

**BOARD OF SUPERVISORS  
BUSINESS MEETING  
INFORMATION ITEM**

**SUBJECT:** **Response to Board Member Initiative: Emergency  
Broadband Implementation Plan**

**ELECTION DISTRICTS:** Blue Ridge/Catoctin

**CRITICAL ACTION DATE:** At the pleasure of the Board

**STAFF CONTACT(S):** Charles Yudd, County Administration  
Erin McLellan, County Administration

**PURPOSE:** The purpose of the item is to respond to the Board Member Initiative presented at the September 15<sup>th</sup> Board Business Meeting regarding the deployment of broadband to underserved and unserved areas of Western Loudoun County as identified in the 2014 Wireless Gap Analysis.

**BACKGROUND:** On September 15, 2020, Supervisors Kershner and Buffington presented information to the Board of Supervisors (Board) regarding the lack of adequate broadband coverage in Western Loudoun County. The item stated that “the need for broadband service to Western Loudoun is well-documented and has been a struggle for Loudoun County for many years. While improvements have been made over the years, the solutions that the current situation requires are multi-faceted and are more urgent than ever with the onset of COVID-19 and the challenges presented by the critical need for connectivity for medical, school, telework and business purposes.”

The Board voted (8-1; Supervisor Briskman opposed) to direct staff to analyze six (6) key issues and return to a subsequent Business Meeting with the costs, funding sources, timelines, and options to prioritize and accelerate the expansion of broadband services to residential areas with underserved Loudoun County Public School students that could be connected in a timely manner. The six key issues identified included:

- 1) Implement the recommendations outlined in the [Critical Communications Infrastructure Improvement Item](#) approved by the Board on November 21, 2019, and the 2018 Broadband Strategic Plan to decrease processing times and costs for critical communications infrastructure including the fast track of monopole applications, and elimination/reduction of SPEX fees related to monopole applications.
- 2) Expedite provisions of the [Dark Fiber Wide Area Network](#) in partnership with Segra approved by the Board on December 3, 2019, to attract and contract with potential

Internet Service Providers willing to lease middle mile fiber access for the expansion of broadband to rural residences and businesses.

- 3) Overlay Loudoun County's Wireless Gap Analysis with the Segra Dark Fiber Wide Area Network to create an active tracking document of telecommunications projects completed, projects in-process, and future projects.
- 4) Identify funding to complete buildout to Bluemont Community Center, Philomont Community Center, Philomont Fire and Rescue, Loudoun Heights Fire and Rescue and Loudoun Height Public Safety Radio Tower.
- 5) Identify additional solutions to deploy critical broadband to underserved areas of Loudoun County as identified in the 2014 Wireless Gap Analysis, and any other impactful solutions that would merit further consideration by the Board.
- 6) Report back to a future business meeting with information about the structure of the existing cable television franchise agreements, the current status of all franchise agreements, and legal options available to negotiate contracts that will improve broadband access.

**ISSUES:** The effort to increase broadband connectivity throughout Loudoun County involves many county departments and a multi-pronged approach. Based on the issues and questions raised by the Board, staff from multiple county departments have collaborated on the six key issues identified.

#### Issue 1. Implementation of the Critical Communications Infrastructure Improvement Item and Broadband Strategic Plan

The Critical Communications Infrastructure Improvement in Areas of Need in Loudoun County Item approved by the Board on November 21, 2019, and the 2018 Broadband Strategic Plan addressed the need to decrease processing times and fees for critical communications infrastructure including the fast-track of monopole applications, and elimination/reduction of Special Exception (SPEX) fees related to monopole applications. The following provides an update on this effort and proposed recommendations to address processing and fee issues associated with critical telecommunications infrastructure.

The lengthiest part of the review process for telecommunication tower applications is the approval of a Commission Permit (CMPT) and Special Exception (SPEX). Each zoning district includes a list of by-right permitted uses and a list of uses requiring SPEX approval from the Board. Uses that require SPEX approval are considered appropriate in the zoning district, but potentially have greater impacts compared to by-right permitted uses. Because of the greater impacts, SPEX uses necessitate review by the Planning Commission (Commission) and approval by the Board, to ensure that likely impacts such as noise, traffic, and aesthetics are properly mitigated. The SPEX process allows the Board to impose Conditions of Approval to address these impacts. In some limited instances, such as in certain industrial districts and where the site is located a minimum

distance from residential uses, a new tower is allowed by-right, but most new towers require Board approval of a SPEX.

A CMPT is required for any public facility not already shown as a feature on the *Loudoun County 2019 Comprehensive Plan* (2019 CP), in accordance with Virginia Code 15.2-2232. As such, new telecommunication towers fall within this category. All new towers, except those shown on the 2019 CP or located within overhead utility transmission line right-of-way containing existing structures greater than 80 feet in height, require CMPT approval from the Planning Commission following Public Hearing and subsequent Board ratification, in accordance with the Revised 1993 Loudoun County Zoning Ordinance (Zoning Ordinance). No conditions are imposed on CMPT applications. Most new towers in Loudoun County will require approval of a concurrent CMPT/SPEX application.

#### Current Application Fees

The SPEX fee, as it currently applies to all SPEX uses, increases with the area of land disturbance and where sensitive environmental features (Floodplain Overlay District, Limestone Overlay District, wetland, steep slope, Mountainside Overlay District) fall anywhere on the subject parcel to cover costs associated with additional review. A considerable extent of Western Loudoun is subject to these sensitive environmental features, necessitating the higher SPEX fee for many applications. Current policy is to apply the highest legislative application fee to concurrent applications rather than an aggregate fee.

Building and Zoning Permit fees associated with new construction towers and monopoles and alterations or additions to existing towers are charged the same fee.

