

## **Frequently Asked Questions regarding the Broadband Expansion Grant Program**

### **1. What is the purpose of the Broadband Expansion Grant Program?**

The purpose of the Broadband Expansion Grant Program is to encourage the deployment of advanced telecommunications capability in underserved areas of the state.

In a recent federal report on deployment of broadband service, the Federal Communications Commission found that broadband deployment in Wisconsin was slightly below the national average: 13% of the population in Wisconsin (or 744,002 people) lack access to at least one broadband service, compared to the national average of 10%; and 43% of Wisconsin residents living in rural census blocks (or 710,485 people) lack access to at least one broadband service, compared to the national average of 39%.

This is the challenge the state faces. There is a disparity between the quality of broadband service available in urban areas and that available in many rural areas of the state at this time. The state is expanding and devoting additional funds to programs intended to bring broadband service to some of the 700,000 people in Wisconsin that currently lack access to broadband service.

The key issue here is simply funding. To offer a decent broadband service, the service provider must often either upgrade or bypass existing older telephone facilities. Both of those options are expensive. In urban areas there is usually a sufficient concentration of customers to pay for the cost of those improvements. A broadband service option is now available in all urban census blocks in the state, and most areas have a choice between two or more providers.

However, in many rural census blocks, the incumbent local exchange carrier and other telecommunications providers have determined that it is not possible to build an upgraded broadband service financed through monthly rates for service. To address this issue, the state offers Broadband Expansion Grants to providers and local communities to subsidize construction of broadband facilities in rural areas and to reduce the financial risk of the building out the broadband service. This program has already achieved some notable results:

- 42 grants have been awarded in FY 2014 - 2017. The state has pledged about \$3.9 million in grant funds, and has already paid out \$1.4 million to date.
  - 10 grants have been approved for fixed wireless systems
  - 10 grants have been approved for Digital Subscriber Line (DSL) systems
  - 18 grants have been approved for fiber to the home/premises (FTTH)
  - 3 grants have been approved for fiber and co-axial cable backbone facilities
  - 1 grant has been approved for a Wi-Fi system
- These 42 grant projects have connected or will connect 600 businesses and over 20,000 homes to high-speed broadband service.

- One example of the impact of this program is in Chippewa County. Chippewa County set apart several areas within Chippewa Falls for commercial development. Many of the components that would bring about economic growth in the area were in place. Chippewa Falls had an excellent transportation infrastructure, a well-trained workforce to fill job openings, access to excellent schools, and had enacted zoning and other local ordinances to facilitate commercial use of the property. Even so, the sales of lots in Chippewa Falls business parks stalled. The concern the county heard repeatedly was that the existing broadband service could not support the level of operations the businesses were trying to establish.

The state, the county and the service provider, Wisconsin Independent Network, LLC, together provided the funds to build a fiber ring in Chippewa Falls. The impact was immediate. One business purchased a lot in the business park based upon the location of the fiber route disclosed in the county's Request for Proposals. A second business, a retail distribution company, purchased a lot in the business park soon after the fiber route was built. Additional existing businesses in Chippewa Falls are considering shifting service to the new fiber ring in 2017 as the construction phase of the project is completed.

## **2. What are the common Broadband Service Technologies in use?**

Broadband communications services are offered to subscribers using several alternative technologies. The more popular methods to connect to the internet include:

- Landline switched-access service

Internet access is still offered over the traditional analog landline facilities. Dial-up access to an internet service provider uses the voice portion of the telephone access line, preventing simultaneous or dual-use of the line. This technology provides a low-speed data rate that is increasingly disfavored for Internet communications.

- Digital Subscriber Line (DSL)

DSL transmits digital IP-formatted messages over standard telephone lines. The DSL service can be used simultaneously with the voice telephone service over the same telephone access line. This is possible because DSL uses higher frequency bands – the voice band range of the telephone line is 0 to 4 kHz, while DSL transmits signals in the range of 25 kHz to 1.5 MHz. A DSL modem is required to access the DSL signal. DSL provides continuous access to an internet service provider.

