



PUBLIC NOTICE

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WIRELINE COMPETITION BUREAU AND WIRELESS TELECOMMUNICATIONS BUREAU RELEASE INSTRUCTIONS FOR FILING TERRESTRIAL MIDDLE-MILE NETWORK MAPS

WC Docket No. 16-271

By this Public Notice, the Wireline Competition Bureau and the Wireless Telecommunications Bureau (Bureaus) release instructions for filing middle-mile network maps pursuant to the *Alaska Plan Order*.¹ The instructions are included in the Appendix.

On August 23, 2016, the Commission adopted the *Alaska Plan Order* providing for high-cost support for both fixed and mobile voice and broadband service in remote areas of Alaska (Alaska Plan).² While the Alaska Plan provides support for high-cost areas, the *Alaska Plan Order* also recognized that a lack of middle-mile infrastructure in many areas of remote Alaska constrains the quality of broadband service that can be provided to these areas.³ Accordingly, it authorized the Bureaus to approve performance commitments from Alaska Plan participants that reflect the availability of terrestrial middle mile at the time of the initial commitment, but provided that, if more capable middle-mile facilities became available during the course of the plan, participants may be required to increase their commitments in those areas.⁴ To ensure that performance commitments keep pace with the middle-mile

¹ *Connect America Fund; Universal Service Reform–Mobility Fund; Connect America Fund–Alaska Plan*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 10139, 10158, 10172-73, paras. 60, 102 (2016) (*Alaska Plan Order*).

² *Id.* at 10140, para. 1.

³ *Id.* at 10141, 10146-48, 10156, 10158, 10165-67, 10172, paras. 3, 17, 24, 52, 60-61, 81-86, 102. “Backhaul” is a part of the middle-mile infrastructure for the purposes of the *Alaska Plan Order*. See, e.g., *id.* at 10147-48, 10158, 10172-73, paras. 24 (“lack the ability to obtain terrestrial backhaul or satellite backhaul service providing middle mile service . . .”), 60 (“We also adopt a *reporting requirement* for newly deployed *backhaul*. We will require Alaska Plan participants to submit fiber network maps or microwave network maps in a format specified by the Bureaus covering eligible areas and to *update such maps if they have deployed middle-mile facilities* in the prior calendar year that are or will be used to support their service in eligible areas.”) (emphasis added), 102. The *Alaska Plan Order* allows recipients to invest in middle mile to bolster their last-mile offerings under the plan. See *id.* at 10165, para. 79; see also *id.* at 10150, 10165, paras. 34, 81.

⁴ *Alaska Plan Order*, 31 FCC Rcd at 10158, 10166-67, 10172, paras. 61-62, 85-86, 102. The Bureaus subsequently did approve performance commitments reflecting such limitations in terrestrial middle-mile availability. See *Wireless Telecommunications Bureau Approves Performance Plans of the Eight*

network capabilities over the duration of the plan, the Alaska Plan requires participants to submit fiber network and microwave network middle-mile maps covering eligible areas and to update such maps if the recipient deployed middle-mile facilities in the prior calendar year that are or will be used to support their service in eligible areas.⁵ The *Alaska Plan Order* directed the Bureaus to create the format for these maps.⁶

The Bureaus release this Public Notice and attached instructions specifying the format of the middle-mile map submissions. The instructions state that participants in the Alaska Plan must provide location information for nodes and links in Alaska, including undersea cables located within territorial waters, connecting (1) major nodes; (2) outdoor cell sites; (3) anchor institutions, such as schools, libraries, medical and healthcare providers, community colleges, and other institutions of higher education; and (4) terminating locations of links. “Major nodes” comprising an Alaska-Plan provider’s middle-mile network are central offices, cable headends, mobile switching centers, earth stations, points of presence, landing stations, microwave repeaters, peering points, or Internet gateways within Alaska. Links must be provided in a shapefile, be assigned a unique ID for each link feature, and be specified as microwave or fiber link, among other requirements. Nodes must, *inter alia*, be provided in a comma-separated values (CSV) format with the latitude and longitude of the node provided. The initial map submissions will be due by March 1, 2018, and any updates to the map will be due on March 1 every year under the plan thereafter.⁷ Carriers will submit the maps in the High Cost Universal Service Broadband (HUBB) portal, the same portal where carriers submit the geolocations of newly deployed/upgraded locations.⁸ Carriers must certify to the accuracy of their submissions.