Table 1. Current Application Fees

<b>Planning and Zoning Application Type</b>	<b>Fee</b>
SPEX	
<ul style="list-style-type: none"> <li>• Approval of use with land disturbance exceeding 10,000SF or including sensitive environmental areas</li> <li>• Approval of use with land disturbance 1-10,000SF, no sensitive environmental areas</li> <li>• Approval of use with no land disturbance</li> </ul>	\$15,750
CMPT	\$6,990
<b>Building and Development Application Type</b>	<b>Fee</b>
Commercial Building Plan	\$30
Cell Tower Zoning Permit	\$210
Small Cell / Antennae Zoning Permit	\$100
Building Permit	1% of construction cost, minimum fee of \$90
Site Plan	\$500

Expediting Applications

Attachment 1 provides an overview of the typical process and timelines associated with the review of legislative and administrative applications for telecommunications facilities.

Staff proposes the following options for Board consideration to accelerate the review of telecommunication facilities.

1. **Waive PRAP Requirement.** PRAPs are required for all CMPT/SPEX applications in accordance with Zoning Ordinance Section 6-1304(A). PRAPs provide an opportunity to learn about issues that could arise during the review process and possible solutions before an application is prepared. To reduce the process by up to 30 days from the overall timeline, the Department of Planning and Zoning could implement a blanket policy waiving the requirement for a PRAP for telecommunications applications and make them optional. Section 6-1304(A) allows the Director of Planning and Zoning to waive the PRAP requirement where such waiver would not affect the submission or review of an application. This change would require Board direction to staff.
2. **Reduce Legislative Land Development Application Fees.** The Land Development Application Fee Schedule may be amended by the Board to reduce the fees for telecommunications uses requiring approval of a CMPT/SPEX application in underserved or priority areas.

The Board may consider elimination of the SPEX fees that range from \$5,955 to \$15,750 based on the amount of land disturbance and whether sensitive environmental features exist, and only charge the standard \$6,990 CMPT fee for new telecommunications uses in underserved or priority areas that require CMPT/SPEX approval. Implementation of this recommendation would require Board action to amend the fee schedule. The potential reduction of Planning and Zoning fees could be included in a subsequent item brought forward for Board consideration.

**3. Eliminate CMPT and SPEX Requirement.**

- a. The Zoning Ordinance could be amended to allow telecommunications facilities as by-right primary uses without approval of a SPEX to any public facility in any zoning district, which could include schools, recreation centers and parks, community centers, libraries, waste management facilities, and other public facilities. By identifying this use as a by-right primary use for these public facility sites, it would eliminate the requirement that the telecommunications facility exist to primarily serve the public facility needs, as is the case with accessory uses. This may benefit some of the priority areas more than others due to the number and location of existing or planned public facilities within the priority areas, but it would provide some additional flexibility in tower siting and a reduction of costs associated with their approval, while also providing the Board and the public with some locational certainty. This option is similar to and builds on ZOAM-2015-0001 and ZOAM-2016-0003, which addressed telecommunications facilities at public use sites. The policies of the County's Strategic Land Use Plan for Telecommunication Facilities support establishment of telecommunications facilities on public sites. Implementation of this recommendation would require Board approval of a Zoning Ordinance Amendment (ZOAM).
- b. The Zoning Ordinance could be amended to eliminate the need for SPEX approval for certain towers meeting specific land use criteria, such as height, screening, etc. The specific criteria would need to be identified during a ZOAM process. For example, potential criteria could include a requirement that towers be disguised as trees, bell towers, forest lookout towers, or other appropriate camouflaged treatment so as to blend with the surrounding environment or built structures when appropriate; screening materials could be required to be evergreen; height limitations could be based on the proposed site elevation, viewshed, or other site-specific features to minimize the tower's visibility. Towers meeting these specific requirements would then be allowed by-right. This approach would reduce the ability of the Commission, Board, and public to review, comment, and consider each specific proposed tower. This option would further the goal of enhancing services in rural Loudoun County as expressed in the County's Strategic Land Use Plan for Telecommunication Facilities. Implementation of this recommendation would require Board approval of a ZOAM, and these topics are presently being considered in the Zoning Ordinance Rewrite (ZOR) project.
- c. A CMPT is currently required for most towers. The Board may consider a Comprehensive Plan Amendment (CPAM) to exempt by-right towers from the CMPT requirement if the Board elects to adopt a ZOAM under paragraph 3.b. above. The Comprehensive Plan could be amended to include a map identifying underserved or

- priority areas where new towers are preferred and accompanying narrative recognizing new towers in these areas as a feature shown on the Comprehensive Plan. If telecommunications facilities are allowed by-right at all public facilities in all zoning districts per paragraph 3.a. above, the map should show the locations of these and potential future public facilities in order to limit the sites within the priority areas where towers could be sited without a CMPT. In addition, the narrative should include any Zoning Ordinance criteria that may be adopted per paragraph 3.b. above. This would eliminate the need for CMPT approval, while providing some locational specificity. This approach would reduce the ability of the Commission, Board, and public to review, comment, and decide which facilities are established. This option is consistent with strategies and goals expressed in the County's Broadband Strategic Plan, which seeks to attract broadband investment to the County. Implementation of this recommendation would require Board approval of a locational needs study and CPAM.
4. **Establish a Telecommunications Application Ombudsman.** The Board may consider designating a staff position within a community development department (Building and Development, Planning and Zoning, Economic Development) to serve as the point-of-contact to assist telecommunications applicants through the required land development approvals pertinent to their applications.
  5. **Establish Telecommunications Application Assistance Meetings.** Legislative applications (CMPT/SPEX) require a PRAP meeting prior to submittal. Building and Development offers an optional Pre-Submission meeting (PSUB) prior to submitting a site plan application. These meetings are helpful to applicants as staff reviews policies and regulations affecting a submittal, but they are two separate processes relating to the respective application type and PRAPs and PSUBs have different scheduling requirements. The Board may direct staff to offer an optional joint meeting with Planning and Zoning and Building and Development staff for new telecommunications towers proposed in underserved or priority areas to review all checklist requirements, processing timelines, and shot clock guidance in a cohesive presentation. A tentative project review schedule could be prepared at the meeting to monitor progress. In addition, these efforts could also be expanded to offer additional guidance for applicants by providing specific overviews of the review process for telecommunications applications. Please see [www.Loudoun.gov/5202/Telecommunication-Uses-and-Structures](http://www.Loudoun.gov/5202/Telecommunication-Uses-and-Structures), a current resource for applicants. In addition, Building and Development staff has developed a guide to applicants to assist them with understanding land development requirements from the beginning of a Land Development Application to final approvals. An emphasis on bonding and permitting requirements is included to ensure applicants understand requirements to post bonds and acquire permits.

