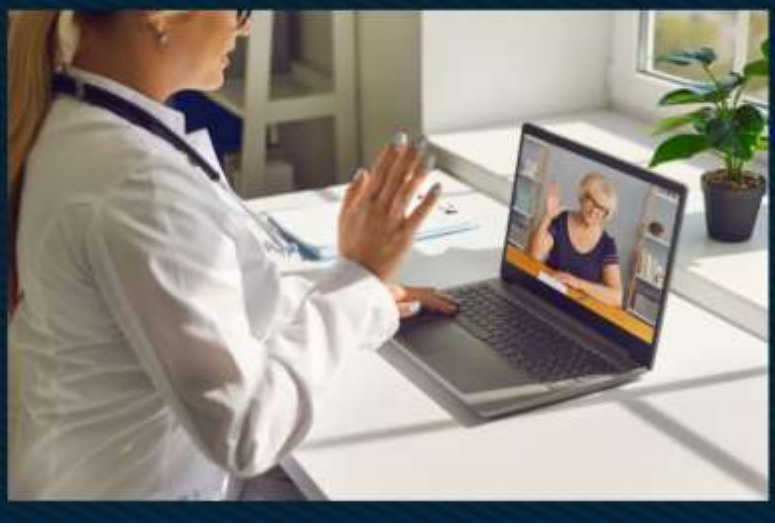
Florida Department of Economic Opportunity

# BROADBAND PLANNING TOOLKIT

## A Guide to Establishing Local Technology Planning Teams



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# Local Technology Planning Teams and Toolkit Overview

The state of Florida recognizes the need for the expansion of broadband infrastructure to bridge the digital divide in communities throughout the state. Now, more than ever, it is crucial for Florida counties to develop effective and comprehensive strategic broadband initiatives at the local level that take advantage of federal, state, and other grant opportunities. The most critical component of this comprehensive effort is coordination between Florida's Local Technology Planning Teams and the Department of Economic Opportunity's Office of Broadband.

This Broadband Planning Toolkit provides fundamental resources and guidance needed to help the Local Technology Planning Team increase the accessibility and availability of broadband services in their county or region. To create a Local Technology Planning Team and to fully utilize the Broadband Planning Toolkit:

- *It is imperative that representatives from each of Florida's 67 counties actively participate in the establishment of their team and encourage the implementation of the toolkit.*
- *Coordination between Florida's Local Technology Planning Teams and the Department of Economic Opportunity's Office of Broadband is crucial to the successful implementation of the toolkit.*
- *Partnering to comprise a Local Technology Planning Team is encouraged at a regional level with neighboring counties, their Rural Area of Opportunity, or another regional organization.*
- *Local Technology Planning Teams are a vital part of Florida's broadband expansion, and adoption efforts are critical to the state's future success in an increasingly technology dependent global economy.*

The practice of broadband planning has shown it can have a significant, positive impact on accessibility and availability of broadband for municipalities, counties, regions, and the state. As your Local Technology Planning Team develops a greater understanding of the accessibility and availability of broadband in your county or region and begins to develop and implement strategies to bridge the digital divide, it impacts not only other counties, but also the region and the entire state.

**Municipalities interested in participating on the Local Technology Planning Team facilitated by their county or region may contact the Department of Economic Opportunity's Office of Broadband at Broadband@DEO.MyFlorida.com.**

# Florida Department of Economic Opportunity
# Office of Broadband Overview

The Department of Economic Opportunity's (DEO) Office of Broadband was established in July 2020 to increase the availability and effectiveness of broadband internet throughout the state. Amending Section 288.9961, Florida Statutes, and creating Sections 288.9962 and 288.9963, Florida Statutes, allows DEO to access federal grant dollars and assist rural communities with the expansion of broadband services, while also providing directives for mapping and the Broadband Opportunity Program.

DEO's Office of Broadband has been directed to perform the following duties:

- Create a strategic plan to increase and improve the availability of, access to, and use of broadband internet service in Florida by June 30, 2022, and biennially thereafter. The plan must include a process to review and verify public input on the broadband internet transmission speeds and availability, federal broadband activities, and funding sources.
- Build and facilitate local technology planning teams, especially with community members from the areas of education, healthcare, business, tourism, agriculture, economic development, and local government. The planning teams shall work closely with rural communities to understand current broadband availability, identify assets for broadband deployment, build partnerships with service providers, identify underserved and unserved residents and businesses, identify funding opportunities, and provide assistance with applying for federal grants for broadband internet service.
- Provide technical and planning assistance to rural communities.
- Establish the Broadband Opportunity Program to award grants to applicants who seek to expand broadband to unserved areas, rulemaking for the program (subject to appropriations), and apply for federal funds.
- Develop a map of broadband internet service availability throughout the state consistent with the Federal Communications Commission's Digital Opportunity Data Collection program. The map must identify where broadband-capable networks exist, service is available to end users, gaps in rural areas, and download and upload transmission speeds. DEO must receive and verify public input to identify locations in which broadband internet service is not available, including locations with transmission speeds below the Federal Communications Commission's standard of 25 megabits per second downstream and 3 megabits per second upstream. The map must be completed by June 30, 2022.
- Encourage public use of internet service through broadband grant programs.

- Monitor, participate in, and provide input on Federal Communications Commission's proceedings that are related to the geographic availability and deployment of broadband internet in Florida.

The successful implementation of the Local Technology Planning Teams will help DEO design state programs and resources for broadband adoption, deployment, expansion, and resiliency.

**Statutory Authority**

- State Statutes/Rules:
  - Sections 288.9961, 288.9962, and 288.9963, Florida Statutes.

**For more information, visit: [www.FloridaJobs.org/Broadband](www.FloridaJobs.org/Broadband)**.

## Broadband 101: What is Broadband?

The definition of broadband, or high-speed internet access, is constantly changing. Broadband is a high-capacity transmission technique using a wide range of frequencies, enabling many messages to be communicated simultaneously. Broadband is another term used for bandwidth – or the amount of data that can be sent through a connection – to access high-speed internet. The more bandwidth, the more information a user can send or receive at any given time.

The Federal Communications Commission currently defines broadband as download speeds greater than 25 Megabits per second (Mbps) and upload speeds of 3 Mbps.

The state of Florida defines broadband as a service that provides high-speed access to the Internet at a rate of at least 25 Mbps in the downstream direction and at least 3 Mbps in the upstream direction.

**Why is broadband important?**

Broadband allows people more affordable and efficient access to basic amenities such as education, health care, public safety, and government services through:

- Providing people opportunities to participate in online learning and distance education;
- Giving entrepreneurs and small home-based business owners opportunities to compete with large corporations;
- Increasing the productivity and efficiency of businesses;
- Connecting patients in remote areas to health care services;
- Making government services more readily available to residents;

- Saving companies and organizations money by allowing employees to telework; and
- Allowing friends and families to stay in touch with one another.

**How will this impact the day-to-day lives of Floridians?**

Rural areas have often struggled to gain access to the highest level of education, healthcare, retail, and other services. Broadband's potential to connect people and ideas at the speed of light offers new opportunities and abilities for Floridians. Other benefits include:

- Economic Development – Broadband provides access to local, regional, state, national, and worldwide markets, enhancing opportunities for current businesses, while providing the infrastructure to create new businesses and technology-based companies in areas of our state that have traditionally lacked such business and employment opportunities.

- Education – All levels of Florida's education system will benefit from the expansion of broadband infrastructure. High speed connectivity offers the promise of remote class instruction, shared course offerings, and a much greater range of media materials available online. Broadband can overcome geographical and financial barriers to provide a wide range of educational and cultural opportunities.

