FCC Form 477

Local Telephone Competition and Broadband Reporting

Instructions

Data as of December 31 due March 1
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Instructions Notations

Internal and external links to additional reference material use different colors and underlines depending on whether the link has been visited or based on the format being accessed (e.g., PDF, eBook (.mobi), or iBook (.epub)).

- Links to other sections of the Instructions appear as: Glossary
- Links to external web-based references appear as: Report and Order
- *Italicized items* indicate terms that can be referenced in the Glossary of this document.
- Terms in **Green** refer to items on the Form 477 filing interface.

1. Purpose

FCC Form 477 collects information about broadband connections to end-user locations, wired and wireless local telephone services, and interconnected Voice over Internet Protocol (VoIP) services in the 50 states, the District of Columbia, and the Territories and possessions (*see* 47 U.S.C. § 153(40)). Data obtained from this form will be used to describe the deployment of broadband infrastructure and competition to provide local telecommunications services. For additional information about this data collection, *see Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Report and Order, 28 FCC Rcd 9887 (2013).

2. Who Must File This Form?

Four types of entities must file this form. For purposes of this information collection, the terms "entity" and "entities" include all *commonly-controlled or commonly-owned affiliates*. (*See* 47 U.S.C. § 153 (2) (establishing a greater than 10 percent equity interest, or the equivalent thereof, as indicia of ownership.))

2.1 Facilities-based Providers of Broadband Connections to End Users

An entity that is a *facilities-based provider* of *broadband connections* to *end users* must complete and file the applicable portions of this form if it has one or more *broadband connection in service* to an *end user* on the as-of date associated with the form (either June 30 or December 31). The *italicized terms* are defined below and in the Glossary. Additional information can be found in these separate documents: Fixed Broadband Deployment Terms and Mobile Broadband Deployment Terms.

- *Facilities-Based Provider*: An entity is a *facilities-based provider* if any of the following conditions are met: (1) it owns the portion of the physical facility that terminates at the *end-user premises* or obtains the right to use dark fiber or satellite transponder capacity as part of its own network to complete such terminations; (2) it obtains unbundled network element (UNE) loops, special access lines, or other leased facilities that terminate at the *end-user premises* and **provisions/equips** them as broadband; (3) it **provisions/equips** a broadband wireless channel to the *end-user premises* over licensed or unlicensed spectrum; or (4) it provides terrestrial mobile wireless service using its own network facilities and spectrum for which it holds a license, manages, or has obtained the right to use via a spectrum leasing arrangement.

  A non-exhaustive list of examples of *facilities-based providers* of broadband connections **includes**: incumbent and competitive local exchange carriers (LECs), cable television system operators, terrestrial fixed wireless providers (including wireless ISPs, or WISPs) that provide service to end user premises, satellite network operators, terrestrial mobile wireless operators with owned network facilities, electric utilities, public utility districts, municipalities, and other entities.

  However, *facilities-based providers* of *broadband connections* **do not include**: equipment suppliers unless the equipment supplier uses the equipment to provision a *broadband connection* that it offers to the public for sale; providers of air-to-ground service; providers of ship-to-shore service; or providers of terrestrial wireless "hot spot" services—whether offered for an occasional-use fee or offered free of charge—that only enable local distribution and sharing of a broadband connection within a residential or non-residential premises (for example, local-area Wi-Fi or Wi-Fi within public places such as libraries, schools, parks, shopping malls, coffee shops, hotels, and airports).

- *Broadband Connection*: A wired line or wireless channel that terminates at an end-user location and enables the end user to receive information from and/or send information to the Internet at information transfer rates **exceeding 200 kilobits per second (kbps) in at least one direction**.

  Note: The *facilities-based provider* that is obligated to report the *in-service broadband connection* may—or may not—sell the *end user* the Internet access service that is delivered over that *broadband connection*. Nevertheless, for convenience, the terms *broadband connection* and *broadband subscription* are used interchangeably in these instructions.

- *End User*: A residential, business, institutional, or government entity that uses services for its own purposes and does not resell such services to other entities. For the purposes of this form, an Internet Service Provider (ISP) is not an end user of a *broadband connection*.

- *In Service*: A *broadband connection* is *in service* to an end user if: (1) it is delivering Internet access service at the residential or non-residential premises of the end-user that has purchased Internet access service on a month-to-month or longer-term basis (*in-service fixed broadband*), or (2) it is delivering service to a terrestrial mobile wireless service subscriber whose device and data plan provide the ability to transfer, on a monthly basis, either a specified or unlimited amount of data to and from lawful Internet sites of the subscriber's choice (*in-service mobile broadband*).

2.2 Providers of Wired or Fixed Wireless Local Exchange Telephone Service

Each *incumbent* or *competitive Local Exchange Carrier (LEC)* must complete and file the applicable portions of the form if it has one or more *end user customer* of *local exchange telephone service* on the as-of date associated with the form (either June 30 or December 31). The *italicized terms* are defined below, above, or in the Glossary. Additional information can be found in a separate document, Fixed Voice Subscription Terms.

- *Incumbent Local Exchange Carrier (ILEC)*: The entity that was providing *local exchange telephone service* (traditional local phone service) in a particular area on February 8, 1996, the date on which the Telecommunications Act of 1996 was enacted into law. *See* 47 C.F.R. § 51.5. Each such area has a 6-digit *Study Area* Code (SAC).

- *Competitive Local Exchange Carrier (CLEC)*: An entity authorized, by the state regulatory authority (State commission), to provide *local exchange telephone service* within the *study areas* of one or more *ILECs* in that state.

- *Local Exchange Telephone Service*: Local exchange (local telephone) or exchange access service that allows *end users* to originate and/or terminate local telephone calls on the *public switched telephone network*, whether used by the *end user* for voice telephone calls or for other types of calls carried over *the public switched telephone network* (for example, lines connected to facsimile equipment or lines used occasionally or exclusively for dial-up connection to the Internet).

- *End-User Customer of Local Exchange Telephone Service*: A residential, business, institutional, or government entity that purchases *local exchange telephone service*, uses that service for its own purposes, and does not resell that service to other entities.

  Note: The obligation to report information about *local exchange telephone service* does not depend on whether or not the entity owns any telecommunications network facilities.

2.3 Providers of Interconnected Voice over Internet Protocol (VoIP) Service

Each provider of *interconnected VoIP service* must complete and file the applicable portions of the form if it has one or more revenue-generating *end-user customer of interconnected VoIP service* on the as-of date associated with the form (either June 30 or December 31). The *italicized terms* are defined below, above, or in the Glossary. Additional information can be found in a separate document, Fixed Voice Subscription Terms.

- *Interconnected VoIP Service*: A service that: (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet-protocol compatible customer premises equipment; and (4) permits users generally to receive calls that originate on the *public switched telephone network* and to terminate calls to the *public switched telephone network*. *See* 47 C.F.R. § 9.3.

  Note: A service must meet all four elements of the definition of *interconnected VoIP service* to be considered interconnected VoIP. *Local exchange telephone service* that is converted to IP format for transport within the telecommunications network does not meet this definition.

- *End-User Customer of Interconnected VoIP Service*: A residential, business, institutional, or government entity that subscribes to *interconnected VoIP service*, uses that service for its own purposes, does not resell that service to other entities.

> *Note*: The obligation to report information about *interconnected VoIP service* does not depend on whether or not the entity owns any telecommunications network facilities.

2.4 Facilities-based Providers of Mobile Telephony (Mobile Voice) Service:

Each *facilities-based provider* of *mobile telephony service* must complete and file the applicable portions of this form if its network serves one or more *mobile telephony subscriber* on the as-of date associated with the form (either June 30 or December 31). The *subscriber* served may be a customer of the *facilities-based provider* or a customer of a mobile voice service reseller. The *italicized terms* are defined below, above, or in the Glossary. Additional information can be found in these separate documents: Mobile Voice Deployment Terms and Mobile Voice Subscription Terms.

- *Mobile Telephony (Mobile Voice) Service*: A real-time, two-way switched voice service that is interconnected with the public switched network using an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless handoff of subscriber calls. (*See* 47 C.F.R. § 20.15(b)(1))

- *Mobile Telephony (Mobile Voice) Subscriber*: A mobile handset, car-phone, or other revenue-generating, active, voice unit that has a unique phone number and that can place calls to and receive calls from the *public switched telephone network*.

- *Facilities-Based Mobile Voice Provider*: A mobile voice provider is considered facilities-based if it serves a subscriber using its own network facilities and spectrum for which it holds a license, manages, or for which it has obtained the right to use via a spectrum leasing arrangement.

> *Note*: Mobile voice service resellers—including entities that have filed Lifeline Compliance Plans with the Commission—are not facilities-based providers for Form 477 purposes.

2.5 Form Sections to Be Completed by Each Type of Provider

Section	Provider Type				
	Facilities-based Providers* of *Broadband Connections* to *End-user Premises	***Facilities-based Providers* of Terrestrial Mobile Wireless Broadband**	**Providers of Wired or Fixed Wireless *Local Exchange Telephone Service***	**Providers of *Interconnected VoIP Service***	**Facilities-based *Mobile Voice Provider***
Filer Identification	✓	✓	✓	✓	✓
Fixed Services					
Fixed Broadband Deployment	✓				
Fixed Broadband Subscription	✓				
Fixed Voice Subscription (Tract Data)			✓	✓	
Local Exchange Telephone Subscriptions (State Data)			✓		
Interconnected VoIP Subscription (State Data)				✓	
Mobile Services					
Mobile Broadband Deployment		✓			
Mobile Broadband Service Availability		✓			
Mobile Broadband Subscription		✓			
Mobile Voice Deployment					✓
Mobile Voice Subscription					✓
Explanations and Comments	As needed	As needed	As needed	As needed	As needed

3. Notes on Interface Mechanics

Using the Form 477 Filing Interface

How to …	
Submit data over multiple sessions…	The interface allows you to enter data or upload data files, in accordance with the instructions for Completing Each Section of Form 477, over multiple work sessions. The **Main Menu** screen will generally show the submission's status as **Original – In Progress** during these sessions.
Save data entered…	To save data entered before moving to a different section of the form or to complete at a later session, select the **Save and Return to Submission Menu** button on the interface screen prior to logging out of a work session.
Logout of a session…	The interface should be closed between sessions by selecting **Log Out** in the upper right corner of the submission interface.
Return to a submission in progress…	Login to the interface and, on the **Main Menu**, select the **View/Edit** button in the View/Edit column to open the **Submission Menu**
Edit Filer Identification information…	Select the **Filer Identification** link on the **Submission Menu** to open the **Filer Identification** page
Submit a completed form…	Once you have entered or uploaded all data for a particular submission, you must officially submit the data to the FCC for that filing to be complete. To do this, either (a) select the **Submit** button in the **Revise/Submit** column on the **Main Menu** or (b) select the **Submit as Complete** button that appears at the top of the **Submission Menu**. Either option will ask you whether you are sure you want to submit the filing. If so, select **Submit as Complete**. If not, select **Cancel**.
Revise a Submitted Filing…	Once a submission is accepted, its **Status** on the **Main Menu** will be **Original – Submitted**. At this point, the submission will be locked for editing unless you reopen it for revision. You can do that by selecting the **Revise** button in the **Revise/Submit column** on the **Main Menu**.
Confirm a Submission…	Once you have completed your filing and select the **Submit as Complete** button, a **Submission Confirmation** page will appear. This page will confirm your submission, provide the date and time of submission, and allow you to view, save and print a detailed summary of your filing.

The system will evaluate the completeness and internal consistency of the data and return an error message if additional sections of the form must be completed or if data must be modified in order for the submission to be accepted.

4. Submitting Data via File Upload or Interactive Data Entry

The chart below lists the sections of the form, in the order in which they appear in the **Submission Menu** interface, and how the data will be submitted. A filer's census block- or census tract-level data for the entire nation can be uploaded in a single delimited, plain text file (CSV, or comma-separated values, is a file format used to store tabular data in plain-text form, so we use the term CSV in the table below) for each section of the form. The sections of the form that require interactive data entry are those in which fixed and mobile voice subscribership information is submitted at the state level.

Section of Form 477 Filing Interface	Geography	Method of Data Submission
Filer Identification	NA	Interactive Data Entry
Fixed Services		
Fixed Broadband Deployment	Census block	CSV File Upload
Fixed Broadband Subscription	Census tract	CSV File Upload or Interactive Data Entry
Fixed Voice Subscription (Tract Data)	Census tract	CSV File Upload or Interactive Data Entry
Local Exchange Telephone Subscriptions (State Data)	State	Interactive Data Entry
Interconnected VoIP Subscription (State Data)	State	Interactive Data Entry
Mobile Services		
Mobile Broadband Deployment	Coverage area	Shapefile Upload
Mobile Broadband Service Availability	Census tract	CSV File Upload
Mobile Broadband Subscription	State	CSV File Upload or Interactive Data Entry
Mobile Voice Deployment	Coverage area	Shapefile Upload
Mobile Voice Subscription	State	Interactive Data Entry
Explanations and Comments	NA	Interactive Text Entry

In the Fixed Broadband Subscription, Fixed Voice Subscription – Tract Data, and Mobile Broadband Subscription sections, information may be submitted by interactive data entry or by uploading a delimited plain text / CSV file.

Note: Regardless of size, files can take a while to upload and process, especially at times of peak usage. We recommend starting the upload and then moving to another part of the form and returning to the page at a later time. You can also log out without interrupting the upload.

5. Completing Each Section of FCC Form 477

5.1 Login & Main Menu

You can access the Form 477 Filing Interface using one of the methods listed below. The interface can be accessed in different web browsers, including Chrome, Firefox, Internet Explorer, and Safari. However, filers using Internet Explorer must use version 9 or higher.

- Enter the following URL into a web browser: https://apps2.fcc.gov/form477/login.xhtml; or
- At the FCC's Form 477 Resources webpage (at http://www.fcc.gov/encyclopedia/form-477-resources-filers), click on the link to file Form 477, or
- On the FCC Forms webpage, scroll down the "Form No." column until you reach "477," then click on the link for 477 Electronic Filing.

Log In: Once you have accessed the Form 477 Filing Interface Login page, enter the FCC Registration Number (FRN) that will be used for this submission, and the associated password.

Main Menu: After automatically validating the LOGIN information (FRN and password), the Form 477 filing interface presents a **Main Menu** screen, where you will **Create a New Form 477** submission, either ILEC or Non-ILEC, for the entity(ies) associated with the FRN. The **Main Menu** also tracks the status of submissions as they are created, edited, and officially submitted.

Note on ILEC / Non-ILEC Filings: A filer (including affiliates) may submit a single file to report information for all areas of the nation in which it operates—**except that** information about ILEC fixed voice services (local exchange telephone service and interconnected VoIP service) sold within the filer's ILEC Study Area(s), if any, must be reported on a filing for ILEC operations, and information about fixed voice services sold outside the filer's ILEC Study Area(s) must be reported on a filing for Non-ILEC operations. Filers may—at their convenience—submit more than one file for ILEC operations and/or more than one file for Non-ILEC operations, but a single FRN may be used to create no more than one ILEC operations file and one Non-ILEC operations file.

To start a new Form 477 submission, first use the **Main Menu** drop-down list to specify the **Data as of** date for the data to be reported in the submission. Next, use the option buttons to **Create New ILEC** or to **Create New Non-ILEC** filing.

5.2 Filer Identification

The interface will then present a **Filer Identification** screen where you will complete the required information that was not automatically populated and correct information as appropriate. Below is a list of fields to be entered on the Filer Identification page:

(1) **FRN:** Automatically populated by LOGIN step.

(2) **Provider Name:** The business entity name associated with the FRN, automatically populated by the LOGIN step.

(3) **Holding Company / Common Control Name:** Use a single name, such as the holding company name, to identify **all** commonly-owned or commonly-controlled entities that are filing Form 477 data. (*See* 47 U.S.C. § 153(2) (establishing a greater than 10 percent equity interest, or the equivalent thereof, as indicia of ownership.)) You can identify a single name by clicking the **Company Select List** button and selecting a name from the drop-down list. Filers that have no holding company but are controlled by the same owners should decide on a single name to use for this entry. Filers that are not affiliated with any other Form 477 filer should use the company name entered in (2); if that name does not appear in the drop-down menu, you can enter it in the box to the right of the **Company Select List** button.

(4) **Operations:** ILEC or Non-ILEC, as automatically populated in **Create New Filing** step.

(5) **Study Area Codes:** Voice providers eligible for Universal Service Fund support (Eligible Telecommunications Carriers, or ETCs) have a 6-digit Study Area Code. This includes all *ILECs* as well as some other fixed voice and some mobile voice providers. Each fixed or mobile voice provider covered by this filing that is an ETC must enter its Study Area Code(s). You can search for your *study area* codes here.

(6) **Form 499 Filer IDs:** Providers of telecommunications services will have had a 499A Filer ID issued to them after fulfilling the FCC's registration requirement at 47 C.F.R. § 64.1195. Enter the 6-digit Form 499A Filer IDs for all providers that are entirely or partially covered by this filing. You can search for your Form 499A Filer IDs here.

Note: The list of Form 499 Filer IDs used in the Form 477 filing interface is not updated in real-time, so if your 499 Filer ID was issued or updated recently, it may not be included in the list used by the interface and you'll receive an error message after entering it. If this is the case, please enter an older Form 499 Filing ID or the 499 Filer ID of an affiliate, and provide an explanation in the Explanations and Comments section of the form. If you are a Non-ILEC, you can leave this field blank and provide your current 499 Filer ID in the Explanations and Comments section.

(7) Provider's Website Address: Provide a website for the filing entity if there is one.

(8) Emergency Operations Contact Information: Enter the requested contact information for the individual who can be contacted to provide network status information in a natural disaster or other emergency.

(9) Form 477 Contact Information: Enter the requested information for the filer's contact person who should receive any follow-up questions about the data submitted in the filing.

(10) Certifying Official Contact Information: Enter the requested information for the person (corporate officer, managing partner, or sole proprietor) whose signature certifies that he/she has examined the information contained in this Form 477 and that, to the best of his/her knowledge, information and belief, all statements of fact contained in this Form 477 are true and correct. For purposes of this Form 477, the entry of the official's name on this line shall constitute that official's electronic signature to this certification. Persons making willful false statements in a Form 477 can be punished by fine or imprisonment under the Communications Act, 47 U.S.C. § 220(e).

(11) Non-disclosure Check Box 1: Use the check-off box to indicate whether non-disclosure is requested for some or all of the subscription (broadband connections or voice service subscribers) information in this submission because the filer believes that this information is privileged and confidential and public disclosure of such information would likely cause substantial harm to the competitive position of the filer.

(12) Non-disclosure Check Box 2: Use the check-off box to indicate whether non-disclosure is requested for some or all of the terrestrial mobile wireless deployment spectrum and speed parameters information in this submission because the filer believes that this information is privileged and confidential and public disclosure of such information would likely cause substantial harm to the competitive position of the filer.

After completing the **Filer Identification** information, click **Save & Continue** to reach the **Submission Menu** screen. The Submission Menu contains links to data-entry screens for the several sections of the form.

5.3 Fixed Broadband Deployment

Information in this section is reported by *facilities-based providers* of fixed *broadband connections* to *end users*. For more information on these terms, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Fixed Broadband Deployment Terms. Note that, for convenience, the terms *broadband connection* and *broadband service* are used interchangeably in these instructions.

Report a list – uploaded as a delimited, plain text / CSV file – of all census blocks in which the filer (including affiliates) makes *broadband connections available* to *end-user premises*, along with the associated information on technology of transmission (see Technology of Transmission Codes for Deployment of Fixed Services table in Codes to Use in Data Upload Files section), maximum upload and download speeds (in Mbps, with a maximum of 3 decimal places), and consumer versus business/government service, as specified in a separate document, How Should I Format My Fixed Broadband Deployment Data? This document provides detailed information on the required fields and how to format them in a delimited, plain text / CSV file for upload. A Sample Fixed Broadband Deployment CSV File and an Excel Template are also available for download.

- *Available*: For purposes of this form, fixed *broadband connections* are *available* in a census block if the provider does, or could, within a service interval that is typical for that type of connection—that is, without an extraordinary commitment of resources—provision two-way data transmission to and from the Internet with advertised speeds exceeding 200 kbps in at least one direction to *end-user premises* in the census block. ***Clarification Notes, added September 10, 2014:*** (1) Companies that would rely on the ordering or installation of a not-yet-leased circuit (including unbundled network elements defined in 47 C.F.R. § 51.319, TDM-based connections, or packet-based connections) to provide service in a census block not currently served should **not** treat that census block as having service available. (2) Dark fiber acquired under an Indefeasible Right of Use (IRU) should be considered the "owned" facilities of the company that acquired the IRU when the dark fiber is used as part of that entity's own system.

- *Satellite Providers*: Satellite providers that believe their deployment footprint can be best represented by every block in a particular state or set of states may abbreviate their upload file by submitting only one block-level record for each state included in the footprint and providing a note in the Explanations and Comments section. For more information, see the separate document, How Should I Format My Fixed Broadband Deployment Data? (section 4).

Note: If your company participated in the NTIA State Broadband Initiative (SBI) for the National Broadband Map, then a list of census blocks representing your service footprint as of June 30, 2015 is available for download on the FCC's Form 477 website.

5.4 Fixed Broadband Subscription

Information in this section is reported by *facilities-based providers* of *in-service* fixed *broadband connections* to *end users*. For more information on these terms, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Fixed Broadband Subscription Terms. Note that, for convenience, the terms *broadband connection*, *broadband subscription*, and *broadband subscriber* are used interchangeably in these instructions.

Information in this section may be submitted by uploading a delimited plain text / CSV file or by entering data interactively one row at a time. Data for upload should be formatted in accordance with the directions provided in a separate document, How Should I Format My Fixed Broadband Subscription Data? To assist with uploading, a Sample Fixed Broadband Subscription CSV File and an Excel Template are available for download.

Report connections to *end-user premises* by census tract that you (including affiliates) equip to enable the *end user* to receive information from and/or send information to the Internet at information transfer rates exceeding 200 kbps in at least one direction.

Report connections that are delivering Internet access service that the *end user* purchased on a month-to-month or longer-term basis. That Internet access service may be purchased from you (including affiliates) or from an unaffiliated entity.

Do not report anywhere on this form high-capacity connections between two or more locations of the same end-user customer, Internet Service Provider (ISP), or communications carrier.

Report the total number of *in-service connections*—and **report** the number of *in-service connections* that are in *consumer service plans*—for each unique combination of census tract and service characteristic. For this section of the form, a service characteristic is a unique combination of technology of transmission (based on the Technology of Transmission Codes for Subscription to Fixed Services table in Codes to Use in Data Upload Files section below), downstream bandwidth as sold in Mbps, and upstream bandwidth as sold in Mbps (with a maximum of 3 decimal places).

- *Consumer Service Plan (or Mass Market / Consumer Service Plan)*: A service plan designed for, marketed to, or purchased by primarily residential *end users*.

5.5 Fixed Voice Subscription (Tract Data)

This section of the form collects information about voice services to *end-user premises*. Information in this section is reported by *local exchange carriers* that have *end-user* customers and by providers of *interconnected VoIP service* that have *end-user* customers. For more information on these and the other *italicized* terms in this section, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Fixed Voice Subscription Terms.

Information in this section may be submitted by uploading a delimited plain text / CSV file or by entering data interactively one row at a time. Data for upload should be formatted in accordance with the directions provided in a separate document, How Should I Format My Fixed Voice Subscription Data? To assist with uploading, a Sample Fixed Voice Subscription CSV File and an Excel Template are also available for download. Once you have uploaded or entered the required census tract-level data on fixed voice subscribership, you will be able to enter interactively the required state-level totals related to Local Exchange Telephone Subscriptions (State Data) and Interconnected VoIP Subscription (State Data).

Local exchange carriers shall **report** the number of *local exchange telephone service* lines in service to their own *end-user* customers by census tract and, for each census tract, shall provide the number of lines provided under *consumer service plans*. The census tract shall be identified by the end-user customer's service address rather than billing address, if the two addresses differ.

Interconnected VoIP service providers shall **report** the number of *interconnected VoIP service subscriptions* sold to their own *end-user* customers by census tract and, for each census tract, shall provide the number of subscriptions provided under *consumer service plans*. For *over-the-top interconnected VoIP* customers, the census tract shall be identified by the customer's *Registered Location*. For other customers, the census tract shall be identified by the service location of the broadband connection to the end user.

- *Consumer Service Plan (or Mass Market / Consumer Service Plan)*: A service plan designed for, marketed to, or purchased by primarily residential *end users*.

Do not report voice transmission capacity (or other transmission capacity) between two or more locations of the same end-user customer, ISP, or communications service provider.

Report *local exchange telephone service* lines in *voice-grade equivalents (VGEs)* based on how they are **charged to the end-user customer** rather than on how they are physically provisioned.

- **Single-line and channelized local exchange telephone service**: A traditional analog POTS line, Centrex-CO extension, or Centrex-CU trunk is one VGE. A Basic Rate Integrated (BRI) Services Digital Network (ISDN) lines is two VGEs. A fully-channelized PRI circuit is 23 VGEs. An end-user customer charged for 8 trunks—for example—that happen to be provisioned over a DS1 circuit is 8 VGEs. However, an end-user customer charged for a fully-channelized DS1 circuit is 24 VGEs.

- **Do not report**: lines not yet in service, lines used for interoffice trunking, company official lines, or lines used for special access (toll bypass) service. Where you are already reporting the portion of a circuit between the end-user customer and your switching center, do not separately count the portion of that circuit between your switching center and a circuit-switched, IP, or other communications network—irrespective of whether you multiplexed the circuit onto a higher-capacity facility between your switching center and that network.

Report *interconnected VoIP subscriptions* based on the maximum number of interconnected VoIP calls that customers may have active—at the same time—between their physical location and the *public switched telephone network* (for more information on these italicized terms, see the Glossary). The maximum number of such calls may be set out under the terms of service agreements with business, institutional, or government customers, or it may be determined by some other method that best reflects customer needs and requirements. For example, providers that market against traditional business telephone systems should be able reliably to estimate what their customers' requirements would be for trunks between a traditional PBX and the telephone company. Please describe the method used in the Explanations and Comments section of the form.

- **Do not report**: interconnected VoIP service plans for wireless devices unless the wireless device is affixed to or otherwise dedicated to use at the *end-user premises*—that is, unless wireless interconnected VoIP is used in a fixed-services deployment. Also, do not count as a separate subscription any add-on charge for the added capability of signing into the subscription over broadband connections away from the end-user premises.

5.6 Local Exchange Telephone Subscriptions (State Data)

Information in this section is reported by *incumbent local exchange carriers (ILECs)* and by *competitive local exchange carriers (CLECs)*. For more information on these and the other *italicized* terms in this section, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Fixed Voice Subscription Terms. The state-level information reported in this section is in addition to, but partially based on, the census tract-level information reported in the Fixed Voice Subscription (Tract Data) section of the form.

Information in this section must be entered interactively. You will be presented with a page for each state for which you reported census-tract level subscription data in the Fixed Voice Subscription (Tract Data) section of the form. You must fill in each box on each state page with either a positive whole number or zero.

Note: If you enter state data and then make changes to your tract data, you will need to re-enter all of your state data.

Lines Provided to Unaffiliated Providers: **Report** the number of wholesale-service lines and the number of unbundled network element loops (UNE-L) that you (including affiliates) provided to **unaffiliated** service providers:

- **Wholesale:** Count *VGEs* provided to unaffiliated service providers under resale arrangements including, among others, commercial agreements that replaced *UNE-Platform* and resold services such as local exchange, Centrex, and channelized special access.

- **UNE-L:** Count lines provided under any UNE loop arrangement where you did not also provide UNE switching for the line. **Do not convert** UNEs **to** *VGEs***.** (Local loop UNEs are defined in the FCC Rules at 47 C.F.R § 51.319(a)-(b).)

Lines Provided to End Users: **Report** the service characteristics listed below for the end-user lines in service (*VGEs*) in each state. To assist filers in this process, the filing interface will add up census tract-level information reported in the Fixed Voice Subscription (Tract Data) section of the form and will use that information to pre-populate, in this section, state-level total end-user lines, state-level Consumer end-user lines, and state-level Business/Government end-user lines. Each state-level service characteristic breakdown listed below must add up to these respective totals.

- **by Services Sold:** For **Voice with Internet**, enter the number of *VGE* lines where you (including affiliates) sell voice and broadband Internet access service to the same end-user customer. It does not matter if the two services are billed separately or if they are billed by different affiliates. The filing interface will then calculate the number of VGE lines for **Voice without Internet**—that is, without the end user **also** purchasing broadband Internet access service—as a residual.

- **by Product Type, Consumer:** Count the consumer-grade VGE as **Consumer & No PIC** if you (including affiliates) **do not** automatically carry interstate long-distance calls made by the end user. Count the VGE as **Consumer & PIC** if you (including affiliates) are the service provider (either facilities-based or reseller) to which an interstate long-distance call is routed automatically, without the use of any access code by the end user.

- **by Product Type, Business/Government:** Count the business/government-grade VGE as **Business/Government & No PIC** if you (including affiliates) **do not** automatically carry interstate long-distance calls made by the end user. Count the VGE as **Business/Government & PIC** if you (including affiliates) are the service provider (either facilities-based or reseller) to which an interstate long-distance call is routed automatically, without the use of any access code by the end user.

- **by Ownership:** Count as **Owned** those *VGE* that terminate at the *end user's premises* over last-mile facilities that you (including affiliates) own or have obtained the right to use as dark fiber within your own system, or that you (including affiliates) have deployed over spectrum for which you hold a license, manage, or have obtained the right to use via a spectrum leasing arrangement. Count as **UNE-L** those *VGE* that terminate at the *end user's premises* over unbundled network element loops obtained from an unaffiliated carrier without also obtaining that carrier's unbundled network element switching for that line. All *VGE* that do not count as **Owned** or **UNE-L** shall be counted as **Resale**. Any *VGE* deployed as *UNE-Platform* and not yet converted to a commercial agreement shall be counted as **Resale**.

- **by Last-mile Medium:** Count *VGE* by the technology in use at the termination at the *end-user's premises*.