- Cable Internet

Cable internet service uses the hybrid fiber co-axial cable deployed by cable television companies providing television service. Cable provides continuous access to an internet service provider. Cable is expensive because it requires the provider to replace or bypass the existing copper telephone facility with a second wireline network. A cable modem is required with this technology choice as well.

- Fiber-to-the-Home/Premises (FTTH)

FTTH is an alternative means to provide communications service by connecting a business or residence to the switch entirely by an optical fiber from an optical network interface at the point of entry at a residence or business. The optical fiber replaces the existing copper telephone line to a residence. As with cable internet, FTTH is expensive because it requires the provider to replace or bypass the existing copper telephone facility. Currently, FTTH service provides much faster connection speeds than DSL or cable internet service.

- Fixed wireless

Fixed wireless connects a subscriber's home to a serving antenna by radio link. In the past, fixed wireless has been popular in rural areas because it can be installed without incurring the cost of a wireline network. The frequencies for fixed wireless are generally limited to line of sight. The coverage area can also be limited depending upon whether the broadcast spectrum in use is licensed or not. Transmission speed for fixed (and mobile) wireless depends upon the transmission technology. Third generation (3G) WiMAX provides an IP-formatted signal with a download speed of up to 6 Mbps while Fourth generation (4G) LTE provides a similar IP-formatted signal with a download speed of up to 300 Mbps.

- Mobile wireless

A variety of mobile wireless carriers offer internet access using the 3G and 4G LTE transmission technologies. The introduction of wireless 5G service will begin in 2017. In rural areas, antennas are located to facilitate communication while travelling along roads. Locations away from major roads in the northern portion of the state often lack access to a mobile wireless signal. Mobile wireless internet service can have significant monthly data limits.

- Satellite Internet service

Satellite-based communications services offer an attractive telecommunications alternative for individuals that are located in remote areas. Subscriptions to satellite services are generally driven by the demand for television service in rural areas that lack a cable television service provider. This technology is affected more than the others by adverse weather and network congestion. Satellite internet access also suffers from high latency (or the time it takes for a transmission signal to make a round trip between originating and terminating ends of the calls). High latency diminishes the utility of Voice over IP communications, interactive on-line gaming and remote control device applications.

### **3. Who is eligible to apply for a broadband expansion grant?**

The statute contains two eligibility requirements that each application must satisfy.

- First, an applicant must be either an organization operated for profit or not for profit, a telecommunications utility, or a public entity that has entered into a partnership with an eligible organization or telecommunications utility.

- Second, the statute authorizes the Commission to make grants to eligible applicants to construct broadband infrastructure in underserved areas. This would eliminate applications proposing to build in areas regarded as served.

The Commission has interpreted the requirement that public entities obtain or include a private party in the application to mean more than simply submitting a letter of support at the time of the application. The Commission has accepted a range of approaches, including a formal joint venture agreement or equivalent, a partnership agreement specifically tailored to the broadband grant program, co-applicants on the grant application filing, and a statement from the parties indicating the level of participation each partner will contribute.

A telecommunications utility is eligible to apply for a grant, even if that telecommunications utility is municipally-owned. A municipally-owned telecommunications utility pays the agency's remainder assessment, telecommunication relay service assessment, telecommunications trade practices assessment and universal service assessment in the same proportion as other telecommunications utilities. The Commission affords a municipally-owned telecommunications utility the same benefits and privileges that come with that status as well.

There is no distinction made in state law between the traditional carriers that in the past provided telephone service as a regulated entity, and the newer carriers that have entered the local exchange market after the state and federal government decided to eliminate exclusive telephone franchise boundaries. The distinction between incumbent local exchange carrier and competitive local exchange carrier that is found in federal law does not exist in state law. Thus a variety of ILECs and CLECs are eligible to apply for a broadband grant as telecommunications utilities.

Certification under state law does not depend upon geography or exchange boundaries. The state certifies a company based upon the telecommunications service the company offers for sale to customers.

