



COMMUNICATIONS DIVISION

California Interactive Broadband Map (CIBM) User Guide

https://www.broadbandmap.ca.gov/

2025

This guide shows how California residents and representatives of Broadband Providers can use the CIBM to look up information about broadband service availability and measured speeds throughout the State. The CIBM includes layers showing Broadband Adoption, Availability, Grants, and California Advanced Services Fund (CASE) Account Eligibility. Users may also provide address-specific feedback via the "Address Search" or "Feedback" tool.

Visit the CPUC website for information on the: Broadband Mapping Program & Annual Collected Broadband Data.

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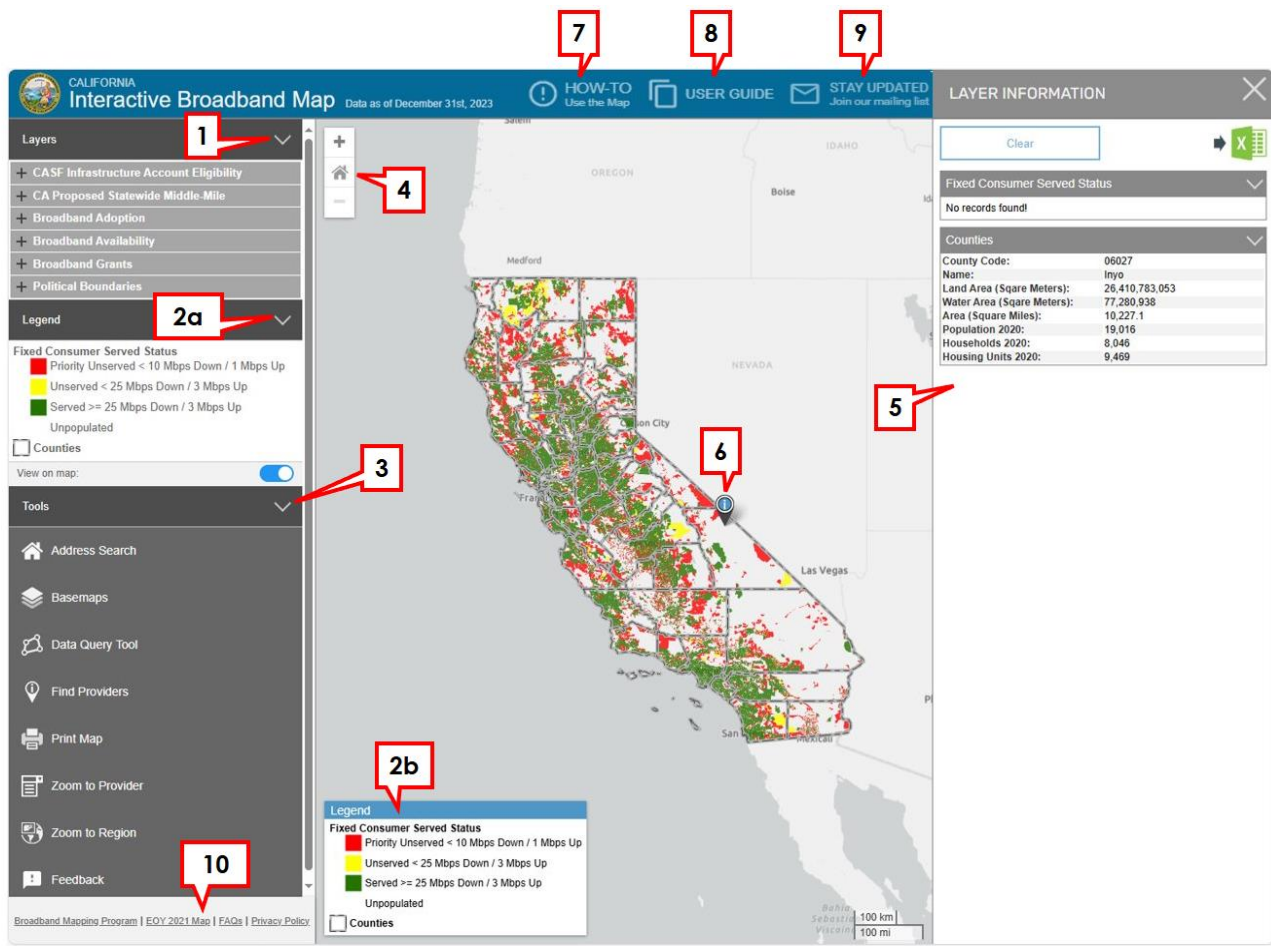
Protecting California since 1911

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.





