Survey

Speed test Results

Speed test, Key numbers - Clinton County	Number	%
Download speed is 1 Gbps or faster	0	0%
Download speed is below 1 Gbps	198	100%
Download and Upload speed is 100/100 Mbps or faster	0	0%
Download speed is 100 Mbps or faster	43	22%
Download and Upload speed is below 100/100 Mbps	154	78%

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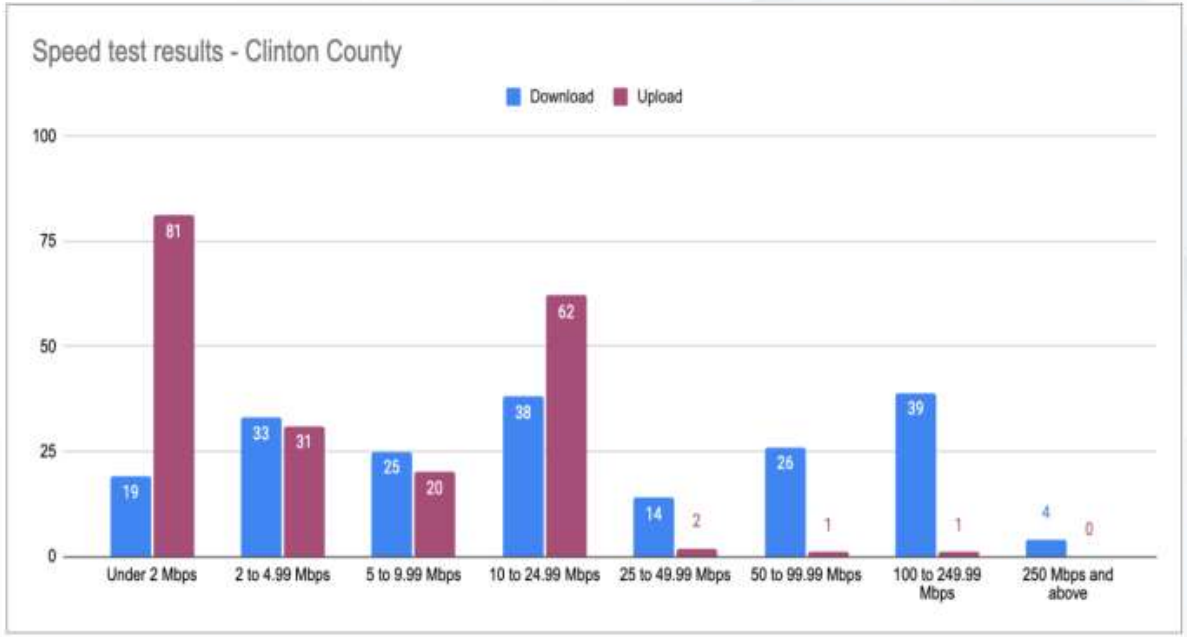
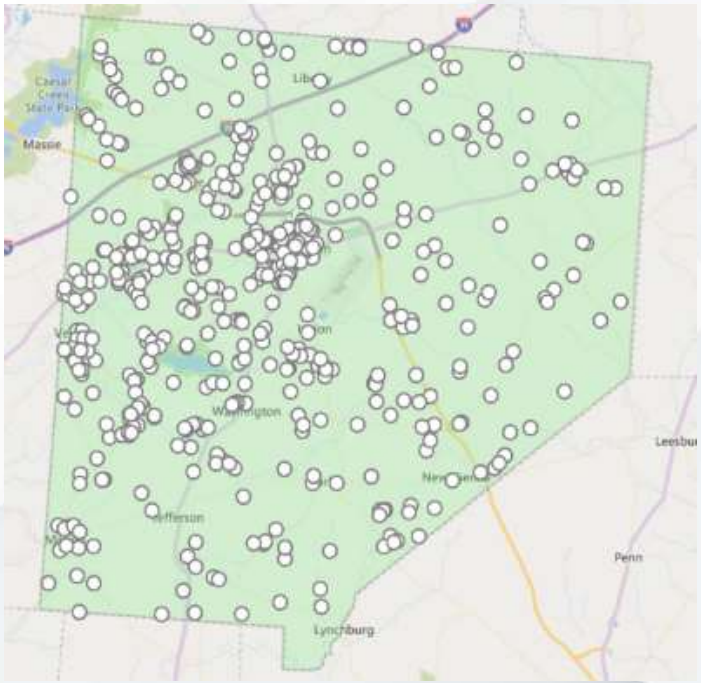
Survey

Speed test Results



Survey

Survey Responses on a Map



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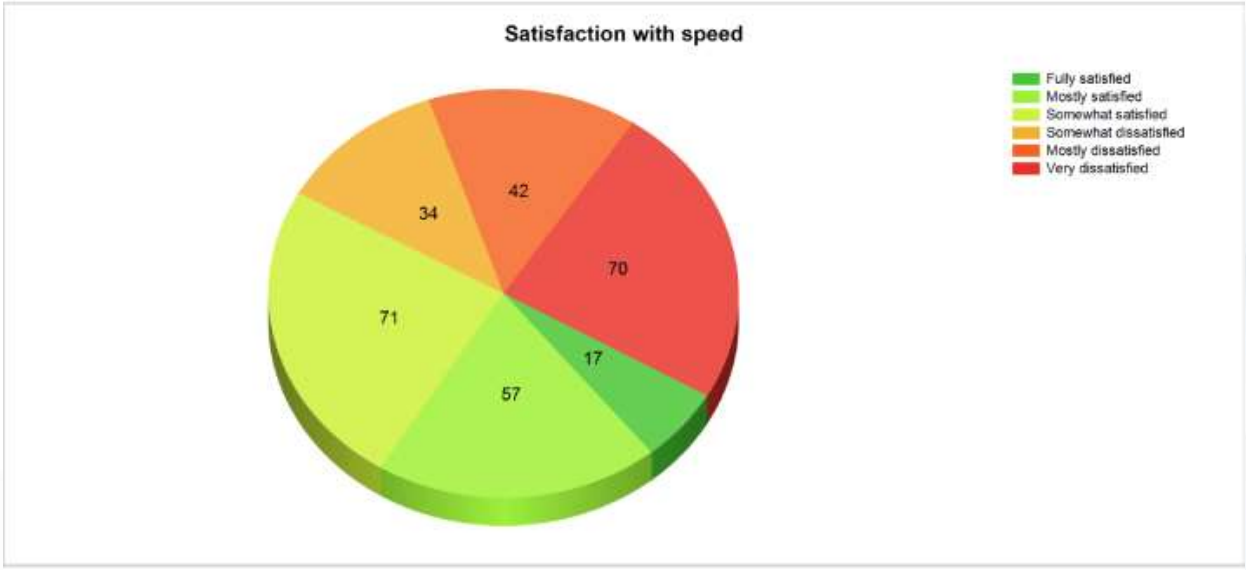
Satisfaction with Speed