Additional Information. For additional information on this proceeding, contact Jesse Jachman of the Wireline Competition Bureau, Telecommunications Access Policy Division, (202) 418-2668, Jesse.Jachman@fcc.gov, or Matthew Warner of the Wireless Telecommunications Bureau, Competition and Infrastructure Policy Division, Matthew.Warner@fcc.gov, (202) 418-2419.

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Wireless Providers That Elected to Participate in the Alaska Plan, Public Notice, 31 FCC Rcd 13317, Appx. (2016) (providing the approved plans of the mobile provider participants of the plan); *Wireline Competition Bureau Authorizes Alaska Plan Support For 13 Alaskan Rate-of-Return Companies*, 31 FCC Rcd 13347, Appx. (2016) (providing the approved plans of the rate-of-return carrier participants of the plan).

⁵ 47 CFR § 54.316(a)(6); *Alaska Plan Order*, 31 FCC Rcd at 10158, 10172, paras. 60, 102.

⁶ *Alaska Plan Order*, 31 FCC Rcd at 10158, 10172, paras. 60, 102. Participants must update such maps if they deployed middle-mile facilities in the prior calendar year that are in or will be used to support their service in eligible areas. 47 CFR § 54.316(a)(6); *Alaska Plan Order*, 31 FCC Rcd at 10158, 10172, paras. 60, 102.

⁷ Concurrent with this Public Notice, the Bureaus will submit this proposed information collection to the Office of Management and Budget for review under section 3507(d) of the Paperwork Reduction Act of 1995 (PRA), Public Law No. 104-13.

⁸ For a description of the HUBB portal, see Universal Service Administrative Co., Filing Geolocated Broadband Deployment Data, <https://usac.org/hc/tools/hubb.aspx>.

APPENDIX

FORMAT FOR FIBER OR MICROWAVE MIDDLE-MILE NETWORK MAP SUBMISSIONS FOR ALASKA PLAN PARTICIPANTS

I. GENERAL INFORMATION

A. What Information Is Being Collected

Alaska Plan participants must file maps of their fiber and microwave middle-mile networks that are or will be used to support their services in eligible areas.

For this collection, “middle-mile network” consists of the links and nodes within Alaska, including undersea cables located within territorial waters, connecting (1) “major nodes;” (2) outdoor cell sites; (3) anchor institutions, such as schools, libraries, medical and healthcare providers, community colleges, and other institutions of higher education; and (4) terminating locations of links.

B. Who Must Submit Data

Each rate-of-return carrier and each mobile provider that is authorized to receive Alaska Plan support must file the data for these maps.

Rate-of-return Alaska Plan participants that have a mobile-provider wireless affiliate receiving support under the Alaska Plan may—but are not required to—file information on behalf of both the wireline carrier and the wireless carrier. In such circumstances, the mobile affiliate must have its own Admin Study Area Code (SAC) and file separately. Affiliated carriers should avoid submitting duplicate information about the network where possible. Alaska Plan participants may file a separate map for each Admin SAC, so long as the combined map reflects a complete middle-mile network map for the company. Each company should consider how it is most convenient for them to file its updates in subsequent years when determining whether it should separate out some of its SAC numbers for a separate filing.

For these instructions, “filer” means the Alaska-Plan-participant company that is having its data filed or a representative filing data on behalf of the company.

C. How to Submit the Data

Filers must submit data via the High Cost Universal Service Broadband (HUBB) portal. This is the same electronic portal used to collect location data for newly deployed/upgraded locations. The HUBB will be set up so that Alaska Plan carriers can log into it and upload the data. An officer of the company must certify that the information is accurate and complete.

Additional filings in subsequent years need only be made if changes (*i.e.*, additions, subtractions, and alterations) occur to the middle-mile network. Comprehensive maps—with information for the complete middle-mile network—should be resubmitted by March 1 of the year following any network changes. If there are no changes to the network for the prior year, the company must certify to this by the March 1 deadline.

The Commission or the Universal Service Administrative Company (USAC) may contact the carriers for any errors, which must be corrected by the carriers within a reasonable time.

D. Confidentiality

The location of companies’ middle-mile network maps (with links and nodes) is likely to contain confidential data. Accordingly, this data filing will use an abbreviated means to allow submitters to

request confidentiality, consistent with 47 CFR § 0.459(a)(4). Filing material for this data collection will be deemed to be a request under 0.459 that the material not be made publicly available.

II. NETWORK LINKS

Alaska Plan participants are required to file maps of their middle-mile networks comprised of fiber or microwave links.

Fiber links and microwave links in this context are those lengths of fiber or microwave with terminating equipment on both ends within their middle-mile network. Microwave links include all terrestrial fixed-wireless links used for backhaul. Installed fiber links that are inactive (dark fiber) should also be provided. The way we define *link* here does not affect the meaning of *link* in other contexts.