CIBM Quick Start Guide



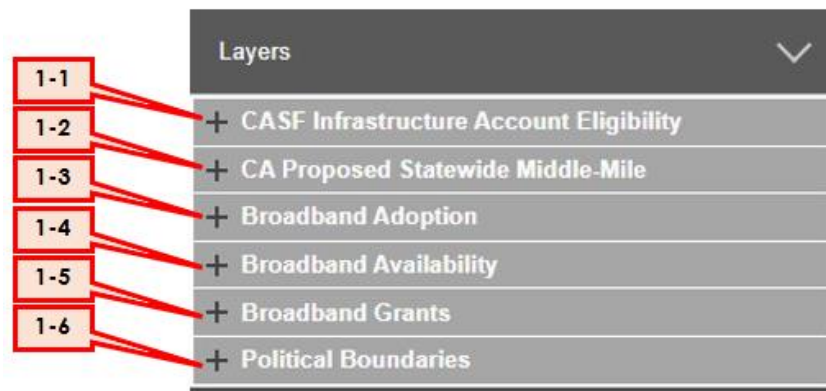
1. **Layers (menu dropdown):** Displays a list of available data layers that can be toggled on or off, such as broadband availability, technology types, provider boundaries, and funding areas. This menu allows users to customize the map's display based on the information they want to view.
2. **Legend**
 - a. **Menu dropdown:** Provides a detailed explanation of the map's symbology for each visible layer, helping users interpret colors, patterns, and symbols on the map.
 - b. **Map pop-up:** A small, context-sensitive window that dynamically updates to show the legend only for currently visible and active layers on the map.
3. **Tools (menu dropdown):** Offers interactive tools for advanced map use, including options such as measuring distances, identifying features, selecting areas, or generating reports from selected regions.
4. **Home button (map function):** Resets the map view to the default statewide extent, centering and zooming out to display all of California.
5. **Layer Information (side panel):** Displays metadata and descriptions for each selected layer, including data sources, update frequency, and definitions to help users understand the context and reliability of the information.



6. **Map Point Selection (information icon):** When users click a location on the map, an information pop-up appears displaying broadband data available at that address or area, including provider names, technology types, and download/upload speeds.
7. **HOW-TO Use the Map (header link):** Displays a series of pop-up windows that users can click through to highlight key features and buttons for utilizing the map.
8. **User Guide (header link):** Links directly to the full user manual for the Interactive Broadband Map, offering step-by-step instructions, feature explanations, and tips for navigating and interpreting the map.
9. **Stay Updated (header link):** Directs users to sign up for e-mail updates and announcements related to broadband mapping, public data releases, and CPUC broadband initiatives.
10. **Links to Additional Resources:** Provides quick access to important CPUC Broadband Program resources, including:
 - a. Broadband Mapping Program – Overview of CPUC’s efforts and goals related to broadband mapping.
 - b. EOY 2021 Map – Access to the archived End-of-Year 2021 broadband map.
 - c. FAQs – Answers to commonly asked questions about broadband mapping and data.
 - d. Privacy Policy – Details on data usage and user privacy.

Understanding the Map Layout and Features

Layers



The Layers menu has six sub-menus to choose from. You can expand a sub-menu by clicking the “+” icon or anywhere on the labeled gray rectangle. Clicking the “-” icon will collapse the sub-menu. **Clicking the “i” symbol to the right of each layer name will show information about the layer. You can toggle each layer’s transparency/opacity by clicking the “■” icon.** A lower value means that the layer will be less visible. In each sub-menu, you can turn a layer ON by clicking its checkbox. A blue square means the layer is ON , while a white square means it’s OFF .