Survey

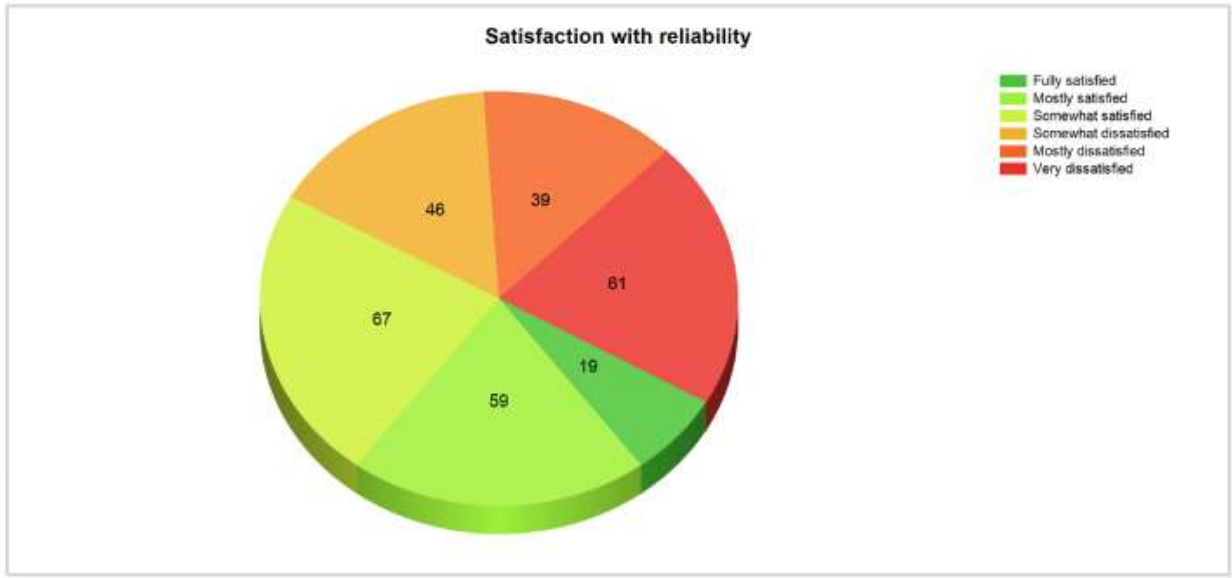


17

IceMiller Whiteboard
Lit Communities
DLZ

Satisfaction with Reliability

Survey

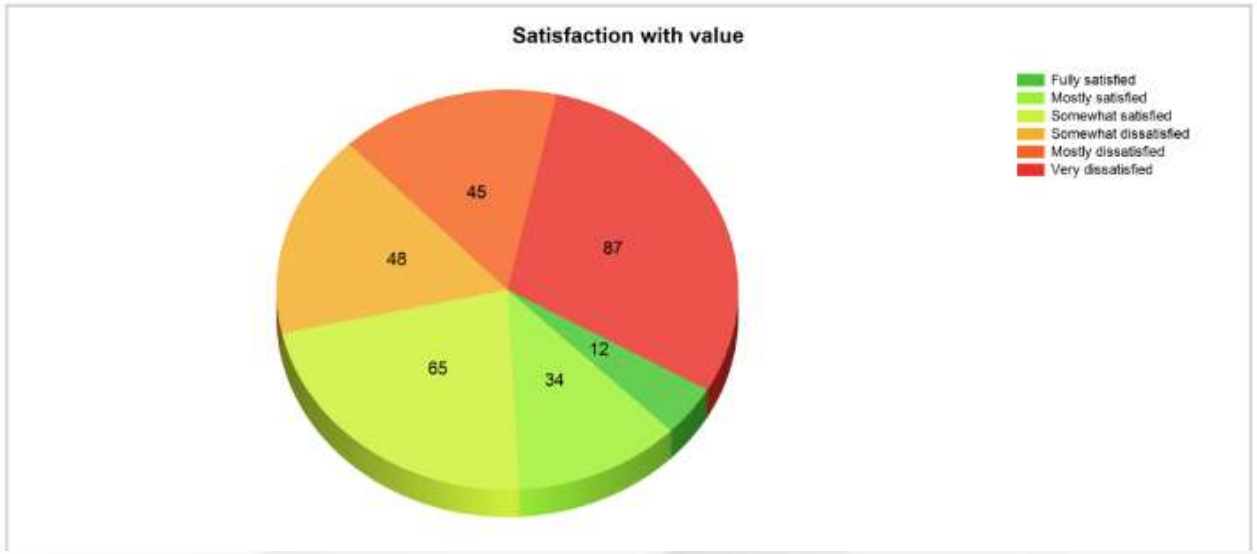


17

IceMiller Whiteboard
Lit Communities
DLZ

Satisfaction with Price

Survey

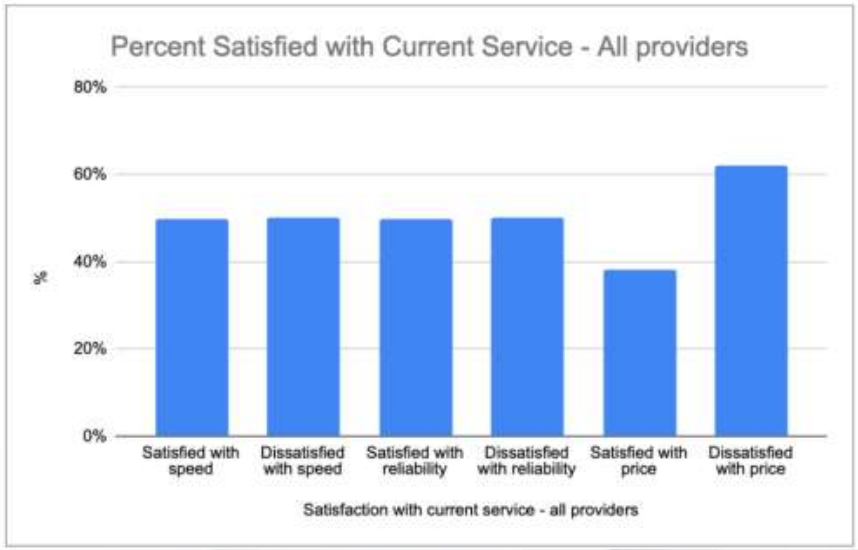


17

IceMiller Whiteboard
Lit Communities
DLZ

Satisfaction with Speed, Reliability and Pricing

Survey



17

IceMiller Whiteboard
Lit Communities
DLZ

Question: - "Would you sign up for a better service if available?"	Number of surveys	%
Yes	279	96%
No	12	4%
Total	**291**	**100%**

Survey

Question: - "Do you use your internet to work remotely?"	Number of surveys	%
Yes	185	68%
No	87	32%
Total	**272**	**100%**

17

IceMiller Whiteboard
Lit Communities DLZ

Question: - "Do you use your internet for online learning?"	Number of surveys	%
Yes	203	75%
No	69	25%
Total	**272**	**100%**

Survey

Question: - "Do you use your internet for online Telehealth?"	Number of surveys	%
Yes	203	75%
No	69	25%
Total	**272**	**100%**

17

IceMiller Whiteboard
Lit Communities DLZ

"Get broadband to Clinton County rural areas as soon as possible. *We've waited too long.*"

"*Cover the areas that currently have limited broadband or unreliable broadband in the rural areas please*!"

Survey

"I am a real estate agent and lack of good internet in more remote areas is a real problem. *The county is growing and we have a desperate need for good broadband services*."

"A buried line that has the capability to serve different speeds of internet services for home/business without limit of data usage. Many people on this road don't have any internet service just cell phones*. I feel we have internet service at both ends of our road we just need to make the connection*."

17

IceMiller Whiteboard
Lit Communities DLZ

Questions for Discussion

1. Are the existing **broadband speeds** in the County sufficient to meet local broadband needs? Are there online tasks that you are unable to perform as a result of insufficient broadband access?

2. What is the level of interest amongst stakeholders for higher speed broadband?

3. Is the existing **broadband infrastructure** in the County sufficient to meet local broadband needs? What are the perceived gaps?

4. How do stakeholders without at-home broadband access the internet?

5. How do the broadband services that are currently available impact local stakeholders in setting and realizing short term objectives and long range plans (positively or negatively)?

6. What educational, economic, public health, civic engagement, and other goals would stakeholders wish to address with wider broadband access and/ or adoption? Are there specific individuals within these organizations whom we should contact?

Questions for Discussion

7. How do internet service providers currently market speed and service packages?

8. Does your organization own or operate broadband infrastructure within the County? If so, would you be willing to provide information regarding this infrastructure to the Project Team?

9. If you are an internet service provider, how will you be assessing the County's need for broadband over the next 6, 12, 24 months, and beyond?

10. If you are a local utility, do you have any "smart" infrastructure currently in place? If not, is there interest in such infrastructure (e.g., smart meters, etc.)? Is broadband a barrier to such usages?

11. How is the interaction among the various units of government, and levels thereof, within the County? To your knowledge, do the local governments own/ operate broadband in the County?

12. How is the interaction between the various units of government, and levels thereof, and the local Internet Service Providers?

13. What are your expectations for the Clinton County Countywide Broadband Feasibility Study?

APPENDIX

D | U.S. Department of Agriculture

Community Connect Grant Program

Community Connect Grants provide financial assistance to facilitate broadband service expansion in rural, economically challenged communities where service does not currently exist at speeds of 10 Mbps download/ 1 Mbps upload.

Eligible applicants to the Community Connect Grant include:

- incorporated organizations,
- federally recognized tribes,
- state and local government,
- and any other legal entity including cooperatives, private corporations, or limited liability companies.

The program funds the following eligible project categories:

- Infrastructure Development
- Adoption and Digital Literacy and
- Public Computer Access

Funds under Community Connect may be used for a variety of purposes including:

- the construction, acquisition, or leasing of facilities, spectrum, land, or buildings used to deploy broadband service.
- funding for at least two but no more than 10 Computer Access Points to be used in a Community Center, defined as a building within the proposed service area that provides access to the public, or a section of a public building with at least two (2) computer access points and wireless access, that is used for the purposes of providing free access to and/ or instruction in the use of broadband internet service, and is of the appropriate size to accommodate this purpose. The Community Center must be open and accessible to area residents before, during, and after normal working hours and on Saturday and Sunday.
- the cost of providing free broadband service to community facilities, which have the same meaning as critical community facilities under the 1961 Consolidated Farm and Rural Development Act, section 306(a), for two years.
- the improvement, expansion, construction, or acquisition of a community center to provide online access to the public (less than 10% of the grant amount—or up to $150,000—may be used for this purpose).

Beyond eligibility baselines and acceptable uses of funding, other grant considerations include, but are not limited to:

- the awardee must locate buildings constructed with Community Connect funds on property owned by the awardee.
- leasing expenses will only be covered through the "advance of funds period" included in the award documents.
- grantees must have the legal authority to provide, construct, operate, and maintain the proposed facilities or services.
- project located in rural areas with a population of 20,000 of less.[1]
- serve a proposed funded service area where broadband services of at least 10 Mbps download/ 1 Mbps upload do not currently exist.
- applicant must agree to offer service at 25 Mbps / 3 Mbps to all residential and business customers within the service area.
- provide a community center in the service area with at least two Computer Access Points and wireless access at 25 Mbps / 3 Mbps at no charge for at least two years.
- partnerships with federal, state, local, private, or non-profit entities are encouraged.
- matching funds of at least 15% from non-federal sources are required.

Total funding available for the FY2021 program was $35 Million with a maximum award of $3 Million to each selected recipient. Grant recipients are required to provide matching contributions in cash or in-kind equal to 15% of the grant amount requested.

