INSTRUCTIONS FOR WIRELINE BROADBAND SERVICE PROVIDERS

A. PROVIDERS WITH NO GIS CAPABILITY

The following file(s) must be submitted:

(1) the Excel workbook template provided on the CPUC website in accordance with the corresponding record formats *(filename: WIRELINE Workbook_Template_R6.xls)*,

B. PROVIDERS WITH GIS CAPABILITY

The following file(s) must be submitted:

(1) the file geodatabase template provided on the CPUC website in accordance with the corresponding attribute data formats *(filename: CA_BB_Wireline_Filegeodatabase_R6.gdb)*

Note: When you submit data using the file geodatabase, please make sure the following shapefiles are used as the base geometry detailing the provider's broadband availability areas **AND** add the corresponding attribute data found in the succeeding pages:

a. Census Block 2010 (including square mileage)
b. Road Segment 2010
c. County Overview 2010

File Geodatabase: The file geodatabase template is comprised of tables containing the relevant fields necessary for complete data submission based on the requirements detailed in the NOFA and subsequent direction from the NTIA. This includes tables for Census Blocks, Road Segments, Middle Mile and County Service Overview. In addition, the CPUC has posted shapefiles on its website consisting of 2010 Census data for census blocks 2 square miles or smaller, and road segments for larger blocks. These shapefiles are designed to assist providers in populating their file geodatabases with the necessary geometric data. Providers need to select the geographic areas where their broadband service is available and load the resulting shapefiles into the file geodatabase. Once this is done, providers will fill out the necessary fields within the file Geodatabase that are required for a complete submission. Please contact the CPUC at broadbandmapping@cpuc.ca.gov for further assistance or clarification regarding the loading of data to the file geodatabase.

By Census Block (≤ 2 square miles): If a provider is able to geocode its service availability locations, the provider must submit one record for each census block offered broadband service within its service area, and for each technology type. Using the Census Block shapefile and the record format titled "Data Format for Wireline Service by Census Block", providers need to submit the information indicated, including the individual census block that is served, maximum advertised speeds at the block level, and technology information for that block. For census blocks greater than 2 square miles the provider should submit its availability data by Road Segment (see column 'CBSq_Mi ' in the Census Block shapefile).

By Road Segment (census blocks > 2 square miles): For those providers able to perform the necessary geoprocessing, the provider may submit availability data for census blocks larger than 2 square miles by road segment in the appropriate record format titled "Data Format for Wireline Service by Road Segment". Providers must submit one record for each street segment offered service within its service

territory, for each technology type. Please be sure to include the Tiger Line Identification (TLID) number that corresponds to each unique road segment. This information can be found in the Road Segment shapefile posted on our website.

By Street Address: Providers unable to perform the geocoding themselves should submit data to us using the record format and associated template titled "Data Format for Wireline Service by Service Address". We will perform the processing to determine the census blocks and road segments where service is available. Such street address data will not be passed on to the NTIA, only the census block/road segment aggregation, in accordance with our NDA.

Please note: While Typical Speed is included in these record formats, it is not required information. If your company has Typical Speed data, we encourage you to include it in your data submission. However, we understand that many providers do not have access to this kind of information.

OTHER BROADBAND DATA REQUIRED

In addition to broadband availability data, broadband providers must also provide other data sets.

Subscriber-Weighted Nominal Speed: Broadband providers must report "subscriber-weighted nominal speed" information by county for their entire service area. These data must be included in the file titled "Service Overview" in accordance with the corresponding record format.

Middle-Mile and Backbone Connection Points: There has been quite a bit of confusion regarding what exactly is meant by Middle Mile Connection points. Perhaps the best description is contained in the White House document from December 2009 titled Executive Office of the President National Economic Council Recovery Act Investments in Broadband: Leveraging Federal Dollars to Create Jobs and Connect America, a copy of this document is available at our website.

It describes Middle-Mile as follows:

> "To get broadband service into homes and businesses, Internet service providers such as telephone, cable, and wireless companies must connect their local networks – known as the 'last mile' – to the Internet backbone. The 'middle mile' is the critical connection between the Internet backbone and the last-mile local networks. When residents initiate a connection from their home, school or work, the information flows from the last-mile network segment to the middle-mile infrastructure, which then directs the flow of traffic to the backbone network through an interconnection point. An Internet backbone provider then continues the transmission to a distant endpoint."