Note on Technology/Last-Mile Medium for Local Telephone Subscriptions: Fiber-to-the-Premises (FTTP) requires an optical termination at the end-user premises; Coaxial Cable is the typical infrastructure used by cable television system operators, and it includes hybrid fiber-coax distribution plant; and Fixed Wireless, in this context, includes any type of wireless spectrum equipped to deliver fixed voice service to the end user's premises.

5.7 Interconnected VoIP Subscription (State Data)

Information in this section is reported by *interconnected VoIP service* providers. For more information on the *italicized* terms in this section, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Fixed Voice Subscription Terms. The state-level information reported in this section is in additional to, but partially based on, the census tract-level information reported in the Fixed Voice Subscription (Tract Data) section of the form.

Information in this section must be entered interactively. You will be presented with a page for each state for which you reported census-tract level subscription data in the Fixed Voice Subscription (Tract Data) section of the form. You must fill in each box on each state page with either a positive whole number or zero.

Report the service characteristics listed below for *interconnected VoIP subscriptions* in each state. To assist filers in this process, the filing interface will add up the census tract-level subscription information reported in the Fixed Voice Subscription (Tract Data) section of the form and will use that information to pre-populate, in this section, state-level total subscriptions, state-level consumer-grade subscriptions, and state-level business/government-grade subscriptions. Each state-level service characteristic breakdown listed below must add up to these respective totals.

Over-the-top Subscriptions and **All Other Subscriptions:** By definition (in 47 C.F.R. § 9.3), *interconnected VoIP service* requires a high-capacity, or broadband, connection from the end user's location. That high-capacity connection may, or may not, also be delivering Internet access service to the *end user*. In this section of the form, count a subscription as an **Over-the-top Subscription** if you (including affiliates) **do not** supply (that is, do not sell to the end user) the high-capacity connection that terminates at the end user's premises and delivers the *interconnected VoIP service*. If a subscription **is not** an **Over-the-top Subscription**, count it among **All Other Subscriptions**.

- **Over-the-top Subscriptions: Report Total** and **Consumer** subscriptions. The filing interface will then calculate the number of **Business/Government** subscriptions as a residual.

- **All Other Subscriptions: Report Total** and **Consumer** subscriptions. The filing interface will then calculate the number of **Business/Government** subscriptions as a residual. You also need to distribute **All Other Subscriptions** in the following ways:

    - **by Service Sold:** For **Voice with Internet**, enter the number of subscriptions where you (including affiliates) sell voice and broadband Internet access service to the same end-user customer. It does not matter if the two services are billed separately or if they are billed by different affiliates. The filing interface will then calculate the number of subscriptions for **Voice without Internet**—that is, without the end user also purchasing broadband Internet access service—as a residual.

    - **by Last-mile Medium:** As explained above, **All Other Subscriptions** are subscriptions for which you (including affiliates) also supply the end user with the high-capacity connection that delivers the *interconnected VoIP service*. Count these subscriptions according to the technology of the high-capacity connection that terminates at the end user's premises.

Note on Technology/Last-Mile Medium for Interconnected VoIP Subscriptions: Fiber-to-the-Premises (FTTP) requires an optical termination at the end-user premises; Coaxial Cable is the typical infrastructure used by cable television system operators, and it includes hybrid fiber-coax distribution plant; and Fixed Wireless, in this context, includes any type of wireless spectrum equipped to deliver fixed voice service to the end user's premises.

5.8 Mobile Broadband Deployment

Information in this section is reported by *facilities-based providers* of mobile wireless *broadband connections*. For more information on these terms, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Mobile Broadband Deployment Terms. Note that, for convenience, the terms *broadband connection* and *broadband service* are used interchangeably in these instructions.

These providers shall submit polygons in a shapefile format representing geographic coverage nationwide (including the 50 states, District of Columbia, Puerto Rico, and the Territories and possessions) for each mobile broadband transmission technology (as specified in Technology of Transmission Codes for Mobile Wireless Services table in Codes to Use in Data Upload Files section) deployed in each frequency band (as specified in the Spectrum Codes table in Codes to Use in Data Upload Files section). The data associated with each polygon should indicate the minimum advertised upload and download data speeds associated with that network technology in that frequency band (in Mbps, with a maximum of 3 decimal places), and the coverage area polygon should depict the boundaries where, according to providers, users should expect to receive those advertised speeds. If a provider advertises different minimum upload and download speeds in different areas of the country using the same technology and frequency band (e.g., HSPA+ on AWS spectrum), then the provider should submit separate polygons showing the coverage area for each speed. A variation in technology, frequency band, or speed would require the submission of a separate polygon. If a provider does not advertise the minimum upload and/or download data speeds, the provider must indicate the minimum upload/download data speeds that users should expect to receive within the polygon depicting the geographic coverage area of the deployed technology in the given frequency band. For more information, see Mobile Broadband Deployment Terms.

The shapefiles must be formatted in accordance with the directions provided in a separate document, How Should I Format My Mobile Broadband Deployment Data?, and uploaded as a .zip file to the Form 477 filing interface. A Mobile Broadband Deployment Shapefile Template is available for download.

5.9 Mobile Broadband Service Availability

Information in this section is reported by *facilities-based providers* of mobile wireless *broadband connections*. For more information on these terms, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Mobile Broadband Service Availability Terms.

Report a list – uploaded as a delimited, plain text / CSV file – of all census tracts in which your mobile wireless broadband service is advertised and available to actual and potential subscribers. These data are necessary to determine if there are any portions of your network deployment footprint—as reported by shapefile upload in the Mobile Broadband Deployment section of this form—where service is not actually advertised and made available to actual and potential subscribers.

The list should be formatted in accordance with the directions provided in a separate document, How Should I Format My Mobile Broadband Service Availability Data?, and uploaded as a delimited plain text / CSV file to the Form 477 filing interface. A Sample Mobile Broadband Service Availability CSV File and an Excel Template are also available for download.

5.10 Mobile Broadband Subscription

Information in this section is reported by *facilities-based providers* of mobile wireless *broadband connections*. For more information on these terms, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Mobile Broadband Subscription Terms. Note that, for convenience, the terms *broadband connection* and *broadband subscription* are used interchangeably in these instructions.

Information in this section may be submitted by uploading a delimited plain text / CSV file or by entering data interactively one row at a time. Data for upload should be formatted in accordance with the directions provided in a separate document, How Should I Format My Mobile Broadband Subscription Data? To assist with uploading, a Sample Mobile Broadband Subscription CSV File and an Excel Template are available for download.

Report the number of connections in each state in which the subscriber's device and subscription permit access to lawful Internet content of the subscriber's choice at information transfer rates exceeding 200 kbps in at least one direction. Of the total number of connections in each state, **report** the number of *consumer connections*. In addition, report the minimum upload and download bandwidth/speed (in Mbps, with up to 3 decimal places) associated with the connections in each state.

- *Consumer Connection*: With respect to mobile broadband, a connection not billed to a corporate, non-corporate business, government, or institutional customer account.

Do not report connections in which the subscriber's choice of content is restricted to only customized-for-mobile content.

Include subscriptions to data plans purchased either on a standalone basis, as an add-on feature to a voice subscription, or bundled with a voice subscription, and which provide the ability to transfer, on a monthly basis, either a specified or an unlimited amount of data to and from the Internet.

Include directly-billed subscribers, pre-paid subscribers, and subscribers served via resellers.

5.11 Mobile Voice Deployment

Information in this section is reported by *facilities-based mobile voice providers*, as defined in Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Mobile Voice Deployment Terms.

These providers shall submit polygons in a shapefile format representing geographic coverage nationwide (including the 50 states, District of Columbia, Puerto Rico, and the Territories and possessions) for each mobile voice transmission technology (as specified in Technology of Transmission Codes for Mobile Wireless Services table in Codes to Use in Data Upload Files section) deployed in each frequency band (as specified in the Spectrum Codes table in Codes to Use in Data Upload Files section). A variation in technology or frequency band would require the submission of a separate polygon.

The shapefiles should be formatted in accordance with the instructions provided in a separate document, How Should I Format My Mobile Voice Deployment Data?, and uploaded as a .zip file to the Form 477 filing interface. A Mobile Voice Deployment Shapefile Template is also available for download.

5.12 Mobile Voice Subscription

Information in this section is reported by *facilities-based providers* of *mobile telephony (mobile voice) service*. For more information on these and other blue bolded terms used in this section, see Who Must File This Form? and the Glossary. Additional information can be found in a separate document, Mobile Voice Subscription Terms.

Information in this section must be entered interactively. You must fill in each box for each record with either a positive whole number or zero.

Report the following information for each state in which you serve one or more *mobile telephony (mobile voice) subscribers* using your own network facilities and spectrum for which you hold a license, manage, or have obtained the right to use via a spectrum leasing arrangement:

- **Subscribers:** The number of *mobile telephony (mobile voice) subscribers* in service—including subscribers that you (including affiliates) bill directly (including through agents), pre-paid subscribers, and subscribers served via unaffiliated mobile voice service resellers. **Count as a subscriber** a mobile handset, car-phone, or other revenue-generating, active, voice unit that has a unique phone number and that can place calls to and receive calls from the *public switched telephone network*. Subscribers can be assigned to a state based on the area code of the device's phone number or by using some other method that best reflects the subscriber's location, such as billing address or place of primary use address. Please describe the method used in the Explanations and Comments section of the form.

- **Direct Subscribers:** The number of *mobile telephony (mobile voice) subscribers* in service that are directly billed or pre-paid subscribers of the facilities-based provider.

5.13 Explanations and Comments

You may include explanatory comments in the Explanations and Comments section about any information in the filing. Additionally, we require or recommend that you provide information on the topics below if they relate to your filing. Topics marked with an asterisk (*) require an explanation in this section.

- **Holding Company / Common Control Name**. If you enter a new Holding Company / Common Control Name on the Filer Identification page, please provide any additional information about this new entry.

- **Form 499 Filer ID**. If your company's Form 499 Filer ID did not appear when you tried to enter in on the Filer Identification page, please provide the correct Form 499 Filer ID in this section. The list of Form 499 Filer IDs used in the Form 477 filing interface is not updated in real-time, so if your Filer ID was issued or updated recently, it may not be included in the list used by the interface.

- **Emergency Contact Information**. If you wish to provide additional information about your emergency contact, beyond what is included on the Filer Identification page, please enter in this section. This could include, for example, additional phone numbers or a back-up contact person.

- ***Satellite Providers Filing Abbreviated Fixed Broadband Deployment Data**. Satellite providers that filed abbreviated fixed broadband deployment data must provide an explanation in this section. Specifically, satellite providers that filed a single block record of fixed broadband deployment data for a state or group of state in which provider's deployment can be represented by identical records for every block in that state or group of state, must indicate that is was their intent. For more information, see How Should I Format My Fixed Broadband Deployment Data?, section 4.

- ***Use of "All Other" or "Other" Technology or Spectrum Codes**. If you used the technology code "All Other" or "0" (see Codes to Use in Data Upload Files) in your fixed broadband deployment or fixed broadband subscription data, please provide an explanation of the technology here. However, please consider that we expect that each widely-deployed fixed broadband technology will fit into one of the specified technology categories. If you used the "Terrestrial Mobile Wireless – Other" or "88" code, or if you used the spectrum code "Other" or "103," in your mobile broadband deployment or mobile voice deployment shapefiles, please provide an explanation of the technology and/or spectrum band here.

- ***Method for Determining the Number of Interconnected VoIP Subscriptions**. Please explain the methodology used to determine the number of interconnected VoIP subscriptions reported in the Fixed Voice Subscription (Tract Data) section. This number must be based on the maximum number of interconnected VoIP calls that customers may have active – at the same time – between their physical location and the public switched telephone network (for more information on these italicized terms, see the Glossary). The maximum number of such calls may be set out under the terms of service agreements with business, institutional, or government customers, or it may be determined by some other method that best reflects customer needs and requirements. For example, providers that market against traditional business telephone systems should be able to estimate reliably what their customers' requirements would be for trunks between a traditional PBX and the telephone company.

- ***Method for Assigning Mobile Subscriptions to States**. Mobile broadband and mobile voice subscribers can be assigned to a state based on the area code or the device's phone number of by using some other method that best reflects the subscriber's locations, such as billing address or place of primary use address. Please explain the methodology used to assign mobile broadband and mobile voice subscribers to a state in the Mobile Broadband Subscription and Mobile Voice Subscription sections of the form, respectively.

- **Substantial Changes**. If your subscriber counts or bandwidth entries have changed substantially from your previous submission, please provide an explanation of those changes on this page.

6. Codes to Use in Data Upload Files

The following codes are referenced in these instructions:

Table 1: Technology of Transmission Codes for Deployment of Fixed Services

Technology Code	Description	Details
10	Asymmetric xDSL	Asymmetric xDSL other than ADSL2 and VDSL
11	ADSL2	For example: ADSL2, ADSL2+
12	VDSL	For example: VHDSL, VDSL2
20	Symmetric xDSL	For example: SDSL, HDSL2, HDSL4
30	Other Copper Wireline	All copper-wire based technologies other than xDSL (Ethernet over copper and T-1 are examples)
40	Cable Modem	Cable modem other than DOCSIS 1, 1.1, 2.0, and 3.0
41	Cable Modem – DOCSIS 1, 1.1, and 2.0	
42	Cable Modem – DOCSIS 3.0	
50	Optical Carrier/Fiber to the End User	Fiber to the home or business end user (does not include “fiber to the curb”)
60	Satellite	
70	Terrestrial Fixed Wireless	
90	Electric Power Line	
0	All Other	Any specific technology not listed above

Table 2: Technology of Transmission Codes for Subscription to Fixed Services

Technology Code	Description	Details
10	Asymmetric xDSL	
20	Symmetric xDSL	For example: SDSL, HDSL2, HDSL4
30	Other Copper Wireline	All copper-wire based technologies other than xDSL (Ethernet over copper and T-1 are examples)
40	Cable Modem	
50	Optical Carrier/Fiber to the End User	Fiber to the home or business end user (does not include “fiber to the curb”)
60	Satellite	
70	Terrestrial Fixed Wireless	
90	Electric Power Line	
0	All Other	Any specific technology not listed above

Table 3: Technology of Transmission Codes for Mobile Wireless Services		
Technology Code	**Description**	**Details**
80	Terrestrial Mobile Wireless – WCDMA/UMTS/HSPA	
81	Terrestrial Mobile Wireless – HSPA+	
82	Terrestrial Mobile Wireless – EVDO/EVDO Rev A	
83	Terrestrial Mobile Wireless – LTE	
84	Terrestrial Mobile Wireless – WiMAX	
85	Terrestrial Mobile Wireless – CDMA	
86	Terrestrial Mobile Wireless – GSM	
87	Terrestrial Mobile Wireless – Analog	
88	Terrestrial Mobile Wireless – Other	

Table 4: Spectrum Codes	
Code	**Spectrum Band**
90	700 MHz Band
91	Cellular Band
92	Specialized Mobile Radio (SMR) Band
93	Advanced Wireless Services (AWS) 1 Band
94	Broadband Personal Communications Service (PCS) Band
95	Wireless Communications Service (WCS) Band
96	Broadband Radio Service/Educational Broadband Service Band
97	Satellite (e.g. L-band, Big LEO, Little LEO)
98	Unlicensed (including broadcast television “white spaces”) Bands
99	600 MHz
100	H Block
101	Advanced Wireless Services (AWS) 3 Band
102	Advanced Wireless Services (AWS) 4 Band
103	Other
Information on the specific frequency ranges associated with these bands can be found through the FCC’s Auctions and Wireless Telecommunications Bureau webpages.	

7. General Information

7.1 When to File

- **March 1st** of each year: providers must file data as of December 31 of the preceding year.
- **September 1st** of each year: providers must file data as of June 30 of the same year.

Note on "Holidays": FCC rules provide that, if the filing date falls on a holiday, the filing is due the next business day. The term "holiday" means Saturday, Sunday, officially recognized Federal legal holidays and any other day on which the Commission's offices are closed and not reopened prior to 5:30 p.m. The term "business day" means all days which are not "holidays" as defined above.

7.2 Where and How to File

FCC Form 477 must be filed electronically using the Form 477 filing interface that is available on the Internet at the following address: https://apps2.fcc.gov/form477/login.xhtml. (The interface also may be reached via the "File online" link on the Form 477 Resources for Filers webpage at http://www.fcc.gov/form477.) *See* Login & Main Menu and Notes on Interface Mechanics.

7.3 Certification of Filing Accuracy

Each Form 477 submission must include, in the Filer Identification information, the name of the official (corporate officer, managing partner, or sole proprietor) whose signature certifies that he/she has examined the information contained in this Form 477 and that, to the best of his/her knowledge, information and belief, all statements of fact contained in this Form 477 are true and correct. For purposes of this Form 477, the entry of the official's name on this line shall constitute that official's electronic signature to this certification. Persons making willful false statements in a Form 477 can be punished by fine or imprisonment under the Communications Act, 47 U.S.C. 220(e).

7.4 Requesting Confidentiality

Filers may submit a request that certain information in a Form 477 submission not be made routinely available for public inspection by so indicating in the Filer Identification information for that submission. *See also* 47 C.F.R. §§ 0.457, 0.459, 1.7001(d), 43.11(c); *Examination of the Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission*, GC Docket No. 96-55, Report and Order, 13 FCC Rcd 24816 (1998).

7.5 Obligation to File Revisions

Filers must submit revised data if the filer discovers a significant error. For counts, a difference amounting to 5 percent or more of the filed number is considered significant and requires that filers submit the revised data.

7.6 Compliance

Service providers that are required to file the Form 477 but fail to do so may be subject to enforcement action under sections 502 and 503 of the Communications Act and any other applicable law. *See* 47 U.S.C. §§ 502, 503.

8. Glossary

The following terms are as defined for the specific purposes of this information collection. The filer must interpret these terms in the context of the detailed reporting instructions above.

Available: For purposes of this form, fixed broadband connections are available in a census block if the provider does, or could, within a service interval that is typical for that type of connection—that is, without an extraordinary commitment of resources—provision two-way data transmission to and from the Internet with advertised speeds exceeding 200 kbps in at least one direction to end-user premises in the census block. ***Clarification Notes, added September 10, 2014:*** (1) Companies that would rely on the ordering or installation of a not-yet-leased circuit (including unbundled network elements defined in 47 C.F.R. § 51.319, TDM-based connections, or packet-based connections) to provide service in a census block not currently served should **not** treat that census block as having service available. (2) Dark fiber acquired under an Indefeasible Right of Use (IRU) should be considered the "owned" facilities of the company that acquired the IRU when the dark fiber is used as part of that entity's own system.

Broadband connections: Lines (or wireless channels) that terminate at an end-user location and enable the end user to receive information from and/or send information to the Internet at information-transfer rates exceeding 200 kbps in at least one direction.

Competitive local exchange carrier (CLEC): An entity authorized, by the state regulatory authority (State commission), to provide local exchange telephone service within the Study Areas of one or more incumbent local exchange carriers in that state.

Consumer Connection: With respect to mobile broadband, a connection not billed to a corporate, non-corporate business, government, or institutional customer account.

Consumer Service Plan (or Mass Market / Consumer Service Plan): A service plan that is designed for, marketed to, or purchased by primarily residential end users.

End user: A residential, business, institutional, or government entity that uses services for its own purposes and does not resell such services to other entities. For the purposes of this form, an Internet Service Provider (ISP) is not an end user of a broadband connection.

End-user premises: A building, store, shop, apartment, or other structure, or group of structures, occupied by or under the control of an end user.

Facilities-based broadband provider: A provider of broadband connections to end-user locations that: (1) owns the portion of the physical facility that terminates at the *end-user premises* or obtains the right to use dark fiber or satellite transponder capacity as part of its own network to complete such terminations; (2) obtains unbundled network element (UNE) loops, special access lines, or other leased facilities that terminate at the end-user premises and

provisions/equips them as broadband; (3) provisions/equips a broadband wireless channel to the *end-user premises* over licensed or unlicensed spectrum; or (4) provides terrestrial mobile wireless service using its own network facilities and spectrum for which it holds a license, manages, or has obtained the right to use via a spectrum leasing arrangement.

Facilities-based mobile voice provider: A service provider that serves a subscriber using its own network facilities and spectrum for which it holds a license, manages, or for which it has obtained the right to use via a spectrum leasing arrangement. (Mobile voice service resellers—including entities that have filed Lifeline Compliance Plans—are not facilities-based providers for purposes of Form 477.)

Incumbent local exchange carrier (incumbent LEC, or ILEC): The company that was providing telephone exchange service (local phone service) in a particular area on February 8, 1996, the date on which the Telecommunications Act of 1996 was enacted into law. *See* 47 C.F.R. § 51.5.

In-service broadband: A connection with information-transfer rates above 200 kbps in at least one direction that is (1) delivering Internet access service at the residential or non-residential premises of the end user that has purchased Internet access service on a month-to-month or longer-term basis (**in-service fixed broadband**), or (2) is service to a terrestrial mobile wireless service subscriber whose device and data plan provide the ability to transfer, on a monthly basis, either a specified or unlimited amount of data to and from lawful Internet sites of the subscriber's choice (**in-service mobile broadband**).

Interconnected VoIP Service: A service that: (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet-protocol compatible customer premises equipment; and (4) permits users generally to receive calls that originate on the *public switched telephone network* and to terminate calls to the *public switched telephone network*. *See* 47 C.F.R. § 9.3. Interconnected VoIP service uses IP packet format to transmit voice calls ***between*** the end-user customer's specialized equipment (such as an IP telephone, IP PBX, or TDM-to-IP converter device that is attached to an ordinary telephone or conventional PBX) and the telecommunications network. ***By contrast***, local exchange telephone service uses analog or Time Division Multiplexing (TDM) to transmit voice calls ***between*** the end-user customer's device and the *public switched telephone network*. Note that some end-user customer devices (such as an IP PBX or conventional PBX) can be configured to connect to both local exchange telephone service and interconnected VoIP service, but the two types of service connections are distinct. A single end-user service connection ***cannot be both*** interconnected VoIP service and local exchange telephone service at the same time.

Interconnected VoIP Subscription: Interconnected VoIP service purchased by an end user (that is, by an entity that does not resell the VoIP service to other entities).

Local exchange telephone service: Local exchange (local telephone) or exchange access service that allows end users to originate and/or terminate local telephone calls on the *public switched*

telephone network, whether used by the end user for voice telephone calls or for other types of calls carried over the *public switched telephone network* (for example, lines connected to facsimile equipment or lines used occasionally or exclusively for dial-up connection to the Internet). Local exchange telephone service uses analog or Time Division Multiplexing (TDM) format to transmit voice calls ***between*** the end-user customer's device and the telecommunications network. Commonly, the end-user device is an ordinary dial pulse or touch-tone (wired or cordless) telephone or a conventional PBX, but the device also could be an IP PBX to the extent that the PBX connects to TDM service at the end user's premises. ***By contrast***, interconnected VoIP service requires, among other things, the end-user customer to have specialized equipment (such as an IP telephone or a TDM-to-IP converter device attached to an ordinary telephone), and it uses IP packet format to transmit voice calls **between** that specialized equipment and the telecommunications network. Note that a single end-user service connection ***cannot be both*** local exchange telephone service and interconnected VoIP service at the same time.

Mobile telephony (mobile voice) service: A real-time, two-way switched voice service that is interconnected with the public switched network using an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless handoff of subscriber calls.

Mobile telephony (mobile voice) subscriber: A mobile handset, car-phone, or other revenue-generating, active, voice unit that has a unique phone number and that can place and receive calls from the *public switched telephone network*.

Over-the-top interconnected VoIP: Service delivered to the end-user customer over a high-capacity connection that the customer obtains from an entity ***not affiliated*** with the interconnected VoIP service provider. (Colloquially, "bring-your-own-broadband.")

Owned local exchange service line: A local exchange service line that terminate at the end user's premises over last-mile facilities that the filer (including affiliates) owns or has obtained the right to use as dark fiber within its own system.

Presubscribed interstate long distance carrier: The (facilities-based or reseller) carrier to which an interstate long distance call is routed automatically, without the use of any access code by the end user.

Public switched telephone network: The interconnected set of telecommunications networks that use analog or Time Division Multiplexing (TDM) format to transmit voice calls ***between*** end-user customers and the telecommunications network. The modern public switched telephone network frequently converts these voice calls into IP packet format for transport within and among networks ("IP-in-the-middle"). However, such ***within-network*** format conversion is not relevant to the definitions of—and distinction between—local exchange telephone service and interconnected VoIP service.

Registered location: The most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user. *See* 47 C.F.R. § 9.3.

Residential end-user premises: Residential living units (e.g., single family dwellings and individual households in multiple dwelling units such as apartments, condominiums, mobile home parks, etc.) and also individual living units in such institutional settings as college dormitories and nursing homes. (***Clarification added March 23, 2016***.)

Residential lines: Lines (***Clarification added March 23, 2016:*** that is, local exchange telephone service lines or interconnected VoIP service subscriptions) provided to residential end-user premises. Also includes any lines the filer provides to a shared-tenant service provider in an apartment building or similar residential setting.

Study Area: The particular area within which an incumbent local exchange carrier was providing local exchange telephone service (traditional local phone service) on February 8, 1996, the date on which the Telecommunications Act of 1996 was enacted into law. *See* 47 C.F.R. § 51.5. Each such area has a 6-digit Study Area Code (SAC). Additionally, some other voice service providers are eligible for Universal Service Fund support and therefore have a 6-digit SAC.

UNE-Platform: The combination of loop UNE, switching UNE, and transport UNE. (UNEs are defined in the FCC Rules. *See* 47 C.F.R § 51.319.) UNE-P no longer exists as a required unbundling obligation**.**

Voice-grade equivalent (VGE): Generally, the number of DS0 (64 kbps) lines/channels in a higher-capacity circuit. In Form 477, the VGEs in a higher-capacity circuit must be counted **according to how the end user is charged** rather than on how the service is physically provisioned.

9. Disclosure, Privacy Act, Paperwork Reduction Act Notice

The Privacy Act of 1974 and the Paperwork Reduction Act of 1995 require that, when we ask you for information, we must first tell you our legal right to ask for the information, why we are asking for it, and how it will be used. We must also tell you what could happen if we do not receive it and whether your response is voluntary, required to obtain a benefit, or mandatory under the law. See Privacy Act of 1974, P.L. 93-579, December 31, 1974, 5 U.S.C. § 552a (e)(3), and the Paperwork Reduction Act of 1995, P.L. No. 104-13, 44 U.S.C. § 3501, *et seq*.

Our legal right to ask for this information is sections 1.7000-1.7002, 20.15, 43.01, 43.11 of the Federal Communications Commission's rules. 47 C.F.R. §§ 1.7000-1.7002, 20.15, 43.01, 43.11. Your response is mandatory.

This collection of information stems from the Commission's authority under sections 1-5, 11, 201-205, 211, 215, 218-220, 251-271, 303(r), 332, 403, 502, and 503 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-155, 161, 201-205, 211, 215, 218-220, 251-271, 303(r), 332, 403, 502, and 503, and section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 157nt. The data in the Form 477 will be used to monitor the deployment of broadband services and the development of local telephone service competition. Summary information derived from the form will be made available to the public in a manner consistent with the Commission's rules and orders.

The time needed to complete and file Form 477 will vary depending on individual circumstances. Each semi-annual response to this information collection will consist of one or more sections. There is significant variation among respondents in the number of sections and in the amount of information in a section. The annual reporting burdens for this collection of information, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data and completing and reviewing the collection of information, are estimated to be: 2,002 respondents, 387 hours per response, 2 responses per year, for a total annual burden of 1,549,548; there are no annual costs. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to Leslie F. Smith, Federal Communications Commission, Room 1-C216, 445 12th Street, SW, Washington, DC, 20554. Please include the OMB Control Number: 3060-0816, in your correspondence. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to leslie.smith@fcc.gov or call (202)418-0217. You may also e-mail your comments to: PRA@fcc.gov. DO NOT SEND COMPLETED FCC FORM 477 TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid Office of Management and Budget (OMB) control number. This collection has been assigned an OMB control number of 3060-0816.

The Commission is authorized under the Communications Act of 1934, as amended, to collect the personal information we request in this form. If we believe there may be a violation or potential violation of a statute or a Commission regulation, rule, or order, your filing may be referred to the Federal, state, or local agency responsible for investigating, prosecuting, enforcing, or implementing the statute, rule, regulation, or order. In certain cases, the information in your filing may be disclosed to the Department of Justice, court, or other adjudicative body when (a) the Commission; or (b) any employee of the Commission; or (c) the United States government, is a party to a proceeding before the body or has an interest in the proceeding.

Reporting entities failing to file Form 477 in a timely fashion may be subject to penalties under the Communications Act, including sections 502 and 503(b).

