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# **BROADBAND ENGINEERING FEASIBILITY STUDY AND PARTNERSHIP DEVELOPMENT OPPORTUNITY REPORT FOR THE TOWN OF YOUNTVILLE, CALIFORNIA**

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## Executive Summary

CBG Communications, Inc. (CBG), on behalf of and in conjunction with the Town of Yountville, California (Town), has performed a Local Agency Technical Assistance (LATA) Grant-supported, broadband-related Engineering Feasibility Study and Partnership Development Opportunity analysis and review. The full results of this study, analysis and review are embodied in the Report sections that follow this Executive Summary.

The Engineering Feasibility Study was initially performed to identify any broadband gaps in the Town and provide infrastructure and service concepts that would close the gaps and provide uniform broadband availability throughout the Town.

As described herein, the Study verified, through review of the latest Federal Communications Commission (FCC) broadband maps and a physical walkout of the broadband infrastructure in the Town, that there is wireline broadband service availability (defined as broadband Internet access available to residents and businesses at a minimum of 100 Megabits per second [Mbps] download and 20 Mbps upload speeds) throughout the Town. Anecdotal evidence from some users, though, indicates that there are service reliability issues, the service can be costly, and some would like to see more competition.

Accordingly, CBG and the Town began to look at methods to provide more no or low-cost public access to broadband Internet in three key areas: the Town Center campus around the Town Hall, the Community Hall, the Community Center/Library and the old school building complex; four public parks (Forrester, Veterans, Vineyard and Yountville); and the Washington Street business corridor.

Several system designs were required, since the initial analysis based on the use of the planned State of California Middle Mile backbone network was rendered infeasible, when the State decided not to build the planned section of Middle Mile through Yountville.

The final design leverages the Napa County Library's (Library) planned expansion of its public Wi-Fi system for its Yountville facility and the surrounding area and the Library's high capacity (1 Gigabit per second [Gbps], evolving over time to 10 Gbps) fiber optic backbone connection to the Internet. The design then interconnects the Library's fiber optic backbone with the Town Hall to deploy public access to broadband Internet through a wireless, high-capacity backhaul system to the remainder of the Town Center campus, the four parks and the Washington Street business corridor.

The final design recommends development of the overall public access broadband Wi-Fi network in three phases: the Town Center campus, the four parks, and the Washington Street corridor. The construction, installation and activation cost, including the first year of system maintenance support, for each phase is estimated to be: Phase 1 - \$133,075; Phase 2 - \$222,075; Phase 3 - \$145,500.

The Partnership Development Opportunity review and analysis portion of the LATA Grant-supported project analyzed a variety of partnership possibilities to assist in the development of an efficient and cost-effective public access broadband Wi-Fi system. This included potential partnerships with broadband providers, broadband system vendors, entities such as the Chamber of Commerce (Chamber) and individual businesses, and public partners such as the Library and the Veterans Home.

The conclusion reached as part of the Partnership Development Opportunity portion of the project was that the most viable entity to partner with the Town is the Library, because of its wireless broadband project already underway. The next most viable partner is the Chamber and individual businesses for pursuing deployment of the system in the Washington Street business corridor. We view the partnership with the Library as critical, in that it will provide high-capacity, broadband Internet access backhaul at no cost to the Town and will also operate the applications that will allow public access to the broadband system. The Library may, depending on its resources, also be able to participate in supplying a portion of the equipment deployment beyond the Library and its immediate surrounding area.

The Chamber and the Yountville business community indicate a willingness to support development of the system in the Washington Street corridor, as long as the system meets the needs of the business community and is implemented to help support their sustainability, as well as the sustainability of public broadband access along that corridor. Overall, business community involvement will require further discussion with the Chamber and interested businesses.

In sum, CBG's recommendation is to work to, at a minimum, develop Phase 1 of the public access broadband Wi-Fi project, leveraging the cost-effective involvement of the Library. This will require further discussions and the development of a Memorandum of Understanding (MOU) with the Library, and designating any Town budgetary funds that are needed. We then recommend that the Town/Library evaluate the demonstrated use and benefits of the Phase 1 deployment, before moving to deploy Phases 2 and 3.

Full details are provided in Sections A and B of the LATA Grant Engineering Feasibility Study and Partnership Development Opportunity Report that follows.

# Section A Engineering Feasibility Study

## **Section A - Engineering Feasibility Study**

### **1. Initial Goals and Vision of the Town**

In the Fall of 2022, the Town of Yountville (Town) was interested in determining the level of broadband availability in the Town and what commercially available options its residents had to subscribe to Internet access from broadband providers operating in the Town.

To this point in time, Town management was hearing residents complaining about the lack of high-speed Internet uniformly in the Town and the lack of speed and competition even where Internet access was available. Based on this anecdotal feedback from Town residents, the Town was interested in scientifically determining whether high-speed Internet or broadband was available throughout the Town and, if not, where broadband deployment was lacking.

The Town then decided to move forward with an Engineering Feasibility Study to determine what areas of the Town were without broadband access and what type of a network could be developed that would serve these unserved or underserved residents and businesses. The goal was to determine network technologies, costs and deployment timelines, prior to looking for potential partners as well as what type of grant funds or other financial support might become available for such a network in the future.

The Town applied for and received a California Public Utilities Commission (CPUC) Local Agency Technical Assistance (LATA) Grant. This Grant is for technical assistance in determining the Town's Broadband needs and to create a plan to deploy a network that addresses these needs.

### **2. Defining Current Broadband Gaps**

To begin this project, it was determined that using the then current broadband maps available from the Federal Communications Commission (FCC), which were commonly referred to as the "477 Maps", would provide as accurate a baseline as possible for further determination of households and businesses that were unserved or underserved with broadband from a commercial provider. The Project could then move forward to refine and improve the available data as needed from the FCC.

These FCC 477 Maps showed two significant areas of the Town that were not served or that were considered unserved or underserved<sup>1</sup> by broadband. These are

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<sup>1</sup> An unserved location is defined as a Broadband-Serviceable Location (BSL) that the Broadband DATA Maps show as (a) having no access to broadband service, or (b) lacking access to Reliable Broadband Service offered with - (i) a speed of not less than 25 Mbps for downloads; and (ii) a speed of not less than 3 Mbps for uploads [25/3 Mbps]; and (iii) latency less than or equal to 100 milliseconds.

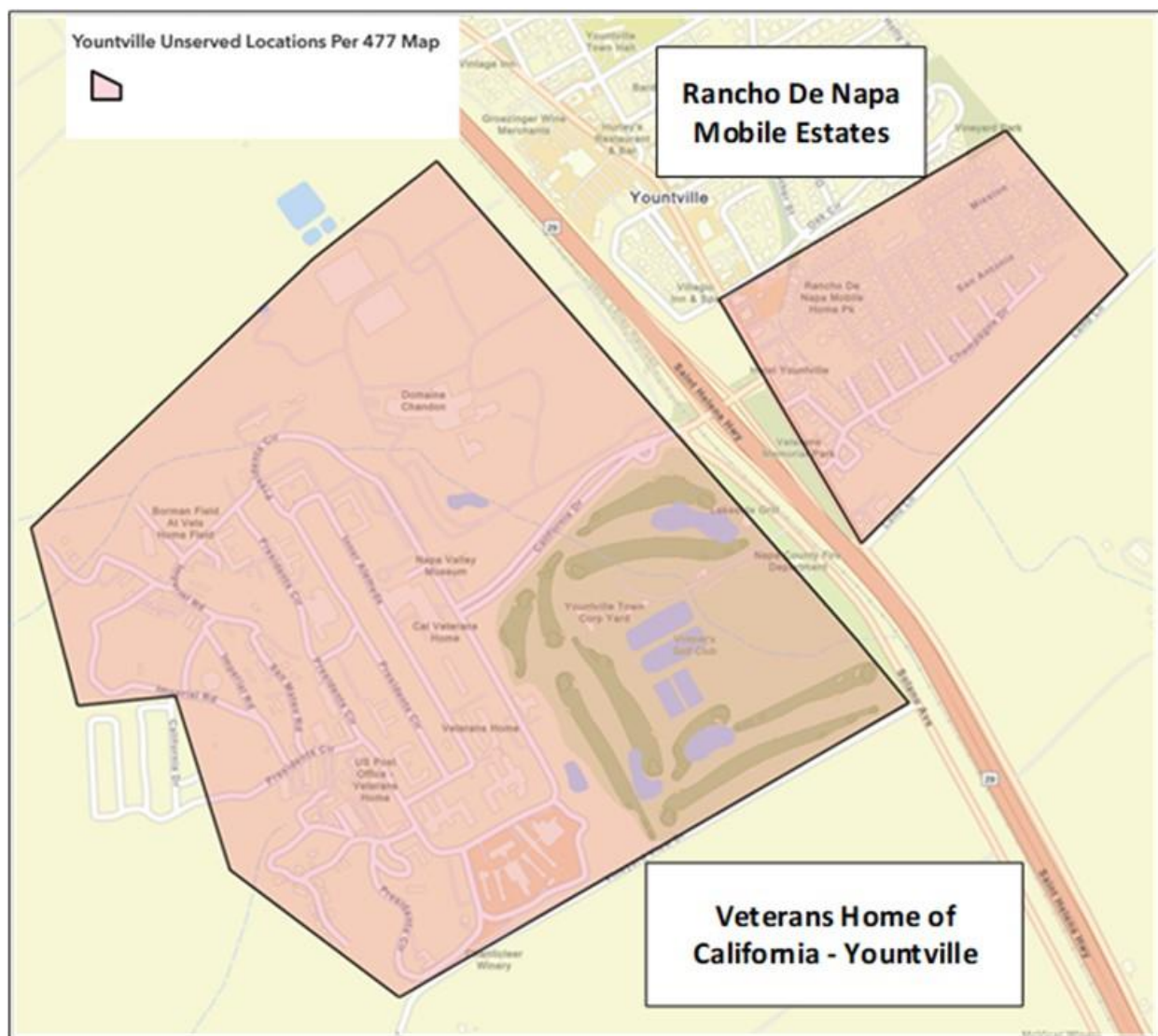
An underserved location is defined as a broadband-serviceable location that is (a) not an unserved location, and (b) that the Broadband DATA Maps show as lacking access to Reliable Broadband Service offered with - (i) a speed of not less than 100 Mbps for downloads; and (ii) a speed of not less than 20 Mbps for uploads [100/20 Mbps]; and (iii) latency less than or equal to 100 milliseconds.

shown in Figure A-1 below. The first area is a mobile home park called Rancho De Napa Mobile Estates (Mobile Estates). At the beginning of this Project, it was conceivable that this park was not served as some mobile parks across the country are not served because the parks' management will not allow specific providers access to the property.