1 According to the ReConnect Program Service Area Map, all of Clinton County is eligible for funding.

Application requirements:

APPLICATION FOR FEDERAL ASSISTANCE	☐
☐	Completed Standard Form 424
☐	SAM Registration and Supporting Documentation
EXECUTIVE SUMMARY OF THE PROJECT	☐
SCORING CRITERIA DOCUMENTATION	☐
In ranking applications, the agency will consider the following criteria based on a scale of 100 possible points:	
☐	Proposed Funded Service Area Needs (up to 50 points)
	• The economic characteristics • Educational challenges • Health care needs • Public safety issues
☐	Stakeholder Involvement (up to 40 points)
	• Documents that demonstrate the participation and support by local residents
☐	Management Experience of Key Personnel (10 points)
SYSTEM DESIGN	☐
☐	Network Diagram
☐	Environmental Questionnaire provided in the Notice of Funding Opportunity
SERVICE AREA DEMOGRAPHICS	☐
SCOPE OF WORK	☐
☐	Construction Build-out/Project Milestones
☐	Project Budget
COMMUNITY-ORIENTED CONNECTIVITY PLAN	☐
FINANCIAL INFORMATION AND SUSTAINABILITY	☐
☐	Historical Financial Statements
☐	Pro Forma Financial Statement – Single Application
☐	Pro Forma Financial Statement Assumptions
STATEMENT OF EXPERIENCE	☐
EVIDENCE OF FUNDING COMMITMENTS FROM OTHER SOURCES	☐
COMPLIANCE WITH OTHER FEDERAL STATUTES AND REGULATIONS	☐
☐	Assurance Agreement
☐	Certificate Regarding Flood Hazard Area Precautions
☐	Applicant Certification Federal Collection policies for Commercial Debt
☐	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Certification
☐	Certificate Regarding Architectural Barriers

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Community Connect Grants

What does this program do?

The grant program offers financial assistance to eligible applicants that will construct broadband networks that provide service on a community-oriented connectivity basis in rural areas.

Who may apply for this program?

Eligible applicants include:

- **State and local governments**
- **Federally recognized Tribes**
- **Nonprofits**
- **For-profit corporations**
- **Limited liability companies**

What is an eligible area?

Rural areas that lack broadband service as defined in the most recent funding announcement are eligible.

How may the funds be used?

- The construction, acquisition, or leasing of facilities, spectrum, land or buildings used to deploy broadband service for:
  - all residential and business customers located within the Proposed Funded Service Area
  - all participating essential community facilities (such as public schools, fire stations, public libraries, and public safety stations)
- The cost of providing broadband service free of charge to the essential community facilities for 2 years
- Up to 10 percent of the grant may be used for the improvement, expansion, construction, or acquisition of a community center that provides online access to the public

Are there other requirements?

Other program requirements include:

- Documentation supporting the scoring criteria
- An executive summary of the proposed project
- Grantees must have legal authority to provide, construct, operate and maintain the proposed facilities or services
- Partnerships with other federal, state, local, private, and nonprofit entities are encouraged
- For additional details, see 7 CFR, 1739

Matching funds of at least 15 percent from non-federal sources are required and can be used for operating costs.

How do we get started?

- Application windows for this program are announced through the national office on a periodic basis.
- Program Resources are available online at rd.usda.gov (includes forms, guidance, certifications, etc.)

Distance Learning and Telemedicine Grants

The Distance Learning and Telemedicine (DLT) program helps rural communities use telecommunications to connect and overcome remoteness and low population density.

In FY2021, Congress allocated $57 million in DLT funding. After applying $18 million to award projects from the prior fiscal year, approximately $44.5 million was available—a combination of funds not allocated from the previous year, in addition to the new funds allocated for FY2021. The award ceiling for this program is $1M with an award floor of $50,000.

The purpose of this grant program is to assist rural communities in acquiring distance learning and telemedicine technologies to provide the link between local teachers and medical service providers who serve rural residents and other professionals located at distances too far to access otherwise.

For both the distance learning and telemedicine programs, eligible applicants include most state and local government entities, federally recognized tribes, non-profits, for-profit businesses, and a variety of other entities. A minimum 15% match is required for grant-only awards and **it cannot be supplied by another federal source.** Although matching contributions generally are required to be in the form of cash, matches can be in-kind in the form of a grant-eligible contribution.

Eligible uses of DLT grant funds include:

- Acquisition and legal ownership of eligible capital assets such as:
  - broadband facilities (limited to 20% of the grant) - broadband facilities must undergo substantial environmental review
  - audio, video, and interactive video equipment
  - terminal and data terminal equipment
  - computer hardware, network components, and software
  - inside wiring and other infrastructure to further distance learning and telemedicine services
- Acquisition of instructional programming that is a capital asset
- Acquisition of technical assistance and instruction for using eligible equipment

In scoring applications, “rurality” based on 2010 census population is 40 of the total possible 120 points (i.e., the applicant area cannot be too close in proximity to a non-rural area). Funded applications must receive a score of at least 20 on rurality. Projects must also be located in rural areas with a population of 20,000 or less. Applicants can confirm the “rurality” of the community using 2010 Census population data from the Census website, while the determination of the proximity of urban areas should be made using the DLT Map included in the application materials, which is also based on the 2010 Census.[i]

Ultimately, through its DLT program, USDA is seeking projects that are sustainable and meet the long-term needs of a rural area.

Ultimately, through its DLT program, USDA is seeking projects that are sustainable and meet the long-term needs of a rural area.

Application requirements:

COMPLETED STANDARD FORM 424	☐
SITE WORKSHEET[2]	☐
EXECUTIVE SUMMARY OF THE PROJECT, INCLUDING PUBLICLY RELEASABLE PROJECT DESCRIPTION	☐
SCORING CRITERIA DOCUMENTATION	☐
☐	Rurality
☐	Economic Need
☐	Special Consideration
☐	Need for Services and Benefits
MATCHING REQUIREMENTS	☐
☐	Minimum matching requirement must equal 15% of the grant amount requested and generally must be in the form of cash and may not be from federal funds unless specifically authorized by federal statute
SCOPE OF WORK	☐
☐	Specific activities to be performed
☐	Who will carry out activities
☐	Timeframes for accomplishing objectives
☐	Budget for all capital expenditures
FINANCIAL INFORMATION AND SUSTAINABILITY	☐
STATEMENT OF EXPERIENCE	☐
TELECOMMUNICATIONS SYSTEMS PLAN	☐
☐	Capabilities and Description of Telecommunications Equipment
☐	Complete Listing of all Telecommunications Equipment
☐	Description of the consultations with telecommunications carriers
☐	A diagram or map of the proposed system overlaid with a geographic map of the service area
☐	Sites (hub, hub/end-users, or end-users) that will participate in the project and where equipment is located
EVIDENCE OF LEGAL EXISTENCE AND AUTHORITY TO CONTRACT WITH THE FEDERAL GOVERNMENT	☐
☐	Evidence of Legal Existence
ENVIRONMENTAL IMPACT AND HISTORIC PRESERVATION (INDICATE WHICH DOCUMENT WAS PROVIDED)	☐
☐	Environmental Impact Survey
☐	Environmental Questionnaire

2 The Site Worksheet is available at: https://www.rd.usda.gov/sites/default/files/dltworksheetsfy2021.xlsx.

Evidence of Consultation with USDA State Director for Rural Development

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USDA Distance Learning & Telemedicine Grant Program (DLT)

Opportunity to Apply for Funding

The USDA begins accepting applications for funding under the DLT program on April 5, 2021. Applications must be received no later than June 4, 2021, to be eligible for funding under this grant opportunity.

- **The Agency encourages applicants to consider projects that will promote equity and economic opportunity in rural America, specifically those that advance the following key priorities:**
  - **Containing the COVID-19 pandemic**
  - **Ensuring racial equity**
  - **Rebuilding our rural economy and**
  - **Addressing the climate crisis.**
- **Congress provided USDA Rural Development $57 million in DLT funding in Fiscal Year (FY) 2021. As it was authorized to do, the Agency applied $18 million from FY 2021 to award projects from the prior fiscal year. Approximately $44.5 million is available. This amount includes $39.2 million in funds appropriated for FY 2021 as well as funds totaling $5.3 million which were not awarded during FY 2020.**
- **The Agency also reserves the right to increase funding for applications should additional appropriations become available for the same purposes.**

What does this program do?

This grant program helps rural communities acquire the technology and training necessary to connect educational and medical professionals with students, teachers, and patients in rural areas.

Who may apply for this program?

Eligible applicants that provide education or health care services through telecommunications facilities, include:

- State and local governmental entities
- Federally recognized Tribes
- Nonprofit organizations
- For-profit businesses
- Consortia of eligible entities

What is an eligible area?

The intent of the DLT program is to benefit rural areas with populations of 20,000 or less.

How may funds be used?

Grant funds may be used for:

- Audio, video and interactive video equipment
- Broadband facilities that support distance learning or telemedicine
- Computer hardware, network components and software
- Acquisition of instructional programming
- Acquisition of technical assistance and instruction for using eligible equipment

What kinds of funding are available?

Grants funds are awarded through a nationally competitive process. Funding is not currently available for DLT loans or loan / grant combinations.