- Healthcare – Telemedicine has the potential to revolutionize health care in rural America by allowing instant retrieval of health records, video interface, improved emergency response, and the possibility of 'e-visits' that connect health professionals and specialists to patients in real time, at home, facilitating the highest quality of medical care to rural populations.

The state of Florida recognizes the need for the expansion of broadband infrastructure to bridge the digital divide in communities throughout the state. Now, more than ever, it is crucial for Florida counties to develop effective and comprehensive strategic broadband initiatives at the local level that take advantage of federal, state, and other grant opportunities. The most critical component of this comprehensive effort is coordination between Florida's Local Technology Planning Teams and the Department of Economic Opportunity's Office of Broadband. Section 288.9961, Florida Statutes, directs the Office of Broadband to build and facilitate Local Technology Planning Teams, which shall work with communities to:

1. Understand their current broadband availability;
2. Locate unserved and underserved businesses and residents;
3. Identify assets relevant to broadband deployment;
4. Build partnerships with broadband service providers; and

5. Identify opportunities to leverage assets and reduce barriers to the deployment of broadband Internet services in the community.

The teams or partnerships must be proactive in fiscally constrained counties with identifying grant opportunities and applying for federal grants for broadband internet service. The key elements of a productive Local Technology Planning Team are:

1. Identification of local and community stakeholders;
2. Engagement of local and community stakeholders through strategic outreach initiatives; and
3. Development of an assessment of the community's current broadband status with identified paths toward future opportunity.

The goal for the creation of the Local Technology Planning Teams is to conduct community-level, research-based analytics and trend analysis in each county throughout the state. Local Technology Planning Teams will review patterns of utilization, gaps, barriers, and opportunities. This information will be utilized to encourage organizations to adopt broadband and broadband-enabled applications and processes, such as telemedicine and distance learning.

The Broadband Planning Toolkit can be the foundation of the county or region's technological and economic future. Effective data collection on broadband utilization and its impact is essential to the success of any broadband awareness and deployment effort.

It is important to "get a lay of the land" to know how people, businesses, and organizations access and utilize broadband services, and to understand where weaknesses or missed opportunities lie. The Local Technology Planning Teams can benchmark data collection and analysis specifically designed to help communities within its area to identify and leverage the benefits of high-speed Internet connectivity and e-solutions for economic and social development.

DEO's Office of Broadband will partner with Local Technology Planning Teams to provide technical assistance, collect reports and data, and monitor progress of the teams. Technical assistance provided by the Office of Broadband may include:

- Assistance with appointing team members;
- Meeting facilitation and agenda items; and
- Report submission to the DEO's Office of Broadband.

It is crucial for the Local Technology Planning Teams to collect the data effectively to ensure comprehensive strategic broadband initiatives and adoption plans can, and will later, take advantage of grant opportunities.

The overall mission of the Local Technology Planning Teams is to advance broadband demand and adoption, and to study and support broadband service and infrastructure deployment in Florida's 67 counties.

The culmination of this effort will include diverse community and industry sectors, such as libraries, K-12 education, colleges and universities, local health care providers, private businesses, community organizations, economic development organizations, local governments, tourism (development organizations), parks and recreation, and agriculture working together to develop measurable goals, objectives, and benchmarks that will help keep broadband planning efforts on track in subsequent years. Local Technology Planning Team members will have the opportunity to collaborate with internet service providers to identify existing and emerging technologies and strategies to further the expansion and utilization of broadband internet. This will be accomplished through the implementation of strategic initiatives developed by the Local Technology Planning Teams to advance the availability and accessibility of broadband services.

The initial work of the Local Technology Planning Teams is designed to be enduring, meaning the needs assessment can be updated over time and the county or region's broadband strategy can be adjusted according to changing circumstances, technologies, and the results of future deployment efforts.

The practice of broadband planning has shown it can have a significant, positive impact on accessibility and availability of broadband for municipalities, counties, regions, and the state. As your Local Technology Planning Team develops a greater understanding of the accessibility and availability of broadband in your county or region and begins to develop and implement strategies to bridge the digital divide, it impacts not only other counties, but also the region and the entire state. **Local Technology Planning Teams are a vital part of Florida's broadband expansion, and adoption efforts are critical to the state's future success in an increasingly technology dependent global economy.**

# Structure and Resources Overview

***The Office of Broadband encourages counties to partner on a regional level with neighboring counties, their Rural Area of Opportunity, or another regional organization for their Local Technology Planning Team.***

The focus of the Local Technology Planning Team is to advance broadband service adoption and infrastructure deployment within each county or region.

The first task of the Local Technology Planning Team leader, typically the county administrator/manager or their selected designee, is to ensure the membership of the planning team represents local stakeholders in broadband expansion. **By November 30, 2021, the Department requests that each leader for the Local Technology Planning Team (County Administrator, County Manager, or a designee) submit their recommended industry sector representatives and community leaders to the Department to ensure that a variety of industry sectors are represented.** Below is a list of industry sectors that may be represented on each Local Technology Planning Team, as noted in section 288.9961, Florida Statutes. The Office of Broadband requests that team leaders recommend at least one representative from each industry sector listed below to the county or region's Local Technology Planning Team. However, the team leader tasked with recommending team members may recommend as many members from each industry sector as necessary to meet the planning goals and objectives outlined in this Broadband Planning Toolkit. In addition to the sectors noted in Florida Statutes, team members can represent other industry sectors based on needs or characteristics of the county or region.

By Industry Sector:

| Industry Sector: | Qualifier/Purpose: | Examples: |
|---|---|---|
| Libraries | Education & Information Access | • County Director of Libraries |
| K-12 Education | Public & Private | • Superintendent of Schools<br>• School Board Member(s)<br>• College/University Representative(s) |
| Health Care Providers | Telemedicine, Institutional Connectivity | • County Department of Health<br>• Hospital/Clinic Representative(s) |
| Private Business | E-Commerce; Economic Development; Partnerships | • Local Business Owners<br>• Chamber of Commerce |
| Tourism | Vacation Planning & E-Commerce | • Tourist Development Organization<br>• Local Attractions |
| Community Organizations | Outreach Initiatives; Community Presence/Influence | • Nonprofits<br>• Community Leaders |

| | | |
|---|---|---|
| Agriculture | Base Industries | • Farmers and Co-Ops<br>• Equipment Brokers<br>• Local IFAS Official |
| Economic Development Organizations | (E-)Commerce | • Economic Development Council/Committee Member(s) |
| Local Governments | E-Governance; E-Government; Infrastructure Initiatives; County Plans | • County Administrator<br>• Town/City Representatives<br>• Parks and Recreation<br>• Public Safety & Emergency Services |
| Parks and Recreation | Infrastructure and Tourism | • National/State Park Representative(s) |
| Local Broadband & Internet Service Providers | Partnerships; Infrastructure Expansion (Last Mile); Funding | • Internet Service Providers servicing the county/region |

While identifying additional key businesses and organizations who would contribute to the planning work of the Local Technology Planning Teams, individuals from each of these may be added to the appropriate sector teams. Additional sectors to consider include, but are not limited to, the following:

- Energy and the Environment (Sustainability);
- Aviation and Aerospace;
- Sports and Gaming;
- Law Enforcement;
- Fish and Wildlife; and
- Transportation.

**The Local Technology Planning Teams will have resources available to them to perform their work, including:**

- Support from the Office of Broadband.
- The contents of this Broadband Planning Toolkit with step-by-step guidelines.
- Contact information for other Local Technology Planning Teams around the state to share discussions and planning strategies.