## Issue 2. Expedite Provisions of the Segra Dark Fiber Wide Area Network

On December 3, 2019, the Board authorized the award of a contract for wide area network services to Segra<sup>1</sup>. Loudoun County government is utilizing the County school system's existing contract with Lumos Networks/Segra as a mechanism to add additional fiber optic cable to improve access to government-owned/leased buildings in rural areas of the County. Under this contract, Lumos Networks/Segra is also replacing the County's aging fiber infrastructure, which is nearing the end of its life expectancy.

This contract replaces leased circuits and 25+ year old fiber with redundant, high-speed fiber to almost all County facilities. The fiber network design will allow the County to build a scalable, reliable, redundant, highly available network with more than double the current bandwidth to remote sites. In addition to providing fiber to County facilities, Segra is making additional middle mile fiber available to private carriers to extend broadband to underserved areas in the west, which has become a top priority for the Board of Supervisors.

The Segra contract award in 2019 did not include five of the County's Western Loudoun sites; Bluemont Community Center, Philomont Community Center, Philomont Fire & Rescue facility, Loudoun Heights Fire & Rescue Facility and Loudoun Heights Public Safety Radio Tower. These sites were not included as part of Segra's original contract bid because they are not in locations where Segra was already contracted to build fiber for the LCPS fiber project, which the County is riding, therefore they could not be included in the Loudoun County contract.

To ensure that the County is eventually able to complete the build-out of fiber to those last five facilities, the Board added the Remote Site Connectivity project to the FY 2021 – FY 2026 Capital Improvement Program during the FY 2021 budget development process to complete the County's network fiber project.

Segra is on track to complete its scope of work with the County by March 2021. The specific scope of work to build middle mile/core fiber to the western Loudoun County sites included in the original scope of work and not including the additional 4 western Loudoun fiber runs to connect 5 additional sites, is complete. The LCG overall project is 33% complete, and on track to complete by the end of Q1 2021 (depending on weather, COVID or other delays) The remaining work involves construction of the connections from the fiber lines into the specific facilities.

### Expediting Options

The current Segra fiber infrastructure is in place, and there is sufficient fiber available for private carriers to lease for use in providing services to western Loudoun (excluding the five Western Loudoun sites, as discussed above). Once Segra and private carriers complete a contract, there is nothing stopping providers from beginning to build off the middle mile/core to deliver last mile services in areas where there is fiber.

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<sup>1</sup> [December 3, 2019 Board Business Meeting: Item 19c, FGOEDC REPORT: FY 2021 Budget Development and Contract Award - Dark Fiber Wide Area Network Services](#)

Because the fiber is already in place and ready to use by private carriers, there is not a need to expedite the provisions in the Segra agreement. Segra is currently in active discussions with last mile providers to leverage some of this fiber to deliver last mile services to specific areas in Western Loudoun County.

There could be benefit gained by expediting the build out of the five remaining County sites in Western Loudoun, which will be discussed under Issue 4.

Issue 3. Create an active tracking document of telecommunications projects, completed, in-progress and future.

The Board directed staff to overlay the 2014 Wireless GAP Analysis with the Segra Dark Fiber Wide Area Network to create an active tracking document of telecommunications projects completed, projects in-process, and future projects.

Staff mapped the above datasets identified by the Board, as well as developed additional broadband-relevant data that address the Board's questions and provide additional contextual information that staff believe is important in understanding the overall picture of connectivity in Loudoun County. This information was also used to identify geographic areas of the county that are unserved or underserved. The Story Map Telecommunication Projects of Loudoun County, which is available [here](#) or on the [Loudoun County GeoHub](#), steps through the data used in this project. A static map is also included as Attachment 2.

Data identified and mapped for this project include:

**2014 Wireless GAP Analysis** This study was funded by the Board of Supervisors in 2012. The objective was to determine where there are gaps in wireless and cellular service and to make recommendations to improve service. The facilities used in the study were a combination of existing and potential future sites, as identified by approved permits. Staff mapped the facilities used in the study (both existing and planned), as well as the unserved or underserved geographic areas that could receive broadband with the addition of facilities. For an overview of the study results, see the September 3, 2014 Board of Supervisors Business Meeting Information Item #I-2 ([PDF](#)).

**Permitted Commercial Tower Development Areas (PCTDAs)** are unserved or underserved areas in the western Loudoun, developed as a recommendation of the 2014 Wireless Analysis. PCTDAs are mapped as general locations – they are not intended to identify a particular site or radius.

**Existing Telecommunication Facility** – As of November 2020, there are 106 telecommunication facilities in Loudoun County. Four additional **Active/Approved** facilities have also been mapped.

**Dark fiber** is an underground or above ground, optical fiber that will be leased to a network provider/service provider. Broadband carriers may then use this fiber to provide last mile service

to unserved or underserved areas. Loudoun County and Loudoun County Public Schools have contracted with Segra to install dark fiber to interconnect their facilities on separate, dedicated networks. Those projects are now underway. Loudoun County has plans to release a Request for Proposal (RFP) for additional fiber (Loudoun County Board of Supervisors December 2019 Business Meeting, Action Item #19c ([PDF](#))).

**Major Broadband Service Providers** All facilities-based broadband providers are required to file with the Federal Communications Commission (FCC) where they offer Internet access speeds exceeding 200 kbps in at least one direction. The data are reported by Census Block. Staff obtained this data to show the service area covered by Comcast Xfinity. Verizon provided a map of their general FIOS service areas, excluding the incorporated towns.

The **Loudoun Express (Lex)** system allows residents to submit requests for service or report concerns. Loudoun County has over 350 open calls for service from residents who are unserved by broadband. These calls have been shown as a heat map, which displays the relative density of points.

These datasets were used to identify select unserved or underserved geographic areas (Attachment 2). Each area encompasses approximately 450-1100 homes. These areas have been generalized and are not intended to represent all unserved or underserved addresses within the county.