The second area reportedly unserved was the majority of the campus environment south of Highway 29 known as the Veterans Home of California-Yountville (Veterans Home). This area is managed at a state level and therefore it was not completely known by the Town what broadband availability existed in this campus environment.

Both of these areas were shown on the FCC's 477 map as having DSL available from AT&T with advertised speeds in the range of up to 10 megabits per second (Mbps) in the forward direction and up to 1 Mbps in the return direction.

**Figure A-1. The two areas reported as Unserved per the FCC's 477 Map**



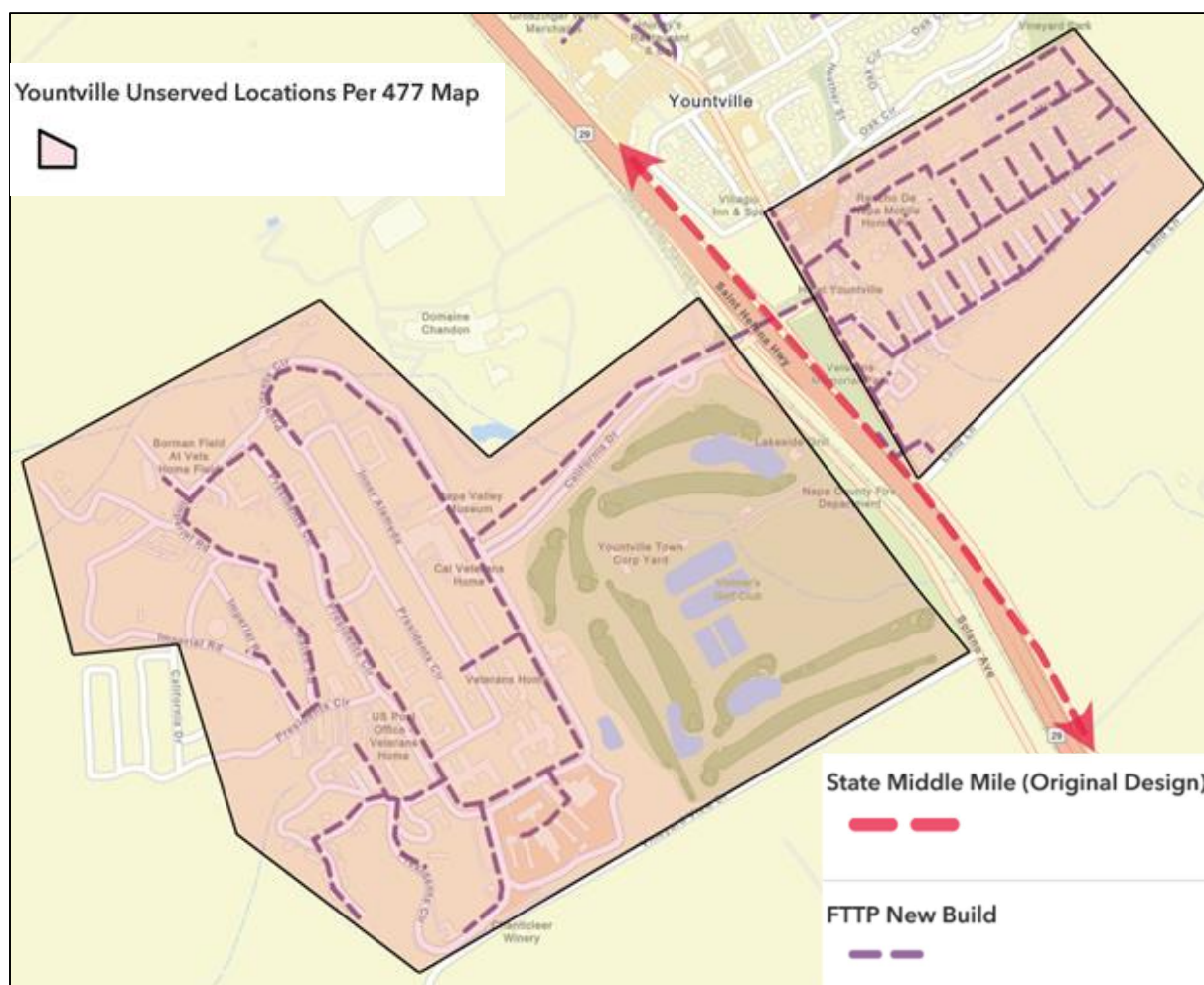


### 3. Initial High-Level Design

Based on available information at the time, CBG and the Town decided that a Fiber to the Premise (FTTP) network serving these areas would be a practical solution to research to get broadband service to those who were unserved. We performed a high-level design of a fiber optic build to serve the Mobile Estates and the Veterans Home. This design was dependent on the [State's Middle Mile fiber optic network](#)<sup>2</sup> (Middle Mile) for backhaul to a private ISP, or more likely for a private ISP to gain the backhaul needed to efficiently build and operate a FTTP network in the Town.

The resulting high-level design, as shown below in Figure A-2 shows approximate routing of fiber optic cables that would be in place to serve every address thought to be unserved at the time.

**Figure A-2. The two main “Unserved” areas as reported per the FCC’s 477 Map**



<sup>2</sup> State's Middle Mile fiber optic Network: <https://site-cammmbi.hub.arcgis.com/pages/what-is-the-middle-mile>



The outcome of the high-level design was that the Mobile Estates would require approximately 2.3 miles of new fiber optic infrastructure, and the Veterans Home campus would require an additional 3.0 miles of fiber optic cables, for a total of 5.3 miles to serve the unserved homes and businesses in the two areas.

We then developed a high-level estimation of costs for the fiber optic infrastructure needed to reach all of these locations. We estimated that 50% of the new fiber optic cables would be built overhead and 50% would be in underground areas. We then developed an estimated \$300,000 per mile in this blended overhead/underground model. Based on this, the network for these two areas would cost approximately \$1,590,000 to build just the distribution infrastructure and connections to the State's Middle Mile network.

#### **4. Walkout of the Town to Verify the Level of Broadband Availability**

The Project was designed with the next Scope item to be completed, as a system walkout. This was intended to determine exactly where broadband was not available so a more in-depth design and estimations of the total costs could be provided to the Town, prior to applying for any grant or other support funds that could be utilized to build out a network. As this process was being staged, discussions regarding this and other projects in the Napa County area were held with Comcast staff. Comcast stated that they believed, in contrast to the information available on the 477 Maps, no areas of the Town were currently unserved. If Comcast's assertion was correct, this had the potential of refocusing the Town's goals for the Project and ultimate deliverables of the Project.

Around this same timeframe, the FCC had rolled out its first version of the new [FCC Broadband Map](#)<sup>3</sup>. This new map was designed to provide a much more granular view of the broadband landscape in the entire country, and therefore in Napa County and Yountville. Although it was understood that there would be growing pains regarding the accuracy of this new map, the initial version showed that broadband was available throughout most, if not all of the Town.

The FCC and the FCC's Broadband Fabric (see below) contractor attempted to plot every address in the US that would potentially want or currently has broadband, (addresses that could be served, rather than addresses that are served) better known today as broadband serviceable locations (BSLs)<sup>4</sup>. Although all addresses in the country that have potential customers or potential broadband users were to be included on the base map, there were missing addresses in the initial version as well as addresses that were included but did not represent an inhabitable building.

Each new revision to the FCC's Broadband Map is more accurate than the one before it, as there has been significant cleaning up of this map layer since its first deployment to the public. Each version that is released is an improvement on the

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<sup>3</sup> FCC Broadband Map, <https://broadbandmap.fcc.gov/home>

<sup>4</sup> [FCC Definition of a BSL](#) : A broadband serviceable location (BSL) is "a business or residential location in the United States at which mass-market fixed broadband Internet access service is, or can be, installed."

previous version and provides new areas that are added and refinements that are made to the map on an ongoing basis. This base map is known as the Broadband Fabric.

The FCC Map has information submitted by broadband providers that is placed on top of the address data or Broadband Fabric. This then shows where broadband is available, which providers serve the area and what speeds they provide in both the forward and return directions. The first couple of versions of the Broadband Map had significant inaccuracies regarding where broadband was available. The information on the map needed to be verified prior to using it to make network deployment plans.

This map showed broadband being made available by Comcast to most of the Town at speeds of 1.2 Gbps forward and 35 Mbps in the return direction.

In more recent discussions with Comcast, the company indicated that the upgrade of their system in Napa County had begun with speeds of 2.0 Gbps forward and 200 Mbps being shown in spotty areas of Napa City on the FCC's latest map. Comcast then explained that upgrading systems to these speeds has been placed on hold as Comcast works to further prepare its networks to increase speeds even more as the next step. These next step speeds will provide symmetrical speeds as high or even higher than 2.0 Gbps. These upgrades are anticipated to begin in late 2025 into and beyond 2026.

Further, all available versions of the map show that broadband, provided by Comcast, is only available at one address on the Veterans Home campus, the Truman Hall apartments. The rest of the Town, based on the FCC's Broadband Map, is served by Comcast's 1.2 Gbps forward by 35 Mbps return service. This level of service meets the "Served"<sup>5</sup> definition of broadband at this time.

Accordingly, the focus of the Project now needed to change. The walkout of the Town still occurred, but now the goal was to determine what if any BSLs in the Town were unserved and was the Broadband Map for the Town accurate. In addition, it was still unclear how thoroughly the Veterans Home campus was served by broadband available to its residents.

CBG performed a walkout along Town streets, looked at Comcast's and other providers' infrastructure in the Town and had meetings with staff members from the Town, Napa County Library (Library), County and Veterans Home maintenance staff. We determined that the residential addresses throughout the Town, including the Veterans Home campus, were indeed served by Comcast's system. AT&T copper infrastructure was widely available as well.