- Links to planning resources, research, and other materials at the Office of Broadband's webpage at www.FloridaJobs.org/Broadband. Available resources include maps, statewide survey results, the regional broadband workshop summary and recordings, funding opportunities, and partnership information.
- A comprehensive broadband availability map from the National Telecommunications and Information Administration (NTIA).

**Guides on:**

- Broadband 101;
- Broadband planning processes;
- Broadband planning inventories;
- Strengths, Weaknesses, Opportunities and Challenges (SWOC) Analysis;
- Sample questions for meetings/discussions; and
- Community and business survey distribution practices.

**Surveys:** This set of documents provides a template for a community survey and a business survey that should be updated to fit the team's needs, circulated, collected, and provided to the Office of Broadband for statistical analysis vital to broadband expansion.

# Broadband Planning Process

This Broadband Planning Toolkit provides fundamental resources and guidance needed to help the Local Technology Planning Team increase the accessibility and availability of broadband services in their county or region. The toolkit uses functional resources to help identify current broadband needs, inventory assets, assess strengths and weaknesses, establish goals, and create and implement policies that will help Florida's counties and regions achieve a technological vision of the future. Goals and objectives identified can be employed by community and industry sector leaders within each county or region to leverage and build upon existing broadband strengths and overcome current weaknesses. The utilization of this Broadband Planning Toolkit can be a planning exercise that should produce primary data to better help the Local Technology Planning Teams prepare to build long-term broadband infrastructure in their area.

*While the Toolkit has specific recommendations for developing initiatives to implement strategies, it is to be used as a guide for creating a County or Regional Broadband plan.* For example, while large scale cost figures *can* be developed, the Toolkit is not intended to detail specific, cost/benefit analyses for technical broadband system components or enhancements.

***The Broadband Planning Toolkit follows a nine (9) step process:***


*i*

*Step 1 - Engage Stakeholders*
*Step 2 - Assemble a Team*
*Step 3 - Identify Community Priorities*
*Step 4 - Harness the Data*
*Step 5 - Consider Digital Inclusion*
*Step 6 - Assess Resources and Infrastructure*
*Step 7 - Engage Local Internet Service Providers*
*Step 8 - Evaluate Solutions*
*Step 9 - Develop & Execute Solutions*

This Toolkit is designed to help community members stay engaged, achieve county or regional goals, increase broadband utilization, and ensure continued participation by industry sectors and the public. This guide can be used by future teams to update plans implemented by the current team.

The Toolkit can help identify new opportunities for collaborations that can promote community development and growth. It can also cultivate a common broadband vision, prioritize needs and interests, catalyze stakeholder commitments, and assess where to find the needed physical infrastructure, organizational capacity, and human capital assets of the county or region.

In the first two steps, the county administrator/manager or another county representative will serve as the coordinator and facilitator for their Local Technology Planning Team.

## Step 1: Engage Stakeholders

Local Technology Planning Team leaders should make engaging their county or region's community stakeholders a critical part of the ongoing broadband planning efforts.

Onboarding community stakeholders and representatives from industry sectors listed in statute (page 9) can help establish project awareness and support, two-way communication, and transparency. The county administrator/manager may select one or more of the following methods to provide information to key stakeholders who may be interested in joining the Local Technology Planning Team:

- Social media campaign through a verified social media account to announce the establishment of the Local Technology Planning Team or accept nominations from the public.
- Hold a publicly noticed county or regional meeting.
- Direct outreach to key stakeholders who represent each industry sector.

## Step 2: Assemble a Team

During this step, the county manager, county administrator, or their designee, should compile a list of prospective team members to recommend as representatives from each industry sector listed in the ***Structure and Resources Overview*** section of the Toolkit beginning on page 9.

By November 30, 2021, the Department requests that each leader for the Local Technology Planning Team (County Administrator, County Manager, or a designee) submit their recommended industry sector representatives and community leaders to the Department to ensure that a variety of industry sectors are represented.

*Local grassroots communication outreach is vital to the success of the Local Technology Planning Team*. A committee that is representative of the entire county provides credibility, transparency, and public accountability, along with assurance that most of the various needs and interests of the county or region are considered and met. Compose the team based on the mission and recommend members with a mix of skills, varying backgrounds or viewpoints, and interest in a common goal.

As the planning process moves forward, team members will be expected to serve as conduits to their respective stakeholder groups to encourage the flow of information and in-kind services (such as institutional support needed to organize meetings, ensure effective communication, and provide logistical support) that will be needed to make the effort a success.

*** Notice: All Local Technology Planning Teams should offer a virtual meeting option for the Office of Broadband to attend remotely.**

## Step 3: Identify Community Priorities

It is important to understand the current broadband climate in the county or region. This can help develop an understanding of the broadband-related strengths and weaknesses in the county or region and provide a benchmark for the evaluation of future progress.

The Local Technology Planning Team should review the overall goals of the state's broadband efforts, the current status of broadband availability within the county or region, and their role in meeting broadband goals. Additionally, the Local Technology Planning Team should utilize the Toolkit to assess the current status of broadband in their county.

The Local Technology Planning Team should also understand and evaluate the existing publicly available maps of the Federal Communications Commission, internet providers, and services offered in their areas. These will further provide

the Local Technology Planning Team with knowledge of areas that either do not have broadband service or where broadband coverage is insufficient.

## Step 4: Harness the Data

After assembling a planning team and determining the initial direction of the Toolkit, the next step is to identify the public's opinion on the topics of community needs, broadband consumption/utilization, and expansion efforts using *demand aggregation*. Demand aggregation is one of the most crucial components in supporting your community's broadband expansion that helps you recognize the needs of the county or region, what is available to your community, and helps compile that data all into one place. The data gathered from a demand aggregation campaign is vital to encouraging providers to move into the area. This is done through surveying residents and businesses.

Sample community and business surveys are provided on pages 31 and 36 for Local Technology Planning Teams to reference in the development of their surveys. Local Technology Planning Teams should develop survey questions that will collect information considered vital to their broadband expansion efforts.

Online survey platforms utilized to develop, collect, and analyze community and business surveys can include, but is not limited to, the following:

- Google Forms
- Survey Monkey
- SoGoSurvey
- Typeform
- Zoho Survey
- Survey Planet

Alternative survey platforms should be readily available for residents or businesses that cannot complete the survey(s) online. This can be accomplished by offering participants face-to-face, telephone, or paper (physical) surveys. Below are the components of harnessing data by survey:

1. **Survey Selection**

   Build a demand aggregation survey that is available both online and offline:
   - Duplication or Revision of Community Survey (page 31).
   - Duplication or Revision of Business Survey (page 36).
2. **Determine Timeline**
   - 31-Day Window Recommended.
3. **Build and Execute Public Outreach Campaign**

   Determine how the public will be engaged to complete the survey:

- Who will be engaged and how? What resources are available? It is important to identify the resources that can be utilized to share the survey. Resources such as a website, social media outlets, newsletters, press releases, billing inserts, etc. What is the timeline for gathering input? How will the responses be used? What are the expectations for this project?

Ideas for collecting offline survey results:

- Strategically offer printed surveys in areas around town, government buildings, and many other places.
    - Offer return boxes for take-home surveys.
- Work with the local school district to arrange for students to take the survey home for parents or legal guardians to complete.
- Call residents or businesses to conduct the survey(s) via phone.

### 4. Progress Reports

The data received should be shared with the Local Technology Planning Team and the Office of Broadband through a progress report 15 days into the project (at the halfway point). The team should be able to receive indicators on the outreach activities that are working and not working so that the team can ramp up efforts if needed and adjust elsewhere.