#### Issue 4. Identify Funding for Five Remaining Western Loudoun sites

The contract award to Segra, approved by the Board in December 3, 2019, included the build out of a PWAN to all current County facilities except for five Western Loudoun sites (because they were not covered by the Lumos (Segra) contract awarded by LCPS). The five sites are the Bluemont Community Center, Philomont Community Center, Philomont Fire and Rescue facility, Loudoun Heights Fire and Rescue facility, and the Loudoun Heights Public Safety Radio Tower.

These sites will remain on Verizon leased circuits until extensions of fiber connections are completed following a County CIP project, which was added to the CIP in FY 2021. Funding for professional services to develop a Request for Proposal (RFP) for the construction is planned to begin in FY 2022, followed by construction and equipment funds in FY 2023 through FY 2025.<sup>2</sup> Extension of fiber connections to these five facilities reduces the distance that last mile providers would need to account for in delivering service to residents in the farthest western and southwestern portions of the County.

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<sup>2</sup> [FY 2021 – FY 2026 Capital Improvement Program, Remote Site Connectivity](#), page 9-15

Table 2. Remote Site Connectivity Budget

	<b>FY 21</b>	<b>FY 22</b>	<b>FY 23</b>	<b>FY 24</b>	<b>FY 25</b>	<b>FY 26</b>	<b>Total</b>
Professional Services		\$191					\$191
Construction			\$1,969	\$841	\$1,331		\$4,141
Equipment			\$11	\$23	\$24		\$58
Contingency			\$198	\$86	\$136		\$420
<b>Total – Cost</b>		<b>\$191</b>	<b>\$2,178</b>	<b>\$950</b>	<b>\$1,491</b>		<b>\$4,810</b>
Local Tax Funding		\$191	\$2,178	\$950	\$1,491		\$4,810
<b>Total – Financing</b>		<b>\$191</b>	<b>\$2,178</b>	<b>\$950</b>	<b>\$1,491</b>		<b>\$4,810</b>

Given the complexity of this project, staff will need to procure a consultant to assist in the development of an RFP and evaluation of proposals, which is why the first tranche of planned funding is intended to fund professional services to compile the RFP and evaluate proposals. Generally, an RFP process can take anywhere from three to six months depending on the complexity and the number of proposals received. If funding was advanced into FY 2021 for the RFP process, staff could begin work approximately six months sooner than waiting for the FY 2022 appropriation. There is sufficient funding in the IT Contingency project in the Capital Projects Fund to accelerate the professional services into FY 2021, should the Board wish to do so.

Given the estimated cost to run this fiber, a formal Request for Proposal (RFP) process will be conducted to publicly solicit proposals from dark fiber providers interested in providing this service/infrastructure in Western Loudoun. Additionally, there appears to be more than one potential broadband infrastructure provider available which further supports staff’s recommendation for the issuance of a formal competitive process versus a sole source contract award process.

Should the Board desire to accelerate the construction funding for this project, staff would request direction to prioritize the full construction budget of approximately \$4.5 million in FY 2022 of the forthcoming Amended FY 2021 – FY 2026 CIP.

Issue 5. Identify Additional Solutions to Deploy Critical Broadband to Underserved Areas

As stated above, the County issued a contract to Segra at the December 3, 2019 Board Business meeting with the intention of accomplishing two goals:

- 1) Provide fiber to all County facilities, and
- 2) Provide a middle-mile solution with sufficient excess fiber for use by private providers to deliver last mile solutions to the residents and businesses in Western Loudoun County.

By serving as an anchor tenant on this middle mile fiber solution, the County is investing \$15.5M, in the next 10 years, to ensure fiber is available for last mile use throughout the County. The remaining five Western Loudoun sites that have not been built, will result in an additional \$4.8M investment by the County in middle-mile fiber infrastructure.

There needs to be a defined approach in the way in which these solutions are both reviewed and eventually implemented. To effectively deliver any solution, there must first be a foundation to work from, based upon data, that allows private providers and the County to understand what the specific issue is depending upon the geographic location in Western Loudoun. Because not all areas of the County are likely conducive to a single solution, such as Fiber to the Home (FTTH), staff suggests that an engineering design be completed to understand what technologies are viable in specific areas in the County. To do this, staff recommends the following:

- 1) Hire a consultant with expertise in the County's current fiber infrastructure to review available data.
- 2) Produce a report that describes where the gaps are in both middle mile and last mile fiber.
- 3) Provide estimated costs to bridge both the middle mile and last mile gaps in the County.
- 4) Identify areas that are low, medium and high in complexity to resolve and provide detailed engineering design documentation to describe the approach to prioritization.

In 2018, the County contracted with Columbia Telecommunications Corporation (CTC) to study the broadband issue in Western Loudoun County. Because CTC has already collected most of the data that would be needed to complete an engineering design, staff suggests that the most economical and efficient manner to complete this design is to continue to work with CTC. The estimated cost for this engineering design is still being developed and if the Board is interested in this work, staff will return in the future with more detail.

Once the engineering design is completed, it will be necessary for the County to identify appropriate solutions and perhaps funding options for partnerships that might affect those solutions. The additional solution suggestions are described below. However, the Department of Information Technology is not currently staffed to immediately complete the tasks of evaluating technologies, how they align with the current Segra build out and consideration, negotiation and project management of new/additional solutions.

#### Focused Areas for Broadband Expansion

Staff has evaluated mapping information collected from a number of sources including, but not limited to, LEX data, Comcast, Verizon, Segra and NOVEC and has identified four primary areas in western Loudoun County, that are deemed underserved. Those four areas include the northeast, northwest and southwest corners of the County, and an area centrally located south of Purcellville. Staff recommends that the Board begin addressing the Broadband issue in western Loudoun County by focusing on those four specific areas.