What are some grant requirements?

- Awards can range from $50,000 to $1 million
- A minimum 15 percent match is required and cannot be from another federal source

How do we get started?

- Application windows for this program are announced through the national office on a periodic basis
- Program Resources are available online at rd.usda.gov (includes forms, guidance, certifications, etc.)
- Check back here or contact your General Field Representative for additional information

Who can answer questions?

Contact a General Field Representative that serves your area. Call (202) 720-0800 or email dltinfo@usda.gov.

What governs this program?

- Code of Federal Regulation: 7 CFR Part 1734

Why does USDA Rural Development do this?

The DLT program helps rural residents tap into the enormous potential of modern telecommunications and the Internet for education and health care, two of the keys to economic and community development.

NOTE: Because citations and other information may be subject to change, please always consult the program instructions listed in the section above titled "*What Governs This Program?*" You may also contact your local office for assistance. You will find additional forms, resources, and program information at rd.usda.gov. *USDA is an equal opportunity provider, employer, and lender.*

ReConnect Grant Program

The ReConnect Loan and Grant program offers loans, grants, and loan/ grant combinations to facilitate broadband deployment in rural areas.[ii]

Funds under the ReConnect program are awarded to projects with a financially stable business model to bring high-speed broadband to rural homes, businesses, farms, ranches, and community facilities such as first responders, health care, and schools. For purposes of the program, rural areas are those not located within:

- a city, town, or incorporated area that has a population of greater than 20,000; or
- an urbanized area adjacent to a city or town that has a population greater than 50,000.

In order to be eligible for the ReConnect Program funding in the latest round, an applicant must propose to serve an area that is currently without fixed broadband service at speeds of 100 Mbps download and 20 Mbps upload, and a commit to building facilities capable of providing broadband at speeds of 100 Mbps download and upload (symmetrical) to every location in its proposed service area.

Applicants are required to build their proposed network within five (5) years of award and provide broadband service to every household, farm, and business located in the proposed service area.

Eligible applicants include states and local governments, including any agency, subdivision, instrumentality, or political subdivision thereof; corporations; limited liability companies and limited liability partnerships; cooperative organizations; and others less applicable to Clinton County. The entity that applies for the funding must own the resultant infrastructure.

Awards are to be used to fund:

- the construction or improvement of facilities required to provide fixed broadband service, including fixed wireless;
- reasonable preapplication expenses in an amount not to exceed 5% of the award; or
- the acquisition of an existing system that does not currently provide sufficient access to broadband for upgrading that system to meet the requirements of this regulation.

USDA will begin accepted applications for the latest round of ReConnect funding through February 22, 2022. USDA will provide up to $1.15 billion in loans and grants to continue to expand broadband availability in rural areas. An applicant may request funding from one of the following categories:

- 100% Grant: Up to $350 million is available for grants with a max amount of $25 million and at least a 25 percent match of the cost of the overall project;
- 100% Grant for Tribal Governments and Socially Vulnerable Communities: Up to $350 million is available for grants with a max amount of $25 million;
  - Socially vulnerable community means a community or area identified in the Center for Disease Control's Social Vulnerability Index with a score of .75 or higher.
- 50% Loan / 50% Grant: Up to $250 million is available for loan-grant combinations. The max amount that can be requested is $25 million for the loan and also for the grant. The interest rate for the loan will be set at the Treasury rate; or
- 100% loan: Up to $200 million is available for loans. The max amount requested is set at $50 million with a minimum of $100,000. The interest rate for a 100% loan will be set at a fixed 2%.

In making its funding decisions, the USDA will also consider, among other things, the economic needs of the community to be served; the extent which a provider will offer affordable service options; a project's commitment to strong labor standards; and whether a project is serving tribal lands or is submitted by a local government, Tribal Government, non-profit or cooperative.

APPLICATION REQUIREMENTS:	☐
☐	Information on the applicant and the project including the estimated dollar amount of the funding request.
☐	An executive summary that includes, but is not be limited to, a detailed description of existing operations; key management; the applicant's workforce; interactions between any parent, affiliated or subsidiary operation; the proposed project; and the source of the matching and other funds;
☐	A description of the Proposed Funded Service Area (PFSA) including the number of premises passed;
☐	Subscriber projections for broadband, video and voice services and any other service that may be offered.
☐	A description of the proposed service offerings and the associated pricing plan that the applicant proposes to offer;
☐	A map, utilizing the RUS mapping tool located on the Agency's web page, of the PFSAs identifying the areas without sufficient access to broadband and any Non-Funded Service Area (NFSA) of the applicant. If an applicant has multiple NFSAs, they can elect to submit each NFSA individually or as a single file through the mapping tool;
☐	A description of the advertised prices by competitors in the same area;
☐	A network design and all supporting information as detailed in §1740.64, which includes: • Description of the proposed technology used to deliver broadband; • Demonstrate that all areas in the PFSA can be offered service; • Network diagram, identify cable routes, wireless access points; • Any other equipment required to operate the network; • A buildout timeline and milestones for implementation of project; and • A capital investment schedule showing that the system can be built in five (5) years.
☐	Resumes of key management personnel, a description of the organization's readiness to manage a broadband services network, and an organizational chart showing all parent organizations and/ or holding companies (including parents of parents, etc.), and all subsidiaries and affiliates;
☐	A legal opinion that: • Addresses the applicant's ability to enter into the award documents; • Describes all material pending litigation matters; • Addresses the applicant's ability to pledge security as required by the award documents; and • Addresses the applicant's ability to provide broadband service under state or tribal law.
☐	Summary and itemized budgets of the infrastructure costs of the proposed project, including, if applicable, the ratio of loans to grants and any other sources of outside funding. The summary must also detail the amount of matching and other funds and the source of these funds. If the matching and other funds are coming from a third party, a commitment letter and support that the funds are available must also be submitted.
☐	A detailed description of working capital requirements and the sources of those funds;
☐	Unqualified, comparative audited financial statements for the previous calendar year from the date the application is submitted;
☐	The historical and projected financial information required in §1740.63;
☐	All information and attachments required in the RUS Online application system;
☐	A scoring sheet, analyzing any scoring criteria set forth in the funding announcement opening the application window;
☐	A list of all the applicant's outstanding and contingent obligations as required in §1740.63;
☐	A network design and all supporting information as detailed in §1740.64, which includes: • Requirements listed in 7 CFR part 1970 • Complete an Environmental questionnaire • Provide a description of program activities • Submit all other environmental documentation as requested in the application system or by the Agency after application is submitted
☐	Certification from the applicant that agreements with or obligations to investors do not breach the obligations to the government under the standard Award Documents located on the Agency's web page, especially distribution requirements, and that any such agreements will be amended so that such obligations are made contingent to compliance with the Award Documents. Such certification should also specifically identify which, if any, provisions would need to be amended;

Rural Broadband Access Loans and Loan Guarantees

Rural Broadband Access Loan and Loan Guarantee Program[iii]

The Rural Broadband Access Loan and Loan Guarantee Program furnishes loans and loan guarantees for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide broadband service to eligible rural areas.

The purpose of this grant program is to provide funding for projects that offer broadband service at or beyond specific broadband lending speeds, which RUS determines in the respective publication in the Federal Register. RUS established the minimum rate-of-data transmission of 25 megabits downstream and 3 megabits upstream for both mobile and fixed service.

Eligible applicants to the Loan and Loan Guarantee Program include corporations, limited liability companies, cooperatives or mutual organizations, state or local governments, and federally recognized tribes. However, the proposed funded service areas must be completely contained within a rural area or composed of multiple rural areas where at least 15% of the households are unserved; no part of the proposed funded service area has three or more incumbent service providers; and no part of the area overlaps with the service area of current RUS borrowers.

The program funds the following eligible loan types:

- Cost-of-Money Loans in the form of direct loans from the USDA RUS, Direct 4-Percent Loans which bear interest at 4% on each advance made to the borrower and
- Other Loan Guarantees provided by third party lenders, of which the RUS will guarantee up to 80% of the principal amount of the loan.

Eligible uses of loan and loan guarantee funds include:

- the construction, improvement, and acquisition of facilities required to provide service at the broadband lending speed including facilities required for providing other services through the same facilities.
- Refinancing of an outstanding obligation from another telecommunications loan made by the USDA (up to 40% of the requested amount).
- Pre-loan expenses including market surveys, consultant costs and fees (up to 5% of the requested amount).
- the cost of leasing facilities required to provide service at the broadband lending speed.
- acquisition, depending on the circumstances.

In addition to eligibility requirements listed above, applicants must also meet the following eligibility requirements:

- A project must also be located in rural areas with a population of 20,000 or less.
- At least 15% of the households in the Proposed Funded Service Area do not have access to broadband service.
- No part of the Proposed Funded Service Area has three or more incumbent service providers.
- Non-duplicative of other borrowers or service areas funded by the RUS Telecommunications Program.

As a condition to financing, an applicant must demonstrate an equity contribution in an amount that is at least 10% of the requested loan amount at the of application submitted.

New application periods for the Rural Broadband Access Loan and Loan Guarantee Program are announced on a regular basis. However, due to the significant amount of grant funds available for broadband, **we do not recommend that Clinton County pursue such loans or loan guarantees.**

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Rural Broadband Access Loan & Loan Guarantee

What does this program do?