CLLI	Wire Center	Exchange Service Area	Total Households	Cable Voice Households	% of Households with Cable Availability
AFTNMNAF	AFTON	ST PAUL	9,570	9,024	94%
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,725	7,947	91%
ANOKMNAN	ANOKA	ANOKA	31,088	30,514	98%
APPLMNAP	APPLETON	APPLETON	802	633	79%
AUSTMNAB	AUSTIN	AUSTIN	12,229	10,382	85%
AVONMNVO	AVON	AVON	1,106	833	75%
BFLOMNBU	BUFFALO	BUFFALO	7,733	6,982	90%
BLANMNBL	BLAINE	MINNEAPOLIS	33,666	32,709	97%
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984	3,975	100%
BLTNMNNO	BLOOMINGTON NORMAN	MINNEAPOLIS	11,366	11,148	98%
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	18,796	99%
BMDJMNBE	BEMIDJI	BEMIDJI	11,812	4,700	40%
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	20,840	100%
BRHMMNBR	BRAHAM	BRAHAM	2,456	741	30%
BRNMMNBA	BARNUM	BARNUM	1,379	203	15%
BRNRMNBR	BRAINERD	BRAINERD	14,609	12,037	82%
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,797	19,657	99%
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,409	953	68%
BUHLMNBU	BUHL	BUHL	747	75	10%
BWBKMNBI	BIWABIK	BIWABIK	1,213	499	41%
CHSHMNCS	CHISHOLM	CHISHOLM	3,064	2,303	75%
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	812	59%
CKTNMNCR	CROOKSTON	CROOKSTON	3,752	2,968	79%
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1,336	71%
CLQTMNCA	CLOQUET	CLOQUET	8,565	6,119	71%
CLRNMNCO	COLERAINE	COLERAINE	2,200	936	43%
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	1,901	73%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,200	3,546	57%
CMSTMNCO	COMSTOCK	COMSTOCK	156		0%
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,795	31,065	98%
COOKMNCO	COOK	COOK	1,030	304	30%
CRTOMNCB	CARLTON	CARLTON	1,631	464	28%
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,344	24,131	99%
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	451	27%
CTFDMNCH	CHATFIELD	CHATFIELD	1,839	1,168	64%
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	16,044	98%
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,577	11,576	100%
DLTHMNCB	DULUTH CALUMET	DULUTH	8,381	7,814	93%
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,268	2,254	99%
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,064	3,989	66%
DLTHMNME	DULUTH MELROSE	DULUTH	13,970	13,908	100%

CLLI	Wire Center	Exchange Service Area	Total Households	Cable Voice Households	% of Households with Cable Availability
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,616	2,067	45%
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,305	6,302	86%
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	30,330	99%
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,529	20,333	99%
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,897	19,791	99%
EKRVMNER	ELK RIVER	ELK RIVER	14,140	12,870	91%
EVLTMNEV	EVELETH	VIRGINIA	3,500	2,386	68%
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	12,405	99%
FNLDMNFO	FINLAND	SILVER BAY	308		0%
FOLYMNFO	FOLEY	FOLEY	2,042	991	49%
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	8,307	75%
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	11,871	96%
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	6,195	76%
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,447	8,871	94%
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	705	48%
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	6,486	76%
GLVLMNGL	GLENVILLE	GLENVILLE	768		0%
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	27,381	97%
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	1,406	83%
GYLRMNGA	GAYLORD	GAYLORD	1,178	827	70%
HAMLMNHB	HAMEL	HAMEL	3,481	3,252	93%
HBNGMNHI	HIBBING	HIBBING	7,871	6,808	86%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	930	383	41%
HNCKMNHI	HINCKLEY	HINCKLEY	2,054	833	41%
HNNGMNHE	HENNING	HENNING	907	594	65%
HNVRMNHB	HANOVER	HANOVER	1,295	825	64%
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,280	26,113	99%
HWLYMNHA	HAWLEY	HAWLEY	1,238	935	76%
ISLKMNIL	ISLAND LAKE	DULUTH	1,656	15	1%
ISNTMNIS	ISANTI	ISANTI	5,183	2,775	54%
JCSNMNJA	JACKSON	JACKSON	2,174		0%
KEWTMNKE	KEEWATIN	KEEWATIN	518	39	8%
LESRMNLS	LE SUEUR	LE SUEUR	2,528	1,659	66%
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	2,863	67%
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	4,202	71%
LVRNMNLU	LUVERNE	LUVERNE	2,649	2,026	76%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,428	764	54%
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,489	1,117	75%
MORAMNMO	MORA	MORA	4,813	1,396	29%
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	14,580	96%
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,281	24,207	100%

CLLI	Wire Center	Exchange Service Area	Total Households	Cable Voice Households	% of Households with Cable Availability
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	38,253	37,722	99%
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	19,633	98%
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,637	20,325	98%
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	1,912	100%
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	22,426	99%
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	9,875	98%
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,486	30,485	100%
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	28,518	99%
MPWDMNMA	MAPLEWOOD	ST PAUL	35,945	35,315	98%
MRBLMNMA	MARBLE	MARBLE	687	49	7%
MRRSMNMO	MORRIS	MORRIS	2,373	1,952	82%
MRSHMNMA	MARSHALL	MARSHALL	6,056	5,467	90%
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	382	81%
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,214	2,449	76%
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,408	3,432	63%
NCLTMNNC	NICOLLET	NICOLLET	670		0%
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,145	7,556	83%
NSHWMNNA	NASHWAUK	NASHWAUK	1,465	835	57%
NSPLMNPR	PARK ROW	ST PAUL	24,518	24,069	98%
NSSWMNNI	NISSWA	NISSWA	2,084	2,015	97%
NVRRMNNA	NAVARRE	NAVARRE	2,097	2,081	99%
NWBTMNCL	CLEVELAND	ST PAUL	17,640	17,589	100%
OGLVMNOA	OGILVIE	OGILVIE	948	130	14%
OKGVMNOG	OAK GROVE	ANOKA	8,125	7,278	90%
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,966	1,473	75%
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,138	882	78%
OWTNMNOW	OWATONNA	OWATONNA	12,285	10,305	84%
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,869	3,024	62%
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,937	19,459	98%
PNCYMNPC	PINE CITY	PINE CITY	3,873	1,846	48%
PPSTMNPI	PIPESTONE	PIPESTONE	2,313	1,829	79%
PRTNMNPR	PRINCETON	PRINCETON	6,858	2,797	41%
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	19,360	99%
RCFRMNRO	ROCKFORD	ROCKFORD	2,961	2,105	71%
RDFLMNRA	REDWOOD FALLS-MORTO	REDWOOD FALLS-MORTON	2,496	2,281	91%
RDWNMNRW	RED WING	RED WING	8,187	7,088	87%
ROCHMNRO	ROCHESTER	ROCHESTER	49,925	48,329	97%
RSCYMNRC	RUSH CITY	RUSH CITY	1,947	912	47%
RYTNMNRN	ROYALTON	ROYALTON	1,327	447	34%
SABNMNSA	SABIN	SABIN	658	337	51%
SDVLMNSO	SODERVILLE	ANOKA	10,670	10,179	95%

CLLI	Wire Center	Exchange Service Area	Total Households	Cable Voice Households	% of Households with Cable Availability
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,985	19,162	96%
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	27,075	26,885	99%
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,102	2,437	79%
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	725	69%
SNDSMNSA	SANDSTONE	SANDSTONE	1,337	682	51%
SPLSMNST	STAPLES	STAPLES	2,412	1,269	53%
STCDMNTO	ST CLOUD	ST CLOUD	47,342	44,813	95%
STCHMNSC	ST CHARLES	ST CHARLES	2,619	1,762	67%
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,207	2,543	79%
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	27,686	100%
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	20,155	100%
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	17,453	99%
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,770	23,561	99%
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	29,798	99%
STPRMNSP	ST PETER	ST PETER	5,798	4,456	77%
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,204	2,539	79%
STWRMNST	STILLWATER	STILLWATER	14,167	13,084	92%
SWVLMNSV	SWANVILLE	SWANVILLE	426		0%
TOFTMNTB	TOFTE	TOFTE	440		0%
TRACMNTR	TRACY	TRACY	1,250	877	70%
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,502	4,769	87%
VRGNMNVI	VIRGINIA	VIRGINIA	7,141	5,859	82%
WADNMNWA	WADENA	WADENA	2,795	2,049	73%
WASCMNWA	WASECA	WASECA	4,754	3,720	78%
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,931	26,415	98%
WBSHMNWA	WABASHA	WABASHA	1,826	1,256	69%
WINOMNWI	WINONA	WINONA	13,605	12,875	95%
WLMRMNWI	WILLMAR	WILLMAR	8,976	8,641	96%
WNDMMNWI	WINDOM	WINDOM	2,593	7	0%
WSPLMNWS	OAKDALE WEST	ST PAUL	31,285	31,022	99%
WYZTMNWA	WAYZATA	WAYZATA	15,839	15,497	98%
			1,497,681	1,366,792	91%

Wire Centers with over 60% Cable Coverage	115
Wire Centers with less than 60% Cable Coverage	39

CLLI	Wire Center	Exchange Service Area	Total Cable Voice Households	Access Media 3	Benton Cablevision Inc	Charter Communications Inc	Comcast	Hiawatha Broadband Communi	Mainstreet Communications LL	Mediacom Minnesota LLC	Midcontinent Communications	Milaca Local Link	Savage Communications Inc	SjobergsInc	TEKSTAR	Vast Broadband
AFTNMNAF	AFTON	ST PAUL	9,024				9,024									
ALLEMNAL	ALBERT LEA	ALBERT LEA	7,947			7,947										
ANOKMNAN	ANOKA	ANOKA	30,514			1,241	29,389									
APPLMNAP	APPLETON	APPLETON	633							633						
AUSTMNAB	AUSTIN	AUSTIN	10,382			10,382										
AVONMNVO	AVON	AVON	833								833					
BFLOMNBU	BUFFALO	BUFFALO	6,982			6,982										
BLANMNBL	BLAINE	MINNEAPOLIS	32,709	92			32,617				30					
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,975				3,975									
BLTNMNNO	BLOOMINGTON NORMAN	MINNEAPOLIS	11,148				11,148									
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,796				18,796									
BMDJMNBE	BEMIDJI	BEMIDJI	4,700								4,700					
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,840				20,840									
BRHMMNBR	BRAHAM	BRAHAM	741								741					
BRNMMNBA	BARNUM	BARNUM	203										203			
BRNRMNBR	BRAINERD	BRAINERD	12,037			11,665							458			
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,657	109			16,130			3,418						
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	953												953	
BUHLMNBU	BUHL	BUHL	75							75						
BWBKMNBI	BIWABIK	BIWABIK	499							499						
CHSHMNCS	CHISHOLM	CHISHOLM	2,303							2,303						
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	812							812						
CKTNMNCR	CROOKSTON	CROOKSTON	2,968								2,968					
CLDNMNCA	CALEDONIA	CALEDONIA	1,336							1,336						
CLQTMNCA	CLOQUET	CLOQUET	6,119							6,119						
CLRNMNCO	COLERAINE	COLERAINE	936							161			775			
CLSPMNCB	COLD SPRING	COLD SPRING	1,901								1,901					
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	3,546								3,546					
CMSTMNCO	COMSTOCK	COMSTOCK														
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,065				31,065									
COOKMNCO	COOK	COOK	304							304						
CRTOMNCB	CARLTON	CARLTON	464							464						
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,131				24,131									
CSSLMNCL	CASS LAKE	CASS LAKE	451								451					
CTFDMNCH	CHATFIELD	CHATFIELD	1,168							1,168						
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,044				16,044			122						
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,576			11,576				104						
DLTHMNCB	DULUTH CALUMET	DULUTH	7,814			6,477				1,828						
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,254			2,254										
DLTHMNLA	DULUTH LAKESIDE	DULUTH	3,989			3,989										
DLTHMNME	DULUTH MELROSE	DULUTH	13,908			13,541				1,854						

CLLI	Wire Center	Exchange Service Area	Total Cable Voice Households	Access Media 3	Benton Cablevision Inc	Charter Communications Inc	Comcast	Hiawatha Broadband Communi	Mainstreet Communications LL	Mediacom Minnesota LLC	Midcontinent Communications	Milaca Local Link	Savage Communications Inc	SjobergsInc	TEKSTAR	Vast Broadband
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	2,067							1,594			473			
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	6,302												6,302	
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,330	195		1,161	29,169									
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,333				20,333									
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,791				17,356			2,435						
EKRVMNER	ELK RIVER	ELK RIVER	12,870	120		11,792	1,134				67					
EVLTMNEV	EVELETH	VIRGINIA	2,386							2,386						
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,405				1,463			11,230						
FNLDMNFO	FINLAND	SILVER BAY														
FOLYMNFO	FOLEY	FOLEY	991								991					
FRBLMNFA	FARIBAULT	FARIBAULT	8,307			8,307										
FRDLMNFR	FRIDLEY	MINNEAPOLIS	11,871				11,871									
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	6,195			6,195										
FRLKMNFL	FOREST LAKE	FOREST LAKE	8,871				207				8,703					
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	705							705						
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	6,486							6,486						
GLVLMNGL	GLENVILLE	GLENVILLE														
GLVYMNOR	ORCHARD	MINNEAPOLIS	27,381				27,381			74						
GLWDMNGL	GLENWOOD	GLENWOOD	1,406			1,406										
GYLRMNGA	GAYLORD	GAYLORD	827							827						
HAMLMNHB	HAMEL	HAMEL	3,252				2,735			1,156						
HBNGMNHI	HIBBING	HIBBING	6,808							6,808						
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	383								383					
HNCKMNHI	HINCKLEY	HINCKLEY	833										833			
HNNGMNHE	HENNING	HENNING	594												594	
HNVRMNHB	HANOVER	HANOVER	825				734			105						
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,113				26,113			123						
HWLYMNHA	HAWLEY	HAWLEY	935												935	
ISLKMNIL	ISLAND LAKE	DULUTH	15			15										
ISNTMNIS	ISANTI	ISANTI	2,775								2,775					
JCSNMNJA	JACKSON	JACKSON														
KEWTMNKE	KEEWATIN	KEEWATIN	39							39						
LESRMNLS	LE SUEUR	LE SUEUR	1,659							1,659						
LTFDMNLI	LITCHFIELD	LITCHFIELD	2,863							2,863						
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	4,202			4,202										
LVRNMNLU	LUVERNE	LUVERNE	2,026							1,974						2,014
MHNMMNMA	MAHNOMEN	MAHNOMEN	764												764	
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,117							1,117						
MORAMNMO	MORA	MORA	1,396								1,396					
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	14,580				14,580			13						
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,207				24,207									

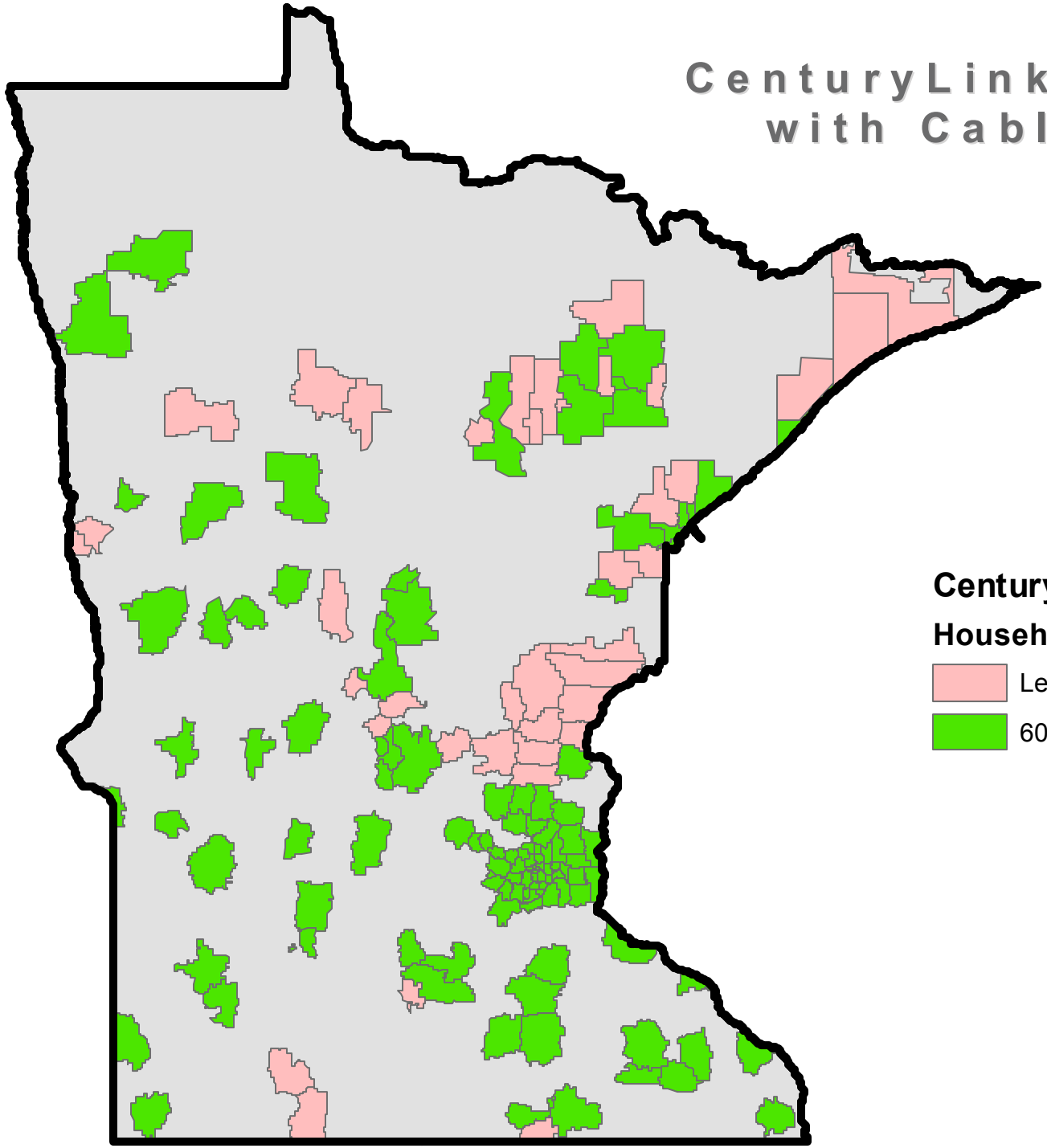
CLLI	Wire Center	Exchange Service Area	Total Cable Voice Households	Access Media 3	Benton Cablevision Inc	Charter Communications Inc	Comcast	Hiawatha Broadband Communi	Mainstreet Communications LL	Mediacom Minnesota LLC	Midcontinent Communications	Milaca Local Link	Savage Communications Inc	SjobergsInc	TEKSTAR	Vast Broadband
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	37,722				37,722									
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	19,633	404			19,633			-						
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,325				20,325									
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,912				1,912									
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,426				22,426									
MPLSMNPE	MPLS PENN	MINNEAPOLIS	9,875	123			9,875									
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,485	309			30,485									
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,518	33			28,518									
MPWDMNMA	MAPLEWOOD	ST PAUL	35,315				35,315									
MRBLMNMA	MARBLE	MARBLE	49							39			10			
MRRSMNMO	MORRIS	MORRIS	1,952							1,952						
MRSHMNMA	MARSHALL	MARSHALL	5,467			5,423										5,379
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	382							382						
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	2,449			2,433				16						
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	3,432								3,432					
NCLTMNNC	NICOLLET	NICOLLET														
NRFDMNNO	NORTHFIELD	NORTHFIELD	7,556			7,389					167					
NSHWMNNA	NASHWAUK	NASHWAUK	835							421			414			
NSPLMNPR	PARK ROW	ST PAUL	24,069				24,069									
NSSWMNNI	NISSWA	NISSWA	2,015			2,015										
NVRRMNNA	NAVARRE	NAVARRE	2,081							2,081						
NWBTMNCL	CLEVELAND	ST PAUL	17,589				17,589									
OGLVMNOA	OGILVIE	OGILVIE	130								130					
OKGVMNOG	OAK GROVE	ANOKA	7,278				4,903				2,395					
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,473							1,473						
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	882								882					
OWTNMNOW	OWATONNA	OWATONNA	10,305			10,037				4	268					
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	3,024			2,084									3,024	
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,459				19,459									
PNCYMNPC	PINE CITY	PINE CITY	1,846								1,846					
PPSTMNPI	PIPESTONE	PIPESTONE	1,829							1,786						1,801
PRTNMNPR	PRINCETON	PRINCETON	2,797								2,787	10				
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,360				19,360									
RCFRMNRO	ROCKFORD	ROCKFORD	2,105			1,879	156			74						
RDFLMNRA	REDWOOD FALLS-MORTO	REDWOOD FALLS-MORTON	2,281							2,281						
RDWNMNRW	RED WING	RED WING	7,088			7,005				650						
ROCHMNRO	ROCHESTER	ROCHESTER	48,329			48,329				25						
RSCYMNRC	RUSH CITY	RUSH CITY	912								912					
RYTNMNRN	ROYALTON	ROYALTON	447								447					
SABNMNSA	SABIN	SABIN	337								337					
SDVLMNSO	SODERVILLE	ANOKA	10,179				7,297				3,638					

CLLI	Wire Center	Exchange Service Area	Total Cable Voice Households	Access Media 3	Benton Cablevision Inc	Charter Communications Inc	Comcast	Hiawatha Broadband Communi	Mainstreet Communications LL	Mediacom Minnesota LLC	Midcontinent Communications	Milaca Local Link	Savage Communications Inc	SjobergsInc	TEKSTAR	Vast Broadband
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,162				14,853			4,570						
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	26,885				26,885			126						
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	2,437			1,838			2,437							
SLBAMNSA	SILVER BAY	SILVER BAY	725							725						
SNDSMNSA	SANDSTONE	SANDSTONE	682										682			
SPLSMNST	STAPLES	STAPLES	1,269			1,269										
STCDMNTO	ST CLOUD	ST CLOUD	44,813		1,060	42,203				-	2,266					
STCHMNSC	ST CHARLES	ST CHARLES	1,762					1,471		1,698						
STJSMNSJ	ST JOSEPH	ST JOSEPH	2,543			2,041					2,452					
STPLMNBE	ST PAUL BEECH	ST PAUL	27,686				27,686									
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,155				20,155									
STPLMNHB	ST PAUL FRONT	ST PAUL	17,453				17,453									
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,561	443			23,561									
STPLMNMK	ST PAUL MARKET	ST PAUL	29,798	511			29,798									
STPRMNSP	ST PETER	ST PETER	4,456							4,456						
STVLMNST	STEWARTVILLE	STEWARTVILLE	2,539			2,539				-						
STWRMNST	STILLWATER	STILLWATER	13,084				13,034				380					
SWVLMNSV	SWANVILLE	SWANVILLE														
TOFTMNTB	TOFTE	TOFTE														
TRACMNTR	TRACY	TRACY	877			821										859
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	4,769											4,769		
VRGNMNVI	VIRGINIA	VIRGINIA	5,859							5,859						
WADNMNWA	WADENA	WADENA	2,049			2,049										
WASCMNWA	WASECA	WASECA	3,720							3,720						
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,415				26,415									
WBSHMNWA	WABASHA	WABASHA	1,256								1,256					
WINOMNWI	WINONA	WINONA	12,875			12,769		12,724								
WLMRMNWI	WILLMAR	WILLMAR	8,641			8,641										
WNDMMNWI	WINDOM	WINDOM	7							7						
WSPLMNWS	OAKDALE WEST	ST PAUL	31,022				31,022									
WYZTMNWA	WAYZATA	WAYZATA	15,497				9,897			6,648						

CenturyLink

CenturyLink Wire Centers with Cable Coverage

Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-6



Source: Fixed Broadband Deployment Block Data as of December 30, 2015; version 1 from https://www.fcc.gov/encyclopedia/broadband-deployment-data-fcc-form-477.

21 October, 2016
Prepared by Jacob Barlow

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability
AFTNMNAF	AFTON	ST PAUL	9,570	0	0%
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,725	4313	49%
ANOKMNAN	ANOKA	ANOKA	31,088	1001	3%
APPLMNAP	APPLETON	APPLETON	802	193	24%
AUSTMNAB	AUSTIN	AUSTIN	12,229	846	7%
AVONMNVO	AVON	AVON	1,106	119	11%
BFLOMNBU	BUFFALO	BUFFALO	7,733	370	5%
BLANMNBL	BLAINE	MINNEAPOLIS	33,666	855	3%
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984	0	0%
BLTNMNNO	BLOOMINGTON NORMAN	MINNEAPOLIS	11,366	1209	11%
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	2476	13%
BMDJMNBE	BEMIDJI	BEMIDJI	11,812	6496	55%
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	1009	5%
BRHMMNBR	BRAHAM	BRAHAM	2,456	0	0%
BRNMMNBA	BARNUM	BARNUM	1,379	1	0%
BRNRMNBR	BRAINERD	BRAINERD	14,609	13869	95%
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,797	4299	22%
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,409	809	57%
BUHLMNBU	BUHL	BUHL	747	0	0%
BWBKMNBI	BIWABIK	BIWABIK	1,213	40	3%
CHSHMNCS	CHISHOLM	CHISHOLM	3,064	0	0%
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	871	63%
CKTNMNCR	CROOKSTON	CROOKSTON	3,752	179	5%
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1500	80%
CLQTMNCA	CLOQUET	CLOQUET	8,565	60	1%
CLRNMNCO	COLERAINE	COLERAINE	2,200	682	31%
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	260	10%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,200	5	0%
CMSTMNCO	COMSTOCK	COMSTOCK	156	13	8%
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,795	433	1%
COOKMNCO	COOK	COOK	1,030	16	2%
CRTOMNCB	CARLTON	CARLTON	1,631	0	0%
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,344	1775	7%
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	1432	86%
CTFDMNCH	CHATFIELD	CHATFIELD	1,839	18	1%
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	1130	7%
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,577	150	1%
DLTHMNCB	DULUTH CALUMET	DULUTH	8,381	103	1%
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,268	12	1%
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,064	760	13%
DLTHMNME	DULUTH MELROSE	DULUTH	13,970	187	1%
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,616	1	0%
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,305	3342	46%
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	2942	10%

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,529	942	5%
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,897	557	3%
EKRVMNER	ELK RIVER	ELK RIVER	14,140	710	5%
EVLTMNEV	EVELETH	VIRGINIA	3,500	2	0%
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	1423	11%
FNLDMNFO	FINLAND	SILVER BAY	308	270	88%
FOLYMNFO	FOLEY	FOLEY	2,042	154	8%
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	8958	81%
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	1526	12%
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	7748	95%
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,447	802	8%
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1455	99%
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	6856	80%
GLVLMNGL	GLENVILLE	GLENVILLE	768	528	69%
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	1589	6%
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	120	7%
GYLRMNGA	GAYLORD	GAYLORD	1,178	943	80%
HAMLMNHB	HAMEL	HAMEL	3,481	29	1%
HBNGMNHI	HIBBING	HIBBING	7,871	30	0%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	930	242	26%
HNCKMNHI	HINCKLEY	HINCKLEY	2,054	0	0%
HNNGMNHE	HENNING	HENNING	907	195	21%
HNVRMNHB	HANOVER	HANOVER	1,295	57	4%
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,280	3488	13%
HWLYMNHA	HAWLEY	HAWLEY	1,238	95	8%
ISLKMNIL	ISLAND LAKE	DULUTH	1,656	0	0%
ISNTMNIS	ISANTI	ISANTI	5,183	75	1%
JCSNMNJA	JACKSON	JACKSON	2,174	1619	74%
KEWTMNKE	KEEWATIN	KEEWATIN	518	0	0%
LESRMNLS	LE SUEUR	LE SUEUR	2,528	144	6%
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	2970	69%
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	5881	99%
LVRNMNLU	LUVERNE	LUVERNE	2,649	23	1%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,428	533	37%
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,489	209	14%
MORAMNMO	MORA	MORA	4,813	41	1%
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	1310	9%
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,281	978	4%
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	38,253	1326	3%
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	2282	11%
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,637	2155	10%
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	0	0%
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	1801	8%
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	588	6%

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,486	2148	7%
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	1537	5%
MPWDMNMA	MAPLEWOOD	ST PAUL	35,945	1830	5%
MRBLMNMA	MARBLE	MARBLE	687	8	1%
MRRSMNMO	MORRIS	MORRIS	2,373	2371	100%
MRSHMNMA	MARSHALL	MARSHALL	6,056	51	1%
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	0	0%
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,214	160	5%
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,408	129	2%
NCLTMNNC	NICOLLET	NICOLLET	670	458	68%
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,145	2486	27%
NSHWMNNA	NASHWAUK	NASHWAUK	1,465	4	0%
NSPLMNPR	PARK ROW	ST PAUL	24,518	1913	8%
NSSWMNNI	NISSWA	NISSWA	2,084	1519	73%
NVRRMNNA	NAVARRE	NAVARRE	2,097	0	0%
NWBTMNCL	CLEVELAND	ST PAUL	17,640	1150	7%
OGLVMNOA	OGILVIE	OGILVIE	948	52	5%
OKGVMNOG	OAK GROVE	ANOKA	8,125	246	3%
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,966	9	0%
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,138	26	2%
OWTNMNOW	OWATONNA	OWATONNA	12,285	6173	50%
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,869	2251	46%
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,937	2632	13%
PNCYMNPC	PINE CITY	PINE CITY	3,873	0	0%
PPSTMNPI	PIPESTONE	PIPESTONE	2,313	43	2%
PRTNMNPR	PRINCETON	PRINCETON	6,858	961	14%
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	1550	8%
RCFRMNRO	ROCKFORD	ROCKFORD	2,961	323	11%
RDFLMNRA	REDWOOD FALLS-MORTO	REDWOOD FALLS-MORTON	2,496	2143	86%
RDWNMNRW	RED WING	RED WING	8,187	7136	87%
ROCHMNRO	ROCHESTER	ROCHESTER	49,925	2590	5%
RSCYMNRC	RUSH CITY	RUSH CITY	1,947	0	0%
RYTNMNRN	ROYALTON	ROYALTON	1,327	112	8%
SABNMNSA	SABIN	SABIN	658	93	14%
SDVLMNSO	SODERVILLE	ANOKA	10,670	150	1%
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,985	3266	16%
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	27,075	3028	11%
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,102	357	12%
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	821	78%
SNDSMNSA	SANDSTONE	SANDSTONE	1,337	73	5%
SPLSMNST	STAPLES	STAPLES	2,412	310	13%
STCDMNTO	ST CLOUD	ST CLOUD	47,342	33880	72%
STCHMNSC	ST CHARLES	ST CHARLES	2,619	420	16%
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,207	120	4%

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	1134	4%
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	3456	17%
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	1137	6%
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,770	1516	6%
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	1944	6%
STPRMNSP	ST PETER	ST PETER	5,798	3521	61%
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,204	193	6%
STWRMNST	STILLWATER	STILLWATER	14,167	143	1%
SWVLMNSV	SWANVILLE	SWANVILLE	426	61	14%
TOFTMNTB	TOFTE	TOFTE	440	427	97%
TRACMNTR	TRACY	TRACY	1,250	102	8%
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,502	131	2%
VRGNMNVI	VIRGINIA	VIRGINIA	7,141	95	1%
WADNMNWA	WADENA	WADENA	2,795	194	7%
WASCMNWA	WASECA	WASECA	4,754	3880	82%
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,931	956	4%
WBSHMNWA	WABASHA	WABASHA	1,826	1650	90%
WINOMNWI	WINONA	WINONA	13,605	292	2%
WLMRMNWI	WILLMAR	WILLMAR	8,976	271	3%
WNDMMNWI	WINDOM	WINDOM	2,593	2241	86%
WSPLMNWS	OAKDALE WEST	ST PAUL	31,285	2078	7%
WYZTMNWA	WAYZATA	WAYZATA	15,839	862	5%