1) Northeast area between VA-287 and Route 15

Geographic area (potential service areas include)	Taylorstown, Eastern Lovettsville
Estimated Number of homes	450
Potential Solutions	This area would require wireless or fiber-to-the-home providers to leverage Segra middle-mile fiber that is built along Clarkes Gap Road, and Routes 287 and 15.
Middle Mile dependencies	None

2) Northwest portion of Loudoun County

Geographic area (potential service areas include)	Hillsboro, Neersville, Britain, Hillsboro Edgegrove
Estimated Number of homes	1,100
Potential Solutions	There are wireless and fiber-to-the-home providers who are under a signed NDA with Segra or have begun unsolicited proposals to Loudoun County Government, using the unbuilt Phase 2 middle mile.
Middle Mile dependencies	The largest dependencies are the procurement and budget hurdles, as described in Issue 4.

3) Southwest corner of Loudoun County

Geographic area (potential service areas include)	Upperville, Rock Hill, Bloomfield, Trapp, Howardsville, Randolph Corner, Willisville, Saint Louis, Paxson
Estimated Number of homes	1,150
Solution recommended	There are wireless providers who are under a signed NDA with Segra or have begun unsolicited proposals to Loudoun County Government, using the unbuilt Phase 2 middle mile.
Middle Mile dependencies	The largest dependencies are the procurement and budget hurdles, as described in Issue 4.

4) Central Area South of Purcellville

Geographic area (potential service areas include)	South of the Town of Purcellville, Circleville, North Fork, Mount Gilead, Flint Hill, Philomont, Mountville, Marble Quarry
Estimated Number of homes	950
Solution recommended	There are wireless and fiber-to-the-home providers who are under a signed NDA with Segra or have begun unsolicited proposals to Loudoun County Government, potentially using the unbuilt Phase 2 middle mile.
Middle Mile dependencies	The largest dependencies are the procurement and budget hurdles, as described in Issue 4.

Potential Options for Addressing Identified Underserved Areas

Staff has preliminarily identified several ways in which the underserved areas identified by staff could be potentially addressed. As mentioned previously, no two projects are the same due to challenges such as terrain, distance from fiber backbone lines, acceptable technologies (wired, wireless, satellite, etc.). The subsequent cost of a solution is affected by these and other factors that can make connecting communities in a less densely populated area challenging from a physical and monetary perspective. Staff is currently in the process of exploring options listed below as well as working to identify viable funding sources that may assist, if necessary, in attracting last mile providers to underserved areas.

1) Complete Buildout of Four Western Loudoun Fiber Runs and Five Facility Connections

The middle mile fiber necessary to ensure that each of these areas can be addressed by either a wireless or wired solution is dependent upon the completion of the four fiber runs that are planned to connect the five Western Loudoun County facilities. By connecting these facilities and serving as an anchor tenant for these additional four fiber lines, the County will be investing in the middle mile network infrastructure required to meet the middle mile needs of three key geographic areas.

It is in the County’s interest to encourage the fiber provider who will eventually build this fiber to partner with last mile providers to build off of the middle mile the county has invested in to advance broadband as much as possible. Currently Segra has entered into multiple non-disclosure agreements (NDA) with last mile providers who may be interested in constructing and providing last mile solutions. The sooner this network can be in place the sooner solutions can potentially be delivered by the private sector.

2) Solicit Proposals for Last Mile Fiber Solutions

Staff has held several meetings and discussions with incumbent broadband providers Comcast and Verizon, as well as Segra, regarding encouraging last mile solutions that may

be considered to address the broadband gaps in Western Loudoun. It remains clear that density requirements and build costs remain major hurdles and deterrents to further expansion. Whether an incumbent or a potential new broadband provider in Loudoun County, a public-private partnership is desired in order to make the financial proposition work for the provider.

On April 3, 2019, VA Governor Northam signed HB 2141 legislation, authorizing a local governing body, with respect to a service district, to contract with a nongovernmental broadband service provider who will construct, maintain, and own communications facilities and equipment required to facilitate delivery of last-mile broadband services to unserved areas of the service district, provided that the locality documents that less than 10% of residential and commercial units within the project area are capable of receiving broadband service at the time the construction project is approved by the locality. It should be noted that this action would likely require adoption of an ordinance and may have some additional procurement restrictions. Staff is still researching the applicability of this legislation to Loudoun County as well as requirements that would affect the County.

If the Board wishes to direct staff to issue an RFP for the purpose of identifying last mile solutions that will leverage the County's current middle mile Segra investment, the Board could do so. Staff would request a consultant be hired to develop an RFP using the details provided in the Engineering Design analysis completed as described in the approach above. The estimated cost to develop this RFP is approximately \$250K and would likely take approximately 3 months to develop and 3 months to award the contract. Following the completion of this procurement process, staff would return to the Board with specific details regarding proposed, viable solutions to resolve the last mile issue.

### 3) Unsolicited Proposals and Public-Private Partnerships

In addition to proactively issuing an RFP for last mile providers, the Board can also accept Unsolicited Proposals as permitted under the [Public-Private Education Facilities and Infrastructure Act of 2002](#) for solutions to address the last mile gaps in the areas identified. As mentioned previously, staff is aware of at least two potential unsolicited proposals that could be submitted in the future. When an unsolicited proposal is received and accepted by the Board, staff is required to advertise for competing proposals for at least 30 days in order to ensure there is not another entity that would like to submit a proposal for the same work. Because there is a significant financial barrier to providing last mile services in less densely populated areas, staff anticipates that the County would need to work with proposal submitters to identify funding requirements for solutions and identify opportunities for public/private partnership.

In order to be able to react either proactively or to unsolicited proposals, the Board may want to consider setting aside funds that could be used for the purpose of partnering with the private sector to deliver solutions in identified areas or for use as incentive funds to encourage middle mile fiber providers to partner with last mile providers more actively or

for staff to engage technical engineering resources needed to evaluate proposals that are received.

### Funding Options

Staff is currently exploring funding sources such as grants as well as other mechanisms like a broadband service district which could offer ways to extend service into identified underserved areas. Below are some sources staff has investigated, however continued work is needed in this area to identify viable options for funding and then ways that funding could be used to the greatest benefit.

#### a) 2020 CARES ACT FUNDING

In order to qualify for consideration under current CARES Act criteria, the County must prove that the covered expenditures are incurred due to the public health emergency with respect to the Coronavirus Disease 2019 (COVID-19) and the implementation of a broadband solution completed by December 30, 2020. Recently, the County made the decision to extend WiFi to parking lots of branch libraries to provide more access to the community. Three more WiFi expansions are planned in the near future to three community centers in the Western area of the County: Bluemont, Lovettsville and Loudoun Valley Community Centers. Further use of CARES Act funding for expansion of broadband will be difficult due to timing constraints.