This loan and loan guarantee program offers financial assistance to eligible applicants that will construct, improve, or acquire facilities and equipment needed to provide service at the broadband lending speed as defined in the most recent funding announcement in eligible rural areas.

Who may apply for this program?

Eligible applicants that may be organized on a for-profit or nonprofit basis, include:

- **Corporation**
- **Limited Liability Company (LLC)**
- **Cooperative or mutual organization**
- **A state or local unit of government**
- **Federally recognized Tribes**

What is an eligible area?

Eligible areas must be completely contained within a rural area or composed of multiple rural areas.

- At least 15 percent of the households in the proposed area must not have access to broadband service as defined in the most recent funding announcement
- No part of the proposed area may have three or more incumbent service providers
- No part of the proposed area may overlap with the service area of current RUS borrowers or grantees

How may funds be used?

This program provides funding for:

- The construction, improvement, and acquisition of facilities required to provide service at the broadband lending speed as defined in the latest funding announcement
- Refinancing of existing RUS debt with certain restrictions
- An acquisition, under certain circumstances and with restrictions
- For additional details, see 7 CFR 1738

What kind of funding is available?

- **Direct loans:** Cost-of-Money Loans

What are the loan terms?

- In general Loan Terms are limited to the expected composite economic life of the assets to be financed plus 3 years
- Interest rates are set at the time funds are advanced

How do we get started?

- Application periods for this program are announced through the national office on a periodic basis
- Program Resources are available online at rd.usda.gov (includes forms, guidance, certifications, etc.)

In addition to the application requirements listed above in the ReConnect Loan and Grant Program, the following requirements are also required for a complete application under this program:

- Complete copies of audited financial statements for the two years preceding the application submission.
- Scoring sheet, analyzing the scoring criteria set forth in the most recent NOFO.
- Additional items that may be required by the Administrator through a notice in the Federal Register.

Telecommunication Infrastructure Loans and Loan Guarantees

The Telecommunications Infrastructure Loans & Loan Guarantees program provides financing for the construction, maintenance, improvement, and expansion of telephone service and broadband in rural areas. Cost-of-money loans from RUS are available, as are hardship loans and loan guarantees of up to 80%, which allow private lenders to extend credit to qualified borrowers in rural areas.

The program funds the following eligible loan types:

- Cost-of-Money Loans in the form of direct loans from the USDA Rural Utilities Service,
- Loan Guarantees through the Federal Financing Bank (FFB), and
- Hardship Loans in the form of direct loans from the USDA Rural Utilities Service.

Eligible entities include state and local governments; federally recognized tribes; non-profits including cooperatives and limited dividend or mutual associations; and for-profit businesses that are corporations or limited liability companies. An eligible area for the Telecommunications Infrastructure Loans and Loan Guarantees is a rural area or town with 5,000 or less residents; an area without telecommunications facilities; or an area where the applicant is the recognized telecommunications provider.

Additional eligibility requirements include:

- borrowers must have legal authority to provide, construct, operate, and maintain the proposed facilities or services.
- all facilities financed with the aid of federal dollars must be used for a public purpose.
- recipients may not duplicate similar services available in the same area.

Partnerships with other federal, state, local, private, and non-profit entities are also encouraged.

Eligible uses of Telecommunications Infrastructure Loan and Loan Guarantee funds include improvements; expansions; construction; acquisitions, in certain cases; and refinancing, in certain cases.

Applications for the program are accepted year-round.[iv] However, similar to the Rural Broadband Loan and Loan Guarantee Funds, due to the significant amount of grant funds available for broadband projects, **we do not recommend that Clinton County pursue such loans.**

USDA Rural Development
U.S. DEPARTMENT OF AGRICULTURE

Together, America Prospers

Telecommunications Infrastructure Loans & Loan Guarantees

What does this program do?

The loan and loan guarantee program offers financial assistance to eligible service providers that will construct, improve, or expand telecommunication and broadband networks in rural areas.

Who may apply for this program?

Eligible applicants include:

- **Public bodies**
- **Cooperatives, nonprofits, limited dividend or mutual associations**
- **State or Local governments**
- **Federally recognized Tribes**

How may funds be used?

Loan funds may be used to finance telecommunications services in rural areas for:

- New construction
- Improvements
- Expansions
- Acquisitions (the cost of acquisition must be incidental to the cost of improvements)
- Refinancing (the amount requested for refinancing cannot exceed 40 percent of loan amount)
- For additional details, see 7 CFR 1735

What types of loans are available?

- Cost-of-Money Loans are direct loans from USDA Rural Utilities Service
- Loan Guarantees through the Federal Financing Bank (FFB)
- Hardship Loans are direct loans from USDA Rural Utilities Service

How do we get started?

- Applications for this program are accepted year round through the national office.
- Program Resources are available online at rd.usda.gov (includes forms, guidance, certifications, etc.)

Who can answer questions about this program?

- Contact our Loan Origination and Approval Division at (202)720-0800
- Contact the General Field Representative who serves your area

What governs this program?

- This program is authorized by the Rural Electrification Act of 1936, as amended in 7 U.S.C. 901 et seq.
- Code of Federal Regulation: 7 CFR 1735 and 7 CFR 1737

NOTE: Because citations and other information may be subject to change, please always consult the program instructions listed in the section above titled "*What Governs This Program?*" You may also contact your local office for assistance. You will find additional forms, resources, and program information at rd.usda.gov. *USDA is an equal opportunity provider, employer, and lender.*

Last Updated December 2019

APPLICATION REQUIREMENTS:	☐
☐	Completed RUS Form 490[3]
☐	An Area Coverage Survey ("ACS") specified in 7 CFR 1737.31 to determine the location, number and telephone service requirements of subscribers in a service area;
☐	The Loan Design plan and associated costs for the proposed construction
☐	Various supplementary information specified in 7 CFR 1737.22:
☐	Names of attorney and manager, and certified copies of board resolutions selecting them
☐	Certified copy of articles of incorporation showing evidence of filing with the Secretary of State and in county records.
☐	Certified copies of bylaws and board minutes showing their adoption.
☐	Certified sample stock certificates.
☐	Amounts of common and preferred stock issued and outstanding.
☐	Names, addresses, business affiliations, and stockholdings of the manager, officers, directors, and other principal stockholders (those owning at least 20 percent of borrower's voting stock).
☐	Certified copies of real estate deeds showing all recording information.
☐	Service agreements, such as for management or system maintenance.
☐	Certified copies of existing leases, except those for vehicles, furniture and office equipment, and computer equipment.
☐	Certified copies of existing franchises.
☐	Information on any franchises required as a result of the proposed loan project.
☐	FCC authorizations.
☐	For toll, operator office, traffic, and Emergency Alert System("EAS") agreements, the names of all parties to the agreement, the type of agreement, and the effective and termination dates of the agreement and annexes, and the exchanges involved.
☐	Copies of rate schedules. (A copy of the tariff must be available for review by the RUS field representative.)
☐	Executed copy of RUS Form 291, "Certification of Nonsegregated Facilities".
☐	A sketch or map showing the existing and proposed service areas.
☐	A certification (which is included on RUS Form 490, "Application for Telephone Loan or Guarantee") that the borrower has been informed of the collection options listed below that the Federal government may use to collect delinquent debt.
☐	A certification, signed by the president of the borrower, that the borrower is participating in the State's telecommunications modernization plan (for additional information concerning the plan, see 7 CFR part 1751, subpart B). This certification is not required if the borrower is seeking a guaranteed loan.

3 RUS forms are available on their website at: https://www.rd.usda.gov/resources/forms/rus-forms.

☐	The following must be submitted by borrowers seeking subsequent loans: • Certified financial statements for the last 3 years. • Toll settlement statements and related data. • Present exchange rates and any pending changes. • Environmental review documentation in accordance with 7 CFR part 1970. • A "Certification Regarding Lobbying" for loans, or a "Statement for Loan Guarantees and Loan Insurance" for loan guarantees, and when required, an executed Standard Form LLL, "Disclosure of Lobbying Activities," (see section 319, Public Law 101-121 (31 U.S.C. 1352)). • Executed copy of Form AD-1047, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions." • Borrower's determination of loan maturity, including information noted in • § 1735.43(a), as required, which states that approved RUS loans must be repaid with interest within a period that, rounded to the nearest whole year, equals the expected composite economic life of the facilities to be financed, as calculated by RUS. • In states in which the borrow mush obtain state regulatory commission approval, approved depreciation rates for items under the regulatory authority's jurisdiction. • A statement that the borrower is or is not delinquent on any Federal debt, such as income tax obligations or a loan or loan guarantee from another Federal agency. If delinquent, the reasons for the delinquency must be explained and RUS will take such explanation into consideration in deciding whether to approve the loan. RUS Form 490, "Application for Telephone Loan or Guarantee," contains a section for providing the required statement and any appropriate explanation. • Any other supporting data required by the Administrator.
☐	For borrowers requesting funds for construction or refinancing, the following must be submitted: • Copies of all bonds, notes, mortgages, and contracts covering outstanding indebtedness proposed to be refinanced. • (2) For each note or bond, the name of the creditor, original amount of debt and amount as of last year-end, purpose of debt, dates incurred and due, interest rates, and repayment terms. • (3) Justification for refinancing and evidence that the underlying loan to be refinanced would have been eligible for RUS financing under the RE Act.
☐	For all applications that request funding for retail broadband as defined in 7 CFR 1735.2, the application must include: • The identity of the applicant • A project description • A map of the areas to be served including the identification of the associated census blocks • The amount and type of funding requested • The status of the application • The estimated number and proportion of households and businesses in the proposed funded service area without fixed retail broadband service, whether terrestrial or wireless, excluding mobile and satellite service.