1-1. CASF Infrastructure Account Eligibility — Highlights residential broadband serviceable locations eligible for the California Advanced Services Fund (CASF) Infrastructure Account grants. These are typically regions lacking broadband service at speeds of at least 25 Mbps download and 3 Mbps upload, as defined by the CPUC. This layer assists stakeholders in identifying unserved areas that qualify for



infrastructure funding to improve broadband access. These locations are considered either “Eligible” or “Priority Eligible.”

- “Eligible” unserved locations only have access to broadband at speeds at or above 10 Mbps download and 1 Mbps upload but less than 25 Mbps download and 3 Mbps upload.
- “Priority Eligible” unserved locations only have access to speeds less than 10 Mbps download and 1 Mbps upload or no access to broadband at all.

The CASF Infrastructure Account Eligibility layer is filtered to **only** show locations that are categorized as residential or mixed-use.

1-2. CA Proposed Statewide Middle-Mile — Shows the California Department of Technology’s proposed statewide open-access middle-mile broadband network. This layer provides details on the status of deployment of middle-mile infrastructure; the most up-to-date information regarding middle-mile construction/installation is available at <https://middle-mile-broadband-initiative.cdt.ca.gov/>.

1-3. Broadband Adoption — Displays broadband adoption rates at the Census Block level, indicating the percentage of households subscribing to broadband services. This layer helps in understanding the extent of broadband usage and identifying areas where adoption efforts may be needed.

1-4. Broadband Availability — Shows the availability of broadband services across different regions, categorized by service speeds and technologies. The data is based on provider-reported information and validated through subscription data, offering insights into served and unserved areas.

1-5. Broadband Grants — Illustrates areas that have received broadband funding through various programs, including CASF and federal initiatives. This layer provides details on grant recipients, project statuses, and the scope of funded broadband infrastructure projects.

1-6. Political Boundaries — Outlines various political and administrative boundaries within California, such as counties, cities, legislative districts, and tribal lands. This layer aids in contextualizing broadband data within specific jurisdictions and is useful for policy planning and analysis.

See [Appendix A HYPERLINK "bookmark:// Appendix A: Detailed 1"](#) for more details on the individual layers that can be displayed on the map.

Legend

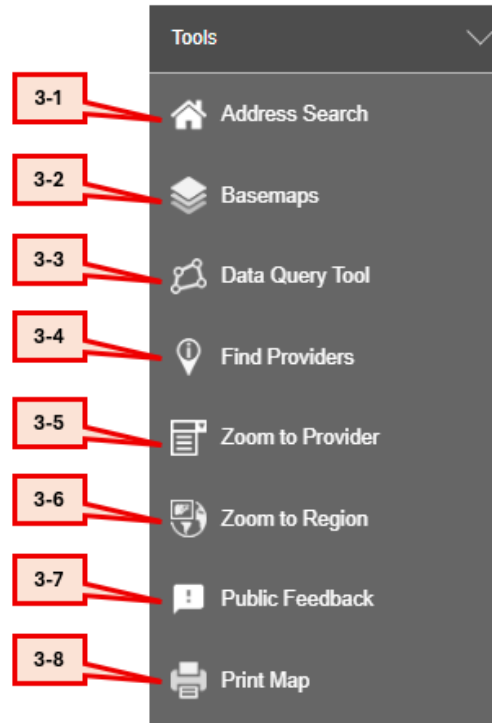
The Legend drop-down updates automatically to show all layers that are currently turned ON. The Step-by-Step tutorial below shows the two layers that are ON when you open the broadband interactive map.

The Legend can be shown as a pop-up box on the map by toggling the blue slider button.



Tools

The Tools menu includes seven separate tools for users to locate specific addresses on the map, explore broadband service areas by specific providers or technology types, download information from the map, and provide feedback on the map or broadband service. After selecting a tool, a question mark icon “?” will appear in the top right corner of the side panel--click on this icon to see step-by-step instructions for using the tool.