The Commission has ruled in three instances that an applicant was ineligible to apply for a grant. In each instance, the applicant was a public entity that lacked a private partner.

#### **4. Which geographic areas of the state may receive a broadband grant?**

The purpose of the Broadband Grant program is to encourage the deployment of advanced telecommunications services in underserved areas of the state. To decide the geographic areas of the state that are currently underserved for purposes of the broadband grant program, the Commission defines the two terms:

*Broadband Service* means a communications service providing to end users, at a minimum, two-way data transmission with speeds of at least 25 Mbps for download transmission and 3 Mbps for upload transmission, but does not include a commercial mobile radio service or a broadband service in which a stand-alone satellite provider connects directly to the end user with a satellite connection.

*Underserved Area* means an area in the state, delimited by a census block boundary as defined by the US Department of Commerce, that is served by fewer than 2 broadband

service providers, or an area that an applicant has demonstrated in its application is underserved notwithstanding the fact that the proposed service area lies within a census block that has been designated as served.

Grant applications that propose to provide broadband service in areas served by two or more broadband service providers that each offer service at a speed of 25/3 or greater will be regarded as ineligible to participate in the grant program.

**5. The state broadband map is not accurate with respect to my neighborhood. How much weight will the state broadband map be given in the grant application process?**

The Broadband Office uses data collected by the Federal Communications Commission (FCC) for the majority of its coverage mapping. The FCC collects data, including coverage speeds, technology types, and other connectivity information, from providers of broadband service using its Form 477. There is an important convention underlying the data reported by Form 477. Most of the coverage data from the Form 477 is provided by census block. A provider indicates coverage over a census block when at least one customer is served within that area. Thus, while coverage data, maps and related tools attempt to highlight areas of the state that have internet access, there exists a degree of inaccuracy due to this reporting convention. The maps produced by the Broadband Office may overstate the extent of broadband availability in some areas as a result.

Because of the potential inaccuracy of the Form 477 data, the broadband grant application instructions provide as follows:

- Where the broadband map indicates that a proposed grant project area is underserved, the Commission will accept the map as sufficient evidence of the actual broadband service in place;
- But where the map indicates an area is served by two broadband services providing 25/3 service, the applicant is permitted to provide additional information to show that the broadband map is not accurate with respect to the proposed project area.

**6. How do you determine what broadband services are in place in an area?**

The state Broadband Map is a good resource to answer this question as well. The data the FCC collects from Form 477 identifies the providers of broadband service in each census block. PSC staff has access to the FCC data and prepares the state Broadband Map from that data. The map displays for each census block the name and service details for each provider that has indicated that it provides service in a given census block.

The PSC does not collect data on its own in any general or systematic fashion. However, on occasion, the PSC staff will survey customers and providers to determine or re-verify information regarding broadband service status in a given area of interest.

## **7. When is the next broadband grant cycle? How will the Commission inform interested persons that it is accepting grant applications?**

The Commission will post on its website, <http://psc.wi.gov>, information on upcoming broadband grant opportunities as details become available. Commission staff will also send out an announcement by e-mail when the next grant cycle officially kicks off. A person that wishes to receive the broadband grant announcement should send a short (one-sentence is enough) message to the State Broadband Office at [PSCStateBroadbandOffice@wisconsin.gov](mailto:PSCStateBroadbandOffice@wisconsin.gov), requesting that his or her name be added to the e-mail address list.

## **8. What resources are available to assist an individual preparing a grant application?**

Staff at the State Broadband Office are available and willing to provide assistance to any individual preparing to submit an application for a broadband grant. Staff will **NOT** help write the application nor advise individuals on how proposed application content might be treated by a screening committee or the Commission in a subsequent review. The grant application instructions provide a specific process for obtaining a clarification regarding the required application content.