Wire Centers with over 60% Coverage 26

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability
AFTNMNAF	AFTON	ST PAUL	9,570	0	0%
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,725	4313	49%
ANOKMNAN	ANOKA	ANOKA	31,088	1001	3%
APPLMNAP	APPLETON	APPLETON	802	193	24%
AUSTMNAB	AUSTIN	AUSTIN	12,229	846	7%
AVONMNVO	AVON	AVON	1,106	119	11%
BFLOMNBU	BUFFALO	BUFFALO	7,733	370	5%
BLANMNBL	BLAINE	MINNEAPOLIS	33,666	855	3%
BLTNMNCE	BLOOMINGTON CED	MINNEAPOLIS	3,984	0	0%
BLTNMNNO	BLOOMINGTON NOR	MINNEAPOLIS	11,366	1209	11%
BLTNMNSO	BLOOMINGTON SOU	MINNEAPOLIS	18,906	2476	13%
BMDJMNBE	BEMIDJI	BEMIDJI	11,812	6496	55%
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	1009	5%
BRHMMNBR	BRAHAM	BRAHAM	2,456	0	0%
BRNMMNBA	BARNUM	BARNUM	1,379	1	0%
BRNRMNBR	BRAINERD	BRAINERD	14,609	13869	95%
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,797	4299	22%
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,409	809	57%
BUHLMNBU	BUHL	BUHL	747	0	0%
BWBKMNBI	BIWABIK	BIWABIK	1,213	40	3%
CHSHMNCS	CHISHOLM	CHISHOLM	3,064	0	0%
CHSTMNCH	BASS BROOK(COHAS	BASS BROOK(COHAS	1,374	871	63%
CKTNMNCR	CROOKSTON	CROOKSTON	3,752	179	5%
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1500	80%
CLQTMNCA	CLOQUET	CLOQUET	8,565	60	1%
CLRNMNCO	COLERAINE	COLERAINE	2,200	682	31%
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	260	10%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,200	5	0%
CMSTMNCO	COMSTOCK	COMSTOCK	156	13	8%
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,795	433	1%
COOKMNCO	COOK	COOK	1,030	16	2%
CRTOMNCB	CARLTON	CARLTON	1,631	0	0%
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,344	1775	7%
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	1432	86%
CTFDMNCH	CHATFIELD	CHATFIELD	1,839	18	1%
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	1130	7%
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,577	150	1%
DLTHMNCB	DULUTH CALUMET	DULUTH	8,381	103	1%
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,268	12	1%
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,064	760	13%
DLTHMNME	DULUTH MELROSE	DULUTH	13,970	187	1%
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,616	1	0%
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,305	3342	46%
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	2942	10%
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,529	942	5%
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,897	557	3%
EKRVMNER	ELK RIVER	ELK RIVER	14,140	710	5%
EVLTMNEV	EVELETH	VIRGINIA	3,500	2	0%
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	1423	11%
FNLDMNFO	FINLAND	SILVER BAY	308	270	88%
FOLYMNFO	FOLEY	FOLEY	2,042	154	8%
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	8958	81%
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	1526	12%
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	7748	95%
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,447	802	8%
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1455	99%
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	6856	80%
GLVLMNGL	GLENVILLE	GLENVILLE	768	528	69%
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	1589	6%
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	120	7%
GYLRMNGA	GAYLORD	GAYLORD	1,178	943	80%
HAMLMNHB	HAMEL	HAMEL	3,481	29	1%
HBNGMNHI	HIBBING	HIBBING	7,871	30	0%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	930	242	26%
HNCKMNHI	HINCKLEY	HINCKLEY	2,054	0	0%
HNNGMNHE	HENNING	HENNING	907	195	21%
HNVRMNHB	HANOVER	HANOVER	1,295	57	4%
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,280	3488	13%
HWLYMNHA	HAWLEY	HAWLEY	1,238	95	8%
ISLKMNIL	ISLAND LAKE	DULUTH	1,656	0	0%
ISNTMNIS	ISANTI	ISANTI	5,183	75	1%
JCSNMNJA	JACKSON	JACKSON	2,174	1619	74%
KEWTMNKE	KEEWATIN	KEEWATIN	518	0	0%
LESRMNLS	LE SUEUR	LE SUEUR	2,528	144	6%
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	2970	69%
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	5881	99%
LVRNMNLU	LUVERNE	LUVERNE	2,649	23	1%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,428	533	37%
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,489	209	14%
MORAMNMO	MORA	MORA	4,813	41	1%
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	1310	9%
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,281	978	4%
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	38,253	1326	3%
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	2282	11%
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,637	2155	10%
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	0	0%
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	1801	8%
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	588	6%
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,486	2148	7%
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	1537	5%
MPWDMNMA	MAPLEWOOD	ST PAUL	35,945	1830	5%
MRBLMNMA	MARBLE	MARBLE	687	8	1%
MRRSMNMO	MORRIS	MORRIS	2,373	2371	100%
MRSHMNMA	MARSHALL	MARSHALL	6,056	51	1%
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	0	0%
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,214	160	5%
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,408	129	2%
NCLTMNNC	NICOLLET	NICOLLET	670	458	68%
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,145	2486	27%
NSHWMNNA	NASHWAUK	NASHWAUK	1,465	4	0%
NSPLMNPR	PARK ROW	ST PAUL	24,518	1913	8%
NSSWMNNI	NISSWA	NISSWA	2,084	1519	73%
NVRRMNNA	NAVARRE	NAVARRE	2,097	0	0%
NWBTMNCL	CLEVELAND	ST PAUL	17,640	1150	7%
OGLVMNOA	OGILVIE	OGILVIE	948	52	5%
OKGVMNOG	OAK GROVE	ANOKA	8,125	246	3%
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,966	9	0%
ORVLMNOR	ORTONVILLE-BIG STC	ORTONVILLE-BIG STC	1,138	26	2%
OWTNMNOW	OWATONNA	OWATONNA	12,285	6173	50%
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,869	2251	46%
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,937	2632	13%
PNCYMNPC	PINE CITY	PINE CITY	3,873	0	0%
PPSTMNPI	PIPESTONE	PIPESTONE	2,313	43	2%
PRTNMNPR	PRINCETON	PRINCETON	6,858	961	14%
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	1550	8%
RCFRMNRO	ROCKFORD	ROCKFORD	2,961	323	11%
RDFLMNRA	REDWOOD FALLS-MC	REDWOOD FALLS-MC	2,496	2143	86%
RDWNMNRW	RED WING	RED WING	8,187	7136	87%
ROCHMNRO	ROCHESTER	ROCHESTER	49,925	2590	5%
RSCYMNRC	RUSH CITY	RUSH CITY	1,947	0	0%
RYTNMNRN	ROYALTON	ROYALTON	1,327	112	8%
SABNMNSA	SABIN	SABIN	658	93	14%
SDVLMNSO	SODERVILLE	ANOKA	10,670	150	1%
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,985	3266	16%
SHVWMNRI	SHOREVIEW-RICE ST	ST PAUL	27,075	3028	11%
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,102	357	12%
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	821	78%
SNDSMNSA	SANDSTONE	SANDSTONE	1,337	73	5%
SPLSMNST	STAPLES	STAPLES	2,412	310	13%
STCDMNTO	ST CLOUD	ST CLOUD	47,342	33880	72%
STCHMNSC	ST CHARLES	ST CHARLES	2,619	420	16%
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,207	120	4%
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	1134	4%
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	3456	17%
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	1137	6%
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,770	1516	6%
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	1944	6%
STPRMNSP	ST PETER	ST PETER	5,798	3521	61%
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,204	193	6%
STWRMNST	STILLWATER	STILLWATER	14,167	143	1%
SWVLMNSV	SWANVILLE	SWANVILLE	426	61	14%
TOFTMNTB	TOFTE	TOFTE	440	427	97%
TRACMNTR	TRACY	TRACY	1,250	102	8%
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,502	131	2%
VRGNMNVI	VIRGINIA	VIRGINIA	7,141	95	1%
WADNMNWA	WADENA	WADENA	2,795	194	7%
WASCMNWA	WASECA	WASECA	4,754	3880	82%
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,931	956	4%
WBSHMNWA	WABASHA	WABASHA	1,826	1650	90%
WINOMNWI	WINONA	WINONA	13,605	292	2%
WLMRMNWI	WILLMAR	WILLMAR	8,976	271	3%
WNDMMNWI	WINDOM	WINDOM	2,593	2241	86%
WSPLMNWS	OAKDALE WEST	ST PAUL	31,285	2078	7%
WYZTMNWA	WAYZATA	WAYZATA	15,839	862	5%
Total			225,243		

Wire Centers with over 60% Coverage
Wire Centers with less than 60% Coverage

CLLI	Wire Center	Exchange Service Area	Total Households	Other Wireline Households	% of Households with Other Wireline Availability	Major Other Wireline Provider 1	Major Other Wireline Provider 2	AcenTek	Arrowhead Electric Cooperative Inc	Benton Cablevision Inc (Not Cable)	Benton Cooperative Telephone Company	Birch Communications	Cannon Valley Telcom Inc	City of Windom Windomnet	Consolidated Communications	Consolidated Telecommunications Company	Dumont Telephone Company Inc	East Otter Tail Telephone Company	Federated Telephone Cooperative	Frontier Communications Corporation	Hiawatha Broadband Communications Inc (Not Cable)	Jaguar Communications	Johnson Telephone Company	Lake Connections	Lonsdale Telephone Company	Melrose Telephone Company	Minnesota Valley Telephone Company	Nextera Communications LLC	NU Telecom	Otter Tail Telcom	Park Region Telephone	Paul Bunyan Rural Telephone Cooperative	Peoples Telephone Company	Redwood County Telephone Company	Rothsay Telephone Company	RSFiberCooperative	Runestone Telecom Association	Southwest MN Broadband Services	Spring Grove Communications	TDS TELECOMMUNICATIONS CORPORATION	TEKSTAR (Not Cable)	Lincoln Cooperative Telephone Association	Wiidstream Lakedale Inc	Winnebago Cooperative Telecom Association	Winthrop Telephone Company
MRRSMNMO	MORRIS	MORRIS	2,373	2371	100%	Federated Telephone Cooperative													2,371																								
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1455	99%	Arrowhead Electric Cooperative Inc			1,455																			-															
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	5881	99%	Nextera Communications LLC	Consolidated Telecommunications Company									1,362												5,746															
TOFTMNTB	TOFTE	TOFTE	440	427	97%	Arrowhead Electric Cooperative Inc			427																			-															
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	7748	95%	Otter Tail Telcom																								7,670	263												
BNRRMNBR	BRAINERD	BRAINERD	14,609	13869	95%	Nextera Communications LLC	Consolidated Telecommunications Company									10,032												13,380															
WBSHMNWA	WABASHA	WABASHA	1,826	1650	90%	Hiawatha Broadband Communications Inc (Not Cable)															1,650																					
FNLDMNFO	FINLAND	SILVER BAY	308	270	88%	Lake Connections			2															268																		
RDWNMNRW	RED WING	RED WING	8,187	7136	87%	Hiawatha Broadband Communications Inc (Not Cable)	Jaguar Communications														7,033	721						93															
WNDMMNWI	WINDOM	WINDOM	2,593	2241	86%	City of Windom Windomnet								2,043							20																	201					
RDFLMNRA	REDWOOD FALLS-MORTON	REDWOOD FALLS-MORTO	2,496	2143	86%	NU Telecom	Redwood County Telephone Company																				8	2,093					566									
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	1432	86%	Paul Bunyan Rural Telephone Cooperative						7						30					-																	252			
WASCMNWA	WASECA	WASECA	4,754	3880	82%	Consolidated Communications	Jaguar Communications						14		3,582						18	606																				
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	8958	81%	Consolidated Communications	Jaguar Communications						117		8,306						48	2,036				171																
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	6856	80%	Paul Bunyan Rural Telephone Cooperative																	-																			
GYLRMNGA	GAYLORD	GAYLORD	1,178	943	80%	RSFiberCooperative															7																					29
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1500	80%	AcenTek		1,481																																		
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	821	78%	Lake Connections			5												13			816																		
JCSNMNJA	JACKSON	JACKSON	2,174	1619	74%	Southwest MN Broadband Services											2				47	19																1,585				
NSWIMNNI	NISSWA	NISSWA	2,084	1519	73%	Consolidated Telecommunications Company	Nextera Communications LLC									1,381												191															
STCDMNTO	ST CLOUD	ST CLOUD	47,342	33880	72%	Nextera Communications LLC	Benton Cooperative Telephone Company			586	472	15									278						55	33,075										104				
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	2970	69%	NU Telecom																					81		2,889												
GLVLMNGL	GLENVILLE	GLENVILLE	768	528	69%	Winnebago Cooperative Telecom Association	Jaguar Communications															330																				368	
NCLTMNNC	NICOLLET	NICOLLET	670	458	68%	Consolidated Communications									430														28													
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	871	63%	Paul Bunyan Rural Telephone Cooperative																	4									871										
STPRMNSP	ST PETER	ST PETER	5,798	3521	61%	Consolidated Communications									3,422						99	4																				

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
AFTNMNAF	AFTON	ST PAUL	9,570		9,024		9,024	94%
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,725	3,688	4,259	625	8,572	98%
ANOKMNAN	ANOKA	ANOKA	31,088	1,001	29,513	-	30,514	98%
APPLMNAP	APPLETON	APPLETON	802	84	549	109	742	93%
AUSTMNAB	AUSTIN	AUSTIN	12,229	112	10,270	734	11,116	91%
AVONMNVO	AVON	AVON	1,106	59	774	60	893	81%
BFLOMNBU	BUFFALO	BUFFALO	7,733	267	6,715	103	7,085	92%
BLANMNBL	BLAINE	MINNEAPOLIS	33,666	855	31,854	-	32,709	97%
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984		3,975		3,975	100%
BLTNMNNO	BLOOMINGTON NORMANDALE	MINNEAPOLIS	11,366	1,209	9,939	-	11,148	98%
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	2,388	16,408	88	18,884	100%
BMDJMNBE	BEMIDJI	BEMIDJI	11,812	2,291	2,409	4,205	8,905	75%
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	1,007	19,833	2	20,842	100%
BRHMMNBR	BRAHAM	BRAHAM	2,456		741		741	30%
BRNMMNBA	BARNUM	BARNUM	1,379		203	1	204	15%
BRNRMNBR	BRAINERD	BRAINERD	14,609	11,501	536	2,368	14,405	99%
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,797	4,270	15,387	29	19,686	99%
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,409	501	452	308	1,261	89%
BUHLMNBU	BUHL	BUHL	747		75		75	10%
BWBKMNBI	BIWABIK	BIWABIK	1,213	35	464	5	504	42%
CHSHMNCS	CHISHOLM	CHISHOLM	3,064		2,303		2,303	75%
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	341	471	530	1,342	98%
CKTNMNCR	CROOKSTON	CROOKSTON	3,752		2,968	179	3,147	84%
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1,294	42	206	1,542	82%
CLQTMNCA	CLOQUET	CLOQUET	8,565		6,119	60	6,179	72%
CLRNMNCO	COLERAINE	COLERAINE	2,200	252	684	430	1,366	62%
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	37	1,864	223	2,124	81%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,200	5	3,541		3,546	57%
CMSTMNCO	COMSTOCK	COMSTOCK	156			13	13	8%

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,795	433	30,632	-	31,065	98%
COOKMNCO	COOK	COOK	1,030		304	16	320	31%
CRTOMNCB	CARLTON	CARLTON	1,631		464		464	28%
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,344	1,687	22,444	88	24,219	99%
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	404	47	1,028	1,479	89%
CTFDMNCH	CHATFIELD	CHATFIELD	1,839		1,168	18	1,186	64%
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	1,130	14,914	-	16,044	98%
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,577	150	11,426		11,576	100%
DLTHMNCB	DULUTH CALUMET	DULUTH	8,381	103	7,711		7,814	93%
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,268	12	2,242		2,254	99%
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,064	5	3,984	755	4,744	78%
DLTHMNME	DULUTH MELROSE	DULUTH	13,970	187	13,721		13,908	100%
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,616		2,067	1	2,068	45%
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,305	2,962	3,340	380	6,682	91%
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	2,942	27,388	-	30,330	99%
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,529	942	19,391	-	20,333	99%
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,897	557	19,234	-	19,791	99%
EKRVMNER	ELK RIVER	ELK RIVER	14,140	479	12,391	231	13,101	93%
EVLTMNEV	EVELETH	VIRGINIA	3,500		2,386	2	2,388	68%
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	1,423	10,982	-	12,405	99%
FNLDMNFO	FINLAND	SILVER BAY	308			270	270	88%
FOLYMNFO	FOLEY	FOLEY	2,042		991	154	1,145	56%
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	8,052	255	906	9,213	83%
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	1,526	10,345	-	11,871	96%
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	6,175	20	1,573	7,768	95%
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,447	755	8,116	47	8,918	94%
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	705		750	1,455	99%
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	5,447	1,039	1,409	7,895	93%
GLVLMNGL	GLENVILLE	GLENVILLE	768			528	528	69%

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	1,589	25,792	-	27,381	97%
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	34	1,372	86	1,492	88%
GYLRMNGA	GAYLORD	GAYLORD	1,178	827		116	943	80%
HAMLMNHB	HAMEL	HAMEL	3,481	15	3,237	14	3,266	94%
HBNGMNHI	HIBBING	HIBBING	7,871	18	6,790	12	6,820	87%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	930	53	330	189	572	62%
HNCKMNHI	HINCKLEY	HINCKLEY	2,054		833		833	41%
HNNGMNHE	HENNING	HENNING	907	48	546	147	741	82%
HNVRMNHB	HANOVER	HANOVER	1,295	16	809	41	866	67%
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,280	3,486	22,627	2	26,115	99%
HWLYMNHA	HAWLEY	HAWLEY	1,238	31	904	64	999	81%
ISLKMNIL	ISLAND LAKE	DULUTH	1,656		15		15	1%
ISNTMNIS	ISANTI	ISANTI	5,183		2,775	75	2,850	55%
JCSNMNJA	JACKSON	JACKSON	2,174			1,619	1,619	74%
KEWTMNKE	KEEWATIN	KEEWATIN	518		39		39	8%
LESRMNLS	LE SUEUR	LE SUEUR	2,528	28	1,631	116	1,775	70%
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	2,715	148	255	3,118	73%
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	4,202		1,679	5,881	99%
LVRNMNLU	LUVERNE	LUVERNE	2,649		2,026	23	2,049	77%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,428	422	342	111	875	61%
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,489	156	961	53	1,170	79%
MORAMNMO	MORA	MORA	4,813		1,396	41	1,437	30%
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	1,014	13,566	296	14,876	98%
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,281	978	23,229	-	24,207	100%
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	38,253	1,326	36,396	-	37,722	99%
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	2,281	17,352	1	19,634	98%
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,637	2,155	18,170	-	20,325	98%
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914		1,912		1,912	100%
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	1,798	20,628	3	22,429	99%

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	588	9,287	-	9,875	98%
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,486	2,148	28,337	-	30,485	100%
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	1,535	26,983	2	28,520	99%
MPWDMNMA	MAPLEWOOD	ST PAUL	35,945	1,830	33,485	-	35,315	98%
MRBLMNMA	MARBLE	MARBLE	687		49	8	57	8%
MRRSMNMO	MORRIS	MORRIS	2,373	1,952		419	2,371	100%
MRSHMNMA	MARSHALL	MARSHALL	6,056	5	5,462	46	5,513	91%
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471		382		382	81%
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,214	50	2,399	110	2,559	80%
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,408		3,432	129	3,561	66%
NCLTMNNC	NICOLLET	NICOLLET	670			458	458	68%
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,145	1,796	5,760	690	8,246	90%
NSHWMNNA	NASHWAUK	NASHWAUK	1,465		835	4	839	57%
NSPLMNPR	PARK ROW	ST PAUL	24,518	1,913	22,156		24,069	98%
NSSWMNNI	NISSWA	NISSWA	2,084	1,489	526	30	2,045	98%
NVRRMNNA	NAVARRE	NAVARRE	2,097	-	2,081	-	2,081	99%
NWBTMNCL	CLEVELAND	ST PAUL	17,640	1,149	16,440	1	17,590	100%
OGLVMNOA	OGILVIE	OGILVIE	948		130	52	182	19%
OKGVMNOG	OAK GROVE	ANOKA	8,125	246	7,032		7,278	90%
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,966		1,473	9	1,482	75%
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,138		882	26	908	80%
OWTNMNOW	OWATONNA	OWATONNA	12,285	5,823	4,482	350	10,655	87%
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,869	601	2,423	1,650	4,674	96%
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,937	2,632	16,827	-	19,459	98%
PNCYMNPC	PINE CITY	PINE CITY	3,873		1,846		1,846	48%
PPSTMNPI	PIPESTONE	PIPESTONE	2,313	10	1,819	33	1,862	81%
PRTNMNPR	PRINCETON	PRINCETON	6,858	579	2,218	382	3,179	46%
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	1,550	17,810	-	19,360	99%
RCFRMNRO	ROCKFORD	ROCKFORD	2,961	287	1,818	36	2,141	72%

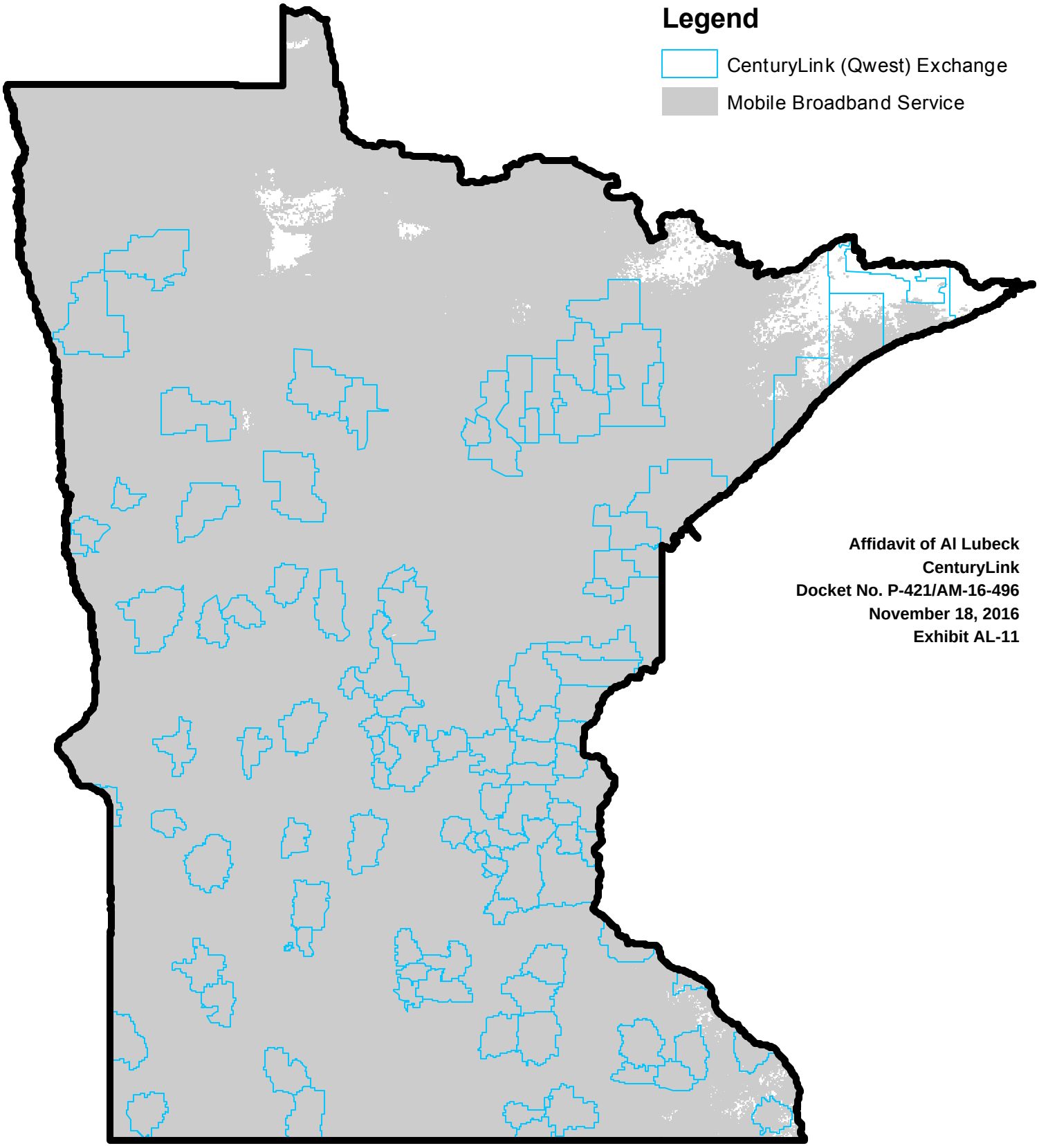
CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
RDFLMNRA	REDWOOD FALLS-MORTON	REDWOOD FALLS-MORTC	2,496	2,060	221	83	2,364	95%
RDWNMNRW	RED WING	RED WING	8,187	6,710	378	426	7,514	92%
ROCHMNRO	ROCHESTER	ROCHESTER	49,925	2,424	45,905	166	48,495	97%
RSCYMNRC	RUSH CITY	RUSH CITY	1,947		912		912	47%
RYTNMNRN	ROYALTON	ROYALTON	1,327	5	442	107	554	42%
SABNMNSA	SABIN	SABIN	658		337	93	430	65%
SDVLMNSO	SODERVILLE	ANOKA	10,670	148	10,031	2	10,181	95%
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,985	3,181	15,981	85	19,247	96%
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	27,075	3,024	23,861	4	26,889	99%
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,102	135	2,302	222	2,659	86%
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	696	29	125	850	81%
SNDSMNSA	SANDSTONE	SANDSTONE	1,337	7	675	66	748	56%
SPLSMNST	STAPLES	STAPLES	2,412	68	1,201	242	1,511	63%
STCDMNTO	ST CLOUD	ST CLOUD	47,342	31,783	13,030	2,097	46,910	99%
STCHMNSC	ST CHARLES	ST CHARLES	2,619	283	1,479	137	1,899	73%
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,207	17	2,526	103	2,646	83%
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	1,134	26,552	-	27,686	100%
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	3,456	16,699		20,155	100%
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	1,137	16,316		17,453	99%
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,770	1,516	22,045	-	23,561	99%
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	1,944	27,854	-	29,798	99%
STPRMNSP	ST PETER	ST PETER	5,798	3,324	1,132	197	4,653	80%
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,204	51	2,488	142	2,681	84%
STWRMNST	STILLWATER	STILLWATER	14,167	92	12,992	51	13,135	93%
SWVLMNSV	SWANVILLE	SWANVILLE	426			61	61	14%
TOFTMNTB	TOFTE	TOFTE	440			427	427	97%
TRACMNTR	TRACY	TRACY	1,250	8	869	94	971	78%
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,502	16	4,753	115	4,884	89%
VRGNMNVI	VIRGINIA	VIRGINIA	7,141		5,859	95	5,954	83%

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable & Other Wireline Available	Households with Only Cable Voice Available	Households with Only Other Wireline VoiceAvailable	Households with Cable or Other Wireline Voice	% Households with Cable or Other Wireline Availability
WADNMNWA	WADENA	WADENA	2,795		2,049	194	2,243	80%
WASCMNWA	WASECA	WASECA	4,754	3,574	146	306	4,026	85%
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,931	954	25,461	2	26,417	98%
WBSHMNWA	WABASHA	WABASHA	1,826	1,219	37	431	1,687	92%
WINOMNWI	WINONA	WINONA	13,605	131	12,744	161	13,036	96%
WLMRMNWI	WILLMAR	WILLMAR	8,976	225	8,416	46	8,687	97%
WNDMMNWI	WINDOM	WINDOM	2,593	7		2,234	2,241	86%
WSPLMNWS	OAKDALE WEST	ST PAUL	31,285	2,078	28,944		31,022	99%
WYZTMNWA	WAYZATA	WAYZATA	15,839	862	14,635	-	15,497	98%

Wire Centers with over 60% Coverage	130
Wire Centers with less than 60% Coverage	24

Minnesota
Office of Broadband Development
Available Mobile Broadband Service

CenturyLink



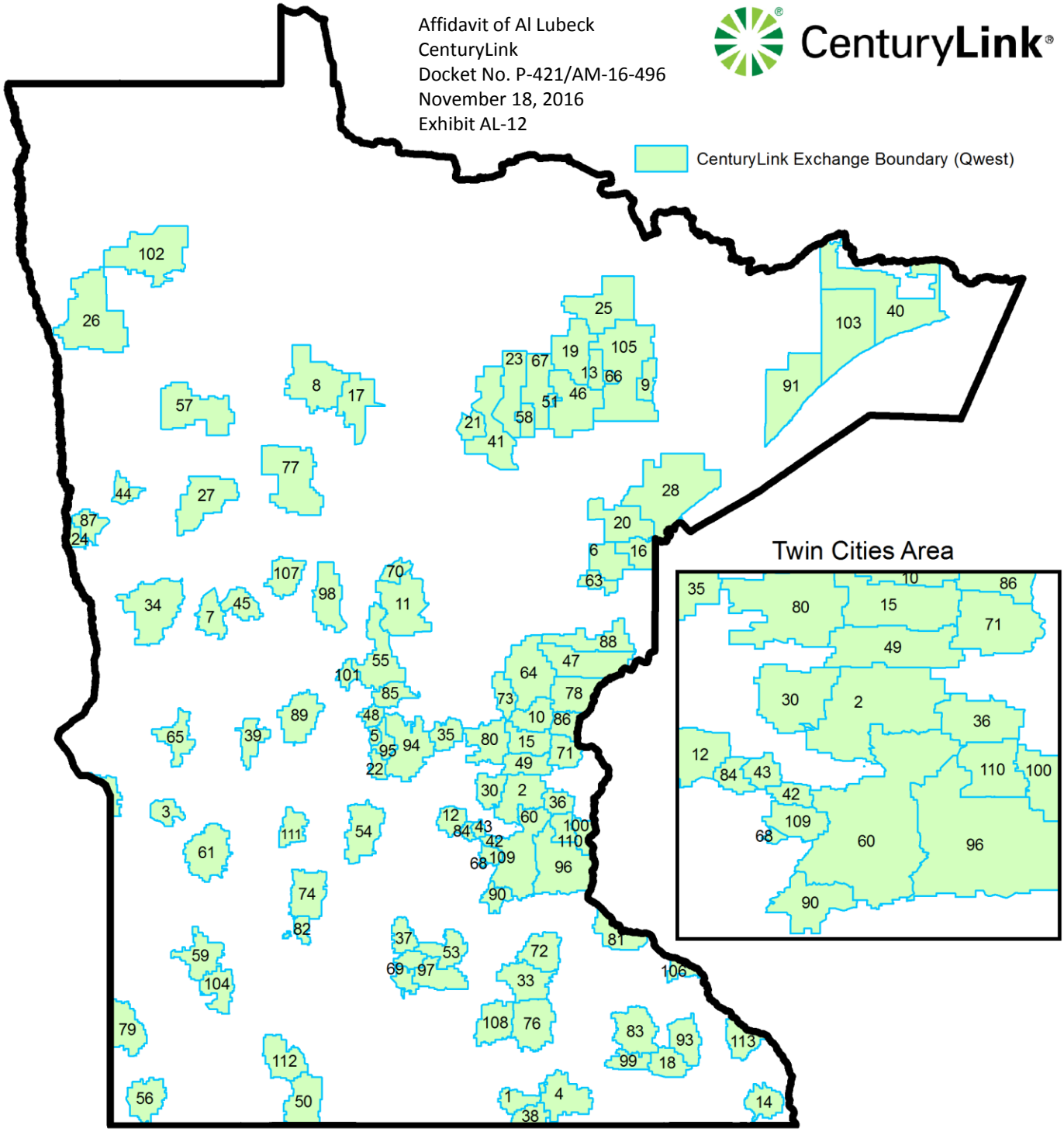
Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-11

Source: Minnesota Department of Employment and Economic Development, Office of Broadband Development; Statewide Public Dataset (02/28/15); Includes all mobile providers except satellite (TRANSTECH of 80).http://map.connectmn.org/ and https://www.hightail.com/e?phi_action=app/orchestrateDownload&sendId=2762158604&emailId=f86f187f413771a4977919da64388cc6.