#### b) 2021 Virginia Telecommunications Initiative (VATI) Funding

Applications must be submitted by a unit of government (Towns, Cities, Counties, Economic Development Authorities/Industrial Development Authorities, Broadband/Wireless Authorities, Planning District Commissions, School Divisions, etc.) with a private sector broadband provider(s) as a co-applicant. Eligible projects will be owned and operated by the private sector co-applicant. Publicly-owned networks are eligible for the program when partnered with a private sector co-applicant, so long as the private sector applicant is acting as the customer-facing internet service provider.

VATI is designed to ensure that unserved areas of the Commonwealth have access to high-speed broadband. Awarded applications will have broadband deployment speeds of at least 25 Mbps download and 3 Mbps upload. Projects proposing higher speeds in the most cost-efficient manner will receive funding priority. In each case, the co-applicant will be required to demonstrate how their proposed technology solution will deliver the promised speeds in the proposed area once operational and how capacity will be aggregated in the network design.

#### c) Establishment of a Broadband Service District

The goal of establishing a broadband service district would be to reduce capital expense barriers for private service providers, by recruiting new Internet Service Providers (ISP) to

our community to provide affordable, reliable high-speed broadband options for unserved and underserved citizens and businesses.

While Code of Virginia §15.2-2403 permits localities to establish a service district for the provision of last-mile broadband services to unserved areas, it is unclear if localities have the authority to tax properties within such a district due to the exact wording of the code language. The County would likely need to seek future enabling legislation to levy and collect taxes for a broadband service district to be established under §15.2-2403. Staff is further researching this option.

### Communications Commission Input

During the October 27, 2020 Communications Commission meeting, the issues raised in the Board's BMI were discussed with the following input provided by Commission members. Staff is still in the process of researching and determining the viability of these suggested actions and as such the considerations below are for information only and do not constitute staff recommendations currently.

- a) Consider partnering with the Power Utilities for broadband expansion. Staff have been reaching out to utilities to possibly incorporating broadband in their fiber expansion plans. One utility has pilot programs around the state primarily in very rural, low broadband availability, areas. If those pilot projects prove successful, there may be another possible source for last mile fiber expansion in rural areas that they currently serve.
- b) In an effort to raise capital to help bridge the digital divide to those unserved and underserved areas within Loudoun County, request an inquiry as to potentially levying either out of county, or out of the Commonwealth of Virginia tax, fee or surcharge, further referred to as "charges" for data services that do not originate from within the county or Commonwealth of Virginia.

### Issue 6. Existing Cable Franchise Agreements

The County has the authority to regulate cable TV service through either an ordinance cable franchise (OCF) or a cable franchise agreement. The County has granted Verizon and Comcast franchise agreements rather than implement an OCF because more favorable terms were achieved through franchise agreements.

The Verizon Franchise will expire on June 25, 2021, and the Comcast Franchise will expire on February 21, 2022. The County is currently engaged in the Cable TV renewal process.

### Cable TV Renewal Process

Federal law allows franchises to be renewed through "informal negotiation", but a locality cannot deny an operator's request for renewal without going through the "formal" process described below. Virginia law permits renewal under the federal informal process, but also creates the "ordinance cable franchise." Although federal and state law both limit the County's authority, the

Virginia statute imposes additional restrictions that would likely deprive the County of important benefits provided in the existing franchise agreements.

If the parties cannot agree on franchise terms in informal discussions, the County cannot simply deny either cable operator's request for renewal. The County must follow a detailed "formal process" and any denial can only be based on specifically identified standards.

If followed to its conclusion, the formal process consists of seven steps:

- 1) The franchising authority conducts a proceeding to determine the community's cable-related needs and interests and to evaluate the operator's past performance.
- 2) The franchising authority issues a "Request for Renewal Proposal" ("RFRP") to the operator.
- 3) The operator submits a proposal.
- 4) After evaluating the proposal, the franchising authority either accepts the proposal or issues a preliminary denial based on the standards listed above.
- 5) If a preliminary denial was issued, the operator may request an administrative hearing, at which it can introduce evidence and cross-examine witnesses.
- 6) At the completion of the administrative hearing, the franchising authority issues a written decision granting or denying renewal, again based only on the four statutory factors.
- 7) If the franchising authority's decision affirms the preliminary denial, the operator may appeal in federal court.

The formal process is rarely pursued beyond the second or third stage, and the parties can negotiate an "informal renewal" at any time outside that process. In practice, the two procedures follow parallel tracks and work in tandem.

The County is currently conducting the needs assessment step of the renewal process and will proceed with informal negotiations in the coming months. Depending on how this process unfolds, it is anticipated that the Board would be presented with a proposed Franchise Agreement in the second quarter of 2021

#### Legal Options Available to Negotiate Contracts that Will Improve Broadband Access

The County's primary goal in negotiating the renewal of the cable TV Franchise agreements is to expand the service areas to underserved areas of Western Loudoun, and thereby, through the expansion of cable TV service, also expand Broadband access. It must be acknowledged, however, that while the County can regulate cable TV service, its ability to regulate cable service does not extend to broadband and other non-cable services. It is also important to consider that the ultimate driver of network expansion is return on investment. In a competitive environment, with two wireline cable/broadband providers and various wireless options splitting potential customers, it is much harder for a provider to financially justify the cost of extending networks outside of urban and very dense suburban environments.

Further, franchise agreements, are subject to many restrictions and limitation established by the Federal Communications Commission (FCC) and by Virginia State Code. For example, the FCC has ruled that all “in-kind, cable-related contributions” made by a cable franchisee are subject to the franchise fee<sup>3</sup> cap of five percent of gross revenues. The purpose of this order is to limit in-kind contributions from cable providers in excess of the five percent fee. Another example is that state law provides cable operators with the unilateral right to request an ordinance cable franchise or OCF incorporating terms set by statute; these terms address twelve topics, encompassing the most common issues addressed in cable franchises, in a way that is more restrictive on localities than the terms allowed by federal law.

