



# PUBLIC NOTICE

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## WIRELINE COMPETITION BUREAU ANNOUNCES AVAILABILITY OF VERSION 4.1 OF THE CONNECT AMERICA FUND PHASE II COST MODEL

### WC Docket No. 10-90

Today, as part of its continuing open, transparent, and deliberative process to adopt a cost model for Phase II of the Connect America Fund, the Wireline Competition Bureau (Bureau) announces the availability of the next version of the Connect America Cost Model (CAM v4.1).<sup>1</sup> CAM v4.1 contains updated State Broadband Initiative (SBI) Round 8 data,<sup>2</sup> modifies certain default input values, and makes a number of technical changes as described below.

Consistent with the process for updating broadband coverage in prior versions of the CAM, the new coverage table removes from the SBI data Cable and Fixed Wireless providers receiving federal high-cost support, as well as those not providing voice services as reported on FCC Form 477 as of June 2013. CAM v4.1 also contains updates to the TelcoMaster table to incorporate corrections to holding companies and related information for individual study areas.<sup>3</sup>

<sup>1</sup> Including Version 4.1, the Bureau has released ten versions of the model. See *Wireline Competition Bureau Announces Availability of Version One of the Connect America Fund Phase II Cost Model*, WC Docket Nos. 10-90, 05-337, Public Notice, 27 FCC Rcd 15356 (Wireline Comp. Bur. 2012); *Wireline Competition Bureau Announces Availability of Version Two of the Connect America Fund Phase II Cost Model*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 280 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version Three of the Connect America Fund Phase II Cost Model*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 2316 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 3.1 of the Connect America Fund Phase II Cost Model*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 5707 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 3.1.2 of the Connect America Fund Phase II Cost Model and Adds Additional Discussion Topics to Connect America Cost Model Virtual Workshop*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 7293 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 3.1.3 of the Connect America Fund Phase II Cost Model*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 8339 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 3.1.4 of the Connect America Fund Phase II Cost Model, Illustrative Results, and Updated Methodology Documentation*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 9049 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 3.2 of the Connect America Fund Phase II Cost Model, and Illustrative Results; Seeks Comment on Several Modifications for Non-Contiguous Areas*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 12833 (Wireline Comp. Bur. 2013); *Wireline Competition Bureau Announces Availability of Version 4.0 of the Connect America Fund Phase II Cost Model and Seeks Comment on Adopting Current Default Inputs in Final Version of the Model*, WC Docket No. 10-90, Public Notice, 28 FCC Rcd 16339 (Wireline Comp. Bur. 2013) (*CAM v4.0 Announcement PN*).

<sup>2</sup> SBI Round 8 reflects data as of June 2013. We note that using this version of the SBI data produces more varied results than previous versions, due in large part to an increase in reported coverage by certain competitive providers.

<sup>3</sup> The "Updates to TelcoMaster" document, located at the Resources tab, documents the changes to the TelcoMaster table incorporated into this version of the model.

CAM v4.1 also makes certain adjustments to the terrain mix data for the Virgin Islands.<sup>4</sup> Given the lack of consistent data regarding rock hardness in the Virgin Islands, further significant additional work would be necessary to examine the soil composition data available for the Virgin Islands in order to determine the relationship between the available terrain data and the cost of deploying a communications network in the Virgin Islands.<sup>5</sup> Such a significant undertaking likely would result in an extended delay in finalizing the CAM, which would preclude making the offer of model-based support before the end of 2014.<sup>6</sup> Therefore, rather than determining the exact terrain mix in the Virgin Islands, CAM v4.1 approximates the terrain mix by mirroring the terrain mix data used in Puerto Rico.<sup>7</sup>

CAM v4.1 increases the average revenue per user (ARPU) assumption used by the model from \$65 to \$75. Increasing the ARPU also has a small impact on two model inputs that are calculated as a percentage of ARPU—customer operations marketing expense and bad debt expense. To account for this adjustment, the default model inputs for customer operations and bad debt are based on the higher ARPU with values that are entered on a per-location-passed basis for all carriers.<sup>8</sup>

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<sup>4</sup> CAM v4.1 also includes a number of other modifications to the state-specific inputs for the Virgin Islands, including adjusting the number of poles assumed by the model to reflect the spacing associated with 35 foot poles and using the default input values associated with the structure sharing table, FTTPFill input, and duct labor input, rather than the state-specific inputs. These changes affect costs only in the Virgin Islands.

<sup>5</sup> For example, terrain data for the Virgin Islands in STATSGO2 or SSURGO provides information about the terrain on the islands, but not on the attributes of rock hardness at the map unit level, which categorizes excavation difficulty. Significant work would be required to determine how much excavation costs would vary as the values in these databases change.