Economic Development Administration

Investments for Public Works and Economic Development Facilities and Economic Adjustment Assistance

The EDA Public Works and Economic Adjustment Assistance Program leverages federal funding to assist distressed communities revitalize, expand and upgrade their existing infrastructure to attract and retain business industries, generate private investment and creation of long-term high-paying job opportunities. This investment assistance will help communities and regions devise and implement long-term economic recovery strategies through a variety of non-construction and construction projects. The focus of this program is to make investments that support economic development, job creation, and attract private investment in economically distressed areas of the United States.

EDA solicits applications from applicants in order to provide investments that support construction, non-construction, planning, technical assistance, and revolving loan fund projects under EDA's Public Works program and EAA programs.

Eligible Project Activities:

- Technical assistance,
- Planning,
- Engineering design and studies and
- Construction of public works infrastructure

According to the EDA, broadband is considered a critical element of regional and local economic development strategies and is an eligible activity for investment. Applicants must also provide data to demonstrate the area meets one or more of the EDA's economic distress criteria:

- Unemployment rate at least one percentage point greater than the national average over a 24-month period,
- Per capita income that is 80% or less of the national average per capita income,
- A Special Need as determined by the EDA,

Eligible Applicants:

- An Indian Tribe or Tribal Organization
- Higher Education Institutions
- State or Local unit of Government
- Consortium of political subdivisions and
- Other legal entity, including a private corporation organized on a non-profit basis.

Total Funding Available: $305,500,000
Award Floor: $150,000
Award Ceiling: $3,000,000

Grant Match: Grant recipients are required to provide matching contributions in cash or in-kind equal to 50% of the grant amount requested. If the applicant meets additional economic distress conditions, the EDA may fund up to 80% of the project.

In addition, the Assistant Secretary for Economic Development has discretion to establish a maximum EDA investment rate of up to 100 percent of the total project cost for projects: (i) of a State (or political subdivision of a State) that the Assistant Secretary for Economic Development determines has exhausted its effective taxing and borrowing capacity or (ii) of a non-profit organization that the Assistant Secretary for Economic Development determines has exhausted its effective borrowing capacity.

Period of Performance: Varies depending on the proposed project, generally up to 24 months.

Special Requirements: All projects considered for this grant program must be consistent with at least of the Economic Development Administration's Economic Development Assistance Program (EDAP) Investment Priorities.[4] Additionally, each project must also be consistent with the region's current Comprehensive Economic Development Strategy (CEDS) or equivalent strategy that meets the EDA's requirements.

Program Point of Contact:
Ohio
Ellen Heinz
230 South Dearborn Street, Suite 3280
Chicago, IL 60604-1512
P: 312-505-4953
E: eheinz@eda.gov

Application Deadline: Applications accepted on a quarterly rolling basis.

4 The investment priorities are available here: https://protect-us.mimecast.com/s/fmjjC0RXLDIl2Dy5T2z8Ul?domain=eda.gov

Housing and Urban Development

Community Development Block Grant

The Community Development Block Grant (CDBG) program provides annual grants on a formula basis to states, cities, and counties to develop housing and expand economic opportunities, primarily for low - and moderate-income people.[v] Authorized under the Housing and Community Development Act of 1974, the CDBG program was designed to:

- empower communities to design and implement strategies tailored to their needs,
- emphasize consolidated planning to strengthen partnerships between government of all levels and the private sector, and
- provide technical assistance activities.

Eligible CDBG grantees include cities of Metropolitan Statistical Areas (MSAs); metropolitan cities with populations of 50,000+ people; qualified urban counties with populations of at least 200,000; and states and insular areas.

States also have the opportunity to administer CDBG funds for non-entitlement areas that do not receive CDBG funds directly from HUD. Non-entitlement areas are cities with populations of less than 50,000 (except cities that are designated principal cities of Metropolitan Statistical Areas), and counties with populations of less than 200,000. **Clinton County can, therefore, utilize the CDBG program for broadband connectivity efforts in Low to Moderate Income areas as a non-entitlement area.**

CDBG funds can be used in the following eligible project categories:

- Economic Development,
- Homeownership Assistance,
- House Rehabilitation,
- Housing Acquisition,
- Land Acquisition to Support New Housing
- Microenterprise Programs,
- New Housing Construction or
- Public Facilities and Improvements

CDBG funds can be used for a variety of activities including, but not limited to:

- acquisition of real property,
- relocation and demolition,
- rehabilitation of residential and non-residential structures,
- construction of public facilities and improvements,
- public services,
- homeownership assistance,
- activities relating to energy conservation and renewable energy resources; and
- provision of assistance to profit-motivated businesses to carry out economic development and job creation/retention activities.

CDBG funds may also be used to install wiring, fiber optic cables, and permanently affixed equipment such as receivers for areas to receive broadband/ internet access.[vi]

Within the CARES Act, Congress provided $5 billion for the CDBG Program to go to states, metropolitan cities, urban counties, and insular areas. At least 70% of every grant must be expended for activities that benefit low- and moderate-income people by providing housing; a permanent job; a public service, including digital skills classes; or access to new or significantly improved infrastructure. The remaining 30% may be used to eliminate blighted conditions or address an urgent need for which the grantee has no other funding.

Choice Neighborhoods – Planning

The Choice Neighborhoods program helps communities transform neighborhoods by redeveloping severely distressed public and/or HUD assisted housing and catalyzing improvements in the neighborhood, property, housing, businesses, services and schools.

The purpose of this grant program is to leverage public and private investment to support locally driven strategies that address struggling neighborhoods through a comprehensive approach for transformation. Eligible applicants include public housing authorities, local governments, tribal entities, and non-profits who hold a 501(c) status.

The Choice Neighborhoods program is focused on three core goals:

1. **Housing:** Replace severely distressed public and assisted housing with high-quality mixed-income housing that is well-managed and responsive to the needs of the surrounding neighborhood;
2. **People:** Improve outcomes of households living in the target housing related to employment and income, health, and children's education; and
3. **Neighborhood:** Create the conditions necessary for public and private reinvestment in distressed neighborhoods to offer the kinds of amenities and assets, including safety, good schools, and commercial activity, that are important to families' choices about their community.

Eligible project activities within the planning category include:

- Performing comprehensive needs assessments to inform the development of the Transformation Plan,
- Performing comprehensive and integrated planning that addresses the challenges and gaps in services and assets identified through the needs assessments,
- Conducting technical planning studies concerning local development issues, priorities or suggested approaches,
- Developing Transformation Plans, including governance strategy that will provide long-term accountability and secure commitments to collaborate long-term to ensure successful implementation,
- Conducting public hearings, meetings, websites, etc. for stakeholder involvement regarding the Transformation Plan,
- Data collection and analysis to track impacts and
- Conducting site visits, research or participating in community of practice.

The program also allows for up to 15% of funding to be utilized for Critical Community Improvements for the following activities:

- Financing for commercial and economic development projects,
- Neighborhood business façade improvement programs,
- Place-making projects,
- Neighborhood broadband,
- Revolving loan funds for business attraction and retention,
- Streetscape improvements above and beyond the locality's norm,
- Programs to improve housing in the neighborhood surrounding the target housing subject of this application and
- Acquisition of underutilized land for new parks, community gardens, community facilities or other uses approved by HUD.

The period of performance is 24 months for a planning grant, 42 months for a planning and action grant, and 72 months for an implementation grant.

Program Point of Contact(s): The Choice Neighborhoods Program Office can be contacted by email at: choiceneighborhoods@hud.gov.

APPLICATION REQUIREMENTS:	
☐	Disclosure of Lobbying Activities
☐	HUD Applicant Recipient Disclosure Report
☐	Planning Grants Table of Contents
☐	Key Eligibility Data form
☐	Certification of Severe Physical Distress
☐	Leverage documentation cover sheet
☐	Choice Neighborhoods Planning Grant Application Certification
☐	Previous Participation Certification[5]
☐	Certification of Consistency with the Consolidated Plan[6]
☐	OZ Certification
☐	Promise Zone Certification Form (HUD Form 501533)[7]

Choice Neighborhoods - Implementation

The Choice Neighborhoods program helps communities transform neighborhoods by redeveloping severely distressed public and/or HUD assisted housing and catalyzing improvements in the neighborhood, property, housing, businesses, services and schools.

The purpose of this grant program is to leverage public and private investment to support locally driven strategies that address struggling neighborhoods through a comprehensive approach for transformation. Eligible applicants include public housing authorities, local governments, tribal entities, and non-profits who hold a 501(c) status.

The Choice Neighborhoods program is focused on three core goals:

1. **Housing:** Replace severely distressed public and assisted housing with high-quality mixed-income housing that is well-managed and responsive to the needs of the surrounding neighborhood;
2. **People:** Improve outcomes of households living in the target housing related to employment and income, health, and children's education; and
3. **Neighborhood:** Create the conditions necessary for public and private reinvestment in distressed neighborhoods to offer the kinds of amenities and assets, including safety, good schools, and commercial activity, that are important to families' choices about their community.