Most importantly, the OCF provides that a cable operator shall not be required to make cable service available “in areas where the average occupied residential household density is less than 30 occupied residential dwelling units per mile...(or such higher average density number as may be contained in an existing cable operator’s cable franchise”). *See* Virginia Code 15.2-2018.22(12). The current Franchise Agreements require a service area of 20 occupied residential dwelling units per mile, subject to certain restrictions. Therefore, rather than agree to a service area greater than 20 units per mile, the cable operator could simply elect to request an OCF.

Since cable operators assert their unilateral right<sup>4</sup> to follow the OCF, the County is extremely limited in its ability to negotiate contract terms that are significantly different from the OCF. In negotiating the current franchises, the incumbent cable operators used the OCF terms as a template for a negotiated franchise. Because the General Assembly could adopt legislation altering the OCF terms, the cable operators have historically agreed to modest deviations from the OCF terms, in return for the certainty of a negotiated contract. Considering both the legal framework and the competitive business environment, we have no reason to believe that either Cable TV provider’s position has changed. Therefore, they may be willing to agree to terms comparable to those in place today, but reluctant to make significant further concessions.

**FISCAL IMPACT:** Costs to the County for recommendations in this item vary based on how the Board would like to proceed. The most impactful step at this point may be the acceleration of the four additional fiber runs connecting five county facilities. Sufficient funding exists in the IT Contingency project in the CIP which could allow acceleration of professional services to create an RFP for the extension of fiber connections to the five Western Loudoun County site. In keeping with the Board’s typical process, should the Board desire to accelerate the construction funding for this project, staff would request direction to prioritize the full construction budget of approximately \$4.5 million in FY 2022 of the forthcoming Amended FY 2021 – FY 2026 CIP.

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<sup>3</sup> In 2007 the cable TV franchise fee was replaced with the Communications Sale and Use Tax (CSUT) in Virginia which is collected directly from the cable TV providers by the state. The state then provides the County with payments for its share of the CSUT.

<sup>4</sup> Although cable operators claim the unilateral right, under state law, to request the OCF, there are arguments to the contrary under federal law. The cable operators, however, reject those arguments, and they have never been ruled on by any court.

Additionally, should the Board wish to proceed with a study to provide an engineering analysis of underserved areas there would be an additional cost although staff is not able to quantify it at this time.

Staff will continue to evaluate the ability to carry out actions recommended around community development and information technology initiatives with existing staff but may need to return to the Board in a subsequent budget development process if additional staff resources are deemed necessary.

**ATTACHMENTS:**

1. Legislative and Administrative Application Process and Timeline Overview
2. Map - Telecommunications Projects in Loudoun County

## Process and Timeline

Processing time for an application varies depending on many factors. As an example, a SPEX application without numerous outstanding issues typically takes at least 6 months. The Commission has 60 days of acceptance of an application to act on a CMPT application unless an extension is granted due to concurrent tracking with another application. Most new towers also require a SPEX, thus the application automatically tracks pursuant to the SPEX timeline (6 months). It is rare that a new tower will only requires CMPT approval. Concurrent CMPT/SPEX applications follow the SPEX timeline:

1. **Pre-application Meeting (up to 30 days).** The process for a concurrent CMPT/SPEX application begins with an informal, non-binding meeting called a pre-application meeting (PRAP), where the applicant meets with staff from various County agencies to learn about the County's policies and regulations. PRAPs are held the second and fourth Monday of each month, scheduled on a first-come basis.
2. **Checklist (up to 30 days).** When an application is submitted, staff reviews it for completeness to ensure required information and documentation are provided. Once an application includes all items required on the land development application checklist form, it is accepted, and a Project Manager is assigned. Two rounds of checklist review are typical, and each round takes up to 15 days to review.
3. **Staff review (up to 60 days).** An application is referred to various internal and external agencies, which review the application for compliance with policies in their respective area of administration. Two rounds of referrals are common to ensure the Commission and Board receive a quality application. Each application submission takes 30 days to allow staff sufficient time to review the application and write and compile comments to send to the applicant. Applications with many outstanding issues and significant time lapse between applicant submissions result in a lengthier process, while well-prepared applications and responsive applicants result in a shorter process.
4. **Commission Public Hearing (up to 60 days).** Following staff review, the Commission holds a Public Hearing, allowing the public an opportunity to ask questions, voice concerns, and express support. Following receipt of public comment, the Commission will make a recommendation to the Board, or forward the item to a Commission Work Session for further discussion, which would add more time. This process takes up to 60 days because there is one hearing day each month, the fourth Tuesday, and the Public Hearing items must be properly advertised. It takes at least 30 days to meet the advertising requirements.
5. **Board Public Hearing and Action (up to 60 days).** The Board holds a Public Hearing, giving the public a second opportunity to provide input. If there are no issues or the Board is ready to act, the Board may suspend the rules and act at the Public Hearing. Otherwise, the item is forwarded to a Board Business Meeting for action, or a Transportation and Land Use Committee (TLUC) meeting for further discussion, which would add more time. The

Board Public Hearing is scheduled at least 30 days following Commission recommendation due to hearing advertisement requirements.

“Shot Clock Timeline”

The Code of Virginia was recently amended to include provisions accelerating the timeline for review of certain telecommunications infrastructure. County staff refers to these new review timelines as the “shot clock.” Pursuant to Code provisions, the shot clock begins once a complete application is received by the County. A complete application is defined in the Code as including the following: 1) SPEX application (if applicable); 2) CMPT application (if applicable); 3) Site Plan (STPL) application (if applicable); and 4) Building/Zoning Permit application.

If approval of the associated telecommunications use will require, but is missing, any one of the aforementioned four components, the application is incomplete, and the shot clock has not started. The application receives a letter from Planning and Zoning or Building and Development, as appropriate, within 10 days of an application submittal (SPEX/CMPT, if applicable, STPL, if applicable, or Building/Zoning Permit), informing as to whether the application is complete or incomplete, as defined (or else the application is deemed complete per the Code). The shot clock begins once all applicable components are received.