Following the walkout, it was now clear to CBG and the Town, that few if any BSLs in the Town, including on the Veterans Home campus, were unserved and therefore, building out a network to serve residential homes was not in the Town's best interests.

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<sup>5</sup> A served location is defined as a broadband-serviceable location that the Broadband DATA Maps show has access to Reliable Broadband Service offered with - (i) a speed of not less than 100 Mbps for downloads; and (ii) a speed of not less than 20 Mbps for uploads; and (iii) latency less than or equal to 100 milliseconds.

Further, overbuilding an existing cable TV based broadband system with a FTTP system would require getting grant or other support funds and these funds rarely allow for overbuilding existing systems that are providing broadband level services.

## **5. Refocusing of the Project Goals**

A new concept was developed with input from the Town, the Library and Napa County staff providing insight and feedback. Initially, this new concept was to use the State Middle Mile for backhaul to ISP services and the Middle Mile would provide a level of redundant connectivity by connecting to the Middle Mile on both the north and south ends of town. The network backhaul could provide high speed connections with bandwidth agreed upon between the Town and the ISP.

Ensuing discussions with the Town, the Library and Napa County led to a further refocusing of the Project. The Napa County Library system is increasing its Wi-Fi footprint at all of its Napa County facilities including in the Town of Yountville. During a meeting at the Yountville Library, it was determined that some form of a Wi-Fi-based network in key locations of the Town would serve residents in public areas and would also work to enhance the experience of tourists and others visiting Yountville and thereby increase tourism in the Town.

## **6. Second High-level Design**

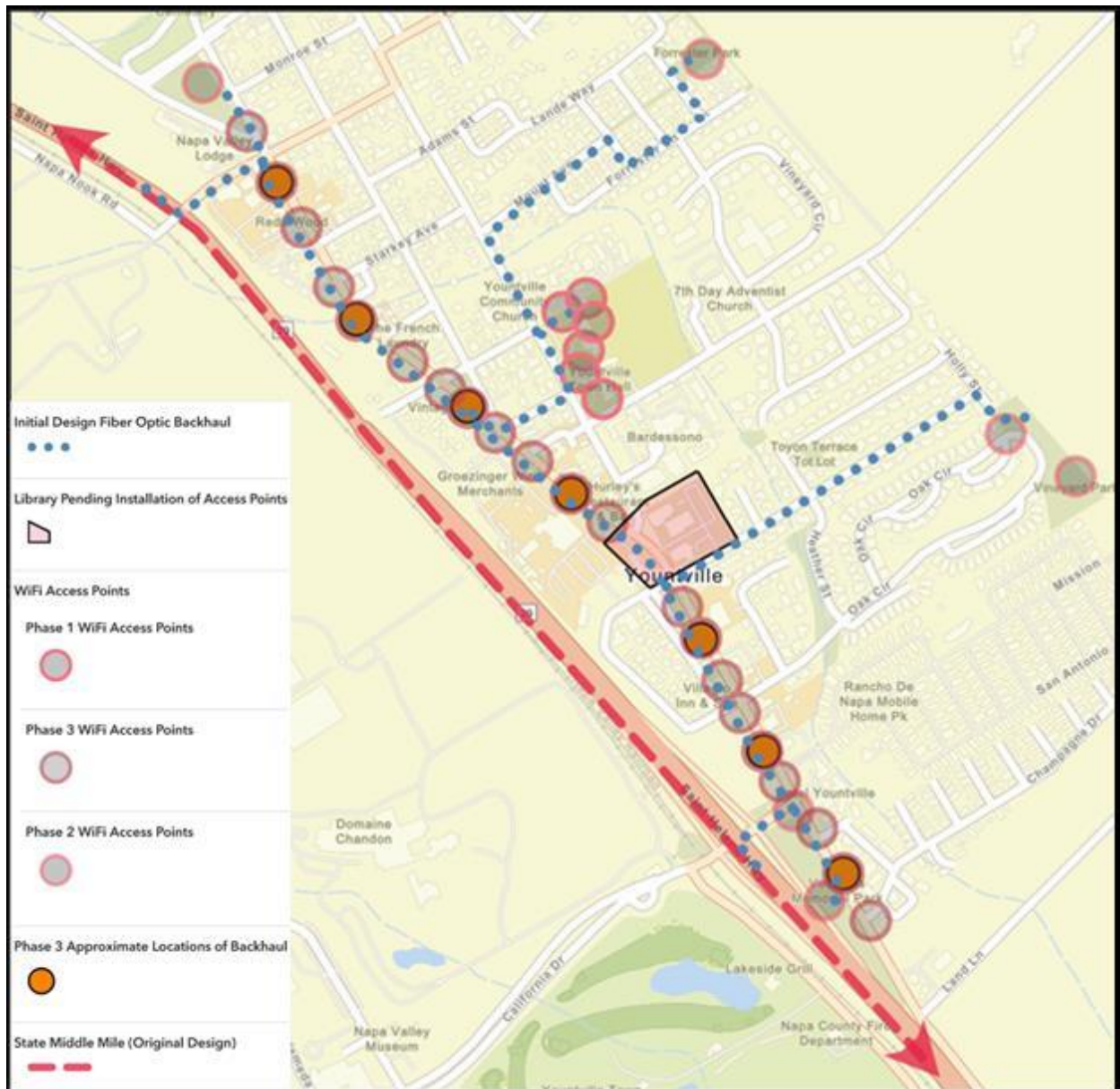
The CPUC had released its then current design for the Middle Mile that ran along Highway 29 from south of the Town to north of Yountville into Lake County. This network was to offer the Town a robust, low cost option for ISP backhaul services that would provide a scalable level service that would be needed to activate a network to serve the public living in and visiting the Town.

We then created a new High-Level design that incorporates the Middle Mile network feeding multiple Wi-Fi access points (APs) in the Town with a minimum of 100 Mbps symmetrical bandwidth in order to achieve the required bandwidths of the network<sup>6</sup>. These APs would be interconnected via additional fiber optic infrastructure that would be constructed between the APs, the Town Hall and the Library/Community Center facilities. As shown in Figure A-3 below, this concept allowed for a significant Wi-Fi deployment along Washington Street, which is the main business corridor, in 4 Town parks as well as in and around the Town Hall and the adjacent prior school building facility.

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<sup>6</sup> The network must be scalable to at least symmetrical 100 Mbps download and upload speeds to meet CPUC design requirements and be eligible for any type of State or federal support funding.

**Figure A-3. This high-level design incorporates the CPUC's Middle Mile network as a backhaul medium and then new fiber optic infrastructure to connect multiple Wi-Fi APs throughout key public areas of Yountville**



## 7. Second Concept High-level Costs

The above High-Level design was utilized to create an estimated High-Level cost to deploy the network. The first step was to determine the cost of the fiber optic backhaul that connects all of the APs to the State Middle Mile. This portion of the network has the most potential caveats. Underground construction of fiber optic infrastructure costs begins at around \$40 per foot (\$211,200 per mile), but can increase rapidly based on the level of rock and boulder material along the path. These can escalate the price per foot by nearly an additional \$100 per foot. In Table A-1 below, we use a combined or blended rate of \$300,000 per mile, based on both overhead construction and underground construction occurring with varying below grade ground composition.

**Table A-1. Estimated cost to construct a fiber optic backbone to the CPUC's Middle Mile**

<b>Fiber Optic Backhaul Network</b>		
Cost per Mile: \$300,000		
	Length in Miles	Cost
Fiber Optic Link to State Middle Mile	0.3	\$90,000
Fiber Optic Link to State Middle Mile	0.3	\$90,000
Fiber Optic Backhaul Network	3.5	\$1,050,000
<b>Total Cost to Deploy Fiber Optic Backbone</b>		<b>\$1,230,000</b>

The Town recently took ownership of a site that previously housed school facilities. It was determined that this location would be connected to the Town Hall and the Library, via the Town-owned fiber optic backhaul network, and then become a mini-hub to feed Wi-Fi APs around the new location and the Town Hall.

**Table A-2. School site preparation costs**

<b>School Site Preparation</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	6 hours	\$1,500
<b>Total Site Preparation Costs</b>		<b>\$10,075</b>

The next part of the design is to determine the cost at each of the park locations and then roll them up into a total park-related cost. In Table A-3 below, we begin with the costs associated with preparing each of the park locations for the installation of the actual Wi-Fi equipment. This includes placement of a tower, electrical needs, placement of an equipment cabinet and all associated work.

**Table A-3. Costs to prepare each park location for Wi-Fi antenna placement**

<b><u>Park Site Preparation</u></b>		
<b>Forrester Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Trenching power to cabinet (PG&E)	270 feet	\$20,250
Electrician	6 hours	\$1,500
<b>Total Site Preparation</b>		<b>\$30,325</b>
<b>Yountville Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	4 hours	\$1,000
<b>Total Site Preparation</b>		<b>\$9,575</b>
<b>Veterans Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	6 hours	\$1,500
<b>Total Site Preparation</b>		<b>\$10,075</b>
<b>Vineyard Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	12 hours	\$3,000
Trench power from building to tower	275 feet	\$12,375
<b>Total Site Preparation</b>		<b>\$23,950</b>



The next step is the placement, activation and maintenance/support of the Network. In Table A-4 below, we compile these costs for the three sets of areas to be served in the Town.