Inquiries into the state broadband office often ask for the links to the following three items:

- State Broadband Map

The coverage map discussed above is available at the following link:

<http://www.broadbandmap.wisconsin.gov/>. When the page loads, a user may select the map layers of interest by toggling the various layers on or off using the check boxes to the left of the map.

- CAF II Map

A second map available from the Link Wisconsin website concerns the coverage areas for the Connect America Fund discussed below. The coverage map for the CAF II area in Wisconsin is available at the following link: <http://www.broadbandmap.wisconsin.gov/SimpleCaf/>. A map that shows the coverage areas for CAF II, A-CAM and CAF II auction areas is being developed.

- Grant applications from prior grant cycles

In preparing a grant application, a grant writer might find it useful to review the applications submitted in prior grant cycles. The grant applications and other documents and correspondence related to the Broadband Expansion Grant program are available through the PSC's ERF (Electronic Regulatory Filing) system:

To search for applications from prior grant cycles, go to the homepage of the PSC's website, <https://psc.wi.gov/Pages/Home.aspx>, and select 'Docket Search.'

In the three boxes to the left under the caption ‘Search,’ type in the docket number for the prior grant cycle, and click on ‘Search.’ When the docket name comes up, select the tab for ‘Documents.’ This should bring up a list of documents on file for that docket number. The grant applications are usually among the documents filed earliest, and will be found toward the bottom of the list of documents. The docket numbers for the prior grant cycles are:

- FY 2017: 5-BF-2017
- FY 2016: 5-BF-100
- FY 2015: 5-GT-100
- FY 2014: 5-GF-237

Other questions related to the administration of the broadband grant program may be addressed to the following staff:

Director, State Broadband Office

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**9. How does the Commission evaluate the grant applications, and decide which applications should be funded? Besides the priority factors, what other information does the Commission consider when awarding broadband grants?**

Wis. Stat. § 196.504 gives the Commission authority to establish criteria for evaluating grant applications. The statute requires that the criteria adopted by the Commission give priority to applications that include any of seven priority factors listed in the statute.

The Commission usually appoints a screening committee to review the grant applications and provide a summary report comparing the relative merit of each application. The screening committee will rank the grant application under review in order of merit, giving equal weight to the seven priority factors. The priority factors are:

- Matching funds. An application will receive higher priority based on the amount and type of matching funds the applicant proposes to invest in its project.

Comparing the significance of matching funds from one application to the next can be difficult. On one hand, the willingness of some local governments to contribute matching funds is perhaps the best measure of the urgent need for adequate broadband service in these communities. On the other hand, some applications propose in-kind contributions

that include salary expense for individuals whose salary would have been paid in any event, or equipment expense for items that have already been purchased and would have been used for a variety of construction projects regardless of the grant project. However, in-kind contributions can be disregarded altogether. In some instances, a cash and in-kind contribution indicates a company or corporate decision to commit its own funds to advance a promising project, to forego possible earnings in the near term in order to secure better earnings down the road, or to achieve other non-monetary goals.

- Public-private partnerships. An application that includes a city, village, town, or county as a participating partner, in partnership with a telecommunication provider or other private organization, will receive priority.

To receive priority credit, the grant application must offer more than a simple letter of support from a town or village. A public-private partnership can be memorialized in a joint venture agreement or other writing. If the partnership has not been reduced to a written agreement, then the application should provide a short description of the management role, financial commitment, or other contribution to the project for each participating partner. Often a public partner's participation is evident from the matching funds it is contributing to the project.

The inverse situation can be a problem as well. A public applicant must engage the active participation of at least one private partner. The Commission has decided that contracting for a service by itself is not sufficient. There must be some indication in the application that a private partner has agreed to participate in the application. This showing is required both to establish eligibility for the application and also to obtain credit for a public-private partnership during the merit evaluation.

- Existing broadband service. An application proposing to serve an unserved area shall receive priority.

