

## What's New with Release 2.4 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:

- **Round 10 data updated**
  - This release has broadband provider data as of June 30, 2014.
- **Changes to Served Layers**
  - We have removed the “CA Definitions” layer from this release and replaced it with what we call “LCD,” or “Lowest Common Denominator.”
  - The LCD method applies to mobile and combined served layers. The process for creating the LCD layer is as follows:
    - For mobile broadband served, we take the interpolated mean minus one standard deviation<sup>1</sup> coverage and compare it to the advertised mobile coverage for the four major providers for which we do mobile field testing. We use the lower of those two speeds for each census block.
    - For combined served, we incorporate the validated advertised coverage of wireline and fixed wireless with the LCD mobile served layer.
- **Changes to menu items**
  - Drill tool
    - Updated the grant application data.
  - Layer tool – Mobile test results
    - Removed the 4th field test results for mobile providers and replaced them with the 5<sup>th</sup> Round (Spring 2014) of field test results.
    - Speeds for the four major mobile providers’ 5<sup>th</sup> Round field test results are now shown in mean minus one standard deviation rather than mean.
    - Added the 6<sup>th</sup> Round (Fall 2014) field test results (also shown in mean minus one standard deviation)
  - Layer tool – Broadband availability
    - Combined Served Under-served Un-served – see explanation under “Changes to Served Layers.”
    - Mobile Served Under-served Un-served – “Changes to Served Layers.”
  - Broadband grants

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<sup>1</sup> Interpolated mean minus one standard deviation is created by doing the following: we take the mean upstream and downstream speeds for each provider from the most recent mobile field test for each location (averaging smartphone and data card speeds) and subtract one standard deviation from those mean values. The standard deviation is for the test performed at that location, averaging both smartphone and data card standard deviations. The resulting speeds at each location (mean minus one standard deviation) are then used to create an interpolation model using a geo-statistical process known as “kriging.” The image created by the kriging process looks similar to a heat map with color shading denoting high speeds, low speeds, and no service.

- Provider Right of First Refusal layer has been added for Dec. 1, 2014 applications

**Note on resolution differences**

The resolution of the kriging model is 1 kilometer, whereas the resolution of the maximum advertised speeds is often smaller – down to the census block. The difference in resolution between the two layers, “CA Definitions” (maximum advertised) and “CA Adjusted” (incorporating mobile interpolated as opposed to mobile maximum advertised) may create contradictory indications of “served” status for a particular location (latitude / longitude combination). The interpolation model we use provides a birds-eye view of likely speed and coverage, but it is not accurate down to a specific address.