**Table A-4. Cost of activation and first-year maintenance of Wi-Fi Access Point equipment**

<b>Wi-Fi Equipment, Installation and Activation</b>		
<b>Town Hall area</b>		
6 APs, Back Haul Radios, Antennas, Switches and Accompanying Equipment		\$22,000
Professional Installation and Activation		\$21,000
First Year Support		\$5,000
<b>Total Town Hall Area Wi-Fi Costs</b>	<b>Wi-Fi Network</b>	<b>\$48,000</b>
<b>Four Town Parks</b>		
6 APs, Back Haul Radios, Antennas, Switches and Accompanying Equipment		\$36,000
Professional Installation and Activation		\$39,000
First Year Support		\$7,500
<b>Total Park Wi-Fi Costs</b>		<b>\$82,500</b>
<b>Access Points along the Washington Corridor</b>		
21 APs, Back Haul Radios, Antennas, Switches and Accompanying Equipment		\$72,000
Professional Installation and Activation		\$58,000
First Year Support		\$15,500
<b>Total Washington Corridor Wi-Fi Costs</b>		<b>\$145,500</b>
<b>Total Wi-Fi Equipment Costs</b>		<b>\$276,000</b>

Taking all of the cost components included in Tables A-1 to A-4 above, plus the estimated cost to deploy a fiber optic backbone feeding the Wi-Fi network serving the Town Hall area, 4 park locations and the Washington Street corridor, as shown in Table A-5 below, is \$1,590,000. This would be what is referred to as a turn-key solution; meaning, everything is included and completed, and the network is turned over as an operating asset.

**Table A-5. A Turnkey solution with a fiber optic backbone enabled Wi-Fi network in the Town**

<b>Fiber Optic Backhaul Enabled Network</b>	
Fiber Optic Backhaul Network	\$1,230,000
Site Preparation	\$84,000
Wi-Fi Equipment, Installation and Activation	\$276,000
<b>Total Cost for Fiber Optic Backbone Wi-Fi Network</b>	<b>\$1,590,000</b>

## 8. Detailed Final Public Wi-Fi Network Design

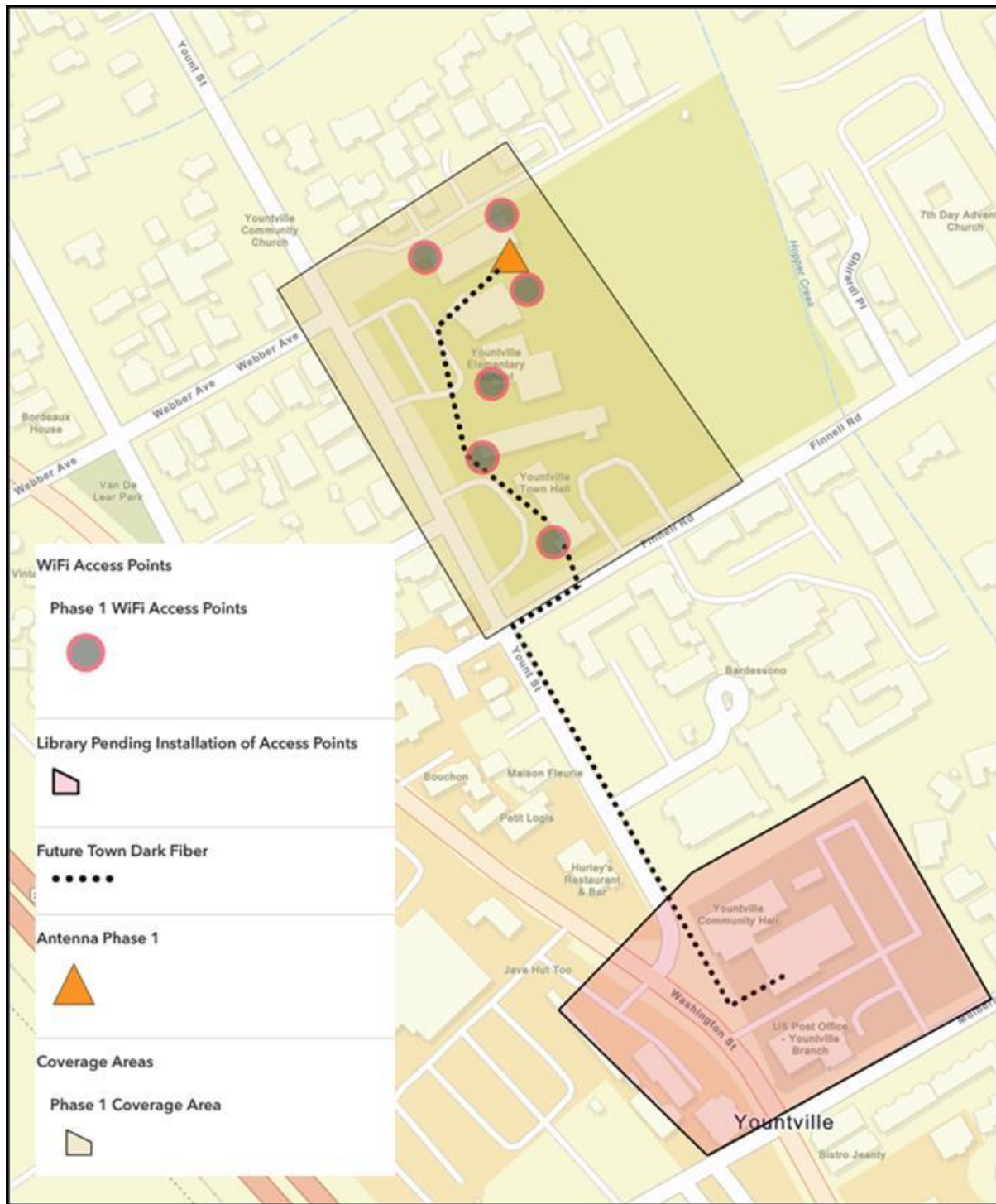
Subsequently, a portion of the above design was made infeasible when the State budget shortfall resulted in the section of the Middle Mile designed to run along Highway 29 through Yountville being dropped off of the State's plans. This required yet another set of discussions with the Town in order to develop a new design concept that does not rely on the State's Middle Mile network.

At the same time, discussions were held with the Library concerning their existing AT&T fiber optic connection running at 1 Gbps symmetrical, with plans to increase this to 10 Gbps in the near term. Additionally, the Library is planning to expand its wireless Wi-Fi footprint around the Yountville library building and the Community Center. With the Library and the Town Hall being in close proximity, a partnership now appears to be the most logical outcome of the process to deploy a network in key Town locations.

Specifically, the Library will provide the backbone services to the Town at no recurring cost and the Town will look to develop additional partnerships and funding sources to operate the Wi-Fi system as redesigned. The process of evaluating a fiber optic-based backbone when the Middle mile appeared to be accessible did provide an understanding of the high cost of that earlier solution. This combined with the fact that the Library had received initial design and cost information from wireless network providers, made designing a high-level wireless network with a fiber optic connection to the library building the logical outcome. This network would then be designed in three separate phases that allow for network deployment in steps, or to be completed as a single project.

Phases 1 through 3 are shown on the maps as Figures A-4, through A-7.

**Figure A-4. Phase 1 is to run a fiber optic interconnection from the library's AT&T backhaul to the Town Hall and adjacent school facility. Then, Wi-Fi APs are placed around these facilities as is shown.**



**Table A-6. Necessary site preparation needs and costs for Phase 1**

<b>School Site</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	6 hours	\$1,500
Fiber optic interconnection to library – Materials and Labor	1,500 feet	\$75,000
<b>Total Site Preparation Costs</b>		<b>\$85,075</b>

The school site location will need the preparation work shown in Table A-6 above to prepare for the installation and activation of the Wi-Fi APs used to provide Wi-Fi service to the public across the entire school/Town Hall campus. In addition, the tower placed to feed the nearby Wi-Fi APs would be utilized to then feed a signal to a new 100-foot tower on the southeast corner of Yountville as is shown in Phase 2 below.

In addition to the site preparation costs shown, the Phase 1 Wi-Fi installation and deployment costs are as shown in Table A-7 below.

**Table A-7. Wi-Fi equipment installation, activation and 1 year of support**

<b>Town Hall area</b>	
6 APs, Antennas, Switches and Accompanying Equipment	\$22,000
Professional Installation and Activation	\$21,000
First Year Support	\$5,000
<b>Total Town Hall Area Wi-Fi Costs</b>	<b>\$48,000</b>

The total estimated cost to deploy Wi-Fi around the Town Hall/school campus equates to \$133,075.

## **9. Phase 2 Deployment**

Phase 2 deployment builds on the equipment put into service in Phase 1. In particular, the tower placed at the school site will feed high-capacity wireless backhaul transport to a new one-hundred-foot tower that would be placed at the farthest location on the eastern end of Town. This location is a Town-controlled Industrial Site with a Washington Street address. This makes tower site preparation necessary. This location will require a deeper footing for the taller tower as well as a pad for a larger equipment cabinet. The preparation costs are shown below in Table A-8.

**Table A-8. Costs to prepare the location for a new one-hundred foot tower and associated facilities on the southeast corner of the Town**

<b>One-hundred Foot Tower Location Preparation</b>		
Concrete footing for tower		\$4,550
Concrete base for cabinet		\$1200
One-hundred Foot tower	Tower and placement	\$32,000
Equipment Cabinet	Cabinet and placement	\$3,200
Trenching power to cabinet (PG&E)	175 feet	\$13,125
Electrician	6 hours	\$1,500
<b>Total Site Preparation</b>		<b>\$55,575</b>

Having the new one-hundred-foot tower in place creates the need for a tower at each of the 4 park locations to be activated by placing APs, along with the backhaul radios on the new towers. This requires site preparation work at each of the 4 park locations as shown in Table A-9 on the next page.