In some instances, an applicant will need to provide additional information to receive credit for this priority factor. If the broadband map indicates that the project area is served by at least one broadband service provider offering a 25/3 level of service, the applicant may provide additional information to show that the broadband map is not accurate with respect to the proposed project area. This additional information can be a letter from one or more potential customers indicating the level of service indicated by the broadband map is not available at their location, or a statement by the applicant that the broadband map is not accurate based upon service requests and interactions with customers. A detailed report from an engineering consultant or a survey of broadband speed measurements in the project area will be accepted, but is not required to establish this point.

- Scalability. An application that demonstrates a commitment to increase the size or scope of its broadband network in the future shall receive priority. An application that discusses possible growth potential, but declines to make a specific commitment regarding future growth of the broadband network, shall receive a lesser priority.

This priority factor is intended to consider the longer term growth potential of the project facility once construction of the proposed project is complete. Many applications are



limited to the customers and geographic area the project targeted in its application. Fixed wireless projects are generally limited to the footprint of the antennas, and by power and range limits imposed by federal spectrum licenses. However, some wireless and landline systems are built with spare capacity and specific plans on how to use that spare capacity to build out service in the area.

This priority factor can be difficult to measure. Comparisons between broadband technologies can be difficult as well. For example, fiber projects are often built with spare fiber capacity because it is much less expensive to include that spare capacity in the original build out than it is to add additional capacity or reinforce existing routes in a subsequent construction project. Other technologies tend to build networks to match the existing customer base because the cost of adding additional capacity at the time that new customers are identified is roughly comparable to adding that capacity during the initial build out.

The application instructions on this point permit a variety of answers. Applicants are invited to provide a sensible description of the potential for continued future development of customer base and service options not captured specifically by the description of the project proposal itself.

- Economic development. An application that demonstrates the potential to promote job growth or retention, expand the property tax base or improve the overall economic vitality of the municipality or region shall receive priority.

This priority factor invites a discussion of how a proposed grant project might promote the growth of the local economy by installing improved broadband service. Some grant proposals target business customers, and the economic impact the application hopes to accomplish is evident on its face. Other impacts can be a bit indirect, but no less important. For example, a fixed wireless service in a rural county could impact the decisions of tourists and seasonal residents to use the facilities or extend their stay in the area.

- Project impact. An application that proposes to serve a larger geographic area or a larger number of customers or communities in an area shall receive higher priority than one that serves a comparatively smaller geographic area or a fewer number of potential customers or communities in an area.

The factor is often among the more important of the measures characterizing an application. The staff memorandum will provide an estimate of the actual number of customers that will likely be served by the project, and an estimate of the grant dollars requested per location served. Thus, staff attempts to provide a simple measure of the impact of the project and the cost to accomplish that result. This measure is useful to compare the relative utility of competing grant proposals.

The record before the Commission consists of the grant applications, the public comments in support and in opposition to the grant proposals, the screening committee's ranking of the grant applications, and a briefing memorandum from staff discussing the relative merits of each application. In its review and decision, the Commission is free to give more weight to one or

two of the priority factors, or give weight to other information provided in the application. Some items of additional information that the Commission could take into account include:

- The total number of persons served by a given application when compared to applications of equal priority.
- The degree to which the proposed project will duplicate existing broadband infrastructure.
- The degree to which the proposed project will enhance the ability of individuals to access health care service from home.
- The degree to which the proposed project will enhance the ability of students to access educational opportunities from home.
- The degree to which the proposed project would impair the ability of a broadband service provider or competing broadband service provider to extend broadband service to areas adjacent to the proposed project shall receive a reduction in priority.
- Whether an applicant is certified as a Broadband Forward! Community. However, applicant should note that the Commission has not made any determination that such certification is specifically or necessarily applicable to grants for broadband facilities under Wis. Stat. § 196.504.
- The download and upload transmission speeds the application proposes to provide.
- Any one or more of the factors in Wis. Stat. § 196.03(6) that the applicant believes its project would specifically and materially advance for benefit of the public interest with respect to communications facilities. However, applicant should note that the Commission has not made any determination that the criteria in Wis. Stat. § 196.03(6) respecting telecommunications services and facilities are specifically or necessarily applicable to grants for broadband facilities under Wis. Stat. § 196.504.