25 August, 2016
Prepared by Jacob Barlow

Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-12

CenturyLink®



1 - ALBERT LEA
2 - ANOKA
3 - APPLETON
4 - AUSTIN
5 - AVON
6 - BARNUM
7 - BATTLE LAKE
8 - BEMIDJI
9 - BIWABIK
10 - BRAHAM
11 - BRAINERD
12 - BUFFALO
13 - BUHL
14 - CALEDONIA
15 - CAMBRIDGE
16 - CARLTON
17 - CASS LAKE
18 - CHATFIELD
19 - CHISHOLM
20 - CLOQUET
21 - COHASSET
22 - COLD SPRING
23 - COLERAINE
24 - COMSTOCK
25 - COOK
26 - CROOKSTON
27 - DETROIT LAKES
28 - DULUTH
30 - ELK RIVER
33 - FARIBAULT
34 - FERGUS FALLS
35 - FOLEY
36 - FOREST LAKE
37 - GAYLORD
38 - GLENVILLE
39 - GLENWOOD
40 - GRAND MARAIS
41 - GRAND RAPIDS
42 - HAMEL
43 - HANOVER
44 - HAWLEY
45 - HENNING
46 - HIBBING
47 - HINCKLEY
48 - HOLDINGFORD
49 - ISANTI
50 - JACKSON
51 - KEEWATIN
53 - LE SUEUR
54 - LITCHFIELD
55 - LITTLE FALLS
56 - LUVERNE
57 - MAHNOMEN
58 - MARBLE
59 - MARSHALL
60 - MINNEAPOLIS
61 - MONTEVIDEO
63 - MOOSE LAKE
64 - MORA
65 - MORRIS
66 - MOUNTAIN IRON
67 - NASHWAUK
68 - NAVARRE
69 - NICOLLET
70 - NISSWA
71 - NORTH BRANCH
72 - NORTHFIELD
73 - OGILVIE
74 - OLIVIA-BIRD ISLAND
75 - ORTONVILLE
76 - OWATONNA
77 - PARK RAPIDS
78 - PINE CITY
79 - PIPESTONE
80 - PRINCETON
81 - RED WING
82 - REDWOOD FALLS
83 - ROCHESTER
84 - ROCKFORD
85 - ROYALTON
86 - RUSH CITY
87 - SABIN
88 - SANDSTONE
89 - SAUK CENTRE
90 - SHAKOPEE
91 - SILVER BAY
93 - ST. CHARLES
94 - ST. CLOUD
95 - ST. JOSEPH
96 - ST. PAUL
97 - ST. PETER
98 - STAPLES
99 - STEWARTVILLE
100 - STILLWATER
101 - SWANVILLE
102 - THIEF RIVER FALLS
103 - TOFTE
104 - TRACY
105 - VIRGINIA
106 - WABASHA
107 - WADENA
108 - WASECA
109 - WAYZATA
110 - WHITE BEAR LAKE
111 - WILLMAR
112 - WINDOM
113 - WINONA

CLLI	Wire Center	Exchange Service Area	Total Households	Mobile Voice Households	% of Households with Wireless Voice Availability
AFTNMNAF	AFTON	ST PAUL	9,660	9,660	100%
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,728	8,728	100%
ANOKMNAN	ANOKA	ANOKA	31,047	31,047	100%
APPLMNAP	APPLETON	APPLETON	812	812	100%
AUSTMNAB	AUSTIN	AUSTIN	12,238	12,238	100%
AVONMNVO	AVON	AVON	1,118	1,118	100%
BFLOMNBU	BUFFALO	BUFFALO	7,841	7,841	100%
BLANMNBL	BLAINE	MINNEAPOLIS	33,658	33,658	100%
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984	3,984	100%
BLTNMNNO	BLOOMINGTON NORMANDALE	MINNEAPOLIS	12,124	12,124	100%
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	18,906	100%
BMDJMNBE	BEMIDJI	BEMIDJI	11,835	11,835	100%
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	20,905	100%
BRHMMNBR	BRAHAM	BRAHAM	2,452	2,452	100%
BRNMMNBA	BARNUM	BARNUM	1,415	1,415	100%
BRNRMNBR	BRAINERD	BRAINERD	14,608	14,608	100%
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,773	19,773	100%
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,395	1,395	100%
BUHLMNBU	BUHL	BUHL	748	748	100%
BWBKMNBI	BIWABIK	BIWABIK	1,202	1,202	100%
CHSHMNCS	CHISHOLM	CHISHOLM	3,038	3,038	100%
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	1,374	100%
CKTNMNCR	CROOKSTON	CROOKSTON	3,751	3,751	100%
CLDNMNCA	CALEDONIA	CALEDONIA	1,862	1,862	100%
CLQTMNCA	CLOQUET	CLOQUET	8,602	8,602	100%
CLRNMNCO	COLERAINE	COLERAINE	2,205	2,205	100%
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	2,622	100%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,142	6,142	100%
CMSTMNCO	COMSTOCK	COMSTOCK	156	156	100%
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,803	31,803	100%
COOKMNCO	COOK	COOK	1,042	1,042	100%
CRTOMNCB	CARLTON	CARLTON	1,610	1,610	100%
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,418	24,418	100%
CSSLMNCL	CASS LAKE	CASS LAKE	1,681	1,681	100%
CTFDMNCH	CHATFIELD	CHATFIELD	1,852	1,852	100%
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	16,434	100%
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,420	11,420	100%
DLTHMNCB	DULUTH CALUMET	DULUTH	8,368	8,368	100%
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,266	2,266	100%
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,068	6,068	100%
DLTHMNME	DULUTH MELROSE	DULUTH	14,150	14,150	100%
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,590	4,590	100%
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,390	7,390	100%
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	30,724	100%
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,488	20,488	100%
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	20,056	20,056	100%
EKRVMNER	ELK RIVER	ELK RIVER	14,157	14,157	100%
EVLTMNEV	EVELETH	VIRGINIA	3,497	3,497	100%

CLLI	Wire Center	Exchange Service Area	Total Households	Mobile Voice Households	% of Households with Wireless Voice Availability
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	12,524	100%
FNLDMNFO	FINLAND	SILVER BAY	308	289	94%
FOLYMNFO	FOLEY	FOLEY	2,067	2,067	100%
FRBLMNFA	FARIBAULT	FARIBAULT	11,137	11,137	100%
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	12,381	100%
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,146	8,146	100%
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,531	9,531	100%
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1,383	95%
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,509	8,509	100%
GLVLMNGL	GLENVILLE	GLENVILLE	761	761	100%
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	28,134	100%
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	1,701	100%
GYLRMNGA	GAYLORD	GAYLORD	1,188	1,188	100%
HAMLMNHB	HAMEL	HAMEL	3,416	3,416	100%
HBNGMNHI	HIBBING	HIBBING	7,876	7,876	100%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	938	938	100%
HNCKMNHI	HINCKLEY	HINCKLEY	2,059	2,059	100%
HNNGMNHE	HENNING	HENNING	902	902	100%
HNVRMNHB	HANOVER	HANOVER	1,233	1,233	100%
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,117	26,117	100%
HWLYMNHA	HAWLEY	HAWLEY	1,242	1,242	100%
ISLKMNIL	ISLAND LAKE	DULUTH	1,658	1,658	100%
ISNTMNIS	ISANTI	ISANTI	5,206	5,206	100%
JCSNMNJA	JACKSON	JACKSON	2,178	2,178	100%
KEWTMNKE	KEEWATIN	KEEWATIN	518	518	100%
LESRMNLS	LE SUEUR	LE SUEUR	2,525	2,525	100%
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,309	4,309	100%
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,929	5,929	100%
LVRNMNLU	LUVERNE	LUVERNE	2,645	2,645	100%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,423	1,423	100%
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,473	1,473	100%
MORAMNMO	MORA	MORA	4,762	4,762	100%
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	15,139	100%
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,207	24,207	100%
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	37,533	37,533	100%
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	20,108	100%
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,946	20,946	100%
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	1,914	100%
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	22,546	100%
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	10,026	100%
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,177	30,177	100%
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	28,668	100%
MPWDMNMA	MAPLEWOOD	ST PAUL	36,223	36,223	100%
MRBLMNMA	MARBLE	MARBLE	692	692	100%
MRRSMNMO	MORRIS	MORRIS	2,361	2,361	100%
MRSHMNMA	MARSHALL	MARSHALL	6,067	6,067	100%
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	471	100%
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,223	3,223	100%

CLLI	Wire Center	Exchange Service Area	Total Households	Mobile Voice Households	% of Households with Wireless Voice Availability
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,429	5,429	100%
NCLTMNNC	NICOLLET	NICOLLET	681	681	100%
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,115	9,115	100%
NSHWMNNA	NASHWAUK	NASHWAUK	1,463	1,463	100%
NSPLMNPR	PARK ROW	ST PAUL	24,248	24,248	100%
NSSWMNNI	NISSWA	NISSWA	2,069	2,069	100%
NVRRMNNA	NAVARRE	NAVARRE	2,097	2,097	100%
NWBTMNCL	CLEVELAND	ST PAUL	17,697	17,697	100%
OGLVMNOA	OGILVIE	OGILVIE	963	963	100%
OKGVMNOG	OAK GROVE	ANOKA	8,106	8,106	100%
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,961	1,961	100%
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,142	1,142	100%
OWTNMNOW	OWATONNA	OWATONNA	12,267	12,267	100%
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,878	4,878	100%
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	20,050	20,050	100%
PNCYMNPC	PINE CITY	PINE CITY	3,874	3,874	100%
PPSTMNPI	PIPESTONE	PIPESTONE	2,322	2,322	100%
PRTNMNPR	PRINCETON	PRINCETON	6,915	6,915	100%
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	19,569	100%
RCFRMNRO	ROCKFORD	ROCKFORD	2,800	2,800	100%
RDFLMNRA	REDWOOD FALLS-MORTON	REDWOOD FALLS-MORTON	2,548	2,548	100%
RDWNMNRW	RED WING	RED WING	8,188	8,188	100%
ROCHMNRO	ROCHESTER	ROCHESTER	49,947	49,947	100%
RSCYMNRC	RUSH CITY	RUSH CITY	1,975	1,975	100%
RYTNMNRN	ROYALTON	ROYALTON	1,324	1,324	100%
SABNMNSA	SABIN	SABIN	658	658	100%
SDVLMNSO	SODERVILLE	ANOKA	10,740	10,740	100%
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,979	19,979	100%
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	26,988	26,988	100%
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,083	3,083	100%
SLBAMNSA	SILVER BAY	SILVER BAY	1,070	1,070	100%
SNDSMNSA	SANDSTONE	SANDSTONE	1,344	1,344	100%
SPLSMNST	STAPLES	STAPLES	2,380	2,380	100%
STCDMNTO	ST CLOUD	ST CLOUD	47,140	47,140	100%
STCHMNSC	ST CHARLES	ST CHARLES	2,629	2,629	100%
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,199	3,199	100%
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	27,764	100%
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	20,234	100%
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	17,713	100%
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,691	23,691	100%
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	30,186	100%
STPRMNSP	ST PETER	ST PETER	5,805	5,805	100%
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,190	3,190	100%
STWRMNST	STILLWATER	STILLWATER	14,190	14,190	100%
SWVLMNSV	SWANVILLE	SWANVILLE	458	458	100%
TOFTMNTB	TOFTE	TOFTE	440	429	98%
TRACMNTR	TRACY	TRACY	1,250	1,250	100%
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,521	5,521	100%

CLLI	Wire Center	Exchange Service Area	Total Households	Mobile Voice Households	% of Households with Wireless Voice Availability
VRGNMNVI	VIRGINIA	VIRGINIA	7,162	7,162	100%
WADNMNWA	WADENA	WADENA	2,803	2,803	100%
WASCMNWA	WASECA	WASECA	4,761	4,761	100%
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,896	26,896	100%
WBSHMNWA	WABASHA	WABASHA	1,826	1,826	100%
WINOMNWI	WINONA	WINONA	13,586	13,586	100%
WLMRMNWI	WILLMAR	WILLMAR	9,011	9,011	100%
WNDMMNWI	WINDOM	WINDOM	2,588	2,588	100%
WSPLMNWS	OAKDALE WEST	ST PAUL	31,283	31,283	100%
WYZTMNWA	WAYZATA	WAYZATA	15,935	15,935	100%

CLLI	Wire Center	Exchange Service Area	Total Households	AT T Mobility	Maximum Communications Cellular LLC	Sprint	T Mobile	United States Cellular Corporation	VerizonWireless
AFTNMNAF	AFTON	ST PAUL	9,660	9,660		9,660	9,660		9,660
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,728	8,728		8,728	8,728	8,697	8,728
ANOKMNAN	ANOKA	ANOKA	31,047	31,047		31,047	31,047		31,047
APPLMNAP	APPLETON	APPLETON	812	812		703	812		812
AUSTMNAB	AUSTIN	AUSTIN	12,238	12,238		11,938	12,208	11,276	12,236
AVONMNVO	AVON	AVON	1,118	1,118	1,118	1,118	1,118		1,118
BFLOMNBU	BUFFALO	BUFFALO	7,841	7,841		7,841	7,841		7,824
BLANMNBL	BLAINE	MINNEAPOLIS	33,658	33,658		33,658	33,658		33,658
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984	3,984		3,984	3,984		3,984
BLTNMNNO	BLOOMINGTON NORMANDALE	MINNEAPOLIS	12,124	12,124		12,124	12,124		12,124
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	18,906		18,906	18,906		18,906
BMDJMNBE	BEMIDJI	BEMIDJI	11,835	11,835		11,740	11,835		11,828
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	20,905		20,905	20,905		20,905
BRHMMNBR	BRAHAM	BRAHAM	2,452	2,452		2,365	2,452		2,452
BRNMMNBA	BARNUM	BARNUM	1,415	1,415		1,090	1,271		1,398
BRNRMNBR	BRAINERD	BRAINERD	14,608	14,608		14,313	14,608		14,570
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,773	19,773		19,773	19,773		19,773
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,395	1,395		1,298	1,395		1,395
BUHLMNBU	BUHL	BUHL	748	748		672	672		748
BWBKMNBI	BIWABIK	BIWABIK	1,202	1,202		449	537		1,201
CHSHMNCS	CHISHOLM	CHISHOLM	3,038	3,038		2,552	2,373		3,035
CHSTMNCH	BASS BROOK(COHASSET)	BASS BROOK(COHASSET)	1,374	1,374		1,313	1,374		1,370
CKTNMNCR	CROOKSTON	CROOKSTON	3,751	3,751		3,617	3,751		3,751
CLDNMNCA	CALEDONIA	CALEDONIA	1,862	1,862					1,856
CLQTMNCA	CLOQUET	CLOQUET	8,602	8,602		8,254	8,566		8,594
CLRNMNCO	COLERAINE	COLERAINE	2,205	2,205		1,559	1,576		1,827
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	2,622	2,334	2,622	2,622		2,622
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,142	6,142		5,763	6,142		6,139
CMSTMNCO	COMSTOCK	COMSTOCK	156	156		156	156		156
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,803	31,803		31,803	31,803		31,803
COOKMNCO	COOK	COOK	1,042	1,042					915
CRTOMNCB	CARLTON	CARLTON	1,610	1,610		1,379	1,534		1,426
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,418	24,418		24,418	24,418		24,418
CSSLMNCL	CASS LAKE	CASS LAKE	1,681	1,681		1,582	1,681		1,525

CLLI	Wire Center	Exchange Service Area	Total Households	AT T Mobility	Maximum Communications Cellular LLC	Sprint	T Mobile	United States Cellular Corporation	VerizonWireless
CTFDMNCH	CHATFIELD	CHATFIELD	1,852	1,852		1,766	1,813	554	1,839
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	16,434		16,434	16,434		16,434
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,420	11,420		11,392	11,420		11,420
DLTHMNCB	DULUTH CALUMET	DULUTH	8,368	8,368		8,368	8,368		8,351
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,266	2,266		2,258	2,266		2,033
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,068	6,068		4,960	5,914		5,979
DLTHMNME	DULUTH MELROSE	DULUTH	14,150	14,150		14,150	14,150		14,076
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,590	4,590		4,553	4,514		4,590
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,390	7,390		7,318	7,390		7,390
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	30,724		30,724	30,724		30,724
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,488	20,488		20,488	20,488		20,488
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	20,056	20,056		20,056	20,056		20,056
EKRVMNER	ELK RIVER	ELK RIVER	14,157	14,157		14,157	14,157		14,157
EVLTMNEV	EVELETH	VIRGINIA	3,497	3,497		3,411	3,444		3,497
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	12,524		12,524	12,524		12,524
FNLDMNFO	FINLAND	SILVER BAY	308	289			-		283
FOLYMNFO	FOLEY	FOLEY	2,067	2,067	1,585	2,067	2,067		2,067
FRBLMNFA	FARIBAULT	FARIBAULT	11,137	11,137		10,784	11,137		11,137
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	12,381		12,381	12,381		12,381
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,146	8,146		8,083	8,146		8,146
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,531	9,531		9,531	9,531		9,489
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1,367		956	1,094		1,325
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,509	8,509		7,349	7,890		8,123
GLVLMNGL	GLENVILLE	GLENVILLE	761	761		601	761	602	761
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	28,134		28,134	28,134		28,134
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	1,701		1,683	1,701		1,699
GYLRMNGA	GAYLORD	GAYLORD	1,188	1,188		1,169	1,188		1,188
HAMLMNHB	HAMEL	HAMEL	3,416	3,416		3,416	3,416		3,416
HBNGMNHI	HIBBING	HIBBING	7,876	7,876		7,689	7,708		7,752
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	938	938	45	938	938		938
HNCKMNHI	HINCKLEY	HINCKLEY	2,059	2,059		1,539	2,059		2,029
HNNGMNHE	HENNING	HENNING	902	902		902	902		902
HNVRMNHB	HANOVER	HANOVER	1,233	1,233		1,233	1,233		1,233
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,117	26,117		26,117	26,117		26,117

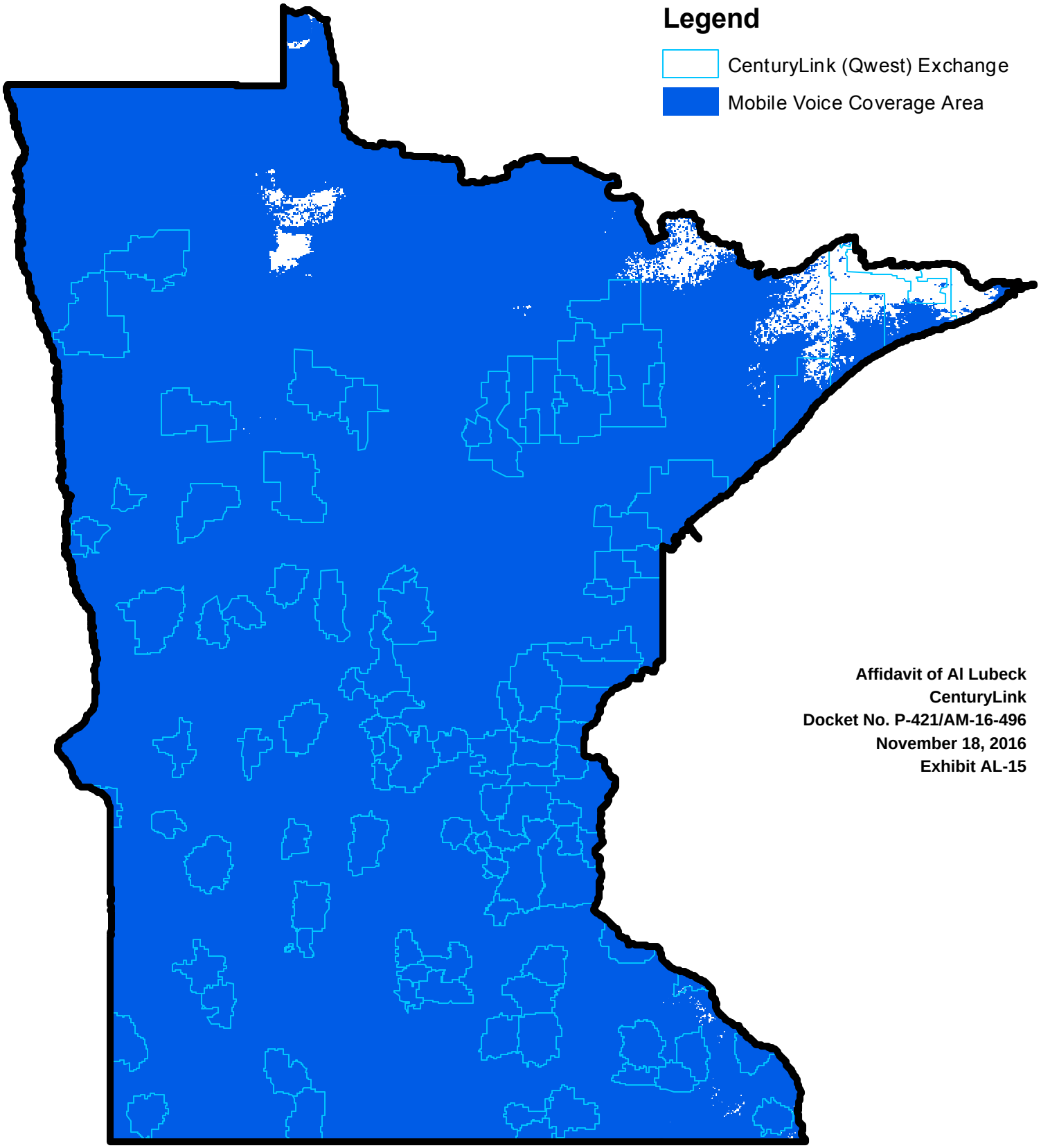
CLLI	Wire Center	Exchange Service Area	Total Households	AT T Mobility	Maximum Communications Cellular LLC	Sprint	T Mobile	United States Cellular Corporation	VerizonWireless
HWLYMNHA	HAWLEY	HAWLEY	1,242	1,242		1,242	1,242		1,242
ISLKMNIL	ISLAND LAKE	DULUTH	1,658	1,658		1,270	1,658		1,656
ISNTMNIS	ISANTI	ISANTI	5,206	5,206		5,184	5,206		5,206
JCSNMNJA	JACKSON	JACKSON	2,178	2,178		2,078	2,178		2,175
KEWTMNKE	KEEWATIN	KEEWATIN	518	518		518	518		518
LESRMNLS	LE SUEUR	LE SUEUR	2,525	2,525		2,500	2,525		2,524
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,309	4,309		4,081	4,309		4,308
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,929	5,929		5,906	5,929		5,929
LVRNMNLU	LUVERNE	LUVERNE	2,645	2,645		2,525	2,645	-	2,645
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,423	1,423			1,423		1,318
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,473	1,473		1,417	1,449		1,468
MORAMNMO	MORA	MORA	4,762	4,762		4,329	4,762		4,740
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	15,139		15,139	15,139		15,139
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,207	24,207		24,207	24,207		24,207
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	37,533	37,533		37,533	37,533		37,533
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	20,108		20,108	20,108		20,108
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,946	20,946		20,946	20,946		20,946
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	1,914		1,914	1,914		1,914
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	22,546		22,546	22,546		22,546
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	10,026		10,026	10,026		10,026
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,177	30,177		30,177	30,177		30,177
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	28,668		28,668	28,668		28,668
MPWDMNMA	MAPLEWOOD	ST PAUL	36,223	36,223		36,223	36,223		36,223
MRBLMNMA	MARBLE	MARBLE	692	692		640	682		692
MRRSMNMO	MORRIS	MORRIS	2,361	2,361		2,337	2,361		2,361
MRSHMNMA	MARSHALL	MARSHALL	6,067	6,067		6,066	6,067		6,067
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	471		471	471		471
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,223	3,223		3,150	3,223		3,191
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,429	5,429		5,305	5,429		5,406
NCLTMNNC	NICOLLET	NICOLLET	681	681		651	681		681
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,115	9,115		9,044	9,115		9,115
NSHWMNNA	NASHWAUK	NASHWAUK	1,463	1,463		1,044	1,173		1,175
NSPLMNPR	PARK ROW	ST PAUL	24,248	24,248		24,248	24,248		24,248
NSSWMNNI	NISSWA	NISSWA	2,069	2,069		2,069	2,069		2,069

CLLI	Wire Center	Exchange Service Area	Total Households	AT T Mobility	Maximum Communications Cellular LLC	Sprint	T Mobile	United States Cellular Corporation	VerizonWireless
NVRRMNNA	NAVARRE	NAVARRE	2,097	2,097		2,097	2,097		2,097
NWBTMNCL	CLEVELAND	ST PAUL	17,697	17,697		17,697	17,697		17,697
OGLVMNOA	OGILVIE	OGILVIE	963	963		838	963		963
OKGVMNOG	OAK GROVE	ANOKA	8,106	8,106		8,106	8,106		8,106
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,961	1,961		1,941	1,961		1,961
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,142	1,142			1,142		1,142
OWTNMNOW	OWATONNA	OWATONNA	12,267	12,267		12,175	12,267	97	12,267
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,878	4,878		4,449	4,878		4,487
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	20,050	20,050		20,050	20,050		20,050
PNCYMNPC	PINE CITY	PINE CITY	3,874	3,874		3,326	3,874		3,874
PPSTMNPI	PIPESTONE	PIPESTONE	2,322	2,322		2,151	2,310		2,322
PRTNMNPR	PRINCETON	PRINCETON	6,915	6,915		6,540	6,915		6,915
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	19,569		19,569	19,569		19,569
RCFRMNRO	ROCKFORD	ROCKFORD	2,800	2,800		2,800	2,800		2,800
RDFLMNRA	REDWOOD FALLS-MORTON	REDWOOD FALLS-MORTON	2,548	2,548		2,546	2,548		2,548
RDWNMNRW	RED WING	RED WING	8,188	8,188		8,181	8,188		8,179
ROCHMNRO	ROCHESTER	ROCHESTER	49,947	49,947		49,943	49,946	48,576	49,947
RSCYMNRC	RUSH CITY	RUSH CITY	1,975	1,975		1,964	1,975		1,975
RYTNMNRN	ROYALTON	ROYALTON	1,324	1,324		1,320	1,324		1,324
SABNMNSA	SABIN	SABIN	658	658		658	658		658
SDVLMNSO	SODERVILLE	ANOKA	10,740	10,740		10,740	10,740		10,740
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,979	19,979		19,979	19,979		19,979
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	26,988	26,988		26,988	26,988		26,988
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,083	3,083		3,003	3,083		3,083
SLBAMNSA	SILVER BAY	SILVER BAY	1,070	1,070			1,012		1,066
SNDSMNSA	SANDSTONE	SANDSTONE	1,344	1,344		872	1,265		1,276
SPLSMNST	STAPLES	STAPLES	2,380	2,380		2,084	2,380		2,376
STCDMNTO	ST CLOUD	ST CLOUD	47,140	47,140	46,866	47,140	47,140		47,140
STCHMNSC	ST CHARLES	ST CHARLES	2,629	2,629		2,433	2,520	1,247	2,553
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,199	3,199	3,164	3,199	3,199		3,199
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	27,764		27,764	27,764		27,764
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	20,234		20,234	20,234		20,234
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	17,713		17,713	17,713		17,713
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,691	23,691		23,691	23,691		23,691

CLLI	Wire Center	Exchange Service Area	Total Households	AT T Mobility	Maximum Communications Cellular LLC	Sprint	T Mobile	United States Cellular Corporation	VerizonWireless
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	30,186		30,186	30,186		30,186
STPRMNSP	ST PETER	ST PETER	5,805	5,805		5,607	5,805		5,791
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,190	3,190		3,177	3,190	3,174	3,190
STWRMNST	STILLWATER	STILLWATER	14,190	14,190		14,190	14,190		14,190
SWVLMNSV	SWANVILLE	SWANVILLE	458	458		294	458		458
TOFTMNTB	TOFTE	TOFTE	440	419		259	137		404
TRACMNTR	TRACY	TRACY	1,250	1,250		435	1,250		1,250
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,521	5,521		5,212	5,513		5,521
VRGNMNVI	VIRGINIA	VIRGINIA	7,162	7,162		5,324	5,372		7,153
WADNMNWA	WADENA	WADENA	2,803	2,803		2,744	2,803		2,802
WASCMNWA	WASECA	WASECA	4,761	4,761		4,717	4,761		4,761
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,896	26,896		26,896	26,896		26,896
WBSHMNWA	WABASHA	WABASHA	1,826	1,820		1,715	1,820		1,797
WINOMNWI	WINONA	WINONA	13,586	13,586		13,522	13,533		13,562
WLMRMNWI	WILLMAR	WILLMAR	9,011	9,011		9,011	9,011		9,011
WNDMMNWI	WINDOM	WINDOM	2,588	2,588		2,414	2,588		2,588
WSPLMNWS	OAKDALE WEST	ST PAUL	31,283	31,283		31,283	31,283		31,283
WYZTMNWA	WAYZATA	WAYZATA	15,935	15,935		15,935	15,935		15,935