<sup>6</sup> See *Technology Transitions et al.*, GN Docket No. 13-5 et al., Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, FCC 14-5, para. 98 (rel. Jan. 31, 2014).

<sup>7</sup> The CAM uses terrain attributes to determine the cost of each plant node based on the Census Block Group associated with the origination/termination node of the fiber run. Lacking data regarding the attributes of rock hardness at the map unit level in the Virgin Islands, we make the assumption that the mix of terrain types in Puerto Rico is similar to terrain types in the Virgin Islands. Therefore, to estimate the terrain mix in the Virgin Islands, we use the mix of terrain from Puerto Rico to determine a weighted average structure labor cost by density zone for buried and underground plant using the default inputs. For example, Puerto Rico has 27 percent normal soil, 40 percent soft rock or medium, and 33 percent hard rock. We apply those weights in this example to the default inputs for rural buried plant—\$3.11 for normal, \$3.77 for soft rock and \$5.19 for hard rock—and combine the results to find the terrain-adjusted cost for rural buried plant in the Virgin Islands of \$4.06. The input collection populates this value for normal, soft and hard rock terrain to avoid confusion as to when that value applies. See Comments of Virgin Islands Telephone Corp. d/b/a Innovative Telephone, WC Docket No. 10-90, at Ex. A, p. 18 (filed Jan. 6, 2014) (“St. Thomas and St. John, which make up the northern United States Virgin Islands, and the British Virgin Islands and Puerto Rico are subaerial topographical highs on the Puerto Rico Bank.”).

<sup>8</sup> Since both inputs are calculated as a percentage of ARPU—12.97 percent for customer operations marketing expense and 2 percent for bad debt expense—using an ARPU of \$75 results in values of \$9.73 per customer and \$1.50 per customer, respectively. The model then applies the new 70 percent subscription rate to these per customer values to obtain adjusted values of \$6.81 for customer operations marketing expense and \$1.05 for bad debt expense per location passed (in the model: node4workingcust). These adjusted values are multiplied by the total number of price cap locations to determine the total amount of customer operations marketing expense and bad debt expense for all carriers. Prior to this change, a 80 percent subscription rate was applied

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Finally, CAM v4.1 assumes a 70 percent subscription rate for purposes of calculating funding thresholds.<sup>9</sup>

In addition to a new solution set,<sup>10</sup> the Bureau releases a new set of illustrative results reflecting funding threshold of \$52.50 (based on an assumed 70% subscription rate with \$75 ARPU), available at <http://www.fcc.gov/encyclopedia/connect-america-cost-model-illustrative-results>, and will shortly be posting to the Commission's website updated model documentation for v4.1.

Though the default inputs for CAM v4.1 are publicly available at <http://www.fcc.gov/encyclopedia/price-cap-resources>, these publicly-available inputs exclude an inputs table that provides state-specific capital values for the Virgin Islands.<sup>11</sup> Users that have signed the relevant attachments of the *Third Supplemental Protective Order* can view these values in the table "StateSpecificCapex V2" in the CAM v4.1 inputs collection on the "Posted Data Sets" page of the CAM website.<sup>12</sup>

CAM v4.1 is available at <http://www.fcc.gov/encyclopedia/caf-phase-ii-models> or <https://cacm.usac.org/>. In order to access any version of the model, parties must execute the relevant acknowledgement of confidentiality, licensing, and nondisclosure documents released as attachments to a *Third Supplemental Protective Order*.<sup>13</sup> Numerous interested parties have executed the attachments to the protective order and have had full access to each version of the model, enabling them to run their own customized reports.

For additional information on this proceeding, contact Katie King ([Katie.King@fcc.gov](mailto:Katie.King@fcc.gov)) of the Wireline Competition Bureau, Telecommunications Access Policy Division, (202) 418-7400.

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to the total number of price cap locations, with that result being multiplied by the CAM v4.0 inputs for customer operations marketing expense and bad debt expense to obtain the total amount of customer operations marketing expense and bad debt expense for all carriers.

<sup>9</sup> The subscription rate reflects the Bureau's estimate of the percentage of locations that will subscribe to a carrier's service over the five-year funding period. The "take rate," i.e., customer drop rate, used by the CAM to calculate the cost of connecting locations with a drop and optical network terminal remains at 80 percent in CAM v4.1.

<sup>10</sup> This model outputs for this solution set (SS20140205CAM4\_1) can be found under the Model Outputs section of the Posted Data Sets tab.

<sup>11</sup> As a point of reference, "default inputs" refer to those included in the capex workbook, but do not include those in the state-specific workbook.

<sup>12</sup> See *Connect America Fund*, WC Docket No. 10-90, Third Supplemental Protective Order, 27 FCC Rcd 15277 (Wireline Comp. Bur. 2012) (*Third Supplemental Protective Order*).

<sup>13</sup> See *id.*