The progress report should include:

- The number of responses received for the Community Survey.
- The number of responses received for the Business Survey.

### 5. Report of Survey Findings

The Local Technology Planning Team should provide unaltered data and results to the Office of Broadband within 24 hours of closing the survey and a summary of survey findings within five business days of survey closure.

**Report Structure – Walkthrough:**

1. **Front Page:** Include a title, publication date, county or region name, and contact information.
2. **Table of Contents:** This section allows for easy navigation of the report.
3. **Executive Summary:** The executive summary should summarize the main points identified in the report, including the methods, crucial results, and conclusions or recommendations.
    - Limit the summary to one or two pages.

- It is not necessary to detail every result of statistical significance in the executive summary, only in the Survey Results section.
- The executive summary is typically the most read portion of a survey report and should be a brief detailed account of the report.

4. Survey Method: This part should detail geographic areas and groups included in the survey and why, number of people/homes and businesses surveyed, outreach strategy, and the method of data collection. Individual sub-sections may be required to adequately cover all the details for each survey.
5. Survey Results: This is the main content of the report, detailing the results. Consider structuring this section according to the goals of the local technology planning team or themes identified during aggregation, rather than by question order presented in the survey.
    - This section should present the key results from the survey. It should highlight results that are of both statistical and practical significance.
    - Any unreliable results or findings should be excluded from this section and listed in an appendix.
6. Appendices: Items that should be included in the appendices include:
    - A copy of both the business and community survey questionnaire circulated by the team.
    - Charts or graphs detailing survey results (in order of reference).
    - Outreach materials utilized.

**** NOTICE: In addition to the Report of Survey Findings, all primary or "raw" data collected by the team should be sent to the Office of Broadband.***

## Step 5: Consider Digital Inclusion

Digital inclusion ensures that individuals and communities have access to robust and affordable broadband connections, internet-enabled devices that meet their needs, and the skills to explore, create, and collaborate in the digital world (digital literacy). In

this step, it is important to identify aspects of digital inclusion that require attention in the county or region.

*Aspects of digital inclusion to consider are:*

- *Broadband Access and Affordability*
- *Computers and Devices*
- *Technical Help and Support*
- *Digital Skills Training*

Digital Literacy: Promoting digital literacy in communities can encourage broadband adoption rates. When assessing and addressing county or regional broadband needs, it is imperative for local communities to focus on access, evaluate digital literacy skills among community members, and work to improve these skills. This can be accomplished through the promotion and deployment of digital literacy skills training and programs.

## Step 6: Assess Resources and Infrastructure

At this point, the objective is to understand existing broadband facilities and resources in the county or region, confirm what residents and institutions want, and figure out what is needed to complete the Toolkit. The goal of this step is to enable Local Technology Planning Team members to compare existing resources with needs to shape the broadband planning through the identification of gaps in broadband infrastructure.

Strengths, Weaknesses, Opportunities and Challenges Analysis:

Members of the Local Technology Planning Team should assess and discuss any projects underway or proposed in their county through state or federal grants, and any provider-initiated system upgrades. Such critical public/private partnerships can respond to expressed needs in our state and provide a host of opportunities for further growth.

Local Technology Planning Teams should have significant discussions about moving from the current broadband environment to one needed within the county or region. Based on these discussions and available baseline data, a Strengths, Weaknesses, Opportunities and Challenges Analysis should be performed by the Local Technology Planning Team. The Strengths, Weaknesses, Opportunities and Challenges Analysis guide is provided on page 26.

The Strengths, Weaknesses, Opportunities and Challenges Analysis identifies and details:

- *Strengths of the county or region and how they relate to broadband expansion.*
- *Weaknesses of the county or region and how they challenge broadband expansion.*
- *Opportunities identified by the Local Technology Planning Team, how they can contribute to broadband expansion.*
- *Challenges identified by the Local Technology Planning Team and mechanisms needed to address these challenges.*

Following the Strengths, Weaknesses, Opportunities and Challenges Analysis, the Local Technology Planning Team should complete a *Broadband Planning Inventory* for the county or region, which can be found on page 27.

After the aggregate demand survey has been completed, the Local Technology Planning Team needs to assess the results against the existing broadband infrastructure. The results should indicate areas where the existing infrastructure is inadequate to meet the demand in terms of capacity and capability.

## Step 7: Engage Local Internet Service Providers

In this step, partners such as local broadband providers should be asked to present their ideas and solutions to address gaps identified in the aggregate demand study. Best practices should be discussed regarding both availability and demand, with examples given from within the county, region, around the state, and across the country. Providers should assist with brainstorming as to how each industry sector or area can address challenges and meet Florida's transformative goal of increasing the availability and accessibility of broadband throughout the state. The Local Technology Planning Team should stimulate discussion by asking questions and take notes and summarize recommendations to utilize during Step 8.

## Step 8: Evaluate Solutions

This step is intended to refine the options presented to the Local Technology Planning Team. The purpose is for the Local Technology Planning Team to develop a list of technologies and strategies to consider for the expansion of their broadband internet services and provide a summary of each to the Office of Broadband. The team should evaluate technology and service offering options as follows:

- Note the "right" technologies and/or services based on key county or regional characteristics and needs.
- Include short- and long-term considerations.
- Consider the team's mission and areas of importance when evaluating potential options.

When evaluating technology options, the team can review data collected during the needs assessment, Strengths, Weaknesses, Opportunities and Challenges Analysis, and asset inventory to inform their decision.

The “right fit” will vary based on objectives and needs, as well as other community-driven challenges. For example:

- Is the terrain difficult?
- Are residences or institutions consolidated in one area of the county or region, or spread out?
- Do you really need to connect to each residence or would connections to schools, public safety institutions, and hospitals be a possible solution?
- Are there existing providers who would consider building out the last-mile if you put in the middle-mile?

## Step 9: Develop and Execute Solutions

During this step, the Local Technology Planning Team reviews the initial findings, priorities, potential goals and objectives, timelines, and resources needed. In this phase, several potential strategic directions and initiatives have been identified, reviewed, discussed, and then incorporated into the final summary.

At this point, Local Technology Planning Teams should consider calling a county workshop or ‘town meeting’ on the topic and share:

- Key findings of the surveys and sector reports on broadband adoption/use;
- Short- and long-term goals the Local Technology Planning Team has identified for each industry sector and the county and the specific benefits; and
- The Local Technology Planning Team’s draft concepts as to how to meet those goals with local service providers.

*The Local Technology Planning Team findings should include at minimum the following elements:*

1. **Introduction:**
    a. Purpose of Planning Exercise
    b. County Overview
2. **Key Assessment Findings:**
    a. Community Survey
    b. Business Survey

c. Findings by Industry Sector
d. Broadband Planning Inventory

3. **Detailed Strengths, Weaknesses, Opportunity and Challenges (SWOC) Findings and Analysis (SWOC guide, page 26):**

   The SWOC analysis is a strategic planning exercise that is designed to help identify broadband availability, accessibility, and adoption issues that will be considered high priority for development of strategic goals and objectives.

   a. Strengths of the county and how they relate to broadband goals.
   b. Weaknesses of the county and how they challenge broadband goals.
   c. Opportunities identified by the Local Technology Planning Team, how they support broadband goals, and how the county can take advantage of these opportunities.
   d. Challenges identified by the Local Technology Planning Team and mechanisms needed to address these challenges.