**10. Will the Commission schedule a public comment period after the grant applications have been submitted? Do the Commissioners see these comments before deciding which grant applications should be funded?**

The Commission usually provides a three-week public comment period after the grant applications have been filed. The comments are posted on ERF under the docket number for the current grant cycle. Staff provides the Commission a list of the comments received, and those comments are available to that Commission as part of the record of the docket. Staff will also discuss in the briefing memorandum specific public comments that raise issues of importance in evaluating the relative merits of individual applications.

**11. How long does a successful grant applicant have to complete the construction of the broadband facilities?**

The order awarding grants will provide a specific date on which the grant award will expire and the unused grant balance will be returned to the general grant account for disbursement to other future projects. In the past, the Commission has set that expiration date for the grant award at the end of 24<sup>th</sup> month after the month in the Commission awards the grant. This two-year window for construction can be extended by the Commission for good cause. An applicant would need to apply to the Commission for an extension.

**12. Who actually receives the grant funding? The main applicant? The private provider/partner who actually does the construction?**

This will vary from project to project. When the Commission staff set up the grant, there will need to be a single entity that receives the grant funds, and disburses the funds to other project partners as appropriate. It is usually clear which applicant or application partner should handle the funds, but sometimes this needs to be discussed after the grant award is made.

**13. What are the reporting requirements for a grant project? After a project is complete, are there reporting requirements to the PSC or elsewhere?**

In its Order Awarding Grants, the Commission will specify the reporting requirements an applicant must comply with. In past orders, the Commission has required both interim project reports and a final summary report on the project. The Commission may suspend scheduled grant payments until the required reports are filed.

**14. How do fair wage labor laws and prevailing wages come into effect for the construction of these projects?**

The state does not contract directly with any construction company to build the broadband facilities funded by a broadband grant. Rather, the grant funds are paid as reimbursement to an eligible applicant upon filing of paid invoices and documented expenses incurred on behalf of the project. If needed, the applicant selects a third party to build the project facilities. There is an expectation that applicants and sub-contractors will comply with applicable state and federal laws. In past orders, the Commission has not imposed any additional requirements that would condition the choice of a construction company or impact the labor wage rate the construction company uses.

## **15. Where can you find a list of the approved grant applications?**

The grant applications that correspond to each approved grant award are posted on-line. See Question 8 for instructions for locating grant applications from prior years in the PSC's ERF system.

## **16. What is the Connect America Fund?**

In 2011, the FCC undertook an extensive reform of its interstate universal service and inter-carrier compensation programs. One portion of this reform effort redirects funds from certain universal service programs to a new support fund intended to promote deployment of broadband communications services throughout the county. This new support fund is referred to as the Connect America Fund (CAF) program.

The FCC divided its CAF support into subcategories supporting price-cap telecommunications carriers, rate-of-return telecommunications carriers, wireless service providers and tribal telecommunications service providers. The first category of support consists of ten large telecommunications carriers that originate and terminate about 83% of the telecommunications traffic in the county. This group of carriers include three that operate in Wisconsin: AT&T, CenturyLink and Frontier Inc. The CAF program for price-cap carriers in Wisconsin is the principal federal effort to improve broadband service in the state.

- CAF I

The first phase of the program (known as CAF I) provided \$38,470,000 to upgrade 241,500 supported locations in 30 Wisconsin counties with broadband service less than 768 Kbps/200 Kbps. The price-cap carriers committed to bringing the quality of broadband service at least up to 3 Mbps/768 Kbps for each supported location. CAF I upgrades were completed in 2015.

- CAF II

In 2015, the FCC initiated the second phase of this program (CAF II). Under CAF II, the FCC has agreed to provide \$570 Million over 6 years (2014-2020) to the three price-cap carriers to upgrade 230,000 locations in Wisconsin with existing broadband service less than 4 Mbps down/1 Mbps up.