Broadband providers must provide a list of connection points where the facilities provide connectivity between a broadband service provider's "last mile" network and another provider's network, including the Internet backbone. **These data must be submitted via the filegeodatabase using the feature class "Connection Point Middle-Mile."**

In addition to the middle mile information we are asking you to provide answers to **3 key questions regarding middle-mile capacity** as reflected in the record format. The answers to these questions will help policymakers pinpoint areas where additional subsidies for middle mile projects are warranted (such as from the California Advanced Services Fund, or from the federal government).

Data Format for Middle-Mile and Internet Backhaul Connection Points

Field Name	Description	Data Type	Field Length	Example
Provider Identification Data				
ProvName	Provider Name	Text	200	ABC Co.
DBAName	"Doing-business-as" name	Text	200	Superfone, Inc.
FRN	Provider FCC Registration Number – *search here!* *(ONLY numbers no other characters)*	Text	10	0008402202
Ownership	Is the facility owned (0) or leased (1)?	Short Integer	2	0
Broadband Technology Information				
BHCapacity	Upstream capacity of the serving facility *(see MiddleMile BH Capacity)*	Short Integer	2	6
BHType	Type of upstream transport facility *(see Backhaul Type table)*	Short Integer	2	3
Location Information				
Latitude	Latitude of the Middle Mile Connection Point. Give at least 5 decimal points to ensure accuracy *(value must be within 32 to 42)*	Double		37.75001
Longitude	Longitude of the Middle Mile Connection Point. Give at least 5 decimal points to ensure accuracy *(value must be within -114 to -124)*	Double		-122.68001
ElevFeet	Elevation relative to grade to the nearest foot (positive integers indicate above grade, negative below grade).	Short Integer		12
StateAbbr	State Abbreviation	Text	2	CA
FullFIPSID	Current block identifier; a concatenation of Census 2010 state Federal Information Processing Standards (FIPS) code, Census 2010 county FIPS code, Census 2010 census tract code, and Census 2010 tabulation block number.	Text	16	060750160001015
Middle-Mile Questions				
ServLoc	Service/Locations : Is your ability to provide faster service or service to more locations currently limited by middle-mile transport capacity? Yes (1) No (0)	Text	1	1
Augment	Augmentation : Do you anticipate the need to augment middle-mile transport capacity in the next 12	Text	1	0

Field Name	Description	Data Type	Field Length	Example
	months at this location? Yes (1) No (0)			
Sufficient	If you anticipate the need for augmentation, is sufficient middle-mile transport capacity available for augmentation at this location? Yes (1) No (0) If you don't need to augment leave question blank.	Text	1	0

Middle Mile BH Capacity Codes

(Use in BHCapacity field)

Code	Interconnection Data Rate
1	Multiple T1s and less than 40 mbps
2	Greater than 40 mbps and less than 150 mbps
3	Greater than 150 mpbs and less than 600 mbps
4	Greater than or equal to 600 mbps and less than 2.4 gbps
5	Greater than or equal to 2.4 gbps and less than 10 gbps
6	Greater than or equal to 10 gbps

Backhaul Type Codes

(Use in BHType field)

Code	Name
1	Fiber
2	Copper
3	Hybrid fiber Coax (HFC)
4	Wireless

Data Format for Wireline Service by Service Address

Field Name	Description	Data Type	Field Length	Example
Provider Identification Data				
ProvName	Provider Name	Text	200	ABC Co.
DBAName	"Doing-business-as" name	Text	200	Superfone, Inc.
Prov_Type	Type of Provider *(See table below for Provider Type table)*	Short Integer	2	1
FRN	Provider FCC Registration Number – *search here!* *(ONLY numbers no other characters)*	Text	10	0008402202
Address Data				
Address	Complete Address	Text	100	505 Van Ness Ave San Francisco CA 94102
BldgNbr	Building Number	Text	10	505
PreDir	Prefix Direction	Text	25	N
StreetName	Street Name	Text	50	Van Ness
StreetType	Street Type	Text	25	Avenue
SuffDir	Suffix Direction	Text	25	W
City	City	Text	50	San Francisco
StateCode	Two-letter state postal abbreviation	Text	2	CA
Zip5	5-digit ZIP code	Text	5	94102
Zip4	4-digit add-on code	Text	4	3298
Latitude	Latitude of the receiver. Give at least 5 decimal points to ensure accuracy *(value must be within 32 to 42)*	Double		37.75678
Longitude	Longitude of the receiver. Give at least 5 decimal points to ensure accuracy *(value must be within -114 to -124)*	Double		-122.68911
EndUserCat	Category of End User address *(See table below for End User*	Text	1	3