Eligible Project Activities under the implementation category include:

- Construction, acquisition or rehabilitation of public, assisted, and affordable housing (available to households earning 80 -120 percent of AMI) that incorporates sustainable design principles, including energy efficiency,
- Acquisition, demolition or disposition of properties, including Federal Housing Administration-Real Estate Owned properties,
- Providing supportive supports for residents,
- Partnering with employers and for-profit and non-profit organizations to create jobs and job training opportunities,
- Relocation assistance under Section 8 of the United States Housing Act of 1937,
- Activities that promote sustainable neighborhoods and incorporate principles of sustainable design and development,
- Critical community improvements as define further below,
- Endowments,
- Conversion of vacant or foreclosed properties,
- Architectural and engineering work,
- Administrative costs and
- Legal fees.

5 The Previous participation Certification Form is available at: https://www.hud.gov/sites/dfiles/OCHCO/documents/2530.pdf.

6 The Certification of Consistency with the Consolidated Plan Form is available at: https://www.hud.gov/sites/documents/2991.PDF.

7 The Promise Zone Certification Form is available at: https://www.hud.gov/sites/dfiles/OCHCO/documents/50153.pdf.

The program also allows for up to 15% of funding to be utilized for Critical Community Improvements for the following activities:

- Financing for commercial and economic development projects,
- Neighborhood business façade improvement programs,
- Place-making projects,
- Neighborhood broadband,
- Revolving loan funds for business attraction and retention,
- Streetscape improvements above and beyond the locality's norm,
- Programs to improve housing in the neighborhood surrounding the target housing subject of this application and
- Acquisition of underutilized land for new parks, community gardens, community facilities or other uses approved by HUD.

The period of performance is 24 months for a planning grant, 42 months for a planning and action grant, and 72 months for an implementation grant.

Program Point of Contact(s): The Choice Neighborhoods Program Office can be contacted by email at: choiceneighborhoods@hud.gov.

APPLICATION REQUIREMENTS:

☐	Disclosure of Lobbying Activities
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☐	OZ Certification
☐	Promise Zone Certification Form

D | Summary of Ohio Administrative Code 122:30-1

The Ohio Residential Broadband Expansion Grant Program

1. ELIGIBLE APPLICANTS

Governmental and quasi-governmental entities are explicitly excluded from the definition of "broadband providers" under the Ohio Residential Broadband Expansion Grant Program (the Grant Program), which limits these entities to one of the following:

a. A video service provider as defined in section 1332.21 of the [Ohio] Revised Code;[i]

b. A provider that is capable of providing tier one or tier two broadband service and is one of the following:

- **i.** A telecommunications service provider;[ii]
- **ii.** A satellite broadcasting service provider;[iii]
- **iii.** A wireless service provider as defined in section 4927.01 of the [Ohio] Revised Code.[iv]

All applicant broadband provider must disclose whether it plans to use wired, wireless, or satellite technology to complete their proposed project.

2. ELIGIBLE PROJECT AREAS

Broadband providers may receive funds to help cover the costs of providing broadband service to "eligible project" areas. An "eligible project" is a project to provide 25 Mbps download/ 3 Mbps upload ("tier two broadband service") or higher service to residences in an unserved or tier one area, as such terms are hereinafter defined, of an eligible municipal corporation or township.

The following four definitions are key to deciphering the areas eligible for support under the Grant Program:

1. **Tier one broadband service:** a retail wireline or wireless broadband service capable of delivering internet access at speeds of at least 10 Mbps download/ 1 Mbps upload, but no greater than 25 Mbps download/ 3 Mbps upload.

2. **Tier two broadband service:** a retail wireline or wireless broadband service capable of delivering internet access at speeds of at least 25 Mbps download/ 3 Mbps upload.

3. **Tier one area:** an area that has broadband access of speeds between 10 Mbps download/ 1 Mbps upload and 25 Mbps download/ 3 Mbps upload (tier one broadband service), but not at speeds above 25 Mbps download/ 3 Mbps upload (tier two broadband service). This includes an area where network construction to provide tier one broadband service is in progress and scheduled to be complete within a two-year period; however, excludes an area where network construction to provide *tier two* broadband service is in progress and scheduled to be complete within a two-year period.

4. **Unserved area:** an area without access to 10 Mbps download/ 1 Mbps upload **or** 25 Mbps download/ 3 Mbps upload broadband service, excluding an area where network construction to provide broadband service of at least 10 Mbps download/ 1 Mbps upload is in progress and scheduled to be complete within a two-year period.

3. THE GRANT PROGRAM APPLICATION AND EVALUATION PROCESS

BroadbandOhio provides the application form that providers need to accurately complete in order to apply for funding under the Grant Program. The application form includes, but is not limited to:[v]

- The location and description of the project, including the residential addresses in the unserved or tier one areas where tier two broadband service will be available;

- A notarized letter of intent that the provider will provide tier two broadband service to all of the residential addresses listed in the application and that none of the funds will be used to extend service to areas that are not unserved or in a tier one area;
- The broadband funding gap and the amount of grant funds requested;
- The amount of any monetary or in-kind contributions, such as funds that the broadband provider is willing to contribute; funds received or approved under a federal or state grant or loan; general revenue or other discretionary funds, or property tax assessments, of a municipal corporation, township, or county in which the eligible project is located;[vi] alternate payment terms between the broadband provider and the legislative authority in which the project is located;[vii] and contributions or grants from individuals, companies, or organizations;[viii]
- A description of the provider's managerial and technical expertise in broadband;
- Whether the provider plans to use wired, wireless, or satellite service in the project;
- A description of the project's scalability;
- The download and upload speeds planned for the project;
- A description of the provider's customer service capabilities, including any locally based call centers or customer service offices, and a copy of the providers general customer service policy, including customer credits for service outages, etc.;
- The length of time that the broadband provider has been operating in Ohio;
- Proof that the broadband provider has the financial stability to complete the project, including publicly available financial statements;
- A projected construction timeline;
- A description of the anticipated government authorizations, permits, and other approvals required for the project and an estimated timetable for such approvals;
- Notification of any information in the application the provider considers trade secret; and
- A brief description of any arrangement, including sublease or joint ownership, that the provider has entered into or plans to enter into with another broadband provider, electric cooperative, or electric distribution utility, to enable the tier two services.

Applications are accepted during the "Submission Period," which is at least sixty (60), but no longer than ninety (90) days, and may occur no more than twice in a fiscal year. Applications deemed "incomplete" can be refiled in completed form during the Submission Period, or granted an extension. If not filed in a complete form, the application will be denied.

Application evaluation priorities, ranked from highest to lowest, include:

- Eligible projects for unserved areas;
- Eligible projects located within distressed areas in accordance with O.R.C. § 122.19;
- Eligible project receiving or approved to receive financial or in-kind contributions;
- Eligible projects for which the proposed construction will utilize State of Ohio rights-of-way or otherwise require attachment to, or use of, public facilities;
- Eligible projects based on proposed upstream and downstream speeds and scalability of such service to speeds higher than 25 Mbps downstream/ 3 Mbps upstream;
- Eligible projects based on each of the following, in equal measure:
  - Demonstrated support for community and economic development efforts in, or adjacent to, the projects, including service to commercial and nonresidential entities as a result of, but not directly funded by, the program;
  - The provider's experience, technical ability, and financial capability;
  - The length of time the provider has been providing tier two service in Ohio;
  - The extent to which funding is necessary;
  - The ability of the broadband provider to leverage nearby or adjacent tier one or tier two broadband service infrastructure to facilitate the proposed deployment;
  - The extent to which the project utilizes or upgrades existing infrastructure; and
  - The eligible project's location within Ohio Opportunity Zones.

Applications will be funded in accordance with the designated scoring system until funds for that fiscal year are exhausted. An application pending at the end of the fiscal year can be refiled in subsequent fiscal years. The Authority will publish project awards on its website.

4. THE CHALLENGE PROCESS

Within five (5) days after the close of the Submission Period, BroadbandOhio publishes the list of residential addresses included in complete submitted applications, and within thirty-five (35) days of the close of the Submission Period, BroadbandOhio publishes on its website all information from complete applications that it determines is not confidential.

Once published on BroadbandOhio's website, a broadband provider or municipal electric utility that provides tier two service within or directly adjacent to an eligible project may challenge in writing all or part of an application within sixty-five (65) days after the close of the Submission Period or an extension (each a Challenging Provider), with sufficient evidence of the Challenging Provider's existing or planned tier two broadband service to the eligible project (a Challenge).

Within thirty (30) days of receipt of a Challenge, the Authority may allow the challenged applicant to revise its application in order to limit the eligible project, or reject the Challenge and proceed with the application process. Further Challenges to the revised application are prohibited. A provider's failure to respond or properly revise its application will be considered a withdrawal.

If the Challenging Provider fails to provide tier two broadband service to the eligible project, the Challenging Provider may be required to pay the State the amount of the original broadband funding gap, which shall be contributed to the General Revenue Fund, and comply with the requirements of any other penalties prescribed by agency rule, in addition to being subject to additional remedies under law.