4. **Strategic Direction(s):**
   a. Short-, medium- and long-term objectives to boost broadband availability and adoption.
   b. County policies that could roll into state policies for residential, business, and anchor institutions encouraging:
      i. Availability
      ii. Adoption
      iii. Literacy and usage
   c. Short- and long-term action items
   d. Implementation Strategy

5. **Financial, Human and Organizational Resource Considerations.**
   a. State, federal, or private grants that the county or region could utilize for funding broadband projects
   b. Alternative funding sources identified by the team
   c. Private/public partnerships

6. **Timelines and Benchmarks for Measuring Progress:**
   a. Availability goals
   b. Adoption goals
   c. Usage goals

Members should meet with their respective industry sectors to share the Local Technology Planning Team's findings and how the objectives could impact each sector. The feasibility of the project is then considered.

Local Technology Planning Team members can determine primary goals, followed by secondary and tertiary goals that would be desirable to the county/region over the long-term.

By utilizing feedback on each sector addressed in the draft, members can appropriately amend the goals and objectives of their completed Toolkit. As part of this work, it is best to design a series of metrics so that progress in meeting the goals of the Toolkit can be measured over the next three to five years. This includes metrics for both residential and business adoption of broadband.

**Progress and monitoring timeline:**

| Project: | Deadline/Due Date: |
|---|---|
| **Toolkit Feedback due to DEO** | October 15, 2021 |
| **Report Local Technology Planning Team Member Recommendations** | November 30, 2021 |
| **First Team Meeting** | December 31, 2021 |
| **Implement Community & Business Survey** | January 14, 2022 |
| **SWOC Analysis** | January 14, 2022 |
| **Survey Progress Report** | January 31, 2022 |
| **Survey Closure** | February 14, 2022 |
| **Broadband Planning Inventory** | February 14, 2022 |
| **Submission of Survey Findings Report** | February 21, 2022 |
| **Submission of Toolkit Findings Report** | March 7, 2022 |

Once the members of the Local Technology Planning Teams have completed the Toolkit, they can then create a strategy for future monitoring in order to ensure the Toolkit is followed and effectively executed.

The initial planning process will then be completed. However, the Local Technology Planning Team's Toolkit is intended to be a dynamic document, updated as progress is made in broadband deployment projects. The final step is to submit the Toolkit, summaries, and any additional data collected to the Office of Broadband.

# Local Technology Planning Team Resources

## Broadband Terms to Know[ii]

**Backbone** – The part of a communications network that acts like the central nervous system; a central hub from which all parts of the network extend.

**Backhaul** – A terrestrial communications channel linking an earth station antenna to a local switching network or population center.

**Broadband** – As defined by the National Telecommunications and Information Administration, broadband describes always-on, high-speed Internet access.

**Cable Modem** – Enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your television set. Most are external devices with two connections: one to the cable wall outlet, the other to a computer. They provide transmission speeds of 30 Mbps download and 1 Mbps upload, up to 100 Mbps download and 10 Mbps upload.

**Cellular** – A mobile communications system that uses a combination of radio transmission and conventional telephone switching to permit telephone communications to and from mobile users within a specified area.

**Community Anchor Institutions** – A public or private school, a library, a medical or healthcare provider, a museum, a public safety entity, a public housing agency, a community college, an institution of higher education, a religious organization, or any other community support organization or agency.

**Contention Ratio** – The number of subscribers that are sharing the connection at the same time.

**Dig Once Policy** - The installation of accessible, buried conduits during various infrastructure projects to enable providers to affordably install fiber with ease by running it through available conduits at a later time.

**DSL (Digital Subscriber Line)** – Wireline transmission technology that transmits data faster than dial-up over traditional copper telephone lines already installed to homes and businesses. DSL-based broadband provides transmission speeds ranging from several hundred Kbps to Mbps.

**Fiber (Fiber Optic Cable)** – A technology that converts electrical signals carrying data to light and sends the light through transparent glass fibers about the diameter of a human hair. Fiber optic transmits data at speeds far exceeding current DSL or cable modem speeds.

**ISP** – Internet service provider.

**Last Mile** – The actual portion of a network that provides broadband service to end users such as households, businesses, community anchor institutions, public safety entities, etc.

**Latency** – A way to measure speed (ping time). An analogy is Broadband, aka bandwidth, which is how wide or narrow a pipe is. Latency is how fast content moves from one end to the other in the pipe. Latency is measured in milliseconds; the lower the latency the faster.

**LEO** – Low Earth Orbit; An Earth-centered orbit relatively close to the planet; LEO is used to support satellite infrastructure for telecommunications or broadband.

**LTE** – Long Term Evolution; A 4G wireless broadband technology that provides speeds up to 100 Mbps download and 30 Mbps upload.

**Middle Mile** – Network infrastructure that does not deliver services to customers, but which provides for interoffice transport, backhaul, connectivity, or special access to service providers.

**NBAM** – National Broadband Availability Map; NTIA received funding from Congress in 2018 to update the NBAM in coordination with the Federal Communications Commission. Congress directed NTIA to acquire and utilize data from available third-party datasets. NTIA built upon existing partnerships with states and local governments to identify data from state, local and tribal governments, owners and operators of broadband networks, educational institutions, nonprofits, and cooperatives to create the map. Learn more about the map at https://broadbandusa.ntia.doc.gov/resources/data-and-mapping.

**Satellite** – Wireless broadband typically used in remote or sparsely populated areas with variations in speed and availability based on satellite angle, terrain, and weather considerations.

**Spectrum** – The range of electromagnetic radio frequencies used in the transmission of sound, data and television.

**Technology Neutrality** – The freedom to select and utilize technologies based on the unique needs and requirements of individuals, businesses or organizations.

**Underserved Area** – A geographic area of the state in which there is no provider of broadband internet service that offers a connection to the Internet with a capacity for transmission at a consistent speed of at least 100 megabits per second downstream and at least 10 megabits per second upstream.

**Unserved Area** – A geographic area of this state (Florida) in which there is no provider of broadband Internet service.

**Wireless** – Connects a home or business to the Internet using an over-the-air radio link between the customer and the service provider's facility. Wireless broadband can be mobile or fixed.

**5G** – 5th generation wireless telecommunications standards usually associated with network speeds of up to 1 gigabit per second or more.

**Talking Speed in Bits:**

***Bandwidth*** *– Amount of spectrum to transmit signals without distortion or loss of data.*
***Bit*** *– smallest unit of digital information**.***
***bps*** *– Bits per second (notice the lowercase "b").*
***Byte*** *– 8 bits.*
***Bps*** *– Bytes per second (notice the capital "B").*
***Kbps*** *– Kilobits per second (1000 bits per second).*
***Mbps*** – Megabits per second (1 million bits per second).
***Gbps*** – Gigabits per second (1 billion bits per second).
***Tbps*** – Terabits per second (1 trillion bits per second).

**Then there are the "bands":**

***C-band*** *– Frequency band with uplink 5.925-6.425 GHz, downlink 3.7-4.2 GHz. The C-band is primarily used for voice and data communications as well as backhauling.*

***Ka Band*** *– Frequency band with uplink 26.5-40GHz; downlink 18-20 GHZ, this band is primarily used for two-way consumer broadband.*

***Ku Band*** *– Frequency band with uplink 14 GHz; downlink 10.9-12.75 GHz, with more powerful transmission from the satellite; more susceptible to rain fade than C-Band.*

***L-Band*** *– Frequency band from 1 to 2 GHz, this band is the result of the down-conversion of the received downlink satellite signal from the LNB.*

***X-Band*** *– Frequency band with uplink 7.9- 8.4 GHz, downlink 7.25 – 7.75 GHz, this band is primarily used for military communications and Wideband Global Satcom (WGS) systems.*

## Guide: Strengths, Weaknesses, Opportunities and Challenges Analysis

Broadband Planning includes significant review and evaluation of the existing and potential broadband environment, including the identified needs and contributing factors. Part of the evaluation is a Strengths, Weaknesses, Opportunity and Challenges Analysis. This analysis is a strategic planning exercise that is designed to help identify broadband availability, accessibility, and adoption issues that will be considered high priority for development of strategic goals and objectives. Once identified, the goals and objectives should provide for *planning initiatives* that:

- Take full advantage of identified strengths and leverage existing resources for cost savings.
- Target historic weaknesses to strengthen broadband backbone and middle mile infrastructure.
- Identify opportunities in growth areas and anticipate your area's needs for future projects.
- Provide cost effective solutions to challenges for infrastructure installation and deployment.