Alaska Plan participants should include those fiber/microwave links that they (i) own or (ii) lease.

Filers must submit information as a compressed separate ESRI Shapefile using a line-feature class containing the data for each feature as noted below. Filers should only submit one shapefile per filing year. The shapefile can be edited until a representative of the carrier certifies that the filing is complete and accurate.

Shapefile Record Format for Fiber/Microwave Links				
Field Name	Description	Type	Length	Example
SAC Number	Study Area Code that amounts to a unique identifier for each Alaska Plan recipient	Text	6	613000
Carrier	D/B/A Carrier Name(s)	Text	255	ABC Wired; ABC Cellular
ID	Sequential record number	Long		1
TypeofLink	Provide whether the link is microwave (M), fiber (F), or dark fiber (D)	Text	1	F
LinkYear	Year link went live or was leased	Short		2014
Ownership	Is this Link Owned (O) or Leased (L)	Text	1	L
ConceptLink	For lessees: Is the depiction of the link conceptual between nodes? (Y)/(N)	Text	1	Y
Capacity	The data throughput the link is currently configured to transmit in Mbps	Integer		10000

Shapefile Record Format for Fiber/Microwave Network Map:

- Shapefiles should be submitted as an unprojected (geographic) WGS84 geographic coordinate system with latitude/longitude coordinates in double precision.
- The horizontal (latitude and longitude) accuracy of lines must meet National Standard for Spatial Data Accuracy: accurate to within 7.6m CE95 (FGDC-STD-007, 3-1998), unless it is a conceptual depiction, as indicated.
- Maps must be accompanied by metadata, or a plain text “readme” file, that contains a comprehensive explanation of the methodology employed to generate the map layer including any necessary assumptions and an assessment of the accuracy of the finished product.
- Compress the file to a .zip. Be sure that your .zip file contains one and only one shapefile. The folder and all files within should be named with the (1) Admin SAC number in filing, (2) underscore, and (3) year that the information is filed (*e.g.*, 613000_2018).
- SAC Number is the Study Area Code used by USAC that amounts to a unique identifier for each Alaska Plan participant. For entities with multiple SAC numbers, an “Admin SAC” number that represents the multiple SAC numbers will be provided by USAC. Filers that do not wish all of their SAC numbers combined should contact USAC to request multiple “Admin SAC” numbers.
- Carrier name should be the D/B/A name of the carrier receiving support under the Alaska Plan. If filing the map on behalf of multiple carriers, provide all carriers’ names in the “Carrier” field and separate each carrier with a semi-colon. A filer may—but is not required to—submit one filing per carrier, even if the separate carriers share the same holding company, so long as each filing has a distinct Admin SAC. Carrier names should be provided in alphabetical order.
- The ID field will be a sequential integer ranging from 1 to the total number of link features. No two link features should be given the same ID.
- TypeofLink: Provide the link type, consistent with the description. If two different types of links share the same geographic path (*e.g.*, fiber and dark fiber), a separate record is required of each.
- LinkYear: For dark fiber, put a 9999. If the link was first used by the carrier in 2014 or any year prior to 2014, the LinkYear will be 2014. Otherwise filers will enter the actual year the path went live or was leased.
- Ownership: Is the link owned (*i.e.*, any ownership interest regardless of how *de minimis*) by the company that is filing? If so, put “O.” If leased—even if the lease is for just a portion of the capacity on the link—put “L.”
- ConceptLink: Lessees may not know where the link actually is located. For lessees that do not know where the link actually is located, conceptual depictions of the link may be made and should be made as a straight line between two known and provided nodes. Filers that own the line or lessees that provide the actual location information of the link should mark it with a “N.”
- Capacity: This reflects the maximum data transmission capability the link is currently configured to transmit. For data throughput capability that is less than 0.5 Mbps and dark fiber, put a 0. Round to the nearest integer. For leased lines, if the amount of capacity is restricted, put the amount of capacity that is leased; otherwise, provide the maximum data throughput rate that your company has been able to transmit over the link.

III. NODES

Alaska Plan recipients must also provide the location (coordinates) of the nodes that make up their middle-mile network located within or supporting service to Alaska Plan eligible areas.

A “node” in the middle-mile network would be a central office, cable headend, mobile switching center, outdoor cell site, earth station, point of presence, landing station, peering point, anchor institution, Internet gateway within Alaska, or terminating location of a link. If multiple functions are performed at the same node (*e.g.*, the same facility houses the central office and a mobile switching center), the carrier should report multiple facilities at that location. The way we define *node* here does not affect the meaning of *node* in other contexts.