All Mobile Providers 477 Voice Coverage Minnesota

CenturyLink



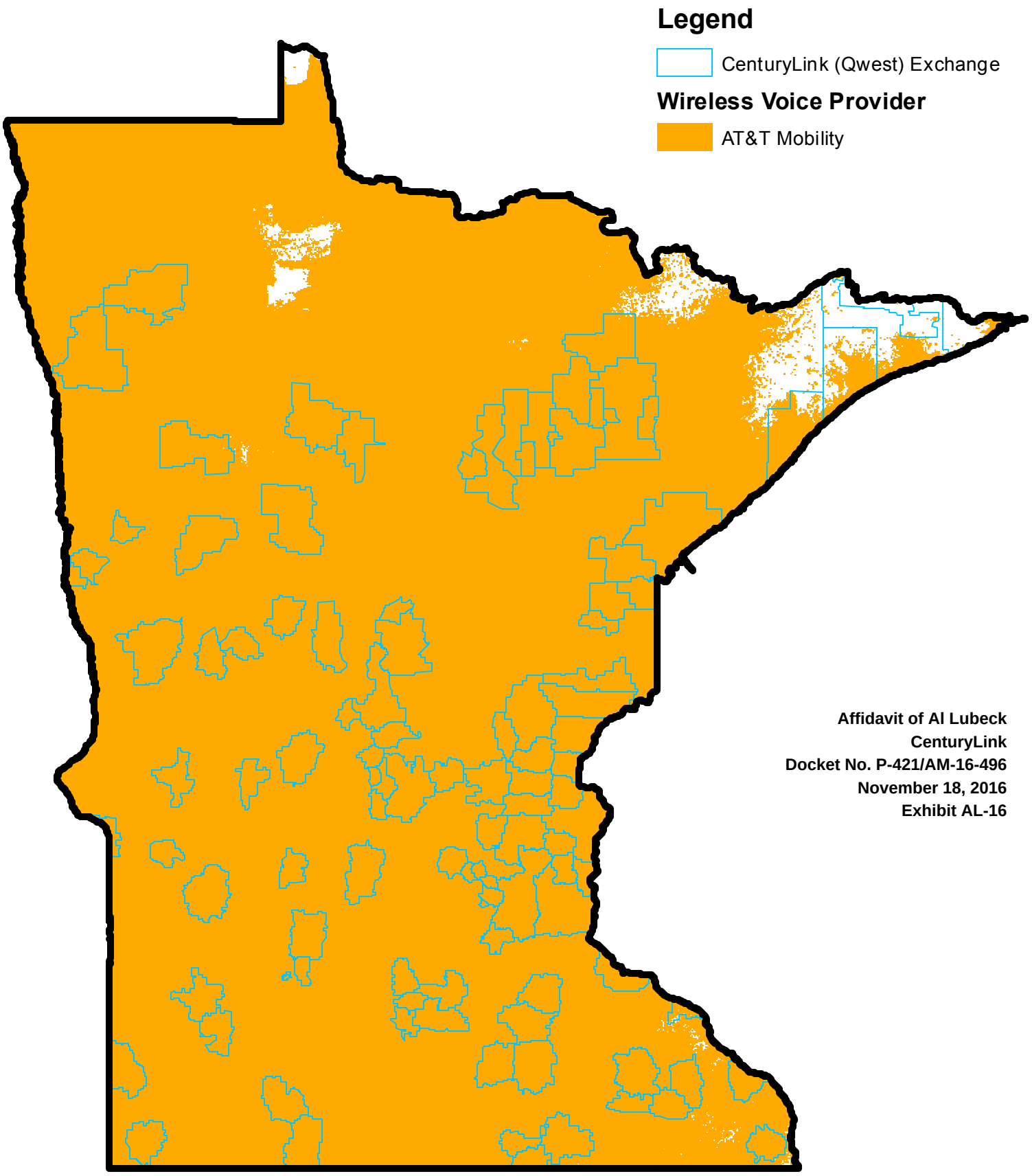
Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-15

Source: Form 477 mobile voice deployment data as of December 31, 2015 from https://www.fcc.gov/mobile-deployment-form-477-data.

21 October, 2016
Prepared by Jacob Barlow

AT&T Mobility
477 Voice Coverage
Minnesota

CenturyLink



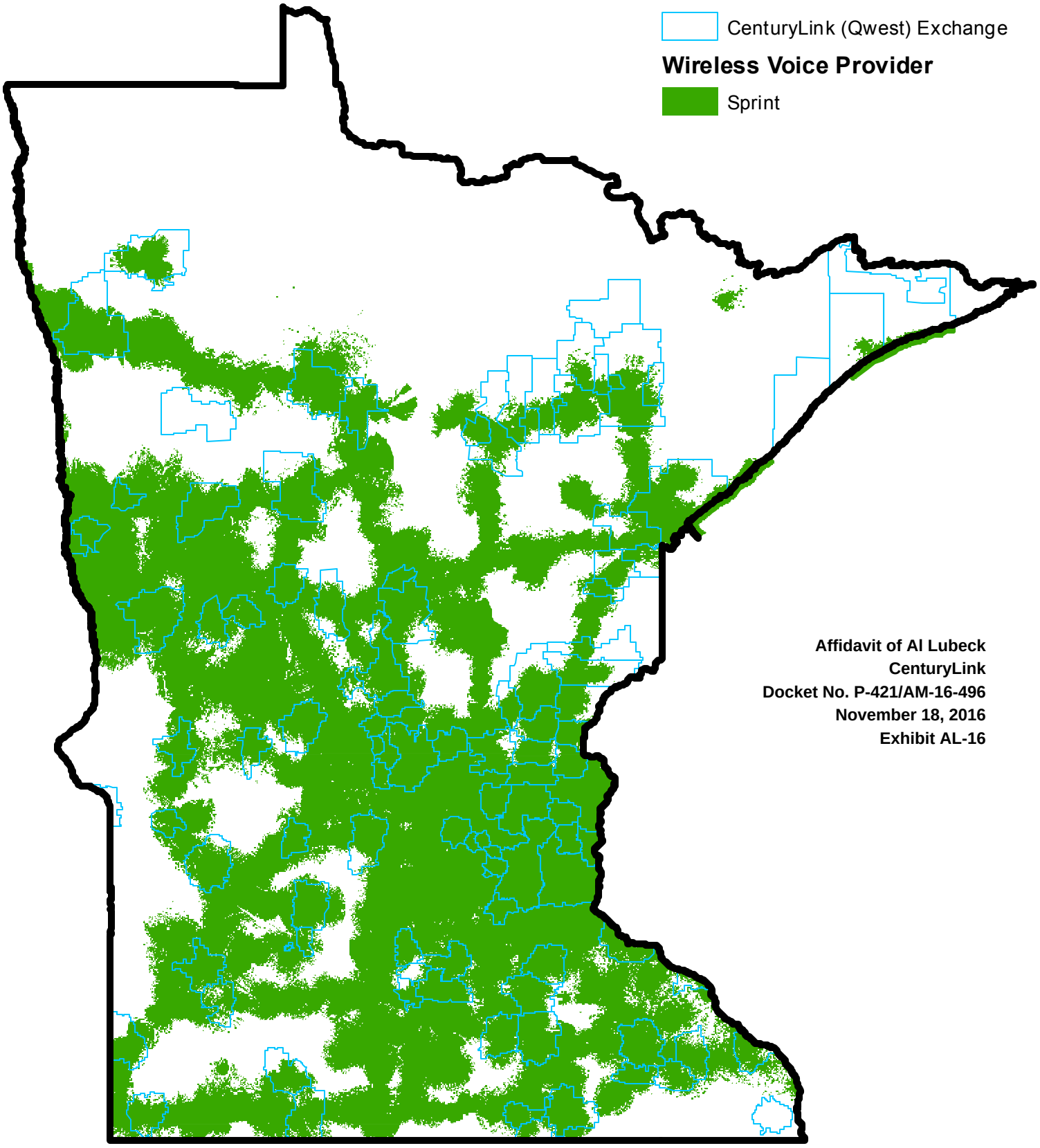
Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-16

Source: Form 477 mobile voice deployment data as of December 31, 2015 from https://www.fcc.gov/mobile-deployment-form-477-data.

21 October, 2016
Prepared by Jacob Barlow

Sprint
477 Voice Coverage
Minnesota

CenturyLink



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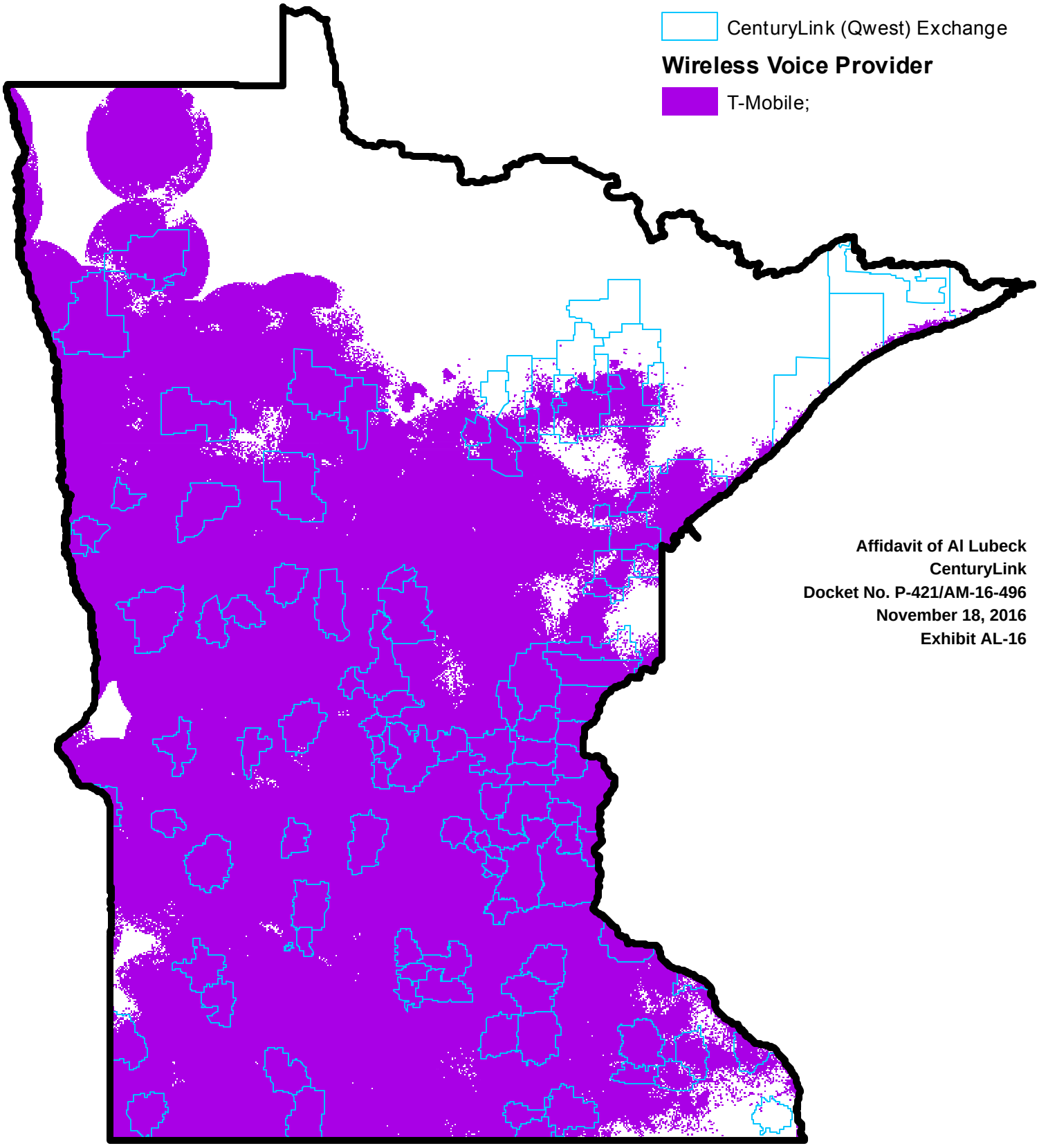
November 18, 2016
Exhibit AL-16

Source: Form 477 mobile voice deployment data as of December 31, 2015 from https://www.fcc.gov/mobile-deployment-form-477-data.

21 October, 2016
Prepared by Jacob Barlow

T-Mobile
477 Voice Coverage
Minnesota

CenturyLink



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CenturyLink
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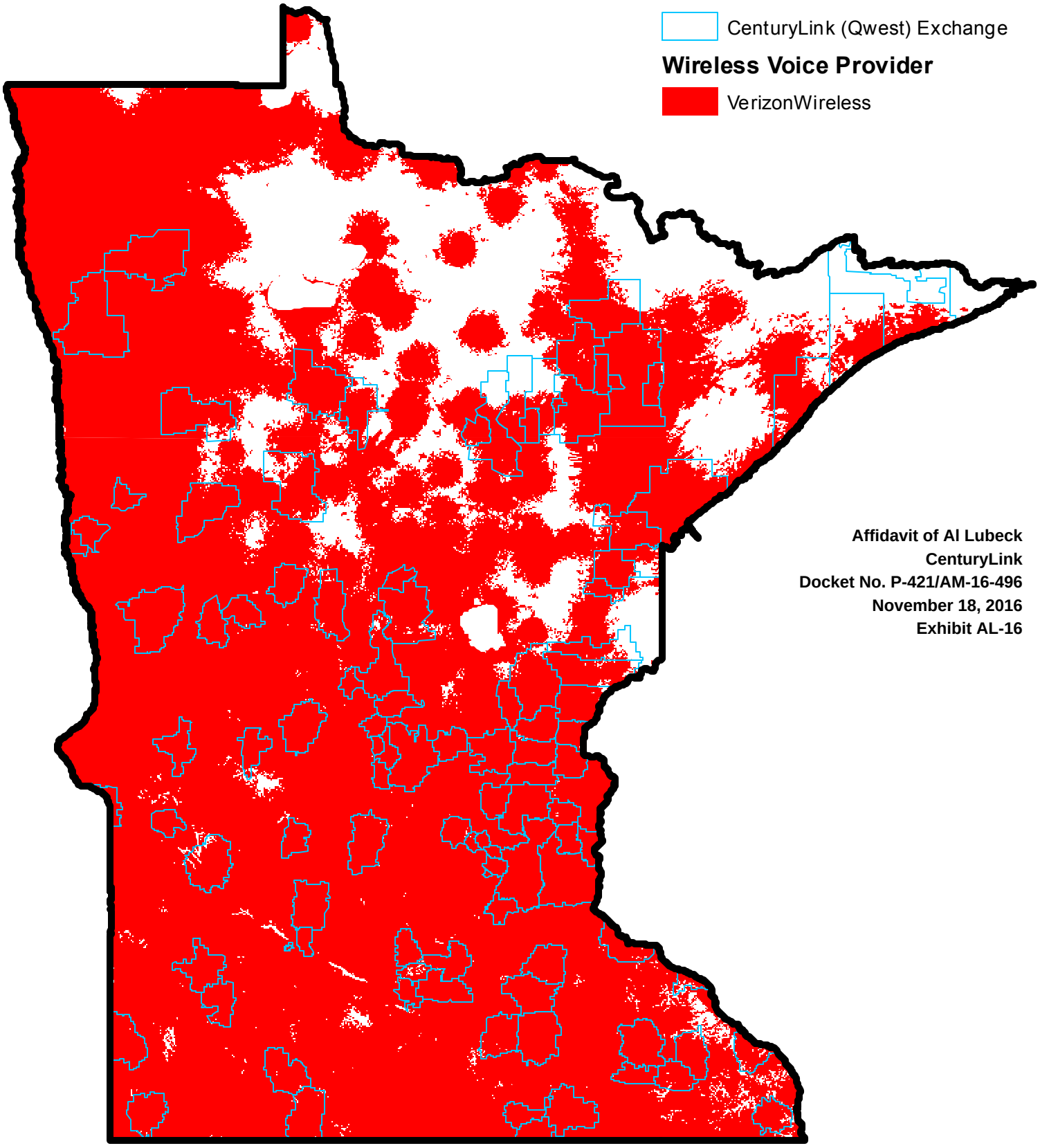
November 18, 2016
Exhibit AL-16

Source: Form 477 mobile voice deployment data as of December 31, 2015 from https://www.fcc.gov/mobile-deployment-form-477-data.

21 October, 2016
Prepared by Jacob Barlow

VerizonWireless
477 Voice Coverage
Minnesota

CenturyLink



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Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-16

Source: Form 477 mobile voice deployment data as of December 31, 2015 from https://www.fcc.gov/mobile-deployment-form-477-data.

21 October, 2016
Prepared by Jacob Barlow

Working Toward Mobility Fund II: Mobile Broadband Coverage Data and Analysis

Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-17

Wireless Telecommunications Bureau

September 30, 2016

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I. Introduction

1. The primary goal of the Mobility Fund Phase II (MF-II) established by the Commission in the 2011 *USF/ICC Transformation Order* is to provide ongoing support where needed to expand the availability of mobile voice and broadband services in areas where consumers live, work, and travel.[1] Consistent with the principle of fiscal responsibility underlying its universal service reforms, the Commission proposed to identify areas that need ongoing support by excluding areas where service is provided without high-cost support.[2] In 2014, in light of changes that had occurred since 2011, the Commission proposed that MF-II should focus on expanding the availability of 4G LTE service and that areas eligible for MF-II support should be identified based on data reported on the Commission's new Form 477.[3]

2. This Report reflects Commission staff work toward answering a number of threshold MF-II questions. It describes and analyzes data on mobile broadband coverage based on Form 477 submissions, which will enable the Commission to make fact-based decisions regarding where and how high-cost support should be deployed through the Mobility Fund. In particular, staff has focused its efforts on analyzing the Form 477 data to identify the specific areas that may require support in order to have 4G LTE coverage. In accordance with the Commission's policies for reform of universal service, as reflected in the 2011 and 2014 orders, staff analysis identifies areas within census blocks that do not today have unsubsidized 4G LTE coverage (*i.e.,* 4G LTE coverage provided without any form of high-cost universal service support). This Report presents the most accurate data available on actual areas that currently have 4G LTE coverage, and, based on that data, using assumptions set out below, estimates coverage data within each of the more than 11 million U.S. census blocks in terms of population and road miles. This actual area

[1] *See Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund;* WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17824, para. 493 (2011) (*USF/ICC Transformation Order and/or FNPRM*).

[2] *USF/ICC Transformation Order and* FNPRM, 26 FCC Rcd 18070-71, paras. 1123-24. *See also Connect America Fund et al.,; Developing a Unified Intercarrier Compensation Regime; Establishing Just and Reasonable Rates for Local Exchange Carriers; ETC Annual Reports and Certifications; Universal Service Reform – Mobility Fund;* WC Docket Nos. 10-90, 07-135, 14-58, CC Docket No. 01-92, WT Docket No. 10-208, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration and Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051, 7127-28, para. 239 (2014) (*April 2014 Connect America Order and/or FNPRM*).

[3] *April 2014 Connect America Order and/or FNPRM,* 29 FCC Rcd at 7128-29, paras. 241-42.

coverage approach uses sub-census-block level coverage reported directly by service providers on their Form 477 submissions to get an accurate representation of coverage by providers, rather than using analysis based on proxies for coverage within census blocks, such as the centroid methodology.[4] Using the actual geographic area coverage based on the Form 477 data provides a significantly more detailed basis for reforming universal service support for mobile services to target support where it is needed and thereby further our universal service objectives.

3. This Report first describes the sources of the data underlying our analysis of coverage and subsidies. Next, it describes how the data are used to identify the areas within census blocks that lack unsubsidized 4G LTE coverage. This entails identifying the actual areas where there is 4G LTE coverage, using high-cost support data to determine where 4G LTE is provided without subsidy, and then overlaying the coverage and the support data to identify the actual areas lacking unsubsidized 4G LTE. The resulting analysis, based on actual coverage data and reasonable assumptions, represents the most accurate information available on where universal service support may be needed on an ongoing basis to promote the universal availability of 4G LTE mobile voice and broadband services.

II. Underlying Data

4. This Report relies on three main data sources:
   - 4G LTE coverage data provided by carriers in their Form 477 submissions;
   - Geographic area, population and road mile data from the Census Bureau; and
   - Support data from the Universal Service Administrative Corporation (USAC) and the FCC's website regarding where high-cost universal service support is currently being provided to mobile service providers.

Each of these data sources is explained in greater detail below.

a. Coverage Data

5. In 2013, the Commission took a significant step forward in its *Modernizing the FCC Form 477 Data Program* Order, which substantially revised and enhanced its collection of mobile voice and

[4] *See* para. 20, *infra*.

broadband coverage data.[5] The scope and nature of the new Form 477 data on mobile services coverage was an improvement over earlier data sources in key respects, such as the uniformity of data reporting.[6] In 2014, the Commission proposed to use Form 477 mobile deployment data, rather than earlier sources, as it moved forward on mobile broadband universal service issues.[7]

6. Before the new Form 477 data were available, the Commission relied on coverage data from Mosaik Solutions (formerly known as American Roamer),[8] to define eligible areas for purposes of providing one-time support through reverse auctions under Mobility Fund Phase I (MF-I).[9] While this dataset was one of the best available, it still had various shortcomings. For example, its data are not collected under a consistent methodology across geographic areas and service providers. In addition, Mosaik data are commercially provided subject to intellectual property protections, somewhat limiting their utility in the public policy sphere. The Commission has long expressed concern that Mosaik data, for various reasons, likely overstates the extent of mobile broadband coverage. For instance, in 2010, the Commission's National Broadband Plan relied on American Roamer data with respect to mobile broadband availability, but pointed out that the coverage was likely overstated.[10]

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[5] *See Modernizing the FCC Form 477 Data Program*, Report and Order, 28 FCC Rcd 9887 (2013) (*477 Report & Order*). Also see Form 477 PN 2016.

[6] *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Progress Report, 31 FCC Rcd 699, 708-09 para. 22 (2016) ("[D]ata from the Form 477 . . . help us better analyze mobile broadband deployment than in years past.").

[7] Since that time, the Commission has relied on Form 477 data to analyze mobile deployment outside the universal service context. *See*, *e.g.*, *id.*; *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Eighteenth Report, 30 FCC Rcd 14515 (WTB 2015) (*Eighteenth Mobile Competition Report*).

[8] Mosaik Solutions is an independent consulting firm that provides data on the coverage footprints of mobile voice and mobile data networks to the Commission under contract. The company creates coverage boundary maps based on the coverage boundaries voluntarily submitted to Mosaik by mobile wireless network operators. *See generally* Mosaik, About Us, www.mosaik.com (last visited August 24, 2016).

[9] *USF/ICC Transformation Order and/or FNPRM*, 26 FCC Rcd at 17784-85, paras. 333-37.

[10] *See* Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 3.3, 22 (rel. Mar. 16, 2010) (National Broadband Plan). More recently, in the Eighteenth Mobile Competition Report, which was released at the end of 2015, the Wireless Telecommunications Bureau similarly concluded that limitations in the Mosaik data likely overstated the coverage experienced by consumers. This is because Mosaik reports advertised coverage as reported to it by service providers, each of which uses a different definition or determination of coverage. The data do not expressly account for factors such as signal strength, bit rate, or in-building coverage, and may convey a false sense of consistency across geographic areas and service providers. *See Eighteenth Mobile Competition Report*, 30 FCC Rcd at 14538, para. 34*; see also Seventeenth Mobile Competition Report,* 29 FCC Rcd at 15332-33 para. 45*; USF/ICC Transformation Order and FNPRM*, 26 FCC Rcd at 17785, para. 336 (referring to comments observing that Mosaik data may over report the extent of coverage).

7. In light of the limitations of the Mosaik data and the importance of using the most accurate coverage data available for targeting universal service support, the Commission proposed in 2014 to use Form 477 deployment data as the basis for determining eligibility for MF-II.[11] The Form 477 revisions adopted the previous year, among other things, enhanced the reliability of the data collected by requiring that deployment shapefiles depict "the coverage boundaries where, according to providers, users should expect the minimum advertised upload and download data speeds associated with [a] network technology," such as LTE.[12] Providers were also required to certify as to the accuracy of the data submitted.[13]

8. More specifically, the new Form 477 collects network deployment data for fixed and mobile broadband as well as mobile voice network deployment data.[14] There is a single, uniform filing format for the shapefiles submitted by mobile broadband and mobile voice providers showing their network coverage areas, which reduces the potential for distortion or misleading comparisons of the data. All facilities-based broadband providers are required to file data using Form 477 with the FCC twice a year identifying areas where they offer Internet access service at speeds exceeding 200 kbps in at least one direction. Specifically, for each mobile broadband network technology (*e.g.,* EV-DO, WCDMA, HSPA+, LTE, WiMAX) deployed in each frequency band (*e.g.,* 700 MHz, Cellular, AWS, PCS, BRS/EBS), each facilities-based mobile broadband provider submits polygons representing its nationwide coverage area (including U.S. territories) of that technology. While these coverage data provide the most accurate depiction the Commission has on the deployment of mobile networks, they do not indicate the extent to which providers affirmatively offer service to residents in the covered areas.

b. Census Block Level Data

9. This Report uses data published by the U.S. Census Bureau regarding land area, total area, road miles and population (or "pops") for every census block. These data are based on the 2010 Census and exclude all water-only blocks. There are 10,619,346 blocks in the US with a total population

[11] *April 2014 Connect America Order and/or FNPRM,* 29 FCC Rcd at 7128, para. 241.

[12] *See 477 Report and Order*, 28 FCC Rcd 9887, 9908-09, para. 42.

[13] *See id.*, 28 FCC Rcd at 9897-98, paras 23-24. (noting that the certification obligation will help promote complete and accurate data).

[14] *See* Form 477 Mobile Wireless Data Report, July 2016 available at:

of 313 million. These comprise 3.54 million square miles of land area. Excluding Alaska,[15] there are 10,592,327 blocks and 312 million pops and 2.97 million square miles of land area.

10. For road mile data, this Report uses the same six categories of roads that were used in MF-I Auction 901, based on Census Bureau's TIGER database.[16] At that time, Commission staff determined in response to filings by interested parties that these six categories included the important types of roads in rural areas and thus well represented the roads where people live, work, and travel.[17] The use of the six categories promoted parity among the states for eligible road miles, in light of the differences between states in the manner in which they classify their roads.[18] Including Alaska, there are 6.82 million road miles in the U.S. based on the six categories listed below. Excluding Alaska, there are 6.79 million road miles in the U.S. For purposes of MF-I, Commission staff assigned road miles to census blocks so as to prevent double counting, *e.g.,* where a road forms the boundary between two census blocks, and this Report uses those data.[19] Commission staff has not yet mapped the roads within each census block, but anticipates doing so for purposes of obtaining more accurate data on the coverage of road miles. The descriptions of the road mile categories included in this Report's analysis are shown in the following table.

[15] We note that the Commission recently adopted a comprehensive plan for providing high-cost support to mobile providers in Alaska. Because the plan provides a comprehensive substitute mechanism for mobile high-cost support, the Commission provided that there would be no support provided under Mobility Fund Phase II or Tribal Mobility Fund Phase II for mobile service within Alaska. *See Connect America Fund; Universal Service Reform – Mobility Fund*, WC Docket No. 10-90, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-115, para. 98 (rel. Aug. 31, 2016) (*Alaska Plan Order*).

[16] U.S. Census Bureau, MAF/TIGER Feature Class Code Definitions, https://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2009/TGRSHP09AF.pdf (last visited Sept. 28, 2016).

[17] Mobility Fund Phase I Auction Scheduled for September 27, 2012; Notice and Filing Requirements and Other Procedures for Auction 901, Public Notice, AU Docket No. 12-25, DA 12-641, 27 FCC Rcd 4725, para.24 (2012) (*Auction 901 Procedures Public Notice*).

[18] *Id.*

[19] *See Mobility Fund Phase I Auction; Release of Files with Recalculated Road Miles for Auction 901; Mock Auction Rescheduled for September 21, 2012,* Public Notice (DA 12-1446) rel. Sept. 7, 2012.

Table 1

Road Categories, Descriptions, and Total Miles in Eligible Census Blocks

MTFCC	Feature Class	Feature Class Description
S1100	Primary Road	Primary roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways.
S1200	Secondary Road	Secondary roads are main arteries, usually in the U.S. Highway, State Highway or County Highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. They often have both a local name and a route number.
S1400	Local Neighborhood Road, Rural Road, City Street	Generally a paved non-arterial street, road, or byway that usually has a single lane of traffic in each direction. Roads in this feature class may be privately or publicly maintained. Scenic park roads would be included in this feature class, as would (depending on the region of the country) some unpaved roads.
S1500	Vehicular Trail (4WD)	An unpaved dirt trail where a four-wheel drive vehicle is required. These vehicular trails are found almost exclusively in very rural areas. Minor, unpaved roads usable by ordinary cars and trucks belong in the S1400 category.
S1640	Service Drive usually along a limited access highway	A road, usually paralleling a limited access highway,that provides access to structures along the highway. These roads can be named and may intersect with other roads.
S1740	Private Road for service vehicles (logging, oil fields, ranches, etc.)	A road within private property that is privately maintained for service, extractive, or other purposes. These roads are often unnamed.

Source: *Auction 901 Procedures Public Notice,* Attachment B. https://www.fcc.gov/document/mobility-fund-auction-procedures-and-filing-requirements.

c. High-Cost Support Data

11. The Universal Service Fund (USF) provides support to carriers through the High Cost Program in order to preserve and advance voice and broadband service. Currently, there are two types of high-cost support provided to eligible mobile service providers (also referred to as competitive eligible telecommunications carriers or CETCs).[20] The first is the ongoing high-cost support regime, as modified by the *USF/ICC Transformation Order*; the second is the one-time support provided under MF-I, which was established by the *USF/ICC Transformation Order*. This Report's analysis reflects disbursements pursuant to both high-cost support mechanisms, described below.