Before beginning the analysis, it is important to understand the elements that create the analysis:

**Strengths** – Broadband-related systems, practices, processes, and resources that are highly valued by broadband stakeholders within the county/region. For example, the Local Technology Planning Team may identify areas of strength such as the level of coverage throughout the county, excellent levels of speed, and a number of providers and pricing valued by residential, business, and institutional users of broadband.

**Weaknesses** – Areas that need improvement and areas that tend to compromise the achievement of high levels of availability and adoption due to physical geography or demographic factors. Assessments should also examine available bandwidth and the cost of broadband service to residential, business, and institutional users. Where are costs highest?

**Opportunities** – Favorable situations that may positively impact the development and adoption of broadband in each sector. These may include proximity of a broadband providers' infrastructure to underserved areas and an examination of how emerging technologies or inexpensive network solutions could provide for broadband expansion in each sector of a county.

**Challenges** – Present and future circumstances that negatively impact broadband development and acceptance. This may include population density, physical geography,

or socio-economic and computer/internet literacy issues among various demographic groups.

The Local Technology Planning Team members should pursue the analysis at their second sector or group meeting, following completion of the needs assessment. The analysis can help provide a solid basis for identifying achievable broadband goals and objectives at the local level and ultimately for the region and its sectors. In addition, this process may help maximize grant funding efforts by providing the basis for a prioritization of tasks during the installation phase.

## Broadband Planning Inventories

1. Take inventory of **Physical Facilities and Community Resources** across both the private and public sector that are available to support broadband deployment:
    - Fiber:
        - Existing private or public sector conduits.
        - Abandoned gas-lines.
        - Electric plant trench with available conduit.
        - Telephone poles (if you have rights to use them).
        - Traffic signal fiber.
        - Supervisory control and data acquisition (SCADA) systems for water, pumps lift, etc.
        - Institutional networks.
        - Telecommunications routes with available conduit.
        - Railroad routes.
        - Abandoned water mains.
        - Abandoned sewers or storm drains.
        - Streetlight conduit.
        - Shared conduit with telecommunication providers.
    - Wireless:
        - Water towers owned by the city or other entity.
        - Public and private buildings with roof top space for antennas.
        - Existing cell towers.
        - Streetlight poles may be used for small cell devices.
        - Easements for new placement of small poles, may be used for small cell deployment.
2. Inventory of **Projects and Processes** to facilitate lower cost for broadband deployment:
    - Is there a “Dig Once” policy in effect?
    - Align broadband planning with the schedule and location of other public works projects.

- Streamline local permitting processes.
- Understand the processes of other right of way (ROW) providers (e.g., rail roads) or pole owners.

3. Inventory of **Land and Space**:

   - Plots of local land suitable for node locations.
   - Inside space of government buildings for hub locations.
   - NOC or data center space.
   - Existing wireless sites.
   - Space for Wi-Fi access points.

4. Inventory of **Service Sectors and Geographic Areas in the Community**:

   - Business license data by industry code.
   - Land use plan and circulation element.
   - City, state, and federal facilities.
   - Education buildings and campuses.
   - Medical facilities.
   - Business Improvement Districts.
   - Tax Increment Finance Districts.
   - Industrial parks.

5. Inventory of **Personal Computer Centers and Adoption Programs**:

   - Digital literacy programs or courses.
   - Public and private technology centers or work centers.
   - Workforce Development Program/Office.

## Questions for Focused Meeting Discussion

1. How do you use the internet or other network services at your organization?
2. Thinking about the work that you have done over the last year, were there instances when your Internet or broadband service or internet service provider made a difference in whether those projects were successful or not?
3. Think about the times when you have not had enough broadband availability, or there have been other issues surrounding broadband, that have caused problems in completing a project or making a connection that was needed. Have you attempted and then failed at recent initiatives, or simply weren't able to participate or launch a program or service, because you didn't have enough broadband service, capacity, or other related features to launch the program or service with confidence?
4. What are key applications or business uses on a day to day basis where your organization needs efficient and reliable broadband services in the county/region?
5. How do you see potential broadband needs in the future related to your organization?
6. How important is this issue to your county/region?
7. If you were creating a list of priorities for your county/region, where would you rank addressing the problem of broadband capacity? First, fifth, tenth—not on the list?
8. Is there anything else that you would like to say about broadband, or high-speed Internet service in the county or region?
9. Who in the county or region uses broadband? If people are not using broadband, why not? What are the barriers?
10. Where are people when they go online (e.g., the library, at home) and what equipment do they use (e.g., a home computer, smartphone, a computer center)?
11. Is the existing broadband service and capacity sufficient for residents?
12. Do local businesses and institutions have access to high-speed broadband? How does this county or region compare to similar areas?
13. Do schools, libraries, hospitals and other institutions have access to sufficient bandwidth? Is the capacity adequate to access online multimedia materials, provide e-health services or online education?
14. Who are the innovators in the county or region? Where are they located? Do they have the connections necessary to create and share their ideas? Education? Arts

and culture? Civic applications? New businesses? How will improving broadband access and service affect economic development?

15. Do significant groups of constituents lack certain digital skills or broadband service?
16. Do existing networks and broadband speeds need to be upgraded?
17. Do business owners express concern that they cannot find workers with the right skills? What training is needed to meet the needs of employers or business start-ups?

## Community Survey[iii]

**Purpose**

This survey is part of [county/region name] Local Technology Planning Team's Broadband Initiative to determine the Internet/broadband needs for all residents of [county/region name]. The primary goal is to identify unserved and underserved areas and work to determine a strategy for increasing the availability and accessibility of broadband internet services in [county/region name]. Please have a person in your household who is 18 years or older and makes household decisions about technology or the internet complete the survey.

**Terms of Use and Privacy Statement**

By participating in this survey, you are agreeing that [county/region name] and representatives from your Local Technology Planning Team, established by the Department of Economic Opportunity, may seek to contact you to follow up on your service needs. Results will be shared with community planners in an effort to identify service solutions. Therefore, **your address in the beginning demographic section is critical** to identifying unserved and underserved areas. *No identifying information will be published. This data is strictly for use by your Local Technology Planning Team and the Florida Department of Economic Opportunity's Office of Broadband.* We invite all [county/region name] residents to complete this survey by [date survey closes]. For more information on this survey, please call [contact name] at [contact information]. Thank you in advance for your time.

Name: _____

Address: _____

City: _____

County: _____ Zip: _____

Is this a home-based business? ☐ Yes ☐ No

If *no*, would you be able to work from home if you had better technology? ☐ Yes ☐ No

1. Do you currently have internet access at home?

☐ Yes, I pay a monthly subscription for Internet.

☐ Yes, I have access but do not pay for a subscription.

☐ No, I do not have access. ***(Skip to Question 4.)***

2. How do you access the internet at home?

(Check all that apply.)