3-1. Address Search –Enter a postal address and view a list of broadband providers serving that address for both fixed broadband service providers. Additionally, use this tool to send feedback on a specific address by completing a survey.

3-2. Basemaps – You can change the map background between light, dark, satellite, and terrain views.

3-3. Data Query Tool – You can select map areas by drawing a point, line, polygon, or circle on an area of interest and see summary information about the highlighted area. This information can be exported.

3-4. Find Providers – You can click a specific point on the map and generate a list of Internet Service Providers at that location.

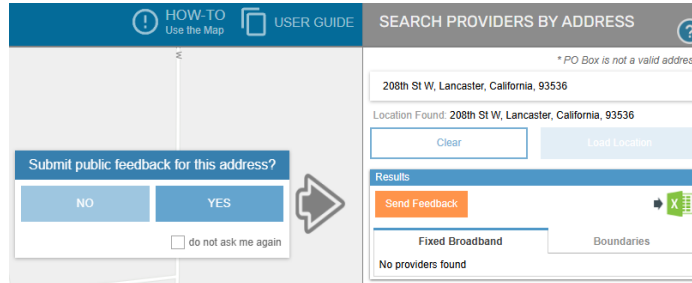
3-5. Zoom to Provider – Zoom in on a specific provider after filtering by data type. This tool can be used to explore provider coverage by technology type and approved CASF infrastructure projects.

3-6. Zoom to Region – Zoom to different regions like senate districts, congressional districts, assembly districts, counties, census blocks, and more.

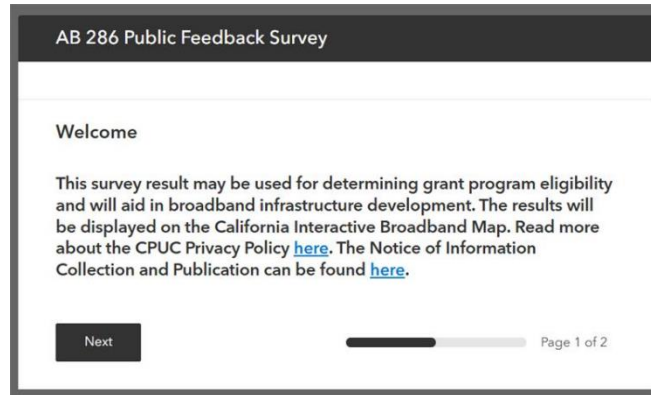
3-7. Public Feedback – You can submit feedback regarding broadband availability for a specific address in three ways:



- Using the “**Address Search**” Tool (see 3-1 above)
Click the “Address Search” icon in the left-hand toolbar, enter your address in the “Search Providers” field that pops up in the side panel and press the “Load Location” button, then click “Send Feedback”.



A pop-up window with a survey will appear, where you can review the Privacy Policy and Notice of Information Collection and Publication.



Click “Next,” and proceed through the survey to submit your feedback directly; or

- Using the “**Public Feedback**” Tool
Alternatively, click the “Public Feedback” icon on the left-hand toolbar. A pop-up window with a survey will appear, where you can review the Privacy Policy and Notice of Information Collection and Publication, click “Next,” and proceed through the survey to submit your feedback directly; or
- Sending an email to broadbandfeedback@cpuc.ca.gov.

3-8. Print Map – Create a printable PDF of the current map view.



Using the Map – a Step-by-Step Tutorial

Step 1 – Turn OFF Default Layer and Expand the Layers Menu

To expand the layers' menus, click on 'Layers'. Active layers will have a blue square (■) next to their name. To remove any active layers from the map, click on the blue square to turn it OFF, changing it from blue to white (■ → □). By default, the following layers are active:

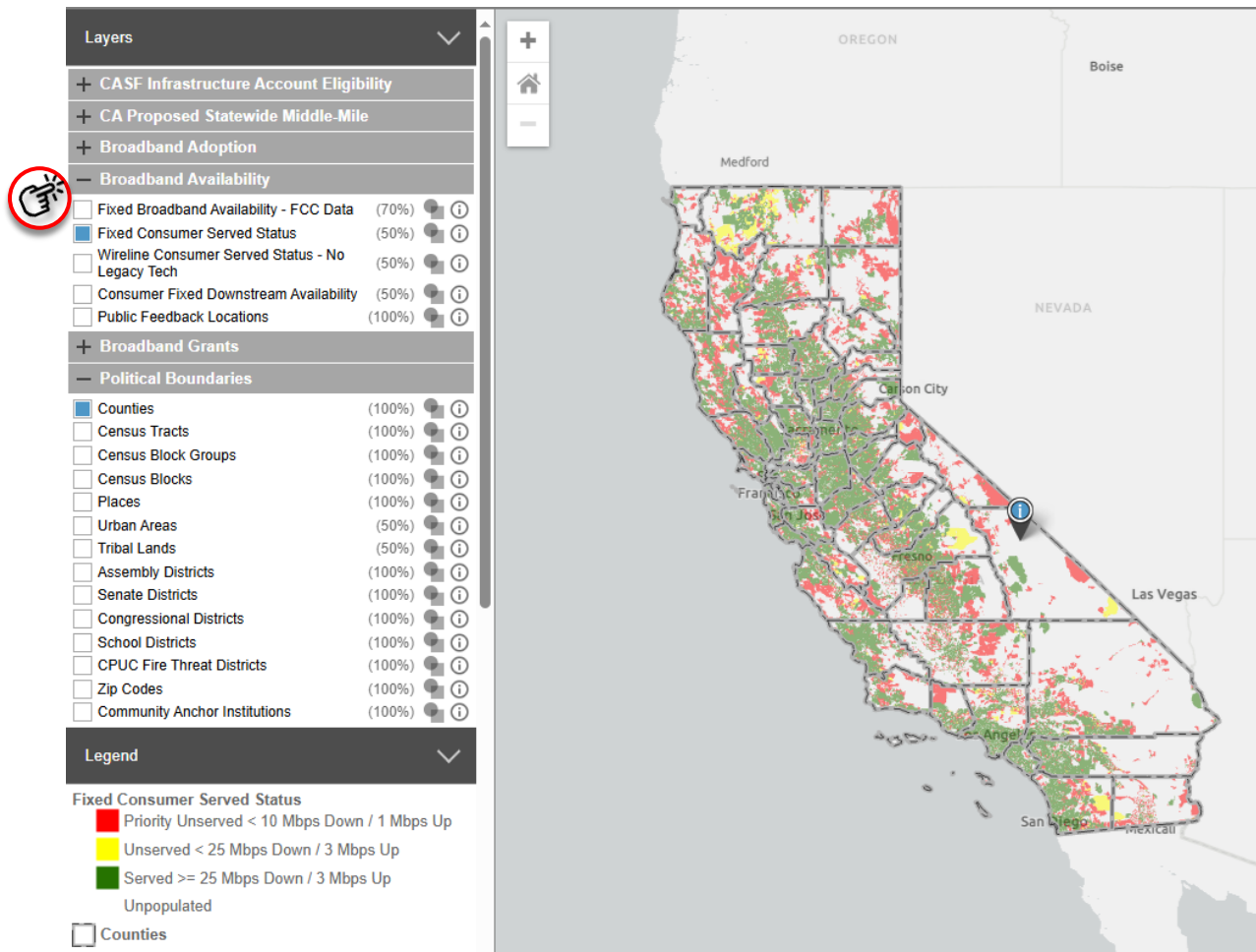
- Fixed Consumer Served Status
- Counties

For this example, we'll turn off 'Fixed Consumer Served Status'. You can also turn off the 'Counties' layer if you prefer.