12. Prior to the *USF/ICC Transformation Order*, competitive eligible carriers, including mobile service providers received high-cost support pursuant to the "identical support rule" in study areas where the costs of providing service were relatively high.[21] The level of support per wireless subscriber was based on the per-line support provided to the incumbent wireline provider. The *USF/ICC Transformation Order* eliminated the identical support rule, on grounds that it "fails to efficiently target support where it is needed;"[22] "bear[s] no relation to the efficient cost of providing mobile service"[23] and does not provide appropriate incentives to bring service to new markets.[24] Instead, the Commission provided for explicit support for mobility under the Mobility Fund.[25] In shifting from the existing high-cost support program to the new Mobility Fund framework, the Commission established a transitional framework to reduce the level of ongoing legacy CETC support over a period of years as the new universal service support mechanisms were put in place.[26] Pursuant to that framework, legacy CETC support continues to be provided at

[20] Note that there are a certain number of CETCs that provide fixed, rather than mobile, service. Data regarding subsidies provided to fixed CETCs are excluded from this analysis.

[21] By statute, only providers that have been designated eligible telecommunications carriers (ETCs) may receive universal service support. A provider that is designated an ETC must provide the services supported in accordance with the terms of the specific universal service mechanism under which the support is received, and do so throughout the service area for which it is designated an ETC. *See* 47 U.S.C. §§ 214(e) and 254(e). USAC generally refers to a provider's service area as its "study area."

[22] *USF/ICC Transformation Order and/or FNPRM*, 26 FCC Rcd at 17827, para. 502.

[23] *Id*., 26 FCC Rcd at 17828, para. 504.

[24] *Id.* at para. 505.

[25] *Id.*, 26 FCC Rcd at 17827-17830, paras. 502-11.

[26] *Id.*, 26 FCC Rcd at 17830-17833, paras. 513-22.

levels that are 60 percent of the amounts being received as of December 31, 2011, regardless of the number of subscribers in a CETC's study area.[27]

13. Data regarding CETC support was obtained from USAC. This annual company-level dataset shows the amount of support that each eligible mobile service provider receives in a particular study area in a state. The USAC data include the study area name and study area code (SAC) and the total amount of support that a CETC receives in a given study area.

14. For the US, including Alaska, the USAC data show approximately $575 million in annual legacy support currently going to wireless CETCs. Excluding Alaska, which receives approximately $105 million annually, this figure is currently around $470 million. Of that amount, Mississippi receives the greatest share of support ($87 million), with Puerto Rico receiving the next largest share ($79 million). By contrast, Oregon and West Virginia receive $11 million and $8.7 million respectively, and Montana and Idaho each receive approximately $5 million. The top 5 companies[28] receiving ongoing CETC support account for approximately two-thirds of total support provided, with the largest recipient being AT&T, which receives approximately $160 million in annual support.

15. An eligible mobile service provider may also be entitled to receive support pursuant to MF-I. MF-I provided one-time support for the deployment of 3G or 4G mobile networks (including 4G LTE) where such coverage was not available, including support dedicated to Tribal lands.[29] MF-I support data are obtained both from USAC and from the FCC's publicly available auction website, which lists all the winning bidders along with the amount of winning bids and the associated census blocks.[30]

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[27] *See id.* at para. 519. Separate rules applied to the receipt of CETC support in Alaska. *See Alaska Plan Order*, FCC 16-115 at para. 66 *et seq*.

[28] USAC reports the amounts of ongoing legacy support on a CETC-specific basis. For purposes of this Report, Commission staff has aggregated support received by affiliated CETCs. Staff identifies affiliated companies by tracking the filings of mobile wireless providers in connection with transactions over the years. We match each provider identifier up with the holding company names to create a dataset with unique company identifiers is created. This involves tracking all transactions (mergers, sales etc.) of mobile wireless providers and attributing various entities to their appropriate parent companies after the transactions are consummated. We then merge the shapefiles for these companies and their affiliates to create aggregated coverage shape files (by technology) for the parent entity.

[29] *Id.*, 26 FCC Rcd at 17674, 17773-34, 17819-20, paras. 28, 301, 481.

[30] Federal Communications Commission, Summary for Auction 901, http://wireless.fcc.gov/auctions/901 (last visited August 29, 2016); Federal Communications Commission, Summary for Auction 902, http://wireless.fcc.gov/auctions/902 (last visited August 29, 2016).

III. Identifying Areas Within Census Blocks Lacking Unsubsidized 4G LTE

16. As noted earlier, the primary goal of MF-II is to provide ongoing support where needed to expand the availability of mobile voice and broadband services. For this purpose, the Commission has proposed to target MF-II primarily to expand 4G LTE (or LTE) service to areas that lack such service and to preserve such service where it is provided only on a subsidized basis.[31] To identify these areas, staff overlaid Form 477 coverage data with corresponding support data to determine, on a block-by-block basis, which blocks were entirely served by 4G LTE without subsidy, and which ones lacked such service – either in whole or in part.

17. At a high level, the process worked as follows. Using the Form 477 shape files described above, and census block boundaries, staff derived each provider's actual LTE coverage area for each census block. This enabled staff to identify census blocks with 100 percent 4G LTE coverage, as well as the percentage of 4G LTE coverage by area in census blocks where there is less than 100 percent coverage. It also allowed staff to overlay a provider's 4G LTE coverage data with the USAC support data by study area to determine the area(s) where that provider's 4G LTE coverage is currently being subsidized. By comparing that information across all providers of 4G LTE coverage in a census block, staff identified those census blocks that lacked unsubsidized 4G LTE, either in whole or in part. Below we describe this process in more detail.

a. Using the Actual Area for 4G LTE Coverage Analysis

18. This section discusses our evaluation of the actual area and percentage of 4G LTE coverage within a census block. By overlaying the carrier-certified data included in the Form 477 shape files with census block geographies, staff determined the actual area of 4G LTE coverage within each block by each provider of the service. By aggregating the provider-specific data, staff identified the set of blocks that, on an actual area basis, are 100 percent covered by 4G LTE, as well as the actual area of 4G LTE coverage within each block with less than 100 percent 4G LTE coverage.

19. Staff then calculated the actual area coverage as a percentage of the total area of each census block. For purposes of this Report, staff then applied that percentage to the total population and road miles to estimate coverage based on those metrics for each block. Staff assumed, in a given

[31] *USF/ICC Transformation Order,* 26 FCC Rcd at 10875, para. 1142; *April 2014 Connect America Order and/or FNPRM.* 29 FCC Rcd at 7128-29, paras. 240-42.

census block, that the proportion of population and road miles covered is the same as the proportion of the area covered, i.e., that population and roads are uniformly distributed throughout the area of a census block.. For example, if 90 percent of the land area of a block is covered by LTE, staff assumed that 90 percent of the population, as well as 90 percent of the road miles, in the block are covered by LTE. This proportional approach provides an approximation of the actual road miles and population covered. Staff anticipates that it can use Census Bureau data to establish the actual covered road miles in a MF-II reverse auction. For population, staff is not aware of any equivalent publicly-available data on the distribution of population, or households, at a sub-census-block level, so staff is not able to distribute population more precisely within census blocks.

20. In contrast to the actual area approach employed here, the Commission utilized a different methodology – based on the centroid of a census block – to assess coverage to determine eligibility for MF-I. This method considered a census block as covered if the center point (the "centroid" as it is commonly called, or "internal points" in Census Bureau terminology) of the census block, as published by the Census Bureau, lies within the coverage polygon.[32] If a centroid is covered, then all of the land area, population and road miles in the corresponding census block are also coded as covered. This methodology has some limitations.

21. Importantly, the centroid method is an approximation of coverage based on a single geographic point in each census block, whereas the approach taken here reflects actual coverage. As noted in several Mobile Wireless Competition Reports, the centroid methodology has the potential to overstate coverage in certain blocks,[33] especially in large or irregularly shaped blocks. [On the other hand, it may undercount coverage for other blocks, that is, blocks that have a partial area coverage that does not happen to include the centroid of the block.] Such inaccuracies raise particular concerns where, as is the case for MF-II, the Commission seeks to target support only to areas that need it and data accuracy, on a granular basis, is important. Because it can identify

[32] http://www.census.gov/geo/maps-data/data/gazetteer2010.html. These files contain the latitude and longitude of the centroid at the block level. The latitude/longitude coordinate is approximately the geographic center of the geographic entity (e.g., county, place, etc) and is also referred to as the internal point of the entity. The Census Bureau calculates an internal point (latitude and longitude coordinates) for each geographic entity. For many geographic entities, the internal point is at or near the geographic center of the entity. For some irregularly shaped entities (such as those shaped like a crescent), the calculated geographic center may be located outside the boundaries of the entity. In such instances, the internal point is identified as a point inside the entity boundaries nearest to the calculated geographic center and, if possible, within a land polygon.

[33] *See e.g.*, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 15-125, Eighteenth Report, 30 FCC Rcd 14515, para. 34 (WTB 2015).

specific areas *within* each census block where 4G LTE coverage is absent, the actual area coverage approach is a significant improvement over the centroid method in reaching our universal service goals. It is a far more precise way to target our MF-II budget, even though we currently approximate the unserved road miles and population in those unserved areas.

22. Tables 2a and 2b include some metrics based on this analysis of LTE coverage for the US, excluding Alaska. Table 2a presents data on the extent of LTE coverage in those areas. These figures are current best estimates and are subject to revision as updated data are available. For instance, population and road miles figures are based on uniformly distributing 2010 census population and road miles within each census block and not on actual distributions of population and roads in a block. The specific percentages shown represent the percentage that a particular number comprises of the total in the first row of that particular column. For instance, 67.8% of road-miles uncovered by LTE are in census blocks with partial LTE coverage. Table 2b mirrors Table 2a and presents data on the extent of LTE coverage for Tribal areas[34] excluding Alaska. Again, the specific percentages shown represent the percentage that a particular number comprises of the total in the first row of that particular column. For instance, 52.8% of road-miles uncovered by LTE are in census blocks with partial LTE coverage.

[34] *See* Tribal Mobility Fund Phase I Auction Rescheduled for December 19, 2013; Notice and Filing Requirements and Other Procedures for Auction 902, *Public Notice*, AU Docket No. 13-53, DA 13-1672, paras. 17-23, 28 FCC Rcd 11628, 11635-38 (2013) (*Auction 902 Procedures Public Notice*).

Table 2a

US Coverage Analysis (Excluding Alaska): LTE Coverage

	Blocks	Pop. Den-sity	Area (sq mi)	Road Miles	Population	LTE Covered Area (sq mi)	LTE Uncovered Area (sq mi)	LTE Covered Road Miles	LTE Uncovered Road Miles	LTE Covered Population	LTE Uncovered Population
Blocks With Complete LTE Coverage	10,025,526 94.6%	165	1,864,053 62.9%	5,474,988 80.6%	308,046,217 98.7%	1,864,053 74.4%	N/A	5,474,988 87.8%	N/A	308,046,217 99.1%	N/A
Blocks With Partial LTE Coverage	351,511 3.3%	3	1,008,007 34.0%	1,137,707 16.8%	3,377,520 1.1%						
Covered						642,543 25.6%		759,838 12.2%		2,656,594 0.9%	
Uncovered							365,464 77.8%		377,869 67.8%		720,926 50.3%
Blocks With No LTE Coverage*	215,920 2.0%	7	104,007 3.5%	179,411 2.6%	712,524 0.2%		104,404 22.2%		179,411 32.2%		712,524 49.7%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Blocks exclude Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.
*This includes blocks with no mobile service and blocks with less than LTE coverage.

Table 2b

Tribal Coverage Analysis (Excluding Alaska): LTE Coverage

	Blocks	Pop. Den-sity	Area (sq mi)	Road Miles	Population	LTE Covered Area (sq mi)	LTE Uncovered Area (sq mi)	LTE Covered Road Miles	LTE Uncovered Road Miles	LTE Covered Population	LTE Uncovered Population
	359,605	22	163,924	303,081	3,582,934	127,836	36,088	251,581	51,501	3,461,007	121,927
Blocks With Complete LTE Coverage	300,912	41	83,202	204,184	3,372,535	83,202		204,184		3,372,535	
	83.68%		50.76%	67.37%	94.13%			81.16%		97.44%	
Blocks With Partial LTE Coverage	24,981	2	70,053	74,605	125,095						
	6.95%		42.73%	24.62%	3.49%						
Covered						44,635		47,397		88,474	
						34.92%		18.84%		2.56%	
Uncovered							25,418		27,209		36,621
							70.43%		52.83%		30.04%
Blocks With No LTE Coverage*	33,712	8	10,670	24,292	85,304		10,669		24,291		85,304
	9.37%		6.51%	8.01%	2.38%		29.57%		47.17%		69.96%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Tribal Blocks exclude Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.
*This includes blocks with no mobile service and blocks with less than LTE coverage.

b. Identifying Areas where LTE is Provided on an Unsubsidized Basis

23. This section discusses the methodology used to determine areas where 4G LTE coverage is provided on an unsubsidized basis, based on existing distribution of universal service support. To identify these areas, staff overlaid 4G LTE coverage data from the Form 477 with high-cost support data from USAC, along with the census blocks covered by MF-I winning bids. Staff conducted two separate assignments of support based on how universal service support is currently disbursed and then aggregated the data.[35]

24. To assign ongoing legacy CETC support, staff overlaid each provider's LTE coverage areas with the geographies of the study areas in which the provider is receiving support and treated the area of overlap as subsidized LTE coverage. For example, if the study area for which a wireless provider is receiving ongoing legacy support[36] comprises 100 census blocks, but its LTE coverage includes parts or all of only 80 blocks, then its actual LTE coverage areas within those 80 blocks would be considered subsidized.

25. In considering MF-I support, staff treated service as subsidized in any eligible census blocks in the census tracts for which the provider was awarded support through the MF-I auctions to provide either 3G or 4G service.[37]

26. A provider's coverage in any areas that do not fall within those support categories is treated as unsubsidized. Staff then compared those unsubsidized coverage areas with the LTE coverage areas reported on the Form 477 submissions.

c. Identifying Blocks Lacking 100% Unsubsidized LTE Coverage

27. Once support was assigned geographically for each provider, staff examined for each census block the actual LTE coverage of all the providers to determine whether there is at least one provider of unsubsidized LTE coverage in every part of the census block. Staff classified as lacking 100 % unsubsidized LTE any census block with less than 100% LTE coverage as well as any census

[35] *See* Methodology Appendix, *supra*, for details.

[36] *See* Methodology Appendix, *supra*, for details.

[37] *See, infra.* n. 27; *see also USF/ICC Transformation Order*, 26 FCC Rcd at 18070, para. 1124 n. 2247 (noting that any provider offering 3G or better service in an area for which it is receiving MF-I support, would not be considered unsubsidized for purposes of MF-II). Blocks where MF-I subsidy may not have been authorized or disbursed due to non-fulfilment of certain obligations, but were covered by winning bids in the auctions, are treated as subsidized blocks for the winning bidder.

block with 100% LTE coverage if the coverage of some portion of the block is provided only by a subsidized provider.

i. US Analysis Excluding Alaska

28. Tables 3- i and 3-ii show data resulting from staff analysis of provider-specific LTE coverage information overlaid with areas where specific provider(s) of LTE receive high-cost support, as described above. As set out in these Tables, the analysis identifies the degree to which 4G LTE coverage is not being provided on an unsubsidized basis. The results show that, overall, areas with no LTE coverage or where LTE is provided only on a subsidized basis cover:

    a. Approximately 575,000 square miles (19% of total area);

    b. Approximately 755,000 road miles (11% of total road miles); and

    c. Approximately 3.1 million people (1% of total population).

29. In addition to providing these overall metrics, Tables 3-i and 3-ii provide separate metrics on the two component parts – that is, the extent to which LTE coverage is not available, as well as the extent to which LTE coverage currently is provided only with universal service support. For example, Table 3-ii shows that of the approximately 3.1 million people in areas with no LTE or only subsidized LTE, 1.4 million have no LTE coverage, while another 1.7 million live in areas where LTE coverage is provided only on a subsidized basis. Tables 3-i and 3-ii similarly show that LTE coverage is provided only on a subsidized basis in a total area of 105,000 square miles, covering approximately 200,000 road miles, with the remaining uncovered area and road-miles falling in areas with no LTE coverage.

Table 3-i

US Coverage Analysis (Excluding Alaska): Analysis of LTE Network Coverage and Current Universal Service Support Area Coverage

	Blocks	Pop. Den.	Area (sq mi)	Road Miles	Population	Area with Unsubsi-dized LTE Coverage	Area with No LTE Coverage	Area with Only Subsidized LTE	Totals - Areas with No LTE or Only Subsidized LTE Coverage
	10,592,327	105	2,965,291	6,792,106	312,136,261	2,114,150	469,470	104,595	
Blocks WITH Complete LTE Coverage and No Subsidized Provider of Any Mobile Service	6,469,519	198	1,080,916	3,338,300	213,496,098	1,080,916			
	61.1%		36.5%	49.1%	68.4%	51.1%			
Blocks WITH Less than Complete LTE Coverage, or WITH At Least One Subsidized LTE Provider	4,122,808	28	1,884,375	3,453,806	98,640,163	1,033,234	469,470	104,595	574,065
	38.9%		63.5%	50.9%	31.6%	48.9%	100.0%	100.0%	100.0%
Blocks With *NO LTE SERVICE*	215,290	7	104,007	179,411	712,524		104,007		104,007
	2.0%		3.5%	2.6%	0.2%		22.2%		18.1%
Blocks With *LESS THAN 100% LTE Coverage*	351,511	3	1,008,007	1,137,707	3,377,520	517,903	365,463	47,247	412,710
	3.3%		34.0%	16.8%	1.1%	24.5%	77.8%	45.2%	71.9%
Blocks With *100% LTE COVERAGE, BUT WITH AT LEAST ONE SUBSIDIZED LTE PROVIDER*	3,556,007	121	783,137	2,136,688	94,550,119	515,331		57,348	57,348
	33.6%		26.4%	31.5%	30.3%	24.3%		54.8%	10.0%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Blocks exclude Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

Table 3-ii

US Coverage Analysis (Excluding Alaska): Analysis of LTE Network Coverage and Current Universal Service Support Road Miles and Population Coverage

	Est'd Road Miles in Areas with Unsubsidized LTE Coverage	Est'd Road Miles in Areas with No LTE Coverage	Est'd Road Miles in Areas with Only Subsidized LTE	Totals - Est'd Road Miles in Areas with No LTE or Only Subsidized LTE	Est'd Pops in Areas with Unsubsidized LTE Coverage	Est'd Pops in Areas with No LTE Coverage	Est'd Pops in Areas with Only Subsidized LTE	Totals - Est'd Pops in Areas with No LTE or Only Subsidized LTE
	5,931,116	557,280	198,565		308,465,200	1,433,450	1,656,753	
Blocks WITH Complete LTE Coverage and No Subsidized Provider	3,338,300				213,496,098			
	56.3%				69.2%			
Blocks WITH Less than Complete LTE Coverage, or WITH At least One Subsidized LTE Provider	2,592,816	557,280	198,565	755,845	94,969,102	1,433,450	1,656,753	3,090,203
	43.7%	100.0%	100.0%	100.0%	30.8%	100.0%	100.0%	100.0%
Blocks With *NO LTE SERVICE*		179,411		179,411		712,524		712,524
		32.2%		20.8%		49.7%		23.1%
Blocks With *LESS THAN 100% LTE Coverage*	588,633	377,869	66,060	443,929	1,788,880	720,926	286,857	1,007,783
	9.9%	67.8%	33.3%	63.8%	0.6%	50.3%	17.3%	32.6%
Blocks With *100% LTE COVERAGE, BUT WITH AT LEAST ONESUBSIDIZED LTE PROVIDER*	2,004,183		132,505	132,505	93,180,223		1,369,896	1,369,896
	33.8%		67.7%	15.4%	30.2%		82.7%	44.3%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Blocks exclude Alaska and water-only blocks. Blocks with 100% unsubsidized LTE are those with 100% LTE coverage where there is at least one provider of unsubsidized LTE in every part of the block. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

30. The following provides a more detailed description of the contents of these two tables. The first row in these tables indicate the US total for each of the columns. The second row in these tables separate out those census blocks that have complete LTE coverage, with no provider of LTE coverage receiving a subsidy, *i.e.,* blocks that have 100 percent LTE coverage and receive no subsidies either through CETC support of MF-I support. The third row (and its subcomponents) include those blocks with no LTE coverage as well as those blocks with partial LTE coverage and those with complete LTE coverage but with at least one provider of LTE receiving support. In our analysis of area in Table 3-i, the column totaling the areas where LTE coverage is provided on an unsubsidized basis represents LTE coverage that presumptively has no need for ongoing MF-II support. The column totaling the areas with no LTE coverage, when combined with the column totaling the areas where the only LTE coverage is by a provider(s) receiving support, yield the final column identifying those areas where the provision of ongoing subsidy may be needed – either to expand LTE coverage where it is not available today or potentially to continue provision of LTE coverage provided today only on a subsidized basis. Table 3-i provides the same analysis for road miles and pops.

ii. Tribal Analysis (Excluding Alaska)

31. Tables 4-i and 4-ii mirror Tables 3-i and 3-ii and show data resulting from staff analysis of the LTE coverage information overlaid with areas of eligibility for current high-cost support for Tribal census blocks. As set out in these Tables, the analysis indicates that overall, areas with no LTE or LTE provided only on a subsidized basis cover:

    a. Approximately 42,000 square miles (26% of total Tribal area);

    b. Approximately 62,000 road miles (13% of total Tribal road miles); and

    c. Approximately 174,000 people (5% of total Tribal population).

32. Again, on a more disaggregated basis, Table 4-i shows that of the 174,000 people in areas with no LTE coverage or only subsidized LTE coverage, 122,000 have no LTE coverage, while another 52,000 live in areas where LTE coverage is provided only on a subsidized basis. And Tables 4-i and 4-ii show that such coverage is provided only on a subsidized basis in 5,800 square miles, covering 10,400 road miles, with the remainder falling in areas with no LTE coverage.

Table 4-i

Tribal Coverage Analysis (Excluding Alaska): Analysis of LTE Network Coverage and Current Universal Service Support Area Coverage

	Blocks	Pop. Den.	Area (sq mi)	Road Miles	Population	Area with Unsubsi-dized LTE Coverage	Area with No LTE Coverage	Area with Only Subsidized LTE	Totals - Areas with No LTE or Only Subsidized LTE Coverage
	359,605	22	163,924	303,081	3,582,934	82,276	36,088	5,844	41,932
Tribal Blocks WITH Complete LTE and No Subsidized Provider	125,636	20	41,362	92,429	811,460	41,362			
	34.94%		25.23%	30.50%	22.65%	50.27%			
Tribal Blocks WITH Less than Complete LTE Coverage, or WITH At least One Subsidized LTE Provider	233,969	8	122,563	210,652	2,771,474	40,915	36,088	5,844	41,932
	65.06%		74.77%	69.50%	77.35%	49.73%	100%	100%	100%
Blocks With *NO LTE SERVICE*	33,712	8	10,670	24,292	85,304		10,670		10,670
	9.37%		6.51%	8.01%	2.38%		29.57%		25%
Blocks With *LESS THAN 100% LTE Coverage*	24,981	2	70,053	74,605	125,095	36,883	25,418	3,673	29,091
	6.95%		42.73%	24.62%	3%	44.83%	70.43%	62.85%	69%
Blocks With *100% LTE COVERAGE, BUT WITH AT LEAST ONE SUBSIDIZED LTE PROVIDER*	175,276	61	41,840	111,755	2,561,075	4,032		2,171	2,171
	48.74%		25.52%	36.87%	71.48%	4.90%		37.15%	5%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Tribal blocks exclude Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

Table 4-ii

Tribal Coverage Analysis (Excluding Alaska): Analysis of LTE Network Coverage and Current Universal Service Support

	Est'd Road Miles in Areas with Unsubsidized LTE Coverage	Est'd Road Miles in Areas with No LTE Coverage	Est'd Road Miles in Areas with Only Subsidized LTE	Totals - Est'd Road Miles in Areas with No LTE or Only Subsidized LTE	Est'd Pops in Areas with Unsubsidized LTE Coverage	Est'd Pops in Areas with No LTE Coverage	Est'd Pops in Areas with Only Subsidized LTE	Totals - Est'd Pops in Areas with No LTE or Only Subsidized LTE
	136,844	51,501	10,395	61,896	917,518	121,927	52,011	173,938
Tribal Blocks WITH Complete LTE Coverage and No Subsidized Provider	92,429				811,460			
	67.54%				88.44%			
Tribal Blocks WITH Less than Complete LTE Coverage, or WITH At least One Subsidized LTE Provider	44,416	51,500	10,395	61,895	106,059	121,927	52,011	173,937
	32.46%	100.00%	100%	100%	11.56%	100%	100%	100%
Blocks With *NO LTE SERVICE*		24,292		24,292		85,304		85,304
		47.17%		39%		69.96%		49.04%
Blocks With *LESS THAN 100% LTE Coverage*	37,598	27,209	4,746	31,954	70,199	36,621	6,159	42,780
	27.48%	52.83%	45.65%	52%	7.65%	30.04%	11.84%	24.60%
Blocks With *100% LTE COVERAGE, BUT WITH AT LEAST ONESUBSIDIZED LTE PROVIDER*	6,817		5,649	5,649	35,859		45,853	45,854
	4.98%		54.35%	9.13%	3.91%		88.16%	26.36%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Tribal blocks exclude Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

IV. Methodology for Allocating Legacy CETC and MF-I Support Amounts

33. Certain MF-II-related analyses may require allocating specific amounts of current high-cost legacy CETC disbursements and MF-I support to particular census blocks. For instance, in many of the geographic areas in which CETCs currently receive legacy ongoing support, there is provision of 4G LTE on an unsubsidized basis by other providers. It is not reasonable to assume that every dollar of CETC support being provided to a recipient for its entire wireless study area is needed to ensure the continuation of LTE coverage in those portions of the study area that lack unsubsidized LTE coverage. As discussed in the previous section, staff has identified for each provider the census blocks in which its LTE coverage is currently being subsidized. Here staff describes its methodology for allocating the support dollars being received among the census blocks in the area receiving support.

34. As described above, ongoing legacy CETC support is a continuation of support that had been based on the number of subscribers anywhere in that area. The support provided was not associated with mobile coverage of any particular census blocks within that area. As a result, staff has to make certain assumptions to allocate this support to blocks.

35. We allocate CETC dollars using three different metrics for allocating support among blocks – covered population, covered road miles, covered area. Below we discuss the rationale for each in brief. Given that high-cost support was originally provided on a per-subscriber basis, we first use population to allocate the amount of a provider's support among individual census blocks based on estimates of covered population. To estimate covered population in each block, staff multiplied the fraction of the area covered by the subsidized carrier by the population of the block. Then for each wireless study area receiving support, staff allocated a provider's legacy support among blocks based on the fraction of estimated covered population in each block relative to the total covered population in the entire study area.

36. For example, assume a study area of CETC entity X is composed of three blocks, A, B and C. For this study area, X receives $100. In Block A, there are four people, with 75% covered by any type of technology by X. In Block B, there are five people, with 80% covered by any type of technology by X. And in block C, there are seven people with 50% covered by any type of technology by X. Total coverage in the SAC is estimated to be 75%*4+80%*5+50%*7=10.5

people, or 3 people in Block A, 4 people in Block B, and 3.5 people in Block C. Thus, 28.57% of the total estimated population falls in Block A (3/10.5); 38.10% falls in in Block B (4/10.5), and 33.33% falls in Block C (3.5/10.5). With $100 in total support, this translates to $28.57 assigned to A, $38.10 assigned to B and $33.33 assigned to C.

37. Staff used a similar approach when using road miles to allocate CETC support. To estimate covered road miles in each block, staff multiplied the fraction of the area covered by the subsidized carrier by the road miles of the block. Then for each wireless study area, staff assigned a provider's legacy support among blocks based on the fraction of estimated covered road miles in each block relative to the total covered road miles in the entire study area. For area, staff used the actual area covered in each block to allocate the support based on the fraction of covered area in each block to the total covered area in the study area.

38. Certain results flowing from all three allocation methodologies are shown in Tables 4a and 4b. Table 4a shows the allocation of support to census blocks based on the extent of LTE coverage (no coverage, partial coverage and full coverage), while Table 4b represents the allocation of support to census blocks that already receive complete unsubsidized LTE coverage from one or more providers. For instance, Table 4a shows that blocks without any LTE service receive less than 1% of CETC support under all three allocation methodologies. In addition, blocks that lack 100% LTE coverage irrespective of subsidy, receive only 2% of the CETC support under the population methodology and 10% and 16% respectively under the road miles and area methodologies.

39. Table 4b shows that under all three metrics, a substantial majority of current ongoing legacy CETC support is allocated to census blocks that already have complete LTE coverage from one or more service providers not receiving any support.[38] For instance, those blocks receive 88.7% of CETC support when the allocation is done using population. The comparable metric is 73.7% when using road miles as the metric and 64.3% when using area.

40. Using each of these methodologies has its own advantages and drawbacks. For instance, when using covered population, zero dollars are assigned to unpopulated blocks although the area and road miles contained in these blocks may have LTE coverage because a provider chooses to cover

[38] Table 4b's estimates of CETC support to these blocks is a conservative estimate of support being received for areas currently receiving unsubsidized LTE coverage because it does not reflect a sub-block-level analysis. In particular, this estimate does not include any support being received for areas with unsubsidized LTE coverage that are in blocks with less than complete LTE coverage. Certain providers may be receiving support in those blocks even though a provider not receiving any subsidy may provide a substantial portion, or all, of the LTE coverage in the blocks.

roads in that census block. Using covered area to allocate the CETC support has the opposite bias. This methodology has the potential to allocate CETC dollars in blocks that have no road miles and no population. Allocating CETC subsidies by road miles reflects the Commission's approach to the provision of mobile support under MF-I. Based on the road miles methodology, approximately 73.7% of ongoing CETC support is going to blocks with 100% unsubsidized LTE coverage.