☐ Cellular Data Plan
☐ Digital Subscriber Line (DSL)
☐ Cable Modem
☐ Fiber-Optic
☐ Fixed Wireless
☐ Satellite Internet Service
☐ Dial-up
☐ Not Sure

3. How satisfied are you with your current internet access?

☐ Unsatisfied
☐ Somewhat Unsatisfied
☐ Not Sure
☐ Somewhat Satisfied
☐ Satisfied

4. What is the main reason you **do not currently have internet access** in your home?

☐ Don't See the Need for It
☐ Not Available in My Area
☐ Internet Too Slow
☐ My Device Does Not Connect
☐ Too Expensive
☐ I use the Internet Somewhere Else
☐ Concerns About Online Privacy
☐ Other (Please Specify) _____

5. Please identify the digital devices you could use to access the internet from your home.

(Check all that apply.)

☐ Smart Phone

☐ Desktop

☐ Laptop

☐ Tablet/E-Reader (e.g., Kindle, Ipad, etc.)

☐ Smart TV (e.g., Android TV, Samsung Smart Hub, etc.)

☐ Streaming Device (e.g., Chromecast, Apple TV, etc.)

☐ Gaming System (e.g., XBOX, Playstation, Wii, etc.)

☐ Other _____

6. Please indicate your desired Internet speed for your home.

☐ **Basic Internet**…staying connected, basic email, simple web browsing, downloading video, etc. *{768 Kbps to 1.5 Mbps download speed}*

☐ **Typical Internet**…remote monitoring (e.g., measuring vital signs), basic telecommuting (work at home), streaming video or music (YouTube, Netflix, Spotify, etc.), complex web browsing, online education/classes, medium-size file/image sharing, etc. *{1.5 Mbps to 4 Mbps download speed}*

☐ **Enhanced Internet**…online gaming, large-size file/image sharing, remote medical diagnosis, basic medical record sharing, remote education (between two or more educational sites), etc. *{4 Mbps to 10 Mbps download speed}*

☐ **Premium Internet**…complex telemedicine (e.g. sharing/downloading medical images), complex education services, complex gaming, complex telecommuting, high quality telepresence/video conferencing *{10 Mbps to 100 Mbps download speed}*

☐ **Advanced Internet**…high definition telemedicine, multiple interactive education service, etc. *{100 Mbps – 1 Gbps download speed}*

☐ **Do not know**

7. What do you pay monthly for your service?

☐ Less than $50 per month ☐ Between $50 and $75 per month

☐ Between $76 and $100 per month

☐ Between $101 and $150 per month

☐ Between $151 and $250 per month

☐ Over $250

☐ Do Not Know

8. What download speed do you purchase from your internet service provider?

☐ Less than 1 megabit per second (Mbps)

☐ 1 Mbps – 2.5 Mbps

☐ 2.6 Mbps – 5 Mbps

☐ 5.1 Mbps – 10 Mbps

☐ 10.1 Mbps – 25 Mbps

☐ 25.1 Mbps – 50 Mbps

☐ 50.1 Mbps – 100 Mbps

☐ Over 100 Mbps

☐ Do Not Know

9. What upload speed do you purchase from your internet service provider?

☐ Less than 1 megabit per second (Mbps)

☐ 1 Mbps – 2.5 Mbps

☐ 2.6 Mbps – 5 Mbps

☐ 5.1 Mbps – 10 Mbps

☐ 10.1 Mbps – 25 Mbps

☐ 25.1 Mbps – 50 Mbps

☐ 50.1 Mbps – 100 Mbps

☐ Over 100 Mbps

☐ Do Not Know

10. Please indicate the age range of primary users of internet service at your home.

(check all that apply.)

☐ Adult(s) Ages 19-25

☐ Adult(s) Ages 26-45

☐ Adult(s) Ages 46-65

☐ Adult(s) Ages 66 and older

☐ School Age Child(ren) - K-8th grade

☐ High School Age Child(ren) - 9th-12th grade

☐ Do Not Know

11. Would a member or members of this residence take online classes if sufficient high-speed internet service were available and affordable?

☐ Yes

☐ No

## Business Survey

### Purpose

This survey is part of [county/region name] Local Technology Planning Team's Broadband Initiative to determine the Internet/broadband needs for all businesses within [county/region name]. The primary goal is to identify unserved and underserved areas and work to determine a strategy for increasing the availability and accessibility of broadband internet services in [county/region name]. Please have an employee who is 18 years or older and makes decisions about technology or the Internet complete the survey.

### Terms of Use and Privacy Statement

By participating in this survey, you are agreeing that [county/region name] and representatives from your Local Technology Planning Team, established by the Florida Office of Broadband, may seek to contact you to follow up on your service needs. Results will be shared with community planners in an effort to identify service solutions. Therefore, **your address in the beginning demographic section is critical** to identifying unserved and underserved areas. *No identifying information will be published, this data is strictly for use by your Local Technology Planning Team and the Florida Department of Economic Opportunity's Office of Broadband.* We invite all [county/region name] residents to complete this survey by [date survey closes]. For more information on this survey, please call [contact name] at [contact information]. Thank you in advance for your time.

Business Name: _____

Address: _____

City: _____

County: _____ Zip: _____

Is this a home-based business? ☐ Yes ☐ No

If *no*, would you be able to work from home if you had better technology?

☐ Yes ☐ No

1. What business/industry sector does your company serve?

☐ Internet Service Provider ☐ Technology/Software Development

- ☐ Agriculture
- ☐ Printing
- ☐ Broadcasting
- ☐ Digital Design
- ☐ Advertising
- ☐ Engineering
- ☐ Healthcare
- ☐ Law
- ☐ Finance/Accounting
- ☐ Real Estate
- ☐ Trucking/Transportation
- ☐ Manufacturing
- ☐ Tourism
- ☐ Retail/Food Service
- ☐ Natural Resources
- ☐ Construction
- ☐ Other (please specify)

2. How many employees does your business have?

- ☐ None
- ☐ 1-5
- ☐ 6-15
- ☐ 16-50
- ☐ 51-100
- ☐ 101-500
- ☐ 500+

3. Does your business currently have internet access?

- ☐ Yes, I pay a monthly subscription for Internet.
- ☐ Yes, I have access but do not pay for a subscription.
- ☐ No, I do not have access.

4. How do you and your employees access the internet at work?

(Check all that apply.)

- ☐ Cellular Data Plan
- ☐ Digital Subscriber Line (DSL)
- ☐ Cable Modem
- ☐ Fiber-Optic
- ☐ Fixed Wireless
- ☐ Satellite Internet Service
- ☐ Dial-up
- ☐ Not Sure

5. Based on the type of Internet connection you selected above, why do you still have it? (select all that apply)

- ☐ Too Expensive to Change
- ☐ No Other Options
- ☐ Best Price Available
- ☐ Most Reliable Service Available
- ☐ Not Interested in Changing
- ☐ Limited Other Options

6. How satisfied are you with your current internet access?

- ☐ Unsatisfied
- ☐ Somewhat Satisfied
- ☐ Somewhat Unsatisfied
- ☐ Satisfied
- ☐ Not Sure

7. What is the main reason you **do not currently have internet access** at your business?

- ☐ Don't See the Need for It
- ☐ Not Available in My Area
- ☐ Internet is Too Slow
- ☐ My Device Does Not Connect
- ☐ Too Expensive
- ☐ I use the Internet Somewhere Else
- ☐ Concerns About Online Privacy
- ☐ Other (Please Specify) _____

8. Please identify the digital devices that you could access the internet with from your business.

(Check all that apply.)

☐ Smart Phone

☐ Desktop

☐ Laptop

☐ Tablet/E-Reader (e.g., Kindle, iPad, etc.)