**Table A-9. Costs to prepare each of the 4 park locations for new 20-foot towers and associated facilities**

<b>Forrester Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Trenching power to cabinet (PG&E)	270 feet	\$20,250
Electrician	6 hours	\$1,500
<b>Total Site Preparation</b>		<b>\$30,325</b>
<b>Yountville Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	4 hours	\$1,000
<b>Total Site Preparation</b>		<b>\$9,575</b>
<b>Veterans Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	6 hours	\$1,500
<b>Total Site Preparation</b>		<b>\$10,075</b>
<b>Vineyard Park</b>		
Concrete footing for tower		\$2,750
Concrete base for cabinet		\$525
20 Foot tower	Tower and placement	\$3,500
Equipment Cabinet	Cabinet and placement	\$1,800
Electrician	12 hours	\$3,000
Trench power from building to tower	275 feet	\$12,375
<b>Total Site Preparation</b>		<b>\$23,950</b>

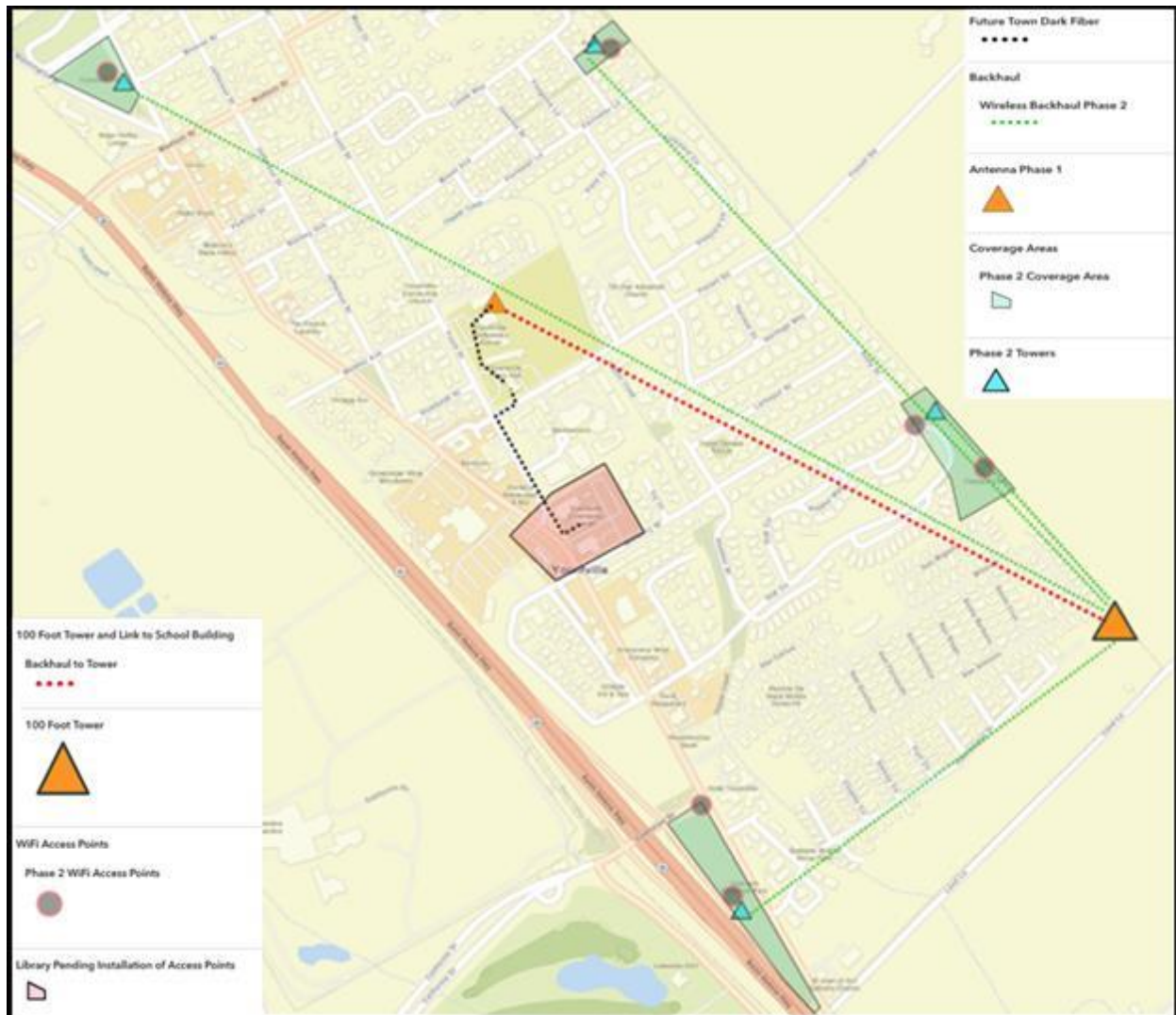


Once all 5 towers and associated cabinets and powering are in place, the following wireless equipment will be required to backhaul broadband to the 100-foot tower, and then further distribute it to each of the 4 park locations where APs will be activated to offer free Wi-Fi to the public visiting these parks. The equipment needed to activate Phase 2 is shown on Table A-10 below.

**Table A-10. Cost of wireless equipment, installation and 1 year of support needed to activate the 4 park locations**

<b>Four Town Parks</b>	
6 APs, Back Haul Radios, Antennas, Switches and Accompanying Equipment	\$36,000
Professional Installation and Activation	\$39,000
First Year Support	\$7,500
<b>Total Park Wi-Fi Costs</b>	<b>\$82,500</b>

**Figure A-5. Design map of the Town's Phase 2 Wi-Fi network serving 4 parks in the Town. Phase 2 brings towers in each of 4 locations and the 100 foot backhaul tower online, into the overall system, as shown.**



**Table A-11. Total Phase 2 cost of site preparations, wireless equipment, installation and 1 year of support needed to activate the 4 park locations**

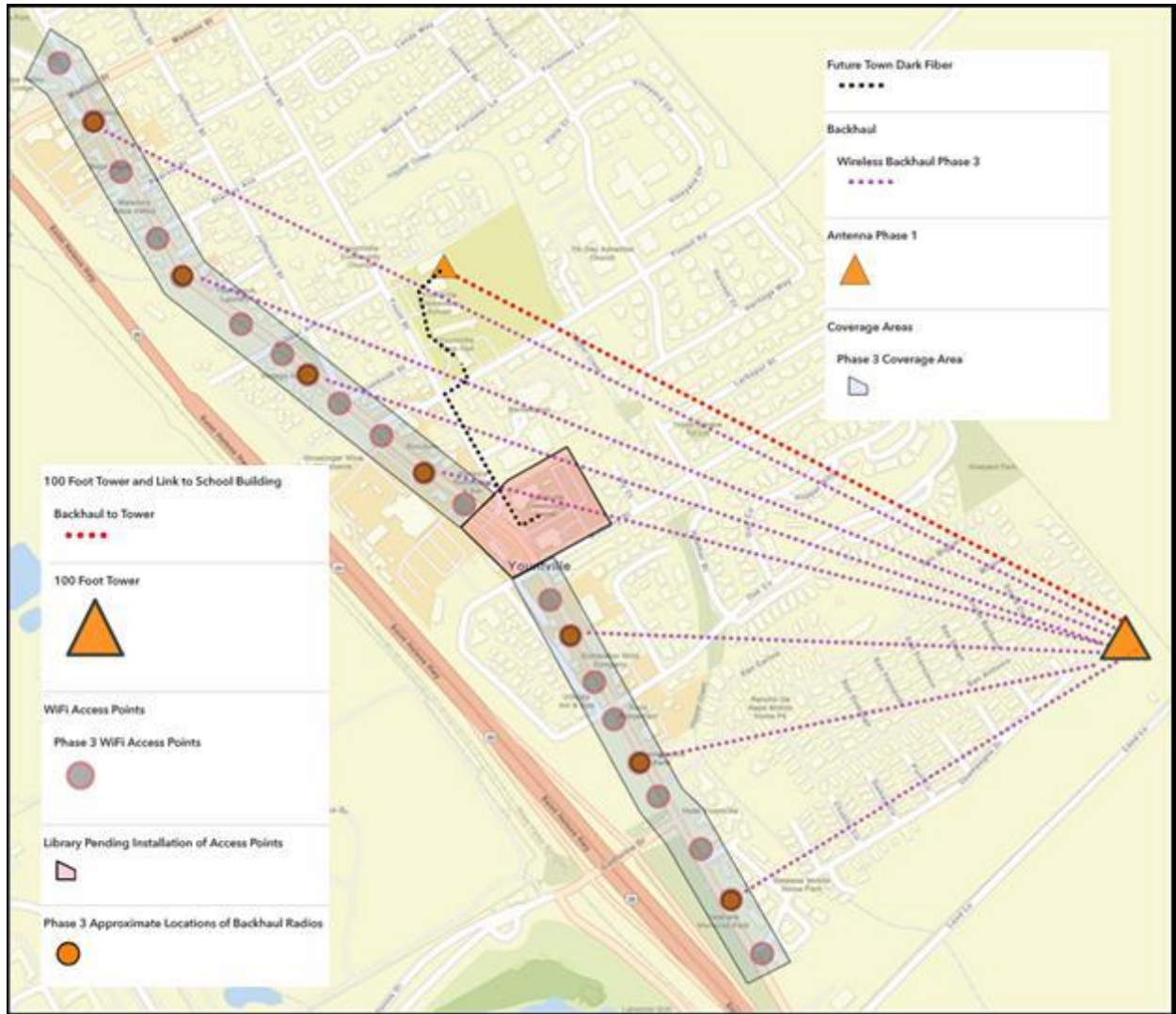
<b>Phase 2 Deployment Costs (only if Phase 1 is Complete)</b>	
One-Hundred Foot Tower Site Preparation and Tower Placement	\$55,575
4 Park Location Site Preparation	\$84,000
Wi-Fi Equipment, Installation and Activation	\$82,500
<b>Total Cost for Phase 2 Wi-Fi Network Deployment</b>	<b>\$222,075</b>

## **10. Phase 3 Deployment**

Phase 3 deployment builds on some of the equipment put into service in Phases 1 and 2. In particular, the new 20-foot tower placed at the school site will feed a wireless backhaul stream to the newly placed one-hundred foot tower at the southeast corner of the Town. From there, the wireless backhaul signals will be transported to backhaul radios attached to seven of the light poles along Washington Street and these backhaul radios will provide broadband to a Wi-Fi mesh created with 21 Wi-Fi APs. This Phase 3 portion of the network will work in concert with the Library's pending Wi-Fi expansion, the Phase 1 deployment of Wi-Fi near the Town Hall and the new Wi-Fi networks in the 4 parks activated with the new one-hundred foot tower.

This combination of networks will provide free, high-capacity, broadband access to the general public in key areas of the Town where people generally meet up or do business.