The screenshot shows a web-based map interface. On the left is a 'Layers' panel with a red box around the top header and a red circle around a 'Layers' icon. The panel lists several categories of layers, each with a checkbox and a percentage. The 'Fixed Consumer Served Status' layer is checked (blue square) and shows 50%. Below it, the 'Counties' layer is also checked (blue square) and shows 100%. Other layers include 'CASF Infrastructure Account Eligibility', 'CA Proposed Statewide Middle-Mile', 'Broadband Adoption', 'Broadband Availability', 'Broadband Grants', and 'Political Boundaries'. A 'Legend' section at the bottom of the panel defines the colors for 'Fixed Consumer Served Status': red for 'Priority Unserved < 10 Mbps Down / 1 Mbps Up', yellow for 'Unserved < 25 Mbps Down / 3 Mbps Up', and green for 'Served >= 25 Mbps Down / 3 Mbps Up'. The map on the right shows California with these layers overlaid. Major cities like Medford, Boise, San Francisco, Fresno, Las Vegas, and San Diego are labeled. A blue location pin is placed on the map.

Step 2 - Expand and Collapse Layer sub-Menus

To expand or collapse layer sub-menus click on the layer section titles (“+” or “-”). This will display or hide the layers within each section.



Step 3 - Turn ON Layers

Click the checkbox next to a layer name. To view the Fixed Broadband Availability – FCC Data layer, click on the white square next to its name. This will turn it ON, changing it from white to blue (☐→■). While you can toggle on multiple layers, it's best to view them one at a time for clearer interpretation of the data and to prevent clutter on the map interface. Currently, the map pictured below displays the following layers:

- Fixed Broadband Availability – FCC Data
- Counties



Expand the Legends menu. To see a breakdown of the layer's symbols, click on 'Legend'. This will give you detailed information about the symbols and their meanings used within the layer. Clicking 'View on map' will add the legend directly onto the interactive map interface.

Step 4 - View Layer Details

Zoom into the map for a closer look. For a closer look at the layer data, select an area of interest on the map and click the '+' button, or use the mouse wheel to zoom in and out. To move the map, click and drag the mouse. Once you've zoomed in enough, click on the map to see detailed information for that specific layer in the clicked area.



LAYER INFORMATION ✕

Clear ➔

Census Tracts ▼

Full Census Tract Code:	06037901209
Name:	Census Tract 9012.09
Land Area (Square Meters):	589,476,557
Water Area (Square Meters):	7,874,863
Area (Square Miles):	230.638686
Population 2020:	1,370
Households 2020:	568
Housing Units 2020:	729
200% Federal Poverty Level:	40%
Median Household Income:	\$74,844.00
Per Capita Income:	\$27,611.00
Median Age:	44.2
Average Household Size:	2.68
Bachelor's Degree or Higher (Population 25 and Older):	11.4%
Highschool Diploma or Higher (Population 25 and Older):	82.9%
Limited English Households:	1.1%
Home Ownership Rate:	72.2%

Each layer has unique attributes specific to its data. So, switch between different layers and then click on an area of interest on the map to view relevant information for that layer.

In the 'Layer Information' window, clicking the 'Clear' allows you to select another area of the map to view details for its respective layer.

Clicking the 'Excel Icon' exports the layer information into an Excel spreadsheet named 'Layers_Output.xlsx.' This spreadsheet contains data only for the clicked area on the map.

Clicking on the “X” in the upper-right corner will close the side panel.

Appendix A: Detailed Layer Descriptions

CASF Infrastructure Account Eligibility

CASF Infrastructure Account Eligibility – shows residential broadband serviceable locations that are receiving no service or are receiving speeds below 25 Megabits per second (Mbps) download and 3 Mbps upload. Locations displayed are either “Eligible” (less than 25/3 Mbps) or “Priority Eligible” (less than 10/1 Mbps). Eligibility status determined using FCC Broadband Availability data and CPUC subscriber data as of December 31, 2023.

CA Proposed Statewide Middle-Mile

CA Proposed Statewide Middle-Mile – Shows the proposed statewide open-access middle-mile broadband network. Pre-Construction Miles: The activities are design, engineering, and permitting.

Installation Miles: In the Installation status, the following activities are performed: Conduit Installation, Vault Placement, Fiber Pulling, Splicing, Hub Placement, Power Connection, and Electronics Installation.