Field Name	Description	Data Type	Field Length	Example
	table)			
Broadband Technology and Speed Data				
TransTech	Category of technology available for the provision of service at the address *(See Technology of Transmission table*)	Short Integer	2	10
MaxAdvDown	Speed tier code for the maximum advertised downstream speed available *(See Download Speed Tier table*) *Note: Value must be equal or greater than MaxAdvUp speed*	Text	2	3
MaxAdvUp	Speed tier code for the maximum advertised upstream speed that is offered with the above maximum advertised downstream speed available *(See Upload Speed Tier table*) *Note: Value must be equal or less than MaxAdvDown speed*	Text	2	2
TypicDown	Speed tier code for the downstream data transfer throughput rate that most subscribers to service at the maximum advertised downstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Download Speed Tier table*) *Note: Value must be equal or greater than TypicUp speed*	Text	2	3
TypicUp	Speed tier code for the upstream data transfer throughput rate that most subscribers to service at the	Text	2	2

Field Name	Description	Data Type	Field Length	Example
	maximum advertised upstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Upload Speed Tier table)* *Note: Value must be equal or less than TypicDown speed*			
FullFIPSID	Current block identifier; a concatenation of Census 2010 state Federal Information Processing Standards (FIPS) code, Census 2010 county FIPS code, Census 2010 census tract code, and Census 2010 tabulation block number	Text	16	060750160001015

End User Codes
(use in EndUserCat field)

End User Category Code	End User Category	Description
1	Residential	Address denotes a residential living unit, individual living unit in institutional settings such as college dormitories and nursing homes and other locations designed primarily for residential use at which broadband service is available.
2	Governmental, Small Business, Medium or Large Enterprise	Address denotes a state or government, small business, medium or large enterprise location at which broadband service is available.
5	Other	Address denotes a location not meeting any of the above descriptions.

Technology of Transmission Codes
(Use in TransTech field)

Code	Description
10	Asymmetric xDSL
20	Symmetric xDSL
30	Other Copper Wireline
40	Cable Modem – DOCSIS 3.0
41	Cable Modem – Other
50	Optical Carrier/Fiber to the End User
60	Satellite
70	Terrestrial Fixed Wireless - Unlicensed
71	Terrestrial Fixed Wireless - Licensed
80	Terrestrial Mobile Wireless
90	Electric Power Line
0	All Other

Download Speed Tier Codes
(Use in MaxAdvDown, TypicDown fields)

3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Upload Speed Tier Codes
(Use in MaxAdvUp, TypicUp fields)

2	Greater than 200 kbps and less than 768 kbps
3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Provider Type
(Use in Provider_Type field)

1	Broadband provider as described in the NOFA
2	Reseller
3	Others

Data Format for Wireline Service by Census Block
(For Census Blocks no greater than two square miles in area which broadband service is available to end users)

Field Name	Description	Data Type	Field Length	Example
Provider Identification Data				
ProvName	Provider Name	Text	200	ABC Co.
DBAName	"Doing-business-as" name	Text	200	Superfone, Inc.
Prov_Type	Type of Provider *(See table below for Provider Type table)*	Short Integer	2	1
FRN	Provider FCC Registration Number – *search here!* *(ONLY numbers no other characters)*	Text	10	0008402202
Census Block Identification Data				
StateFIPS	2-digit Federal Information Processing Standard (FIPS) Code identifying individual State. Must include leading "0"	Text	2	06
CountyFIPS	3-digit Federal Information Processing Standard (FIPS) Code identifying individual Counties. Must include leading "0" if applicable	Text	3	075
Tract	6-digit Federal Information Processing Standard (FIPS) Code identifying individual Census Tracts. Must include one or more leading zeros, and also two trailing zeros if applicable	Text	6	016000
BlockID	4-digit Federal Information Processing Standard (FIPS) Code identifying individual Census Blocks. Must include leading "0" if applicable	Text	4	1015
FullFIPSID	Current block identifier; a concatenation of Census 2010 state Federal Information Processing Standards (FIPS) code, Census 2010 county FIPS code, Census 2010 census tract code, and Census 2010 tabulation block number.	Text	16	060750160001015