41. Winning bids for one-time MF-I support covered the specific number of road miles in the eligible census blocks within particular census tracts on which the bid was placed at auction. As a result, for purposes of this Report, staff allocated MF-I support among census blocks in a tract based on the per-road-mile winning bid for that tract. The distribution of one-time support provided under MF-I differs significantly from that of ongoing legacy support discussed above. For instance, approximately 60% of the MF I support goes to blocks without 100% LTE coverage irrespective of subsidy. And less that 20% of MF-I support is allocated to census blocks that already have complete LTE coverage from one or more service providers not receiving any support.

Table 4a

CETC Subsidy and LTE Coverage (Excluding Alaska)

	Blocks	LTE Uncovered Area (sq mi)	LTE Uncovered Road Miles	LTE Uncovered Population				MMF-I Subsidy
					Using Population	Using Road Miles	Using Area	
	10,592,327	469,482	557,295	1,433,551	469,733,143	469,733,143	469,733,143	254,617,864
Blocks With No LTE Service*	215,920	104,007	179,411	712,524	3,375,339	3,895,643	3,105,472	15,377,876
	2.04%	22.15%	32.19%	49.70%	0.72%	0.83%	0.66%	6.04%
Blocks Without 100% LTE Service	351,511	365,464	377,869	720,926	9,769,241	46,918,857	75,806,587	151,647,161
	3.32%	77.84%	67.80%	50.29%	2.08%	9.99%	16.14%	59.56%
Blocks with 100% LTE Service	10,025,526				456,588,563	418,918,641	390,821,082	87,592,827
	94.65%				97.20%	89.18%	83.20%	34.40%

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Excludes Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

Table 4b

US Subsidy Allocation to Blocks Where One or More Providers Offer Unsubsidized LTE Coverage Over the Entire Block (Excluding Alaska)

		Blocks	CETC Subsidy ($)	MMF-I Subsidy ($)
		10,592,327	469,733,143	254,617,864
Blocks with 100% LTE Coverage Provided by One or More Unsubsidized LTE Providers		9,797, 196 92.49%		49,519,560 19.44%
CETC Subsidy Allocation Method	By Population		416,478,939 88.66%	
	By Road Miles		346,046,931 73.67%	
	By Area		302,162,750 64.33%	

Note: Based on Form 477 December 2015 coverage data. 2010 Census data on population and road miles. Subsidy data is from USAC's December 2015 High-cost database and MF-I auction data. Excludes Alaska and water-only blocks. 100% service is actually calculated as 99.9% service to take coverage bleed into account.

Methodology Appendix

1. To identify which Census blocks had both 1) coverage by 4G LTE or not and 2) subsidies or not requires an analysis involving both support from the Mobility Fund I program and the CETC legacy support and the Form 477 coverage information.

2. Staff determined coverage in blocks using the shapefiles submitted though Form 477. In Form 477, each carrier submits shapefiles of their U.S. coverage by all of their transmission technologies. These files were overlaid with the Census block shapefiles which allowed staff to calculate the actual area in each block by each carrier covered by a given transmission technology or by any technology. To approximate the amount of population and road miles covered in each block, staff assumed that coverage using these metrics is proportional to the area coverage in the block. So, if a fraction of the block's area is covered by LTE, staff assumes that same fraction of the block's population and road miles is also covered by LTE.

3. Allocating support amounts to particular census blocks is more complex and requires the above calculated coverage information. The identity of the blocks supported in Mobility Fund I are known to staff because the specific blocks eligible for support were identified prior to the assignment of support in Auctions 901 and 902. However, allocating the MF-I support dollar amounts to each block requires further calculation because winning bids covered all of the eligible blocks within a Census tract. To estimate the MF-I support in each eligible block staff followed the procedure described below for each carrier.

    i. First, all eligible blocks with no coverage at all by the carrier in question are ignored. This is based on the assumption that the lack of coverage by the carrier in a block indicates that no subsidy was spent in the block.
    ii. Because road miles were the basis of subsidy assignment in MF-I, staff then calculates the total number of road miles in the remaining eligible blocks for each tract.
    iii. Staff next determines the fraction of road miles in each of the eligible blocks in which the carrier provides coverage relative to the total road miles that were calculated in step two. Staff assumes that this fraction of the total tract support was spent in this block.

4. CETC legacy support is known only at the study area level, a geography much larger than the Census block. Moreover, study areas do not map into any Census geography. To assign CETC support at the block level, the following procedure was used for each carrier.

i. Blocks are assigned to a carrier's study area by first assigning blocks to the wire centers. Although wire centers do not map onto any Census geography exactly, they are more easily matched to blocks than study areas because they are smaller. This matching was done internally by staff manually matching blocks to wire centers. In turn, wire centers can be mapped into study areas, so this allows staff to assign blocks to study areas.[39]

ii. Staff then determines the total of the study area population/ road miles / area covered with any technology by the carrier in question using our previous estimates of covered population/ roadmiles/ area at the block level.

iii. Staff can then find the fraction of covered population/ roadmiles/ area in each block relative to the study area as a whole.

iv. The total high-cost support is then allocated to each block in the study area by the fraction calculated in step 3.

5. WA block (or area within a block) is "subsidized" if it has non-zero support from MF-I or CETC legacy support allocated to it through the process described above. Thus, for this Report, staff counts as subsidized any block (or area within a block) that is:

   i. Covered by a winning bid in the MF-I auctions (Auctions 901 and 902) and had non-zero coverage from the corresponding carrier, i.e., the winning bidder; or

   ii. In a CETC study area for which support is provided and had non-zero coverage by the corresponding carrier.

6. We note that a block considered "subsidized" in this Report may be allocated zero dollars of support under our methodology for allocating support to specific census blocks when using the population or road miles allocation metric depending on whether the block has zero road miles and/or zero population.

[39] Note that since wire centers and blocks do not exactly match up, there is double counting of blocks for certain border of wire centers. The above algorithm handles this by summing the predicted subsidies from both high-cost support mechanisms in question.

Affidavit of Al Lubeck
CenturyLink
Docket No. P-421/AM-16-496
November 18, 2016
Exhibit AL-18

Federal Communications Commission

Mobility Fund II: Improving the Data We Use to Identify & Close Mobile Coverage Gaps

September 30, 2016 - 2:13 pm

By Jon Wilkins (/node/28464) | Chief, Wireless Telecommunications Bureau

The *USF/ICC Transformation Order* set the course for the comprehensive modernization of universal service for the 21st century. In so doing, the Commission set an ambitious goal of universal broadband and advanced mobile coverage. As part of the Connect America Fund, the Commission created the Mobility Fund, a universal service support mechanism dedicated exclusively to mobile services. Phase I of the Mobility Fund provided one-time support to accelerate our nation's ongoing efforts to close gaps in mobile wireless service.

In order for the Mobility Fund to improve coverage in these areas for current-generation or better mobile voice and broadband services, the FCC needs detailed coverage data both to identify areas that lack mobile voice and broadband service and to avoid spending limited resources on support in areas where an unsubsidized provider is already offering service.

Today, we are excited to announce improved analysis of coverage data, giving the FCC the ability to take the next steps toward closing the coverage gap in rural America through Mobility Fund Phase II. This is due, in large part, to our access to more reliable data from provider-filed Forms 477. Twice a year, mobile broadband and voice providers must submit shapefiles showing their network coverage areas and certify the accuracy of their submissions. These shapefiles depict the areas where providers have reported that consumers should expect the minimum speeds associated with 4G LTE or other network technologies. There is no better mobile coverage data available today.

This new and improved data is a major step forward over the data analyzed in the Mobility Fund Phase I auction, called the "centroid method." Let's get technical. The "centroid method" uses the geometric center (expressed in latitude/longitude) of a census block. If that point has service coverage, the *entire* census block is considered to be covered. Thus, the centroid method has drawbacks. As parties have pointed out, the centroid method may over-estimate coverage, particularly in rural areas with very large

census blocks – or under-estimate it in census blocks with partial coverage that does not include the centroid location. Because the U.S. has approximately 11 *million* census blocks, there is the potential that by using the centroid method, we may have missed a number of areas in the country that lacked 3G or better service in Mobility Fund Phase I.

Now, with the best available data we have today, FCC staff has finely honed our analytics to go beyond the centroid method and identify where unsubsidized mobile broadband service is available *within* each census block. In other words, we can now utilize Form 477 data to produce "actual area coverage." Using the actual geographic area coverage based on the Form 477 data provides a significantly more detailed basis than the prior centroid method for reforming universal service support for mobile services to provide more targeted support where it is needed.

A quick look at some of the data reveals why this matters. Our analysis shows that just under one and a half million people, approximately 470,000 square miles, and 550,000 miles of road in the U.S. do not have 4G LTE coverage. In addition, we can overlay the actual area coverage data with publicly available data on universal service subsidies to determine at a sub-census block level where 4G LTE service is available only from a provider receiving support – an indication that continuing support for service in those areas is needed.

Our analysis of this data demonstrates that altogether there are approximately 3 million people, 575,000 square miles of area, and 750,000 road miles in the U.S. that either have no 4G LTE coverage or only have 4G LTE available from a provider that is receiving universal service support. These are the areas where our analysis shows there is a clear need for an ongoing subsidy to either expand 4G LTE coverage or continue coverage on a subsidized basis.

We believe that this significant need for ongoing support shows that the current aggregate funding levels for mobile broadband service are justified.

However, we can also see from the data that the bulk of current support under today's legacy system is going to wireless providers in areas where unsubsidized 4G LTE service already exists – a result inconsistent with the principles underlying the Commission's universal service reforms and a strong basis for taking a new approach in the Mobility Fund Phase II. We estimate that approximately 75% of this legacy support is going to areas where at least one unsubsidized provider has 4G LTE coverage.

Finally, we are well aware that widespread access to these data is critical to getting this right. As a result, we're releasing the Form 477 (https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1107A1.doc) data that shows mobile coverage as of December 31, 2015 together with a description of our methodology to allow for robust public examination of the coverage data. We are also releasing a report, *Working Toward Mobility Fund II (https://apps.fcc.gov/edocs_public/attachmatch/DOC-341539A1.pdf)*, that provides detailed analysis of the Form 477 (https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1107A1.doc) data. We are ready and willing to work with all interested parties on any anomalies or errors in the coverage data submitted by providers. And we will establish a targeted challenge process

to allow providers and other stakeholders to contest determinations of coverage. We will provide details of this process in the coming months. Stay tuned.

Tags:

3.5 GHz (/tags/35-ghz-0) - Data, Maps, Reports (/tags/data-maps-reports) - Forms & Fees (/tags/forms-fees) - Reports (/tags/reports) - Spectrum (/tags/spectrum-0) - Wireless Services (/tags/wireless-services)

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable or Other Wireline Voice (Exhibit 10)	% Households with Cable or Other Wireline Availability (Exhibit 10)	Total Households (EF Study)	Wireless - Covered Households - Indoor (EF Study)	Wireless - % of Households Covered - Indoor (EF Study)
ISLKMNIL	ISLAND LAKE	DULUTH	1,656	15	1%	1699	1246	73.30%
KEWTMNKE	KEEWATIN	KEEWATIN	518	39	8%	522	522	100.00%
MRBLMNMA	MARBLE	MARBLE	687	57	8%	690	435	63.00%
CMSTMNCO	COMSTOCK	COMSTOCK	156	13	8%	146	103	70.50%
BUHLMNBU	BUHL	BUHL	747	75	10%	745	671	90.10%
SWVLMNSV	SWANVILLE	SWANVILLE	426	61	14%	431	379	87.90%
BRNMMNBA	BARNUM	BARNUM	1,379	204	15%	1367	1007	73.70%
OGLVMNOA	OGILVIE	OGILVIE	948	182	19%	960	887	92.40%
CRTOMNCB	CARLTON	CARLTON	1,631	464	28%	1675	1090	65.10%
MORAMNMO	MORA	MORA	4,813	1,437	30%	4780	3586	75.00%
BRHMMNBR	BRAHAM	BRAHAM	2,456	741	30%	2452	2172	88.60%
COOKMNCO	COOK	COOK	1,030	320	31%	1028	89	8.70%
HNCKMNHI	HINCKLEY	HINCKLEY	2,054	833	41%	2041	1950	95.50%
BWBKMNBI	BIWABIK	BIWABIK	1,213	504	42%	1190	433	36.40%
RYTNMNRN	ROYALTON	ROYALTON	1,327	554	42%	1318	1284	97.40%
DLTHMNPL	DULUTH PIKE LAKE	DULUTH	4,616	2,068	45%	4712	2093	44.40%
PRTNMNPR	PRINCETON	PRINCETON	6,858	3,179	46%	6849	5944	86.80%
RSCYMNRC	RUSH CITY	RUSH CITY	1,947	912	47%	1980	1791	90.50%
PNCYMNPC	PINE CITY	PINE CITY	3,873	1,846	48%	3883	3491	89.90%
ISNTMNIS	ISANTI	ISANTI	5,183	2,850	55%	5155	3519	68.30%
SNDSMNSA	SANDSTONE	SANDSTONE	1,337	748	56%	1334	1180	88.50%
FOLYMNFO	FOLEY	FOLEY	2,042	1,145	56%	2070	1937	93.60%
CMBRMNCA	CAMBRIDGE	CAMBRIDGE	6,200	3,546	57%	6196	5390	87.00%
NSHWMNNA	NASHWAUK	NASHWAUK	1,465	839	57%	1409	884	62.70%
MHNMMNMA	MAHNOMEN	MAHNOMEN	1,428	875	61%	1434	1226	85.50%
HLFRMNCO	HOLDINGFORD	HOLDINGFORD	930	572	62%	919	518	56.40%
CLRNMNCO	COLERAINE	COLERAINE	2,200	1,366	62%	2196	1671	76.10%
SPLSMNST	STAPLES	STAPLES	2,412	1,511	63%	2379	1304	54.80%

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable or Other Wireline Voice (Exhibit 10)	% Households with Cable or Other Wireline Availability (Exhibit 10)	Total Households (EF Study)	Wireless - Covered Households - Indoor (EF Study)	Wireless - % of Households Covered - Indoor (EF Study)
CTFDMNCH	CHATFIELD	CHATFIELD	1,839	1,186	64%			
SABNMNSA	SABIN	SABIN	658	430	65%	660	157	23.80%
NBRNMNNB	NORTH BRANCH	NORTH BRANCH	5,408	3,561	66%			
HNVRMNHB	HANOVER	HANOVER	1,295	866	67%			
EVLTMNEV	EVELETH	VIRGINIA	3,500	2,388	68%			
NCLTMNNC	NICOLLET	NICOLLET	670	458	68%			
GLVLMNGL	GLENVILLE	GLENVILLE	768	528	69%			
LESRMNLS	LE SUEUR	LE SUEUR	2,528	1,775	70%			
CLQTMNCA	CLOQUET	CLOQUET	8,565	6,179	72%			
RCFRMNRO	ROCKFORD	ROCKFORD	2,961	2,141	72%			
STCHMNSC	ST CHARLES	ST CHARLES	2,619	1,899	73%			
LTFDMNLI	LITCHFIELD	LITCHFIELD	4,296	3,118	73%			
JCSNMNJA	JACKSON	JACKSON	2,174	1,619	74%			
CHSHMNCS	CHISHOLM	CHISHOLM	3,064	2,303	75%			
OLIVMNOL	OLIVIA-BIRD ISLAND	OLIVIA-BIRD ISLAND	1,966	1,482	75%			
BMDJMNBE	BEMIDJI	BEMIDJI	11,812	8,905	75%	11861	10918	92.00%
LVRNMNLU	LUVERNE	LUVERNE	2,649	2,049	77%			
TRACMNTR	TRACY	TRACY	1,250	971	78%			
DLTHMNLA	DULUTH LAKESIDE	DULUTH	6,064	4,744	78%			
MOLKMNML	MOOSE LAKE	MOOSE LAKE	1,489	1,170	79%			
MTVDMNMO	MONTEVIDEO	MONTEVIDEO	3,214	2,559	80%			
ORVLMNOR	ORTONVILLE-BIG STONE	ORTONVILLE-BIG STONE	1,138	908	80%			
GYLRMNGA	GAYLORD	GAYLORD	1,178	943	80%			
WADNMNWA	WADENA	WADENA	2,795	2,243	80%			
STPRMNSP	ST PETER	ST PETER	5,798	4,653	80%			
PPSTMNPI	PIPESTONE	PIPESTONE	2,313	1,862	81%			
SLBAMNSA	SILVER BAY	SILVER BAY	1,054	850	81%			
HWLYMNHA	HAWLEY	HAWLEY	1,238	999	81%			

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AVONMNVO	AVON	AVON	1,106	893	81%			
CLSPMNCB	COLD SPRING	COLD SPRING	2,622	2,124	81%			
MTIRMNMI	MOUNTAIN IRON	MOUNTAIN IRON	471	382	81%			
HNNGMNHE	HENNING	HENNING	907	741	82%	895	196	21.90%
CLDNMNCA	CALEDONIA	CALEDONIA	1,877	1,542	82%			
STJSMNSJ	ST JOSEPH	ST JOSEPH	3,207	2,646	83%			
FRBLMNFA	FARIBAULT	FARIBAULT	11,081	9,213	83%			
VRGNMNVI	VIRGINIA	VIRGINIA	7,141	5,954	83%			
STVLMNST	STEWARTVILLE	STEWARTVILLE	3,204	2,681	84%			
CKTNMNCR	CROOKSTON	CROOKSTON	3,752	3,147	84%			
WASCMNWA	WASECA	WASECA	4,754	4,026	85%			
SKCTMNSC	SAUK CENTRE	SAUK CENTRE	3,102	2,659	86%			
WNDMMNWI	WINDOM	WINDOM	2,593	2,241	86%			
HBNGMNHI	HIBBING	HIBBING	7,871	6,820	87%			
OWTNMNOW	OWATONNA	OWATONNA	12,285	10,655	87%			
FNLDMNFO	FINLAND	SILVER BAY	308	270	88%			
GLWDMNGL	GLENWOOD	GLENWOOD	1,701	1,492	88%			
CSSLMNCL	CASS LAKE	CASS LAKE	1,671	1,479	89%			
TRFLMNTH	THIEF RIVER FALLS	THIEF RIVER FALLS	5,502	4,884	89%			
BTLKMNBA	BATTLE LAKE	BATTLE LAKE	1,409	1,261	89%			
OKGVMNOG	OAK GROVE	ANOKA	8,125	7,278	90%			
NRFDMNNO	NORTHFIELD	NORTHFIELD	9,145	8,246	90%			
AUSTMNAB	AUSTIN	AUSTIN	12,229	11,116	91%			
MRSHMNMA	MARSHALL	MARSHALL	6,056	5,513	91%			
DTLKMNDL	DETROIT LAKES	DETROIT LAKES	7,305	6,682	91%			
BFLOMNBU	BUFFALO	BUFFALO	7,733	7,085	92%			
RDWNMNRW	RED WING	RED WING	8,187	7,514	92%			
WBSHMNWA	WABASHA	WABASHA	1,826	1,687	92%			

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable or Other Wireline Voice (Exhibit 10)	% Households with Cable or Other Wireline Availability (Exhibit 10)	Total Households (EF Study)	Wireless - Covered Households - Indoor (EF Study)	Wireless - % of Households Covered - Indoor (EF Study)
APPLMNAP	APPLETON	APPLETON	802	742	93%			
GDRPMNGR	GRAND RAPIDS	GRAND RAPIDS	8,522	7,895	93%			
EKRVMNER	ELK RIVER	ELK RIVER	14,140	13,101	93%			
STWRMNST	STILLWATER	STILLWATER	14,167	13,135	93%			
DLTHMNCB	DULUTH CALUMET	DULUTH	8,381	7,814	93%			
HAMLMNHB	HAMEL	HAMEL	3,481	3,266	94%			
AFTNMNAF	AFTON	ST PAUL	9,570	9,024	94%			
FRLKMNFL	FOREST LAKE	FOREST LAKE	9,447	8,918	94%			
RDFLMNRA	REDWOOD FALLS-MORT	REDWOOD FALLS-MORTC	2,496	2,364	95%			
FRFLMNFB	FERGUS FALLS	FERGUS FALLS	8,150	7,768	95%			
SDVLMNSO	SODERVILLE	ANOKA	10,670	10,181	95%			
WINOMNWI	WINONA	WINONA	13,605	13,036	96%			
FRDLMNFR	FRIDLEY	MINNEAPOLIS	12,381	11,871	96%			
PKRPMNPR	PARK RAPIDS	PARK RAPIDS	4,869	4,674	96%	4928	4418	89.70%
SHKPMNSH	SHAKOPEE	SHAKOPEE	19,985	19,247	96%			
WLMRMNWI	WILLMAR	WILLMAR	8,976	8,687	97%			
TOFTMNTB	TOFTE	TOFTE	440	427	97%			
ROCHMNRO	ROCHESTER	ROCHESTER	49,925	48,495	97%			
BLANMNBL	BLAINE	MINNEAPOLIS	33,666	32,709	97%			
GLVYMNOR	ORCHARD	MINNEAPOLIS	28,134	27,381	97%			
PLMOMNFE	PLYMOUTH	MINNEAPOLIS	19,937	19,459	98%			
CTGVMNCG	COTTAGE GROVE	ST PAUL	16,434	16,044	98%			
MPLSMNDT	MPLS DOWNTOWN	MINNEAPOLIS	20,108	19,634	98%			
CHSTMNCH	BASS BROOK(COHASSET	BASS BROOK(COHASSET)	1,374	1,342	98%			
CNRPMNND	COON RAPIDS	MINNEAPOLIS	31,795	31,065	98%			
WYZTMNWA	WAYZATA	WAYZATA	15,839	15,497	98%			
BLTNMNNO	BLOOMINGTON NORMA	MINNEAPOLIS	11,366	11,148	98%			
WBLKMNWB	WHITE BEAR LAKE	WHITE BEAR LAKE	26,931	26,417	98%			

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable or Other Wireline Voice (Exhibit 10)	% Households with Cable or Other Wireline Availability (Exhibit 10)	Total Households (EF Study)	Wireless - Covered Households - Indoor (EF Study)	Wireless - % of Households Covered - Indoor (EF Study)
NSSWMNNI	NISSWA	NISSWA	2,084	2,045	98%			
ANOKMNAN	ANOKA	ANOKA	31,088	30,514	98%			
NSPLMNPR	PARK ROW	ST PAUL	24,518	24,069	98%			
ALLEMNAL	ALBERT LEA	ALBERT LEA	8,725	8,572	98%			
MPWDMNMA	MAPLEWOOD	ST PAUL	35,945	35,315	98%			
MPLSMN07	MPLS 7TH AVE	MINNEAPOLIS	15,139	14,876	98%			
MPLSMNFR	MPLS FRANKLIN	MINNEAPOLIS	20,637	20,325	98%			
MPLSMNPE	MPLS PENN	MINNEAPOLIS	10,026	9,875	98%			
STPLMNHB	ST PAUL FRONT	ST PAUL	17,713	17,453	99%			
BRNRMNBR	BRAINERD	BRAINERD	14,609	14,405	99%			
MPLSMNBE	MPLS BEARD	MINNEAPOLIS	38,253	37,722	99%			
STPLMNMK	ST PAUL MARKET	ST PAUL	30,186	29,798	99%			
EAGNMNLB	EAGAN-LEXINGTON	EAGAN-LEXINGTON	30,724	30,330	99%			
LTFLMNLF	LITTLE FALLS	LITTLE FALLS	5,950	5,881	99%			
RCFDMN66	MPLS 66TH ST	MINNEAPOLIS	19,569	19,360	99%			
EDPRMNEP	EDEN PRAIRIE	MINNEAPOLIS	20,529	20,333	99%			
EXCLMNEX	EXCELSIOR	EXCELSIOR	12,524	12,405	99%			
STCDMNTO	ST CLOUD	ST CLOUD	47,342	46,910	99%			
STPLMNMI	ST PAUL MIDWAY	ST PAUL	23,770	23,561	99%			
WSPLMNWS	OAKDALE WEST	ST PAUL	31,285	31,022	99%			
NVRRMNNA	NAVARRE	NAVARRE	2,097	2,081	99%			
SHVWMNRI	SHOREVIEW-RICE ST.	ST PAUL	27,075	26,889	99%			
HPKNMNHO	HOPKINS	MINNEAPOLIS	26,280	26,115	99%			
DLTHMNDB	DULUTH DOUGLAS	DULUTH	2,268	2,254	99%			
BRVLMNBU	BURNSVILLE	MINNEAPOLIS	19,797	19,686	99%			
GDMRMNGM	GRAND MARAIS	GRAND MARAIS	1,463	1,455	99%			
EDPRMNGP	GLEN PRAIRIE	MINNEAPOLIS	19,897	19,791	99%			
MPLSMNGE	MPLS CENTRAL AVE	MINNEAPOLIS	22,546	22,429	99%			

CLLI	Wire Center	Exchange Service Area	Total Households	Households with Cable or Other Wireline Voice (Exhibit 10)	% Households with Cable or Other Wireline Availability (Exhibit 10)	Total Households (EF Study)	Wireless - Covered Households - Indoor (EF Study)	Wireless - % of Households Covered - Indoor (EF Study)
MPLSMNTF	MPLS 24TH AVE	MINNEAPOLIS	28,668	28,520	99%			
CRYSMNCR	CRYSTAL	MINNEAPOLIS	24,344	24,219	99%			
DLTHMNME	DULUTH MELROSE	DULUTH	13,970	13,908	100%			
STPLMNEM	ST PAUL EMERSON	ST PAUL	20,234	20,155	100%			
MPLSMNBB	MPLS BRYANT	MINNEAPOLIS	24,281	24,207	100%			
BRCTMNBC	BROOKLYN CENTER	MINNEAPOLIS	20,905	20,842	100%			
NWBTMNCL	CLEVELAND	ST PAUL	17,640	17,590	100%			
STPLMNBE	ST PAUL BEECH	ST PAUL	27,764	27,686	100%			
BLTNMNCE	BLOOMINGTON CEDAR	MINNEAPOLIS	3,984	3,975	100%			
BLTNMNSO	BLOOMINGTON SOUTH	MINNEAPOLIS	18,906	18,884	100%			
MPLSMNFS	MPLS FT SNELLING	MINNEAPOLIS	1,914	1,912	100%			
MRRSMNMO	MORRIS	MORRIS	2,373	2,371	100%			
DLTHMNAF	DULUTH HEMLOCK	DULUTH	11,577	11,576	100%			
MPLSMNPI	MPLS PILLSBURY	MINNEAPOLIS	30,486	30,485	100%			

Wire Centers with over 60% Coverage	130
Wire Centers with less than 60% Coverage	24

State of Minnesota

DEPARTMENT OF COMMERCE

Nonpublic [ ]
Public [X]

Utility Information Request

Docket Number: P-421/AM-16-496
Date of Request: 9/26/2016

Requested From: CenturyLink
Response Due: 10/6/2016

Analysts Requesting Information: Bonnie Johnson/Diane Dietz

Type of Inquiry:

[ ] Financial	[ ] Rate of Return	[ ] Rate Design
[ ] Engineering	[ ] Forecasting	[ ] Conservation
[ ] Cost of Service	[ ] CIP	[ ] Other:

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
26	Paragraph 15 on Page 9 of Robert Brigham's first Affidavit states "The "local services" offered by CenturyLink QC can be found in the tariffs, price lists and catalogs that are located on the CenturyLink web site at: https://www.centurylink.com/Pages/AboutUs/Legal/Tariffs/displayTariffLandingPage.html The following search criteria were used to find the local services: Jurisdiction: Minnesota Entity type: LEC Entity name: Qwest Corporation Tariff type: Local. The below thirteen PDF documents were in the search results: 1) Catalog - Advanced Communication Services 2) Price List No. 1 - Advanced Communication Services 3) Catalog 4) Price List No. 1 - Flexibly Priced 5) Price List No. 2 - Non-Price Regulated (Summary Table of Contents)

Continued on next page

6) Price List No. 2 - Non-Price Regulated (Title Page - Sec. 5)
7) Price List No. 2 - Non-Price Regulated (Sec. 6 - Sec. 8)
8) Price List No. 2 - Non-Price Regulated (Sec. 9)
9) Price List No. 2 - Non-Price Regulated (Sec. 10 - End)
10) Tariff No. 1
11) Price List No. 1 - Private Line (Summary Table of Contents)
12) Price List No. 1 - Private Line (Title Page - Sec. 5)
13) Price List No. 1 - Private Line (Sec. 6 - End)

(a) Please identify which local services CenturyLink included in the number of households served by CenturyLink. Provide the name of the service, the USOC of the service, and where the service can be found in CenturyLink's local tariffs. To provide its response, CenturyLink could highlight the name of the local service and the USOC for that local service in the pdf document, or CenturyLink may provide the information using the name of the link identifying the tariff, the summary tariff name, the section, the page, and release number in a readable format.

For example:

mn_qc_ens_pl_no_1.pdf
Price List No. 1 - Flexibly Priced
Section 5
Page 7
Release 3
Home Business Line
USOC: BHS

(b) For each service identified in (a) above, provide the total number of households served by CenturyLink in each exchange service area.

RESPONSE:

(a) The following services are included in the count of primary household access lines, as presented in Confidential Exhibit RHB-2:

Flat Rate Residence Service (USOC = 1FR)
Tariff Reference: Exchange and Network Services Tariff No. 1, Section 5.2.4, Page 81, Release 4, Effective 7-1-13

Residence Measured Rate Service (USOC = R1M)
Tariff Reference: Exchange and Network Services Tariff No. 1, Section 105.2.1, Pages 1-3, Release 2, Issued 9-7-11 (Grandfathered Service)

Residence Measured Rate Service (USOC = RWV)
Tariff Reference: Exchange and Network Services Tariff No. 1, Section 5.2.1, Pages 77-78, Release 2, Effective 8-8-11

The primary residential access line counts do not include any other USOCs or services from any other tariff, price list or catalog. The Home Business Line service that is listed in Section 5.2.8 of the Exchange and Network Services Flexibly Priced Price List No. 1 could be included in this count, but the quantity of this service (USOC BHS) is zero in Minnesota.

(b) Please see Confidential Attachment 26A, which contains the residential primary lines by USOC and CenturyLink QC wire center