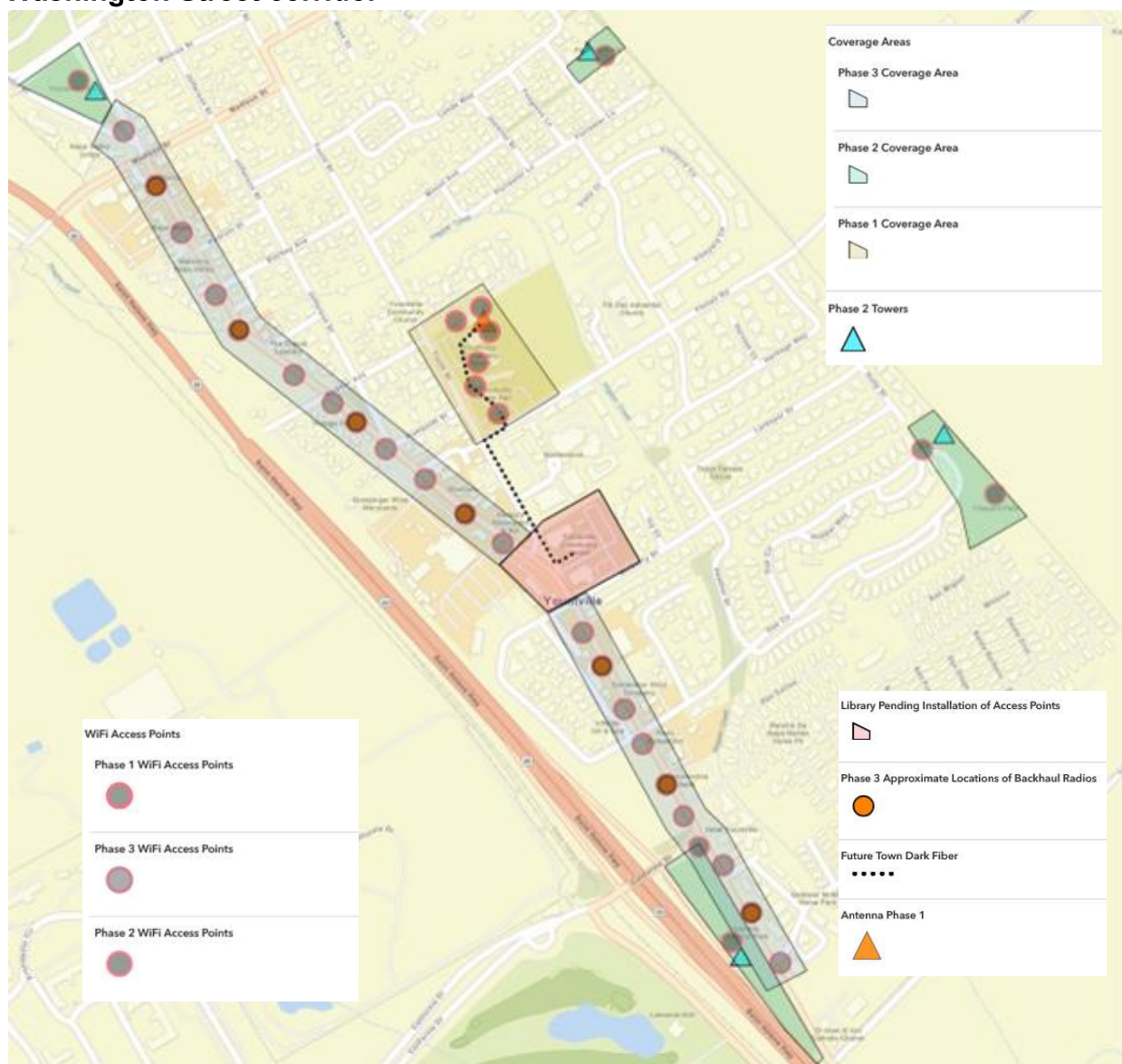
**Figure A-6. Design map of the Town's Phase 3 Wi-Fi network serving Wi-Fi hotspots along Washington Street**



**Table A-12. Total Phase 3 cost of, wireless equipment, installation and 1 year of support needed to activate the Washington Street Corridor**

<b>Access Points along the Washington Corridor</b>	
21 APs, Back Haul Radios, Antennas, Switches and Accompanying Equipment	\$72,000
Professional Installation and Activation	\$58,000
First Year Support	\$15,500
<b>Total Washington Corridor Wi-Fi Costs</b>	<b>\$145,500</b>

**Figure A-7. Design map of the Town's Phases 1, 2 and 3 Wi-Fi networks serving The Library campus, the Town Hall/School campuses, the 4 Town parks and the Washington Street corridor**





**Table A-13. Total cost to deploy all 3 Phases of the network described in Phases 1, 2 and 3 above**

Total Costs, By Phase	
Phase 1 Total	\$133,075
Phase 2 Total	\$222,075
Phase 3 Total	\$145,500
<b>Total Cost of the three phases</b>	<b>\$500,650</b>

## **11. Construction, Installation and Activation Schedules**

During discussions with wireless network providers, it was noted that many types of delays can disrupt broadband network planning, procurement, construction and activation schedule. Still, allowing for some delays, we estimate that it would take 10 to 12 months to complete each of the 3 Phases or 15 months' timeframe if all 3 Phases are deployed together.

## **12. Feasible Alternatives and Multiple Designs**

The Scope of Work for this Project requires a description of various concepts for implementation of the network. As described throughout the Report, various concepts were reviewed and planned based on the evolving baseline broadband availability data, adjustments in the State's Middle Mile development plans and the plans of potential deployment partners such as the Library, making alternative designs necessary.

The Final Design takes into account the lack of a State Middle Mile network going through the Town, the high cost of constructing FTTP wireline solutions and the availability of wireless solutions that are capable of providing 100 Mbps symmetrical broadband.

The Network as shown in Phases 1, 2 and 3 will be provided with sufficient upload/download Internet Access backbone service at no cost to the Town. The Library will manage the network from an IT standpoint while the support for the physical equipment can be provided by a contractor. These costs are included above as First Year Support.

The network will provide public access to broadband as detailed throughout this Report and can be securely segmented as needs may arise for the Town to have a secure wireless network for departments such as Public Works and others.



## Section B

# Partnership Development Opportunity

## **Section B - Partnership Development Opportunity**

### **1. Introduction**

As CBG Communications, Inc. (CBG) worked on the Engineering Feasibility Study with the Town of Yountville, California (Town), there was also a focus on the types of partners and partnerships that need to be developed in order to move forward with deployment of broadband infrastructure and services, meet broadband coverage requirements and related public policy goals and help ensure sustainable operation for the future. This meant looking at a variety of potential partnerships including with private entities, public partners and potentially community non-profit partners as well.

This Section of the Report details the findings concerning the exploration of potential partners and partnerships and provides some conclusions and recommendations for the Town to consider as it pursues implementation of the proposed broadband network.

### **2. Findings**

#### **a. Potential Private Partners**

As described herein, the Town, from a public policy standpoint, wants to help facilitate the development of the network proposed in Section A, and be involved in its implementation to ensure that it meets the public policy goals of providing high-capacity, free public access to broadband service in Town facilities, community locations, public parks and along business and tourism-related corridors. However, the Town is not positioned to fully construct, install, maintain, and operate the network and provide service to Town residents and visitors. Consequently, it needs to pursue partners with such expertise in order to ensure consistent, reliable, accessible and sustainable provision of a broadband network and its services.

Based on this, CBG and the Town first engaged with the broadband provider community to obtain information about their expertise operating high-capacity, public Wi-Fi systems, necessary steps for deployment and how partnerships could be developed. More specifically, discussions were held, and information was obtained from:

- 1) Comcast** -- Comcast is the major provider of wireline broadband services through its HFC network (and some implementation of FTTP for businesses and institutions) to residents and businesses in the Town. Comcast also already provides Wi-Fi access to its customer base in the Town.

A discussion was held with a Comcast representative to broadly discuss the company's network, and what the company's expertise and interest is

concerning working with the Town on a public Wi-Fi system in public spaces and along business corridors.

Comcast noted that, through its Smart Cities Division, it had worked with municipalities in developing such systems and could provide the system in a variety of different ways, including an expansion of its existing Wi-Fi system, an overlay of its system with a public network or building new access points specifically for the Town. This information was documented for potential further pursuit once a fully engineered concept was developed.

- 2) **Valley Internet --** Valley Internet is a wireless broadband provider that has the current capability to deliver 100 Mbps upload/20 Mbps download services to individual residences and higher capacity symmetrical wireless broadband communications in a point-to-point configuration. Valley Internet already provides services throughout various portions of Napa County, including to some locations in the Town.

Discussions with Valley Internet indicated that because of the Town's relatively flat topography, high-capacity communications could come from a tower located at a satisfactory point in the Town. This tower would distribute high-capacity broadband Internet access to multiple access points. These points would then further distribute the service from those locations as needed to provide the broadband coverage desired by the Town to give residents and visitors free public access at multiple public locations.

- 3) **Wireless System and Equipment Vendors --** Discussions were held with, and additional research was performed related to, various wireless system and equipment vendors to determine the range of available network equipment, capabilities and costs. The research analyzed both wireless and fiber wireline backhaul to review workable concepts and reviewed construction, installation, maintenance and operational requirements and capabilities in order to design a functioning system that meets engineering and public policy goals. It also helped develop concepts and related bills of materials to support subsequent development of RFPs designed to obtain a substantial and viable response from the vendor community.

#### **b. Chamber of Commerce/Business Community**

One of the primary objectives of the Town's planned public broadband deployment is to provide greater public broadband access to those that frequent the main Washington Street business corridor in the Town. This area has the largest number of a variety of different types of businesses in the Town (retail, hospitality, restaurants, and others) that attract Town residents, visitors, and tourists alike. The businesses along the Washington Street corridor utilize both Comcast and AT&T for their broadband communications and many provide Wi-Fi access to their customers. Comcast also provides Wi-Fi access points for its customers.

However, anecdotally, clients, customers, visitors, and tourists have complained about dropouts in cell service (especially since some cellular facilities were not rebuilt after a wildfire) and not being able to have uniform high-capacity broadband service available to those accessing the businesses along the Washington Street corridor.

To better discern how businesses, as well as their customers and clients, would benefit by public Wi-Fi that would blanket the corridor, discussions were held with the Executive Director of the Yountville Chamber of Commerce (“Chamber”), and an ensuing Survey was sent to key members of the business community to ascertain their interest in and need for such a public broadband service.