Alaska Plan participants should include those nodes within their middle-mile network where they own (*i.e.*, any ownership interest regardless of how *de minimis*) or lease a facility or equipment, as well as those nodes that are the terminating location for a link where the filer does not own or lease node equipment or facilities at the termination point.

Node information must be submitted as a delimited text file, *i.e.*, CSV, which contains the following information. Filers should only submit one delimited text file per filing year. The delimited text file can be edited until a representative certifies that the filing is complete and accurate.

Record Format for Nodes			
Field Name	Description	Type	Example
SAC Number	Study Area Code that amounts to a unique identifier for each Alaska Plan recipient	Text	613000
Carrier	Carrier Name(s)	Text	ABC; ABC Mobile
ID	Sequential record number	Integer	1
Lat	Latitude	Double	43.907111
Long	Longitude	Double	-103.760250
Node	Type of Facilities at the node: fiber (F), microwave (M), or both (B)	Text	F
NodeYear	Year Node went “live” or leased	Integer	2014
Ownership	Owned (O), Leased (L), Neither (N)	Text	O
Describe	Describe node	Text	central office, cable headend
Cell Site	Is this node a first aggregation point for mobile traffic? Yes (Y) or No (N)	Text	N
Transit	If interconnection to a transit provider occurs at this node, what is the arranged data rate in Mbps.	Integer	10
Homing	How many different transit providers does the filer have agreements with at this node	Integer	3

Record Format for *Nodes*:

- Submit the file as a CSV. The file should be named with the (1) Admin SAC number in filing, (2) underscore, and (3) year that the information is filed (*e.g.*, 613000_2018).

- SAC Number is the Study Area Code used by USAC that amounts to a unique identifier for each Alaska Plan participant. For entities with multiple SAC numbers, an “Admin SAC” number that represents the multiple SAC numbers will be provided by USAC. Filers that do not wish all of their SAC numbers combined should contact USAC to request multiple “Admin SAC” numbers.
- Carrier name should be the D/B/A name of the carrier receiving support under the Alaska Plan. If filing the node-file on behalf of multiple carriers, provide all carriers’ names in the “Carrier” field and separate each carrier with a semi-colon. A filer may—but is not required to—submit one filing per carrier, even if the separate carriers share the same holding company, so long as each filing has a distinct Admin SAC. Carrier names should be provided in alphabetical order.
- The ID field will be a sequential integer ranging from 1 to the total number of node features. No two nodes should be given the same ID.
- Latitude and Longitude: Provide the full value of the latitude and longitude in decimal degrees—all digits after the decimal with at least six digits after the decimal provided. Coordinates will be in the WGS84 geographic coordinate system.
- NodeYear: If the node went live in 2014 or any year prior to 2014, the NodeYear will be 2014. Otherwise filers will enter the actual year the node went live. For lessees, put the year the filer began the lease. For termination location nodes where no facilities or equipment are owned or leased, put 9999.
- Ownership: If any equipment or any part of the facility is owned at the node, put (O). If no part of the node is owned, but some equipment or part of the facility is leased, put (L). “Leased” nodes include any facilities or equipment at a node that is provided due to a contractual arrangement. If no part of the node is leased or owned, but the node is being provided because it is, for example, a terminating location for a link, put (N).
- Describe: Describe the types of nodes at this location using one or more of the following terms: central office, cable headend, mobile switching center, cell site, earth station, point of presence, landing station, peering point, anchor institution, microwave repeater, or Internet gateway. Put “other” if the node does not match any of the preceding descriptions but is a terminating location for a link.
- Cell Site: Cell sites—while also providing last-mile services—serve as an initial aggregation point for traffic to be backhauled and are nodes that are to be included in the middle-mile map. Denote whether this is such a node by placing a “Y” or “N” in the column.
- Transit: At nodes where the filing network interconnects with a transit provider to obtain Internet access, what is the transmission data rate that has been arranged for delivery to the transit provider. In other words, how much capacity is being purchased for transit at this node for the filer. For arranged capacity that is less than 0.5 Mbps, put a 0. For multiple interconnections at the node, put the aggregated capacity that is provisioned for transit. If this is not a node where interconnection for transit occurs, leave blank.
- Homing: If the filer has agreements with one or more transit providers at this node, put the number of transit providers that the filer has agreements with to interconnect at this node. If this is not a node where interconnection for transit occurs, leave blank.