- AT&T will receive \$54 Million to upgrade service to 24,513 homes and businesses.
- CenturyLink will receive \$330 Million to upgrade service to 129,203 homes and businesses.
- Frontier will receive \$186 Million to upgrade service to 76,735 homes and businesses.

In accepting this support, the three carriers agreed to improve the available broadband service to at least 10 Mbps down/1 Mbps up. The carriers committed to a construction schedule in return for the support it is receiving – each carrier must have 40% of its Wisconsin supported locations

in service by the end of 2017; 60% by end of 2018; 80% by end of 2019; and 100% by end of 2020.

Finally, a cautionary note that may prove important in some cases: the price-cap carriers need only upgrade service to 95% of its supported locations to meet the administrative requirements of this program. It is expected that the locations that prove to be too costly to serve at this time will be addressed in an auction that the FCC will schedule at a future date.

- A-CAM

In 2016, the FCC issued a public notice and offer of support for the rate-of-return telecommunications carriers throughout the country. This is termed the Connect America Fund: Alternative Connect America Cost Model proceeding for rate-of-return companies (CAF: A-CAM). The Wisconsin rate-of-return carriers receiving support to upgrade service to locations in Wisconsin are:

- Amery Telcom, Inc. will receive \$14,475,160 over 10 years to upgrade service to 3,586 supported locations.
- Bruce Telephone Company, Inc. will receive \$9,677,940 over 10 years to upgrade service to 1,199 supported locations.
- Clear Lake Telephone Company will receive \$6,911,080 over 10 years to upgrade service to 1,133 supported locations.
- Coon Valley Farmers Telephone Company, Inc. will receive \$9,050,900 over 10 years to upgrade service to 1,235 supported locations.
- Farmers Independent Telephone Company will receive \$10,225,230 over 10 years to upgrade service to 1,756 supported locations.
- Hillsboro Telephone Company, Inc. will receive \$8,784,440 over 10 years to upgrade service to 1,033 supported locations.
- Mount Horeb Telephone Company will receive \$10,011,150 over 10 years to upgrade service to 1,251 supported locations.
- Manawa Telecommunications, Inc. will receive \$7,704,650 over 10 years to upgrade service to 1,659 supported locations.
- TDS, Inc. will receive \$188,792,320 over 10 years to upgrade service to 35,379 supported locations.
- Union Telephone Company will receive \$23,892,540 over 10 years to upgrade service to 3,611 supported locations.
- Wittenberg Telephone Company will receive \$10,099,910 over 10 years to upgrade service to 1,905 supported locations.

The A-CAM carriers have committed to a construction schedule in return for the support it is receiving – each carrier must have 40% of its Wisconsin supported locations in service by the end of 2020; 50% by end of 2021; 60% by end of 2022; 70% by end of 2023; 80% by end of

2024; 90% by end of 2025; and 100% by end of 2026. As with the CAF II program, carriers that complete deployment to at least 95% of its supported locations in Wisconsin will be deemed to be in compliance with their respective deployment obligations.

- CAF II Auction

In May 2016, the Commission adopted a framework for an additional segment of the CAF II program. The CAF II Auction is intended to provide support to supported locations that the price-cap carriers determined that they could not serve or upgrade at the CAF II level of support. Under the CAF II Auction program, all eligible entities can bid to receive support to offer voice and broadband service meeting the Commission's requirements for a ten-year term. In other words, the parties bidding on these locations are not limited to the price-cap carriers that received the original support funds from the CAF II program.

The preliminary eligible census blocks include certain high-cost census blocks located in price cap carrier territories that, based on June 30, 2015 Form 477 data, are not served by the incumbent price cap carrier or an unsubsidized competitor with voice and broadband at speeds of 10/1 Mbps or higher. Other details on the CAF-II Auction program are expected to be announced in 2017.

## **17. How is Broadband Service Defined?**

The definition of broadband service is drawn from two proceedings conducted by the Federal Communications Commission (FCC). These two proceedings address the same topic of broadband service, but do so with dissimilar purposes.