The discussion revolved around what type of broadband service businesses in Yountville currently have, and whether it is primarily for internal use or client use as well. Typically, along the Washington Street corridor, Wi-Fi would be provided to hotel guests, but not necessarily by all restaurants or retail establishments. Also, issues related to cellular reception create a type of “broadband hole” in certain locations, which is not ideal when you want people to spend time in and around the businesses along the corridor (approximately 97% of the businesses in Yountville are along the Washington Street corridor).

Then, too, there is the public policy aspect of ensuring that people have a high-capacity option at various key points in the Town that is accessible and affordable. Another discussion point was whether the business community would support a public broadband system along the corridor from a financial standpoint, that would benefit it and its clients and customers. Specifically, would the business community partner with the Town to help offset some of the cost of providing the service for free to those that take advantage of the businesses’ services provided along Washington Street?

It was determined that the best way to identify needs and interests was to provide a Survey for those Chamber members that wanted to provide their attitudes, opinions, needs and interests related to development of such a system. The online Survey link was sent out on behalf of the Town by the Chamber to approximately 60 Chamber members in November 2024, with a reminder sent in December 2024 for those who had not yet responded. The Survey was closed a week prior to Christmas, with 14 businesses responding (23 % response rate).

- 1) **Summary of Yountville Broadband Business Survey Results** - The purpose of the Survey was first to gather some basic information about the businesses and the broadband services that they currently have, as well as whether the businesses use it for providing Wi-Fi to clients and customers. Next, the Survey provided some information about preliminary concepts that the Town’s Broadband Feasibility Study was reviewing and analyzing at that point, and then asked the respondents whether a high-capacity wireless broadband system would benefit them in the Washington Street corridor and other business areas, and in public places and spaces.

Towards the end, the Survey asked the business respondents whether they would be willing to contribute financially to help support the wireless broadband system implementation, operation, and sustainability. It posed that question with a Yes, No or Don't Know answer. Regardless of how they answered, as discussed below, the Survey asked them to specify why they answered the way they did.

A diverse response was received, primarily from small businesses (10-100 people), but also from micro businesses (less than 10 people), medium-sized businesses (100-999 people) and large businesses (1,000 or more people).

A summary of the findings from those that provided responses to the various questions, and related observations, are provided below:

- **Type of business** -- Respondents represented all the major types of businesses in Yountville, including hotels and hospitality companies, wineries and tasting rooms, a tour operator, a spa, restaurants and restaurant groups, boutique retail and real estate.
- **Respondent title** -- The majority of respondents had senior level management responsibility, including a General Manager, Managing Director, Director, Senior IT Manager and President, with some also being the business owner.
- **Size of business** -- Almost half of the businesses were small, with several being micro and several being medium-sized. Two represented large businesses of 1,000 or more people.
- **Location of the business** -- Nearly all responding businesses were situated along the Washington Street corridor with one of the restaurants and one of the hotels being on Yount Street and one hotel on Madison Street.
- **Broadband technology utilized at their business** -- For this question, respondents were asked to provide all the connections that they use at their business location. Nearly all respondents had a high-capacity wireline broadband connection (either Comcast Cable or fiber or AT&T fiber, with one respondent having multiple fiber Internet lines from both AT&T and Comcast). Beyond this, the respondents also used cellular/mobile broadband connections, two had fixed wireless connections and one was using a slower speed DSL connection.
- **Provision of Wi-Fi Internet access to customers and clients** -- Nearly all (85%) provide Wi-Fi Internet access to their customers and

clients, with two respondents indicating that they did not. These businesses were a restaurant and a tour operator.

- **The ability of their broadband service to meet their current needs** -- While a slight majority of respondents indicated that their broadband service/Internet access meets their current needs, 46% of respondents indicated that it did not. The majority of those indicated that their service was too slow, while some also indicated that the service was unreliable. One respondent also indicated that technical support was inadequate, and half of those who indicated their needs were not being met also said that they'd like to have competition with more providers to choose from.
- **The benefit of a high-capacity wireless broadband system in the Washington Street corridor and other business areas established by the Town** -- Nearly two-thirds of respondents indicated that it would be beneficial to them, their business, customers and clients if the Town were to establish a high-capacity wireless broadband system in the Washington Street corridor and other business areas. Regarding the benefits, respondents indicated that it could provide: faster Internet for guest rooms; better connections and more reliable high-speed service (one respondent noted that their current service is "very spotty and goes out all the time"); broadband access outside the premises where customers gather or are met by proprietors; and an alternative in case other systems were down.

Some indicated that they weren't certain that it would be beneficial because: their current services are fast enough; they already have Internet options for their guests; and they already have redundant systems because their bandwidth usage is extensive, and they have to always have enterprise grade service. Another respondent indicated that since guests/visitors expect reliable, fast wireless service, if the service provided by the Town did not meet that expectation, it could create complaints where there aren't any today.

- **Benefit of a high-capacity wireless broadband system that covered all public places established by the Town to the business, its customers and clients** -- In this case, nearly three-quarters of respondents indicated that a high-capacity system covering public places would be beneficial. Specifically, respondents indicated: it would be beneficial to all since current service can be spotty; it would be a great added benefit to visitors of the Town; and it would be helpful for business use if there could be some specific VLANs with assigned IP addresses.



For the one-quarter of respondents that didn't believe that it would be beneficial to them, they indicated that: their current service provided adequate coverage; they want customers to use their guest Wi-Fi because it gives them an understanding of how busy their property is; and again, if the public system wasn't reliable, it would create complaints where there aren't any today.

- **Willingness of the business to help financially support the initial development and sustainability of a high-capacity wireless broadband system --** Most respondents indicated that they don't know yet whether they would be willing to financially support development and operation of a Town-sponsored public broadband Wi-Fi system, with a little less than half indicating that their business would not be willing to support it at this time. For those that did not know, they indicated that they would need more information on what the cost would be and what the corresponding benefit would be to them. For those that aren't willing at this time to support implementation and sustainability, they indicated that ownership had to decide, and they did not believe ownership would support such funding because it's not a business critical need.

Based on this response, the Town would need to determine what portion of the cost it would desire the business community to support, ensure that it met some of the business-related benefits described above (such as offering high-capacity alternatives and fast, reliable service throughout public spaces and within the business corridor where needed) and then ensure that supporting businesses receive recognition for the public broadband services that their business, clients, customers and visitors receive.

A typical way for a business to support the implementation of public Wi-Fi is to be recognized as a sponsor of the service. One of the easiest ways to implement this is recognition on the initial splash page that the user will see and that typically requires that users agree to the terms and conditions of use. Some public systems that work with the business community will establish different tiers of sponsorship (such as Platinum, Gold, Silver, and Bronze) for different dollar values, and then recognize businesses on the splash page with their logos in larger, more prominent size, based on higher levels of sponsorship. The dollar value for sponsorship can be based on local advertising rates.

At the same time, the supporting business will typically be provided window designations or other signage prominently displayed at their business location, with acknowledgment by the Town of their appreciative support of the business sponsor.

The municipality also typically acknowledges the sponsorship in public meetings, on its website and on social media.

Another way that takes additional time from an application development and maintenance perspective is to profile each business on a rotating basis as the splash page comes up across the public Wi-Fi system. This provides a greater depth of information about the sponsoring business and captures more attention while the user is on the splash page, but requires more graphic and copy development and a higher level of maintenance to ensure that the sponsor profiles rotate on an equal (or weighted) basis, depending on the level of sponsorship.

A more sophisticated method, at least for the public Wi-Fi system that would cover the business corridors, is to have the splash page customized for each access point to the business sponsor closest to that access point. This requires a substantial level of application design and maintenance, and experience has shown that it can be problematic to implement and sustain (i.e., the AP does not display the right sponsor on the splash page that the user connects to).

Getting sponsorship for a public Wi-Fi system operating in the business corridor is essentially an outreach and marketing exercise to engage the business community to invest in the system for its benefit and the benefit of its customers and clients. Many jurisdictions that embark on this task work with the Chamber of Commerce to develop a cooperative business plan that helps both the sustainability of the system, and of the businesses that support and benefit from the system.

- **Other thoughts related to the Town's Broadband Feasibility Study** -- Respondents were asked if they had any other thoughts to share with the Town concerning its broadband development plans, and four chose to provide additional detail. One indicated that it would be most helpful if the Town would work with providers on permitting and approvals to focus on bringing high capacity 5G (millimeter wave) technology into and throughout the Town. Another indicated that the Town should work to have more reliable Internet services for businesses. A third indicated that they think the Town's planned public Wi-Fi broadband could be really helpful for small businesses, but not necessarily relevant to the larger businesses. A fourth respondent indicated that they were concerned about how relevant this is to tourists, the cost of such a system and what people would be willing to pay for.

### **c. Potential Public Partners**

Besides the Town itself, there are a number of public entities both in the Town and involved with the Town in a variety of ways that CBG and the Town pursued to discuss potential partnership opportunities. As described in the Engineering Study portion of the LATA Grant Project, the Napa County Library is among the most fruitful of these. Specifically:

- 1) Napa County Library --** The Napa County Library (“Library”) has four locations including American Canyon, the City of Napa, Calistoga, and Yountville. Coincidentally related to the timing of this Study, the Library has embarked on a project to upgrade its wireless broadband connectivity for staff and patrons throughout the Library system in each of the four locations, extending beyond the building into the parking lot and common areas. In Yountville, the Library is located by agreement with the Town in the Community Center, not far from the Town Hall and an old Napa Valley Unified School District (NVUSD) school that has been closed. This entire property has been taken over by the Town.

The Town currently is looking at a variety of uses for this area, including affordable housing and a park, along with an events center. The Library and Napa County have engaged in discussions with the Town about potentially leveraging the Library’s wireless broadband project to cover this entire area and campus, from the Community Center through to the Town Hall and on through the old school property (more detail on this is provided in the Engineering Study). The Library’s wireless broadband expansion project is focused on not only making Library services more accessible, but also making online information in total more publicly available, and at no cost to access the broadband system. In light of this, the Library and the Town both believe that expanding their current partnership that covers the use of the Community Center for the Yountville Library’s operations is an ideal, cost-effective way of providing public broadband access throughout the entire Town Center area.