Field Name	Description	Data Type	Field Length	Example
CBYear	Year of Census Data Edition	Text	4	2010
CBSq_Mi	Provide square mileage for specific census block number to the first decimal place	Double		1.8
Broadband Technology and Speed Data				
TransTech	Category of technology available for the provision of service at the address *(See Technology of Transmission table)*	Short Integer	2	10
MaxAdvDown	Speed tier code for the maximum advertised downstream speed available *(See Download Speed Tier table)* *Note: Value must be equal or greater than MaxAdvUp speed*	Text	2	3
MaxAdvUp	Speed tier code for the maximum advertised upstream speed that is offered with the above maximum advertised downstream speed available *(See Upload Speed Tier table)* *Note: Value must be equal or less than MaxAdvDown speed*	Text	2	2
TypicDown	Speed tier code for the downstream data transfer throughput rate that most subscribers to service at the maximum advertised downstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Download Speed Tier table)* *Note: Value must be equal or greater than TypicUp speed*	Text	2	3

Field Name	Description	Data Type	Field Length	Example
TypicUp	Speed tier code for the upstream data transfer throughput rate that most subscribers to service at the maximum advertised upstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Upload Speed Tier table)* *Note: Value must be equal or less than TypicDown speed*	Text	2	2
EndUserCat	Category of End User address *(See table below for End User table)*	Text	1	3

Technology of Transmission Codes
(Use in TransTech field)

Code	Description
10	Asymmetric xDSL
20	Symmetric xDSL
30	Other Copper Wireline
40	Cable Modem – DOCSIS 3.0
41	Cable Modem – Other
50	Optical Carrier/Fiber to the End User
60	Satellite
70	Terrestrial Fixed Wireless - Unlicensed
71	Terrestrial Fixed Wireless - Licensed
80	Terrestrial Mobile Wireless
90	Electric Power Line
0	All Other

Download Speed Tier Codes
(Use in MaxAdvDown, TypicDown fields)

3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Upload Speed Tier Codes
(Use in MaxAdvUp, TypicUp fields)

2	Greater than 200 kbps and less than 768 kbps
3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Provider Type
(Use in Provider_Type field)

1	Broadband provider as described in the NOFA
2	Reseller
3	Others

End User Codes
(use in EndUserCat field)

End User Category Code	End User Category	Description
1	Residential	Address denotes a residential living unit, individual living unit in institutional settings such as college dormitories and nursing homes and other locations designed primarily for residential use at which broadband service is available.
2	Governmental, Small Business, Medium or Large Enterprise	Address denotes a state or government, small business, medium or large enterprise location at which broadband service is available.
5	Other	Address denotes a location not meeting any of the above descriptions.

Data Format for Wireline Service by Road Segment
(For Census Blocks larger than two square miles in area
which broadband service is available to end users)

Field Name	Description	Data Type	Field Length	Example
Provider Identification Data				
ProvName	Provider Name	Text	200	ABC Co.
DBAName	"Doing-business-as" name	Text	200	Superfone, Inc.
Prov_Type	Type of Provider *(See table below for Provider Type table)*	Short Integer	2	1
FRN	Provider FCC Registration Number – *search here!* *(ONLY numbers no other characters)*	Text	10	0008402202
TIGER/Line File Street Segment Data				
TLID	TIGER/Line Identification Number	Double	10	124988050
AddMin	Street Segment Minimum Address	Text	10	501
AddMax	Street Segment Maximum Address	Text	10	599
PreDir	Street Prefix to identify street segment	Text	25	N
StreetName	Provide street name to identify street segment	Text	50	Van Ness
StreetType	Street type to identify street segment	Text	25	Avenue
SufDir	Street Suffix to identify street segment	Text	25	W
City	Street Segment City Location	Text	50	San Francisco
StateCode	Street Segment State Location	Text	2	CA
Zip5	Street Segment Zip 5-digit code	Text	5	94102
Zip4	Street Segment Zip 4-digit add-on code	Text	4	3297