☐ Smart TV (e.g., Android TV, Samsung Smart Hub, etc.)

☐ Streaming Device (e.g., Roku, Chromecast, Apple TV, etc.)

☐ Gaming System (e.g., XBOX, PlayStation, Wii, etc.)

☐ Other _____

9. Please indicate your desired internet speed for your business.

☐ **Basic Internet**…staying connected, basic email, simple web browsing, downloading video, etc. *{768 Kbps to 1.5 Mbps download speed}*

☐ **Typical Internet**…remote monitoring (e.g., measuring vital signs), basic telecommuting (work at home), streaming video or music (YouTube, Netflix, Spotify, etc.), complex web browsing, online education/classes, medium-size file/image sharing, etc. *{1.5 Mbps to 4 Mbps download speed}*

☐ **Enhanced Internet**…online gaming, large-size file/image sharing, remote medical diagnosis, basic medical record sharing, remote education (between two or more educational sites), etc. *{4 Mbps to 10 Mbps download speed}*

☐ **Premium Internet**…complex telemedicine (e.g. sharing/downloading medical images), complex education services, complex gaming, complex telecommuting, high quality telepresence/video conferencing *{10 Mbps to 100 Mbps download speed}*

☐ **Advanced Internet**…high definition telemedicine, multiple interactive education service, etc. *{100 Mbps – 1 Gbps download speed}*

☐ **Do not know**

10. What do you pay monthly for your service?

- ☐ Less than $50 per month
- ☐ Between $50 and $75 per month
- ☐ Between $76 and $100 per month
- ☐ Between $101 and $150 per month
- ☐ Between $151 and $250 per month
- ☐ More Than $250
- ☐ Do Not Know

11. What download speed do you purchase from your internet service provider?

- ☐ Less than 1 Mbps
- ☐ 1 Mbps – 2.5 Mbps
- ☐ 2.6 Mbps – 5 Mbps
- ☐ 5.1 Mbps – 10 Mbps
- ☐ 10.1 Mbps – 25 Mbps
- ☐ 25.1 Mbps – 50 Mbps
- ☐ 50.1 Mbps – 100 Mbps
- ☐ More Than 100 Mbps
- ☐ Do Not Know

12. What upload speed do you purchase from your internet service provider?

- ☐ Less than 1 Mbps
- ☐ 1 Mbps – 2.5 Mbps
- ☐ 2.6 Mbps – 5 Mbps
- ☐ 5.1 Mbps – 10 Mbps
- ☐ 10.1 Mbps – 25 Mbps
- ☐ 25.1 Mbps – 50 Mbps
- ☐ 50.1 Mbps – 100 Mbps
- ☐ Over 100 Mbps
- ☐ Do Not Know

13. What business practices/applications do you require an internet connection to complete? (select all that apply)

- ☐ Training
- ☐ Email
- ☐ Communication Between Headquarters and Remote Sites
- ☐ Voice Over Internet Protocol or Internet Phone (Vonage, Skype, etc.)
- ☐ Offer Free Wifi Service to Downtown Shoppers and Visitors
- ☐ Online Backup (files, photos, music, company data)

☐ Transfer Large Files

☐ Monitor / Control Security, Alarms, Health, Processes, etc.

☐ Processing Credit Card / Debit Card Transactions

☐ Ordering / Managing Inventory

☐ Maintaining A Web Presence, Blog

☐ Social Media (Facebook, LinkedIn, Twitter, Instagram)

☐ Receiving and Processing Online Orders

☐ Cloud-Based Business, Accounting or Other Services

☐ Video Teleconferencing

☐ Other

## SWOC Analysis Template

**(Strengths, Weaknesses, Opportunities, and Challenges) ***
**[List County/Region Name]**

| Strengths | Weaknesses |
|---|---|
| ***List broadband-related systems, practices, processes, and resources that are highly valued by broadband stakeholders within the county/region.*** | ***List areas that need improvement and areas that tend to compromise the achievement of high levels of broadband availability and adoption due to physical geography or demographic factors.*** |
| **Opportunities** | **Challenges** |
| ***List favorable situations that may positively impact the development and adoption of broadband in each sector.*** | ***List present and future circumstances that negatively impact broadband development and acceptance.*** |

** Refer to the SWOC Analysis Guide in the Toolkit for additional information and examples of Strengths, Weaknesses, Opportunities, and Challenges to include in your analysis.*

## Broadband Planning Inventory Template

***Note: This document serves as a template for broadband planning inventory and may be updated to fit the needs of the county/region represented by the Local Technology Planning Teams.***

| [List County/Region Name] | | | |
|---|---|---|---|
| **Physical Facilities and Community Resources**<br>*(Take inventory of Physical Facilities and Community Resources across both the private and public sector that are available to support broadband deployment)* | | | |
| **Asset Description** | **Physical Location** | **Quantity** | **Notes** |
| **Fiber:** | | | |
| Existing private or public sector conduits | | | |
| Abandoned gas-lines | | | |
| Electric plant trench with available conduit | | | |
| Telephone poles (if you have rights to use them) | | | |
| Traffic signal fiber | | | |
| Supervisory control and data acquisition (SCADA) systems for water, pumps lift, etc. | | | |
| Institutional networks | | | |
| Telecommunications routes with available conduit | | | |
| Railroad routes | | | |
| Abandoned water mains | | | |
| Abandoned sewers or storm drains Streetlight conduit | | | |
| Shared conduit with telecommunication providers | | | |

| **Wireless:** | | | |
|---|---|---|---|
| Water towers owned by the city or other entity | | | |
| Public and private buildings with roof top space for antennas | | | |
| Existing cell towers | | | |
| Streetlight poles may be used for small cell devices | | | |
| Easements for new placement of small poles, may be used for small cell deployment | | | |
| **Projects and Processes**<br>*(List inventory of Projects and Processes to facilitate lower cost for broadband deployment)* | | | |
| **Asset Description** | | | |
| Is there a “Dig Once” policy in effect? | | | |
| Align broadband planning with the schedule and location of other public works projects | | | |
| Streamline local permitting processes | | | |
| Understand the processes of other right of way (ROW) providers (e.g., rail roads) or pole owners | | | |

# Broadband Planning Inventory

## Land and Space

*(List inventory of Land and Space)*

| Asset Description | Physical Location | Quantity | Notes |
|---|---|---|---|
| Plots of local land suitable for node locations | | | |
| Inside space of government buildings for hub locations | | | |
| NOC or data center space | | | |
| Existing wireless sites | | | |
| Space for Wi-Fi access points | | | |

## Service Sectors and Geographic Areas in the Community

*(List inventory of Service Sectors and Geographic Areas in the Community)*

| Asset Description | Physical Location | Quantity | Notes |
|---|---|---|---|
| Business license data by industry code | | | |
| Land use plan and circulation element | | | |
| City, state, and federal facilities | | | |
| Education buildings and campuses | | | |
| Medical facilities | | | |
| Business Improvement Districts | | | |
| Tax Increment Finance Districts | | | |

| | | | |
|---|---|---|---|
| Industrial parks | | | |

## Broadband Planning Inventory

### Personal Computer Centers and Adoption Programs

*(List inventory of Personal Computer Centers and Adoption Programs)*

| Asset Description | Physical Location | Quantity | Notes |
|---|---|---|---|
| Digital literacy programs or courses | | | |
| Public and private technology centers or work centers | | | |
| Workforce Development Program/Office | | | |

[i] National Telecommunications and Information Administration – BroadbandUSA.
[ii] Tony Simental and the West Virginia Department of Economic Development.
[iii] North Carolina Department of Information Technology (NCDIT), Broadband Infrastructure Office.