

What's New with Release 2.1 of the California Interactive Broadband Map

In order to improve map accuracy, as well as provide more information to the public and policy makers, we have made a number of enhancements to the interactive map:

- Public Feedback Layer
- CalSPEED Average Downstream layer, generated by crowdsourced results from the public using the CalSPEED Android application
- % Households where we were unable to validate broadband availability and speed, by provider
- Other changes that include the addition of 3rd Round (April 2013) results from mobile field test, replacement of 1st Round (May 2012) average downstream speed interpolation results with 2nd Round (October 2012), modification of the data usage policy in the user feedback survey tool that allows the CPUC to display address data of users who send us reports of no service or speed test results via the interactive map, removal of the "Getting Started" splash screen, and removal of default downstream availability layers from map startup.

Public Feedback Layer

In an effort to enhance the accuracy of the map, we have added a Public Feedback layer. Here is an example, which would appear after selecting the round "radio" button in the Public Feedback layer and then clicking on one of the areas shaded on the map:

- **Date: 5/09/13** [the most recent date for the data collected]
- **Census Block: 060570007021044** [the census block number for which the report(s) was (were) made]
- **Households: 20** [number of households in that census block, according to Census 2010]
- **Reports of Service: 2** [number of reports of internet service provided to us by the public for that census block]
- **Reports of No Service: 0** [number of reports of no internet service provided to us by the public for that census block]
- **Number of Speed Tests: 2** [number of speed tests run in that census block for this data set]
- **Avg. Speed Up (kbps): 161.5** [average upload speed from all speed test results submitted to us by the public for that census block]
- **Avg. Speed Down (kbps): 764.6** [average download speed from all speed test results submitted to us by the public for that census block]

“Reports of Service” in this case means instances where the public told us they have internet service. “Reports of No Service” means instances where the public told us they do not have internet service. This does not necessarily mean that service is not available, but it could mean that service is not available. Either way, further investigation would be required to make a determination of actual service availability for that census block. Written proof of denial of service from a broadband provider would be a strong indicator of no service availability.

CalSPEED Average Downstream layer

The latest release of the map includes test results from the CPUC’s crowd sourcing app, CalSPEED. CalSPEED is a free Android app available on the Google Play store that may be downloaded and used to test mobile broadband anywhere. The results are compiled by us and periodically added to the map.

Results from CalSPEED tests performed on the latest technology phones and tablets (to fully reflect the capabilities of each provider) are averaged for each location and uploaded to the map. The locations are color coded by downstream speed tier, e.g. 3-6 mbps, and the average upstream and downstream speeds for each location may be viewed by selecting the round “radio” button next to the check box in the CalSPEED Average Downstream Speed layer menu.

Here is an example of the data available for a specific location:

- **Test ID: 362** [CPUC internal reference]
- **Date: 5/30/2013** [date test was conducted]
- **Latitude: 39.156158** [latitude coordinate of test location]
- **Longitude: 120.981483** [longitude coordinate of test location]
- **Census Block: 060570007021044** [census block number]
- **Provider: Verizon** [network of mobile provider tested]
- **Indoor/Outdoor: Indoor** [selected by user to show if test was done indoors or outdoors]
- **Avg. Speed Up (kbps): 801** [average upstream speed in kilobits per second]
- **Avg. Speed Down (kbps): 10631.5** [average downstream speed in kilobits per second]

% Households unable to validate broadband availability and speed

In the Drill by Provider tool, there are two check boxes that let you view areas of a provider’s coverage map where we were unable to validate broadband availability (shown in red) and downstream speed (shown in purple). For fixed broadband coverage (wireline and fixed wireless), the CPUC uses a seven step process, based on FCC and third party databases, to validate availability data. In addition to showing visually the areas we were unable to validate,

we now provide an estimate, based on the 2010 Census, of the percent of households within a provider's service area that we were unable to validate either availability or advertised downstream speed.

For mobile broadband, we drive 35,000 miles twice a year through urban, rural and tribal areas to measure actual end user experience available at 1,200 test points around the state. The tests to confirm the existence (or lack) of service, and the data speeds actually available at that time and location for the four major mobile providers. Using the results from that testing, we have developed a model that predicts upstream and downstream speeds in areas between the 1,200 points. In areas where the test results and our predictions differ significantly from data submitted by mobile providers, we provide a visual representation using the same red and purple layers available in the Drill by Provider tool.

Other changes to the map

- Addition of 3rd Round (April 2013) results from mobile field test – As with previous rounds, these results are color coded in downstream speed tiers. When you select the radio button for the 3rd Round results, click on a specific test point to see the results by provider and the average speeds of all providers.
- Replacement of 1st Round (May 2012) average downstream speed interpolation results with 2nd Round (October 2012) – The interpolation results, or predicted speeds, as mentioned in the previous section, have been updated with the data set closest to the broadband availability data set (December 31, 2012).
- Modification of the data usage policy in user feedback survey tool – The change in usage policy allows the CPUC to display address data of users who send us reports of no service or speed test results via the interactive map.
- Removal of the “Getting Started” splash screen - We removed the splash page because many users complained about having to click through it every time they wanted to use the map.
- Removal of default downstream availability layers from map startup - There used to be three default layers whenever you launched the interactive map (wireline, fixed wireless, and mobile). Many users complained about having to open the “Layers” menu to turn off those layers every time they used the interactive map, so we decided to display the default map without any layers enabled as a default.