Field Name	Description	Data Type	Field Length	Example
Broadband Technology and Speed Data				
TransTech	Category of technology available for the provision of service at the address *(See Technology of Transmission table)*	Short Integer	2	10
MaxAdvDown	Speed tier code for the maximum advertised downstream speed available *(See Download Speed Tier table)* *Note: Value must be equal or greater than MaxAdvUp speed*	Text	2	3
MaxAdvUp	Speed tier code for the maximum advertised upstream speed that is offered with the above maximum advertised downstream speed available *(See Upload Speed Tier table)* *Note: Value must be equal or less than MaxAdvDown speed*	Text	2	2
TypicDown	Speed tier code for the downstream data transfer throughput rate that most subscribers to service at the maximum advertised downstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Download Speed Tier table)* *Note: Value must be equal or greater than TypicUp speed*	Text	2	3

Field Name	Description	Data Type	Field Length	Example
TypicUp	Speed tier code for the upstream data transfer throughput rate that most subscribers to service at the maximum advertised upstream speed (above) can achieve consistently during expected periods of heavy network usage *(See Upload Speed Tier table)* *Note: Value must be equal or less than TypicDown speed*	Text	2	2
EndUserCat	Category of End User address *(See table below for End User table)*	Text	1	3

Technology of Transmission Codes
(Use in TransTech field)

Code	Description
10	Asymmetric xDSL
20	Symmetric xDSL
30	Other Copper Wireline
40	Cable Modem – DOCSIS 3.0
41	Cable Modem – Other
50	Optical Carrier/Fiber to the End User
60	Satellite
70	Terrestrial Fixed Wireless - Unlicensed
71	Terrestrial Fixed Wireless - Licensed
80	Terrestrial Mobile Wireless
90	Electric Power Line
0	All Other

Download Speed Tier Codes
(Use in MaxAdvDown, TypicDown fields)

3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Upload Speed Tier Codes
(Use in MaxAdvUp, TypicUp fields)

2	Greater than 200 kbps and less than 768 kbps
3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	Greater than or equal to 3 mbps and less than 6 mbps
6	Greater than or equal to 6 mbps and less than 10 mbps
7	Greater than or equal to 10 mbps and less than 25 mbps
8	Greater than or equal to 25 mbps and less than 50 mbps
9	Greater than or equal to 50 mbps and less than 100 mbps
10	Greater than or equal to 100 mbps and less than 1 gbps
11	Greater than or equal to 1 gbps

Provider Type
(Use in Provider_Type field)

1	Broadband provider as described in the NOFA
2	Reseller
3	Others

End User Codes
(use in EndUserCat field)

End User Category Code	End User Category	Description
1	Residential	Address denotes a residential living unit, individual living unit in institutional settings such as college dormitories and nursing homes and other locations designed primarily for residential use at which broadband service is available.
2	Governmental, Small Business, Medium or Large Enterprise	Address denotes a state or government, small business, medium or large enterprise location at which broadband service is available.
5	Other	Address denotes a location not meeting any of the above descriptions.

Data Format for Service Overview by County

Field Name	Description	Data Type	Field Length	Example
Provider Identification Data				
ProvName	Provider Name	Text	200	ABC Co.
DBAName	"Doing-business-as" name	Text	200	Superfone, Inc.
FRN	Provider FCC Registration Number – *search here!* *(ONLY numbers no other characters)*	Text	10	0008402202
County Identification Data				
GeogUnitType	Geographic Unit Type *(please use CO which means County)*	Text	4	CO
StateCountyFIPS	5-digit Federal Information Processing Standard (FIPS) Code identifying individual States and individual Counties combined. Must include leading "0" if applicable. *(see State County FIPS table)*	Text	5	06073
Broadband Technology and Speed Data				
TransTech	Category of technology available for the provision of service at the address *(See Technology of Transmission table)*	Short Integer	2	10
ARPU	Average Revenue Per User Speed Offering	Double	8	500
SWNomSpeed	Subscriber-weighted nominal speed (blended average rate in kbps) *refer to formula below*	Double	8	2753.3
StateAbbr	State Abbreviation	Text	2	CA