In addition, the Library has indicated that it may be able to extend the free Internet access through the high-capacity broadband Wi-Fi system it is developing to the four parks designated by the Town for the provision of public broadband access. As discussed further below, the Town and the Library are currently considering a Memorandum of Understanding (MOU) form of agreement to embody all the particulars of the partnership.

Additionally, the proposed Library-based wireless broadband system would be well utilized and especially beneficial during the Town’s two or three “large” sponsored annual events; typically, at least one in the Fall and one in the Spring. The Fall Event is a parade that ends in a park at the north end of Town along the main corridor (one of the parks to be provided public

Wi-Fi) where there is a flea market that can be accessed by parade goers. The Spring Event is a large flea market-style event in the Town Center area. Each event typically is attended by 2,000-4,000 people throughout the one-day length of the event. The large number of people gathering in one place has created problems in the past with simultaneous access to wireless broadband services. The public broadband system would help alleviate this problem.

- 2) **Veterans Home of California-Yountville** -- The Veterans Home of California-Yountville (Veterans Home) is run by the State of California Department of Veterans Affairs and is a large-scale complex for retired and disabled veterans. It provides housing and a variety of support services to veterans, and is served by State-provided broadband services, including Wi-Fi available to the veterans who live there without cost throughout the complex. Veterans can also individually purchase landline connections from Comcast.

Because veterans are a Covered Population<sup>7</sup> under State and federal law and regulation related to the provision of broadband services, and beneficiaries of the grant funding that supports especially adoption-related services, CBG and the Town reviewed several avenues for working with the Veterans Home to expand or enhance broadband services throughout the complex. There are also a number of sporting events held at the Veterans Home Cleve Borman Field, which is the home field for sporting events sponsored by the Tug McGraw Foundation, and as such attracts a number of participants, supporters and fans to the sporting events.

With all this in mind, the Town and CBG reviewed possibilities for enhancing broadband adoption at the Veterans Home. The Library already works with the Veterans Home to provide technology training and digital navigation services. It was determined that working on expanding existing efforts as part of the partnership with the Library would be the best way to proceed, rather than establishing a separate partnership with the Veterans Home.

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<sup>7</sup> The California Department of Technology (CDT) in its State Digital Equity Plan (SDEP) defines Covered Populations as: individuals who live in covered households (households with income from the most recently completed year of not more than 150% of the poverty level); aging individuals (an individual who is 60 years of age or older); incarcerated individuals (as defined by the State of California), other than individuals who are incarcerated in a federal correctional facility; veterans ( a person who served in the active military, naval, air or space service, and who was discharged or released therefrom under conditions other than dishonorable); individuals with disabilities (which effect on the individual is a physical or mental impairment that substantially limits one or more major life activities for such individual), a record of such impairment, or being regarded as having such an impairment); individuals with a language barrier including individuals who: a. are English learners; and b. have low levels of literacy; individuals who are members of a racial or ethnic minority group; and Individuals who primarily reside in a rural area (any area other than – a city or town that has a population of greater than 50,000 inhabitants; any urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants; and in the case of a grant or direct loan, a city, town, or incorporated area that has a population of greater than 20,000 inhabitants.)

#### **d. Community Organizations**

Yountville is a relatively small Town with a population of approximately 3,400.<sup>8</sup> In land mass, it is approximately 1.5 square miles and so has a relatively high population density. It is primarily residential along with high-end hotels, restaurants, and retail. The median age of Yountville residents is 64.5 years old<sup>9</sup>, which means there is a high percentage of aging individuals, who are also a Covered Population. Beyond its attractiveness as a place to live in Napa County wine country (Yountville is surrounded by wineries), it is a tourist destination where people stay, eat and shop while touring Napa County wine country.

Because of this, there are not a lot of large-scale community organizations within the Town. However, from a public policy point of view, Yountville knows that broadband affordability is an issue for some residents and visitors alike, and so the Town itself has a community-centric focus on ensuring that all within its borders have access to high-capacity affordable broadband, which is a central focus of the desired outcome of the LATA Grant Study project.

Yountville is also surrounded by substantial rural areas that are unserved and underserved by broadband and include, for example, the nearby River Ranch Farmworkers Center, which houses migrants and other long-term farmworkers at a very affordable rate. As such, the Town is aware that its planned public broadband system will benefit those that live in, work in, and visit the Town while they are within its borders.

### **3. Type of Partnership Agreement**

Based on all of the above, the most viable initial partnership is anticipated to be the one between the Town and the Napa County Library. This partnership could take the form of an Intergovernmental Agreement (IGA) or a basic Memorandum of Understanding (MOU), on top of the current agreement that the Library has with the Town to use the space for its Library facilities.

Essentially, the MOU would stipulate the roles and responsibilities of the Town, and the Library related to implementation of the system for the Town Center campus and, to the extent that the Library is involved, public Wi-Fi in the public parks and potentially along the Washington Street business corridor. The MOU should specify the entirety of the project contemplated by the Agreement and, if it is to be conducted in phases, the timeline for construction and activation of each phase. Regarding the roles and responsibilities of each entity, the MOU should specify:

- Which partner has overarching responsibility and oversight for each portion of the project?

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<sup>8</sup> See Data USA at <https://datausa.io/profile/geo/yountville-ca>.

<sup>9</sup> Ibid.

- Who will fund and procure the equipment and other components needed for the project?
- Who will operate and maintain the system and supply the Internet access provided over the system?
- How will the acceptable use policies of the Library and the Town, if they differ, be melded for Internet access provided over the public Wi-Fi system?
- Who will be the first contact if there is an emergency or other problem related to operation of the system:
- Will both parties equally share liability for any problems that may occur and indemnify each other in such cases?
- What types of metrics will be set up to measure the use and reliability of system operation, and who will decide whether and what enhancements need to be made to ensure sustainability over the long term?
- How long will the initial Agreement be and will it be automatically renewed if the system is successful in its operation?
- How will dispute resolution, if needed, be handled by the parties?
- Who will be responsible for any recordkeeping related to the operation of the system and what will be the retention schedule?
- Should formal reviews of the system and its operation occur on a regular basis, or can this be informally done by ad hoc reviews?
- Who is the key point of contact for each party (and what is all their contact information)?
- If system operation needs to be suspended for any reason or ultimately terminated, how is that decision made by and between the parties?

A more formal partnership agreement can be designed, essentially a public-public IGA or other form of agreement, and may then have to be signed off by overarching Administrative Directors or elected officials. However, if the MOU suffices, then it is often an appropriate way for a public-public partnership to be developed and implemented.

It also will be useful to establish the MOU and then revise it as needed after the initial phase (or even a portion of the initial phase) is developed and implemented, in order to ensure that the MOU reacts to every conceivable operational scenario.

#### **4. Conclusions and Recommendations**

After reviewing and analyzing a variety of different partnership opportunities and possibilities, and based on the information gathered during the LATA Grant Study, CBG makes the following summary of recommendations to the Town of Yountville concerning implementation of a public Wi-Fi broadband Internet access system:

- a. The Town should develop a Memorandum of Understanding with the Napa County Library to develop and deploy, at minimum, the first phase of the public broadband Wi-Fi system**

The MOU should cover all of the roles and responsibilities listed herein, with a project timeline agreed to by the Town and the Library. The implementation should include an initial pilot portion of the Phase 1, Town Center campus deployment, with adjustments made to ensure comprehensive, at minimum, 100 Mbps/100 Mbps symmetrical broadband Internet access throughout the campus with ease of access by the public. Operation should be evaluated initially on at least a quarterly basis to ensure consistent, reliable, high-capacity operation and usage within the acceptable use policies of the Town/Library.

Once it's clear that the system is fully functioning and operating well, the Town/Library should heavily promote its use, and track overall number of users and usage to ensure that the system is performing at a high level and will be sustainable over the long haul.

**b. Work with the Library through the established MOU or a private vendor/provider partner to develop and deploy the second phase of the system implementation; public broadband Wi-Fi Internet access to the four designated parks**

Using the same template, if the Library is able to extend under its auspices the Town/Library partnership to a second phase of overall system implementation, or under a public (Town)-private (provider or vendor) partnership, deploy service to the four parks: Forrester Park; Veterans Park; Vineyard Park; and Yountville Park.

Similar to the above, the first park can serve as a pilot/template for deployment to the remaining three parks, with a soft launch made in each case until comprehensive coverage of the park is established and verified, and usage is analyzed to ensure sustainable operation.

**c. Work with the Library or a private vendor/provider partner, in conjunction with the Chamber of Commerce, to develop and deploy the third phase of the public broadband Wi-Fi Internet access system to the Washington Street and other business corridors**

If the Library is unable to extend under its auspices, within the third phase, public access to the Wi-Fi broadband Internet access system along the business corridors because of commercial business involvement (i.e., sponsorship of the system and individual advertising of their businesses), then the Town will need to work with a private vendor/provider partner to develop and deploy the service.

The Town and any partner will need to further work with the Chamber of Commerce to ensure that the system meets not only the public's access needs, but addresses the needs and concerns of the business community (as discussed herein) along these corridors related to its use. Similar to the above, initial implementation should be piloted, evaluated, adjusted as necessary and then implemented through a soft launch. Once stable operation is assured, the Town should work



with the Chamber to heavily promote its usage by businesses, their clients and customers, and tourists and other visitors to the Town.

**d. Leverage the public broadband Wi-Fi Internet access system for adoption-spurring efforts**

The Library already pairs the high-capacity Internet access within its facility with public access to computers and digital skills navigation and training. Wherever this system is implemented by the Town, the Town should work with the Library to ensure that:

- 1) **The public has affordable access to the Internet --** In other words, one of the public policy goals of the system should be to ensure that any within the Town's boundaries, whether residents or visitors, will be able to have no or low-cost options to perform all of the online activities that they require for their daily lives; and
- 2) **The public can gain access to digital skills training while utilizing the system --** Most of this will occur based on programs at the Library, but the Town should consider working with the Library, Chamber and others to provide digital skills training at a Town location and other community spaces to ensure that all within the Town's borders can participate equitably in our digital society.

In conclusion, implementation of the proposed broadband system with the appropriate partner will help ensure that residents, businesses, and visitors to the Town continuously have the broadband Internet access that they need.