5. FUNDING DISTRIBUTION

BroadbandOhio will disburse up to thirty percent (30%) of program grants before project construction begins; up to sixty percent (60%) through periodic payments over the course of construction; and the remaining portion not later than sixty (60) days after being notified of project completion.

6. THE OHIO DEPARTMENT OF DEVELOPMENT'S ROLE

The Ohio Department of Development (ODOD) is tasked with the following:

- Administering and providing staff assistance for the program;
- Receiving and reviewing program grant applications;
- Distributing completed applications to the Broadband Expansion Program Authority (the Authority), as further defined in the next section, for final review and award;
- Paying all reimbursements and stipends to the Authority, as further analyzed in the following section;
- In coordination with the Authority, develop a weighted scoring system; and
- Adopt rules for the Grant Program establishing an application form and procedures.

7. THE BROADBAND EXPANSION PROGRAM AUTHORITY

OAC: 30-1-08 creates within ODOD the Broadband Expansion Program Authority (the Authority).[ix] The Authority consists of: (1) the Director of ODOD, or his/her designee, as issued in writing, who shall serve as the Chair of the Authority (the Chair); (2) the Director of InnovateOhio, or his/her designee, as issued in writing; (3) one member appointed by the Senate President; (4) one member appointed by the Speaker of the House; and (5) one member appointed by the Governor (collectively the Authority Members). A vice-chair of the Authority (the Vice-Chair) will be elected by the Authority Members, three (3) of which will constitute a quorum.

The members appointed by the Senate President, the Speaker of the House, and the Governor (collectively the Appointed Members) must have expertise in broadband infrastructure and technology, and may not be affiliated with or employed by the broadband industry, nor in a position to benefit from a grant issued under the program. Appointed Members will serve four-year terms, unless appointed to fill a vacancy prior to the expiration of the term for which the member's predecessor was appointed, in which case the appointed member will hold the position for the reminder of that term. All Appointed Members are eligible for re-appointment.

a. The Authority's Responsibilities

The Authority is tasked with considering each application for a broadband grant that ODOD has reviewed and provided. The Authority will score all applications according to the established scoring criteria and award grants accordingly. In addition, the Authority must:

- Continually examine and propose updates to any broadband plan provided by law enacted by the General Assembly or Executive Order of the Governor;
- Monitor the Grant program and conduct hearings, as needed, in order to track the program applications and awards, including:
  - The number of applications to the program;
  - The geographic locations of eligible projects included in the program applications;
  - The broadband providers submitting applications;
  - The tier two infrastructure and technology proposed in the applications;
  - Any public rights-of-way or public facilities that will be used for the projects;
  - The speeds of tier two broadband services that will be provided by the projects;
  - The amount of grant funds requested by each project, and the proportion of project funding to be provided by the broadband provider and other participating entities;
  - The number of residential and nonresidential locations that will have access to tier two broadband service under each project;
  - Listing the amount of any unencumbered program grant funds that remain available for award under the Grant Program; and
  - Any additional factors deemed necessary by the Authority to monitor the program;
- Review all required progress reports and operational reports;[x]
- Review all pending county requests;
- Identify best practices for and impediments to the continued expansion of tier two broadband;
- Coordinate and promote the availability of publicly accessible digital literacy programs;
- Identify, examine, and report on any federal or state government grant or loan program that would promote the deployment of tier two broadband in Ohio;
- Track the availability, location, rates and speeds, and adoption of programs that offer tier one and tier two broadband service in an affordable manner to low-income Ohioans; and
- Submit a written public report of its findings and recommendations to the Governor and the General Assembly by December 1 of each calendar year.

Endnotes

Appendix B

i *FCC website, (October 25, 2021), Broadband Data Collection, Federal Communications Commission, Retrieved from* Digital Opportunity Data Collection | Federal Communications Commission (fcc.gov).

ii *FCC website, (July 16, 2020), Second report and order and third further notice of proposed rulemaking, Federal Communications Commission, Retrieved from* https://docs.fcc.gov/public/attachments/FCC-20-94A1.pdf

iii *FCC website, (January 19, 2021), FCC Takes Next Step to Collect More Precise Broadband Mapping Data, Federal Communications Commission, Retrieved from* https://www.fcc.gov/document/fcc-takes-next-step-collect-more-precise-broadband-mapping-data?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters.

iv *Veigle, Anne (March 22, 2021), FCC Reaches Out to Collect Consumer Broadband Availability Experiences, Federal Communications Commission, Retrieved from* https://www.fcc.gov/document/fcc-reaches-out-collect-consumer-broadband-availability-experiences

v *Wiquist, Will (February 17, 2021), Acting Chairwoman Rosenworcel establishes Broadband data task force, Federal Communications Commission, Retrieved from* https://docs.fcc.gov/public/attachments/DOC-370049A1.pdf

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Appendix D | *Community Connect Grant Program*

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Appendix D | *Summary of Ohio Administrative Code 122:30-1*

i *According to O.R.C. § 1332.21, a "video service provider" is a person granted a video service authorization under sections 1332.21 to 1332.34 of the [Ohio] Revised Code.*

ii *"Telecommunications service provider" and "satellite broadcasting service provider" are not otherwise define. However, there are other codified definitions available for such terms. According to O.R.C. § 4927.01, "telecommunications service" means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used. As a result, in order to qualify as a "telecommunications service provider," a provider must: (1) offer telecommunications; (2) for a fee; and (3) directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used. "Telecommunications" is defined in O.R.C. § 4927.01 as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." This, and the definition of "telecommunications service" align with the federal definitions of such terms in 47 U.S.C. § 153.*

ENDNOTES

iii *"Satellite broadcasting service" is defined in O.R.C. § 5739.01 as "the distribution or broadcasting of programming or services by satellite directly to the subscriber's receiving equipment without the use of ground receiving or distribution equipment, except the subscriber's receiving equipment or equipment used in the uplink process to the satellite, and includes all service and rental charges, premium channels or other special services, installation and repair service charges, and any other charges having any connection with the provision of the satellite broadcasting service."*

iv *"Wireless service provider" is defined in O.R.C. § 4927.01 as "a facilities-based provider of wireless service to one or more end users in this state." "Wireless service" is defined in the same O.R.C. section as follows: Wireless service means federally licensed commercial mobile service as defined in the "Telecommunications Act of 1996," 110 Stat. 61, 151, 153, 47 U.S.C. 332(d) and further defined as commercial mobile radio service in 47 C.F.R. 20.3. Under division (A)(19) of this section, commercial mobile radio service is specifically limited to mobile telephone, mobile cellular telephone, paging, personal communications services, and specialized mobile radio service provided by a common carrier in this state and excludes fixed wireless service.*

v *Upon adoption of a resolution, a board of county commissioners may request that ODOD solicit applications from broadband providers for eligible projects in the municipal corporations and townships in the county. Upon receipt of a request from a board of county commissioners, ODOD shall solicit, on behalf of the county, applications for program grants for eligible projects under the Grant Program. Not later than seven (7) days after receipt of the request, ODOD shall make the request, and any accompanying information submitted with the request, available for review the agency's web site. The request shall remain available on the website for up to two (2) years. An application for a program grant made in response to such request shall fully comply with all of the Grant Program requirements.*

vi *If a program grant is awarded for an eligible project, the board of township trustees or the county commissioners in which the project is situated, by resolution, may levy a special assessment upon residential property within the township or county for the purpose of providing a contribution to the broadband funding gap for the eligible project. The special assessment shall be levied at a rate that will produce a total assessment that is not more than the township's or county's contribution towards the funding gap for the eligible project.*

vii *Under alternate payment term arrangements, unless otherwise negotiated, the participating legislative authorities in which the eligible project is located shall assume all financial responsibility for all of the eligible project costs incurred by the broadband provider prior to completion of the project or the award of a program grant.*

viii *A broadband provider may enter into an arrangement to designate video service provider fees remitted by the broadband provider for contribution towards an eligible project's broadband funding gap when the broadband provider is a video service provider ("VSP") that, pursuant to O.R.C. § 1332.32, collects and remits VSP fees to one or more legislative authorities in which an eligible project is located; or the arrangement is entered into by mutual consent with one or more of the legislative authorities in which the eligible project is located.*

ix *The Authority does not constitute an agency for the purposes of O.R.C. sections 101.82–101.87.*

x *Each broadband provider that receives a program grant shall submit to ODOD an annual progress report on the status of the deployment of the broadband network for which the program grant award was made and an operational report with the agency not later than sixty (60) days after the completion of the project and annually thereafter for a period of four (4) years. In each report, the broadband provider shall include an account of how program grant funds have been used and the project's progress toward fulfilling the program objectives. To ensure compliance with program requirements, ODOD may, through an independent third party, conduct a speed test verification of an eligible project. ODOD may withhold payments for failure to meet minimum speeds until such speeds are achieved. Further, failure to comply with program requirements or to meet the required tier two broadband service proposed in the application may require the provider to refund the program grant award. U.S. Department of Housing and Urban Development, HUD Exchange, (January 2016), Can Community Develop Block Grant (CDBG) funds be used to fund broadband/telecommunications projects? If so, how?, Retrieved from* https://www.hudexchange.info/faqs/programs/cdbg-entitlement-program/broadband-infrastructure/can-community-development-block-grant-cdbg-funds-be-used-to-fund/.