- Annual Report to Congress Concerning the Deployment of Advanced Telecommunications Capability

The first FCC proceeding is the annual progress report on deployment of broadband service. This report is prepared in response to 47 U.S.C. § 1302 (b)(1). This statute requires the FCC to determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion, and report its findings to Congress annually. This is an important report for this Commission also because it is an excellent source for current summary data on the extent of broadband service in Wisconsin and nationally.

The term "advanced telecommunications capability" is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology. 47 U.S.C. § 1302 (d)(1).

To evaluate the progress that the country is making in deploying advanced telecommunications capability, the FCC first selects a benchmark broadband service against which reported service quality is measured. The FCC has chosen several benchmarks over the years. Most recently, the FCC has set the benchmark service as one which permits customers access to an actual download speed of 25 Mbps and an actual upload speed of 3 Mbps (25/3).

In selecting this benchmark, the FCC first noted that, of the households in the country that have the option of selecting a 25/3 service or better, 29% of households currently have chosen a broadband service that is 25/3 or faster. The FCC also considered the current products and applications as well as those likely to become available in the near future, and noted as follows:

- Participating in an on-line class, downloading files, and streaming a movie by multiple members of household at the same time requires a 25/3 connection
- Viewing 2 HD videos at the same time requires a 25/3 connection
- Streaming a video using the newer 4K or ultra HD format requires a 25/3 connection
- Participating in an on-line video chat requires a 25/3 connection
- Participating in an on-line class and uploading a file at the same time requires a 25/3 connection

As discussed above, the Public Service Commission has elected to mirror the national benchmark as the basis for its definition of broadband service:

Broadband service means a communications service providing to end users, at a minimum, two-way data transmission with speeds of at least 25 mbps for download transmission and 3 mbps for upload transmission, but does not include a commercial mobile radio service or a broadband service in which a stand-alone satellite provider connects directly to the end user with a satellite connection.

The Wisconsin definition differs from the national benchmark definition in two respects. First, the Wisconsin definition includes both switched and non-switched telecommunications services (as does the FCC in some circumstances). Second, the Wisconsin definition uses transmission speed as a proxy for other measures of broadband capability, while the FCC in the Connect America Fund proceeding discussed below now requires support recipients to commit to specified levels for transmission speed, latency and data capacity to qualify for the support offered under that program.

- Connect America Fund

The second FCC proceeding relevant to this topic is the Connect America Fund, discussed above. The CAF program has employed an evolving standard for broadband speed and service quality to bring the service available in rural and high cost areas into rough equivalence with the service available in urban areas.

In the recent orders implementing the CAF II Auction, the FCC established four technology-neutral tiers that the bidding parties would commit to:

- Minimum performance tier. The minimum performance tier requires bidders to commit providing broadband services of at least 10 Mbps downstream and 1 Mbps upstream and offer at least 150 gigabytes of monthly usage.

- Baseline performance tier. The baseline performance tier requires bidders to commit providing broadband services of at least 25 Mbps downstream and 3 Mbps upstream and offer at least 150 gigabytes of monthly usage, or that reflects the average usage of a majority of fixed broadband customers, using Measuring Broadband America data or a similar data source, whichever is higher.
- Above-baseline performance tier. The above-baseline performance tier requires bidders to commit providing broadband services of at least 100 Mbps downstream and 20 Mbps upstream and offer an unlimited monthly usage allowance.
- Gigabit performance tier. The gigabit performance tier requires bidders to commit providing broadband services of at least 1 Gbps downstream and 500 Mbps upstream and offer an unlimited monthly usage allowance.

The significance of these tiers for the Wisconsin broadband expansion grant program is that the FCC may use a Phase III of the CAF program, beginning in 2021, to implement this range of service options in the price-cap service areas nationwide. The Wisconsin broadband expansion grant program has already approved grant awards for projects meeting the above-baseline and gigabit performance tiers. It is likely this will continue as broadband service transitions to these more demanding standards.