The table below highlights the types of wireless telecommunications facilities, shot clock review timelines (these only apply when a complete application is received, as defined), and pertinent review processes.

**Loudoun County Wireless Telecommunications Facility Shot Clock and Application Processes**

Facility <sup>1</sup>	Small Cell <sup>2</sup> (colocation)	Other Antennae (colocation on previously approved sites)	Monopole or Tower (new structure)
Review Timeline	60 days (may be extended by the locality)	90 days (may be extended by mutual agreement)	150 days (may be extended by mutual agreement)
Required Approvals <sup>4</sup>	Zoning Permit Building Permit	Site Plan Zoning Permit Building Permit	Planning Commission Permit <sup>3</sup> Special Exception <sup>4</sup> Site Plan Zoning Permit Building Permit

<sup>1</sup> Monopoles and antennae are governed by *Revised 1993 Zoning Ordinance* Section 5-618.

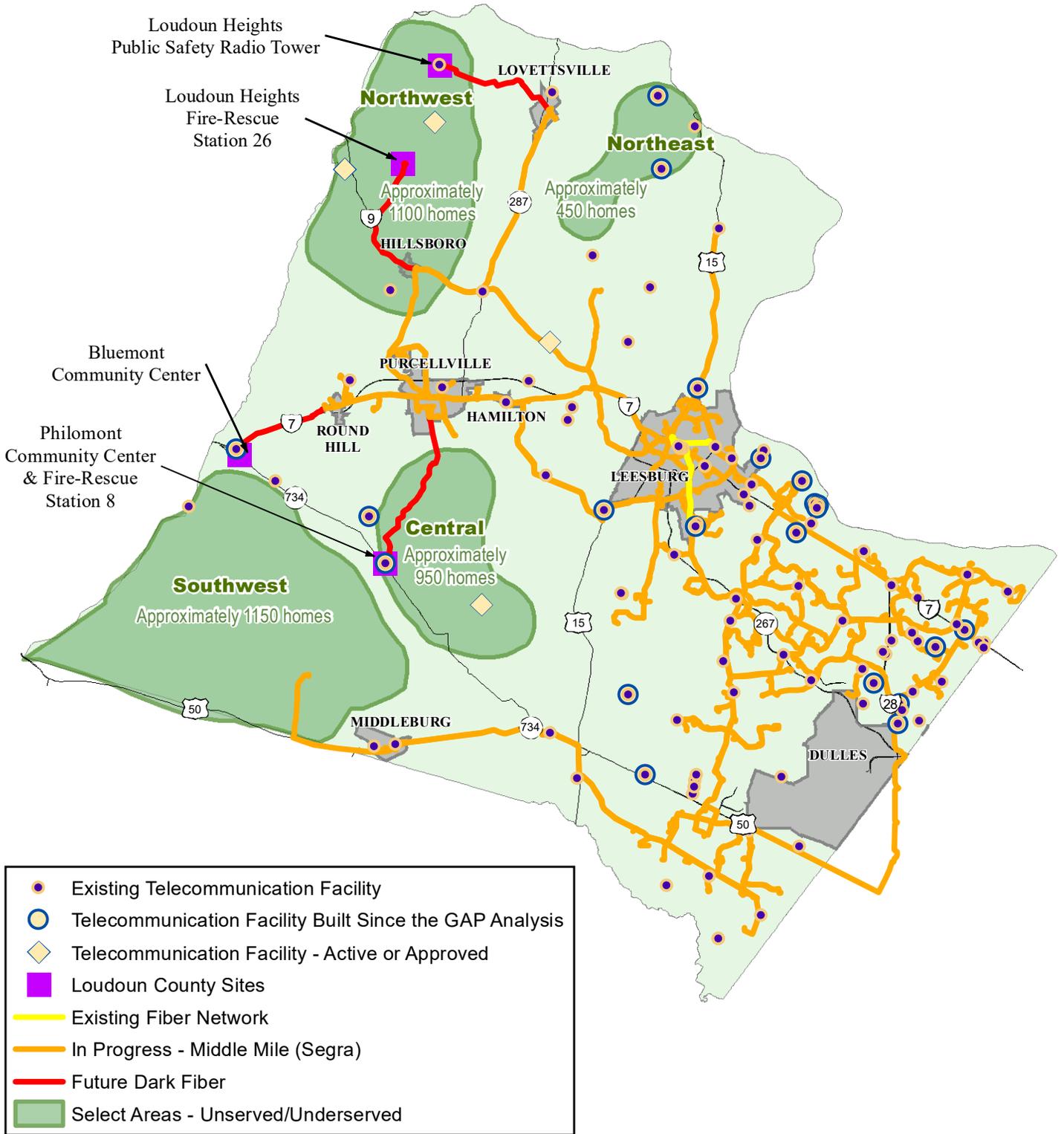
<sup>2</sup> Small cell requirements: 1) no portion exceeds a height of 60 feet, 2) each antenna is located inside or could fit in an enclosure of no more than six cubic feet in volume, and 3) all other wireless equipment associated with the facility has a cumulative volume of no more than 28 cubic feet (Code of Virginia, § 15.2-2316.3).

<sup>3</sup> Planning Commission Permit not required for proposed monopoles located within an overhead utility transmission line right-of-way with existing structures greater than 80 feet in height.

<sup>4</sup> Special Exception approval from the Board of Supervisors may be required by zoning district and/or Section 5-618 regulations.

#### CURRENT ADMINISTRATIVE PROCESS (SITE PLANS AND PERMITS)

The Department of Building and Development processes site plan applications and permits for telecommunications facilities. State Code already mandates that the County approve telecommunications facilities pursuant to shot clock timeframes based on the type of facility proposed. Site plan applications and permits are already processed on a fast-track schedule because of these mandated review timeframes, and because the State Code requires the application be deemed complete or incomplete within 10 days of submission. The department moves these applications to approval on expedited timelines. Impacts to the expedited timeline review are tied to the quality of the application submissions and resubmissions throughout the review and approval process.



# Broadband Implementation Plan Unserved/Underserved Areas

Map Number: 2020-288

Mapped Date: November 2020



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