Technology of Transmission Codes
(Use in TransTech field)

Code	Description
10	Asymmetric xDSL
20	Symmetric xDSL
30	Other Copper Wireline
40	Cable Modem – DOCSIS 3.0
41	Cable Modem – Other
50	Optical Carrier/Fiber to the End User
60	Satellite
70	Terrestrial Fixed Wireless - Unlicensed
71	Terrestrial Fixed Wireless - Licensed
80	Terrestrial Mobile Wireless
90	Electric Power Line
0	All Other

Subscriber-Weighted Nominal Speed Formula
(used in SWNomSpeed field)

Here is information from the NOFA (page 52/63) on calculating Subscriber Weighted Nominal Speed.

7. A provider's subscriber-weighted nominal speed (in kbps) should be calculated as the sum of the products of the provider's advertised maximum download data transmission rate (in kbps) for each residential rate tier advertised by the provider in the county, times the average monthly number of residential subscribers receiving the advertised download transmission rate tier for the relevant reporting month (i.e., June or December, as applicable), divided by the average total number of residential subscribers for all the included data transmission rate tiers in the county for that month. This is expressed in the following formula:

$$\frac{\textit{(speed tier-1 in kbps x no. of tier-1 subscribers) + (speed tier-2 in kbps x no. of tier-2 subscribers) + …}}{\textit{total average monthly subscribers}}$$

For example, if the service provider offers two tiers of service with advertised maximum download speeds of 1500 kbps and 6000 kbps, calculate the product of 1500 kbps times the average monthly number of residential subscribers to the 1500 kbps speed tier plus the product of 6000 kbps times the average monthly number of residential subscribers to the 6000 kbps speed tier and divide the sum by the sum (or total) of the average monthly number of residential subscribers in both tiers.

State County FIPS Code
(Use in StateCountyFIPS field)

	GUnitName	StateCountyFIPS	GeoUnitType
1	Alameda	06001	CO
2	Alpine	06003	CO
3	Amador	06005	CO
4	Butte	06007	CO
5	Calaveras	06009	CO
6	Colusa	06011	CO
7	Contra Costa	06013	CO
8	Del Norte	06015	CO
9	El Dorado	06017	CO
10	Fresno	06019	CO
11	Glenn	06021	CO
12	Humboldt	06023	CO
13	Imperial	06025	CO
14	Inyo	06027	CO
15	Kern	06029	CO
16	Kings	06031	CO
17	Lake	06033	CO
18	Lassen	06035	CO
19	Los Angeles	06037	CO
20	Madera	06039	CO
21	Marin	06041	CO
22	Mariposa	06043	CO
23	Mendocino	06045	CO
24	Merced	06047	CO
25	Modoc	06049	CO
26	Mono	06051	CO
27	Monterey	06053	CO
28	Napa	06055	CO
29	Nevada	06057	CO
30	Orange	06059	CO
31	Placer	06061	CO
32	Plumas	06063	CO
33	Riverside	06065	CO
34	Sacramento	06067	CO
35	San Benito	06069	CO
36	San Bernardino	06071	CO
37	San Diego	06073	CO
38	San Francisco	06075	CO
39	San Joaquin	06077	CO
40	San Luis Obispo	06079	CO
41	San Mateo	06081	CO
42	Santa Barbara	06083	CO
43	Santa Clara	06085	CO
44	Santa Cruz	06087	CO

45	Shasta	06089	CO
46	Sierra	06091	CO
47	Siskiyou	06093	CO
48	Solano	06095	CO
49	Sonoma	06097	CO
50	Stanislaus	06099	CO
51	Sutter	06101	CO
52	Tehama	06103	CO
53	Trinity	06105	CO
54	Tulare	06107	CO
55	Tuolumne	06109	CO
56	Ventura	06111	CO
57	Yolo	06113	CO
58	Yuba	06115	CO