The California Department of Technology is the lead agency for the middle-mile network, and the current version is available at <https://middle-mile-broadband-initiative.cdt.ca.gov/>.

Broadband Adoption

Broadband Adoption – Any Available Speed – Percentage of residential fixed internet access connections per total households with broadband deployment at any speed by Census Block. Data are as of December 31, 2023.

Broadband Adoption at 25/3 Mbps – Percentage of residential fixed internet access connections per total households with broadband deployment at speeds equal to or greater than 25 Mbps download and 3 Mbps upload by Census Block. Data are as of December 31, 2023.

Broadband Adoption at 100/20 Mbps (Federal Standard) - Percentage of residential fixed internet access connections per total households with broadband deployment at speeds equal to or greater than 100 Mbps download and 20 Mbps upload by Census Block. Data are as of December 31, 2023.

Median Household Income – Census Data – Median household income is based on the U.S. Census 2020 data and shown by Census Block Group. Data based on the 2021 American Community Survey 5 –Year Estimates.



Broadband Availability

Fixed Broadband Availability – FCC Data - location-level broadband availability (terrestrial technology – excludes satellite and mobile) as of December 31, 2023. Data is aggregated to hex geometry at larger scales. Points show the maximum available download speed for a given location. Hex cells are symbolized by the percentage of locations served at or above 100 Mbps down and 20 Mbps up.

Fixed Consumer Served Status – Availability of speeds that are equal to or greater than 25 Mbps download and 3 Mbps upload. This layer is technology-neutral. Data are as of December 31, 2023.

Wireline Consumer Served Status – No Legacy Tech – Availability of speeds that are equal to or greater than 25 Mbps download and 3 Mbps upload, using only non –legacy wireline technologies such as Cable (DOCSIS 3.0 or later) and Fiber. Data are as of December 31, 2023.

Consumer Fixed Downstream Availability – Maximum available download speeds in a Census Block, as determined by the presence of at least one subscriber. Data are as of December 31, 2023.

Public Feedback Locations – Locations where public feedback was received by Communications Division. Data are as of May 31, 2024.

Broadband Grants

RDOF Phase 1 Winners – by Bidding Entity – Rural Digital Opportunity Fund Phase 1 winners and Eligible Telecommunications Carriers as of February 2023.

All Active CASF Consortia – CASF consortia regions with active Consortia Account grants as of January 2023.

CASF Projects

CASF Proposed Projects – Locations of proposed CASF Infrastructure Account projects. Projects are uploaded two weeks after the application deadline.

CASF Approved Last-Mile Projects – Locations of approved CASF Infrastructure Account last-mile projects.

CASF Approved Hybrid Projects – Locations of approved CASF Infrastructure Account last-mile projects that include middle-mile infrastructure.

CASF Approved Middle-Mile Projects – Locations of approved CASF Infrastructure Account middle-mile projects.

Political Boundaries

Counties – County boundaries based on U.S. Census 2020 data.

Census Tracts – Census Tracts boundaries based on U.S. Census 2020 data.

Census Block Groups – Census Block Groups boundaries based on U.S. Census 2020 data.

Census Blocks – Census Blocks boundaries based on U.S. Census 2020 data.

Places – Census Designated Places boundaries based on U.S. Census 2020 data.

Urban Areas – Urban Areas boundaries based on U.S. Census 2020 data.

Tribal Lands – Tribal Lands boundaries based on U.S. Census 2020 data.

Assembly Districts – CA State Assembly districts boundaries based on U.S. Census 2020 data.

Senate Districts – CA State Senate districts boundaries based on U.S. Census 2020 data.

Congressional Districts – U.S. Congressional districts boundaries based on U.S. Census 2020 data.

School Districts – School district boundaries based on U.S. Census 2020 data.

CPUC Fire Threat Districts – Statewide fire-threat map outlining the boundaries of High Fire-Threat Districts.

Zip Codes – Zip Codes boundaries based on U.S. Census 2020 data.

Community Anchor Institutions – Names and locations of schools, libraries, health institutions, and public safety facilities in California as of November 2024.