

North Bay/North Coast Broadband Consortium

**The North Bay/North Coast Broadband Consortium
(NCBCBC)**

Mobile Wireless Ground Truth Testing Project

Revised Phase 3 Report

(Napa County)

March 10, 2015

I. EXECUTIVE SUMMARY

In July 2014 Marin, Mendocino, Napa and Sonoma counties officially formed North Bay/North Coast Broadband Consortium (**NBNCBC**) as a regional broadband planning consortium. The vision of the **NBNCBC** is to eliminate the persistent digital divide in these four counties.

NBNCBC received a two-year \$250,000 regional planning grant from the California Public Utilities Commission's (CPUC) California Advanced Services Fund to help fund its work. As part of **NBNCBC's Year 1 Work Plan** one of the major tasks involves assessing, documenting and monitoring the unmet needs in each county.

Before **NBNCBC** was formed the CPUC had requested the regional consortia and counties to submit their "unserved" and "underserved" priority areas for inclusion in CPUC's Resolution T-17443, which was approved on June 26, 2014. Mendocino, Sonoma and Marin counties had submitted 30 priority areas and designated them as either "unserved" or "underserved". Napa had not submitted any priority areas. In Appendix 4 of the Resolution and on the official California Broadband Availability Map, 22 of these 30 priority areas are designated as being "served", including 13 priority areas that are only serviced by mobile wireless, see **Exhibit #1**.

In a July 16, 2014 in letter to the CPUC **NBNCBC** expressed its concern that stand-alone mobile wireless should not qualify as a replacement for fiber-based broadband infrastructure to serve households, but only as a complement. The CPUC responded by stating that the Commission had made the decision to include mobile wireless in Decision 12-02-015 on February 1, 2012. CPUC staff suggested the best recourse for **NBNCBC** would be to prove that the provider advertised speeds in the California Broadband Availability Map for specific priority areas were incorrect through ground truth testing evidence.

In September 2014 **NBNCBC** launched a multi-faceted ground truth testing effort across the four counties to test wireline, fixed wireless and mobile wireless speeds. The primary purpose of this effort is to validate or refute the claims of the advertised download and upload speeds reported to the CPUC by the providers in the **NBNCBC** priority areas.

NBNCBC contracted Chico GIC to conduct the Mobile Wireless Ground Truth Testing Project in three (3) phases.

- Phase 1—13 priority areas in Marin, Sonoma and Mendocino counties
- Phase 2—4 priority areas in Mendocino County
- Phase 3—9 priority areas in Napa County

Phase 1 was completed in September/October and a full written report—**NBNCBC Mobile Wireless Ground Truth Testing Project: Phase 1 Report**—was submitted to the CPUC on November 3, 2014.

Phase 2 testing was completed in mid-December 2014 and a full written report—**NBNCBC Mobile Wireless Ground Truth Testing Project: Phase 2 Report**—was submitted to the CPUC on January 9, 2015.

Phase 3 testing was completed at the end of January 2015 and this document represents the full written report. **In Phase 3, based on the field tests in 100 locations across the nine (9) Napa County priority areas and the subsequent independent analysis, only two (2) of these nine priority areas (Browns Valley and American Canyon) should be designated as being “served” for mobile wireless, see Exhibit #2.**

The results of the field tests and analysis by Chico GIC provide clear evidence that eight (8) of Napa County’s nine (9) priority areas should be designated either as “unserved” or “underserved” for mobile wireless services. NBNCBC has requested CPUC to officially change the current designations of “served” to either “unserved” or “underserved” for mobile wireless services and that these data be used to update the California Broadband Availability Map.

Chico GIC conducts field tests in all the phases for AT&T, Sprint, T-Mobile and Verizon. Chico GIC followed the detailed procedures and protocols set out in the *CPUC Field Testing-User Manual, Version Number 1.8*. CPUC’s Mean-1 Standard Deviation formula was applied to the AT&T, Sprint, T-Mobile and Verizon field test results.

II. INTRODUCTION

The vision of the **NBNCBC** is to have the persistent digital divide in Marin, Mendocino, Napa, and Sonoma counties eliminated. The mission of the **NBNCBC** is to:

- 1) Develop a strategic broadband plan for each county based on “last mile” community needs, and integrate the county plans into a regional plan.
- 2) Determine current actual broadband access and adoption rates throughout the region.
- 3) Assess and aggregate unmet demand throughout the region, based on a county’s ground-truth data.
- 4) Identify potential funding sources to improve broadband deployment and adoption rates throughout the region.
- 5) Encourage broadband service providers to use identified funding sources to improve broadband deployment and adoption rates throughout the region.
- 6) Work with broadband service providers to develop a long-term strategic plan for keeping broadband deployment and adoption standard, or above, throughout the region.

To help cover a portion of its costs, the **NBNCBC** received a two-year \$250,000 regional consortium planning grant from the California Public Utilities Commission’s (CPUC) California Advanced Services Fund.

There are six major activities in carrying out this two-year effort. Within each activity, there are several tasks to be executed. In the [Year 1 Work Plan](#) we are only dealing with the first five activities. One of the major tasks involves:

- **ASSESSING, DOCUMENTING AND MONITORING THE UNMET BROADBAND NEEDS THROUGHOUT EACH COUNTY**

1.1. Assess the Broadband Demands and Needs of all the Priority Communities throughout each County

- 1.1.1. *Initiate the Ground Truth Surveys, using the CPUC process, in Marin and Napa counties first focusing on the unserved and underserved communities, as reported by CPUC reports and continue working towards a complete county assessment of broadband needs;*
- 1.1.2. *Extend the use of the CPUC Ground Truth Survey process already underway in Mendocino and Sonoma counties working towards a complete county assessment of broadband needs; and,*
- 1.1.3. *Compile a progress report for each county of its finding as a result of the ground truth surveys.*

In September **NBNCBC** launched a three- phase mobile wireless ground truth-testing project. This is a report on the results of Phase 3.

III. BACKGROUND OF THE PROJECT

In early Spring 2014 the CPUC requested the regional consortia and counties submit their “unserved” and “underserved” priority areas for inclusion in CPUC’s impending Resolution T-17443. On June 26, 2014 the CPUC approved the Resolution. Appendix 4 in the Resolution lists the 182 priority areas submitted by the regional consortia as “unserved” or “underserved” priority areas. However, based on the California Broadband Availability Map, only 68 of these priority areas were considered “unserved” or “underserved” and are currently eligible for CASF grants. Of course, some of these 68 areas may be removed from the list if existing facilities based providers commit by November 1, 2014 to upgrade their networks by next May 1, 2015.

The current CPUC Speed Standards are:

SERVED	Download Speeds	>= 6 Mbps
	Upload Speeds	>=1.5 Mbps
UNDERSERVED	Download Speeds	>=768 Kbps and <6 Mbps
	Upload Speeds	>=200 Kbps and <1.5 Mbps
UNSERVED	Download Speeds	<768 Kbps
	Upload Speeds	<200 Kbps

Using the provider reported advertised speed data the CPUC designated 114 of the 182 priority areas as being “served” as shown on the California Broadband Availability Map. These designations were based on:

- 10 priority areas using only wireline;
- Seven (7) priority areas using fixed wireless and mobile wireless;
- Three (3) priority areas using all three technologies;
- 34 priority areas using wireline and mobile wireless; and,
- **60 priority areas use only mobile wireless.**

Three of its four counties (Mendocino, Sonoma and Marin) submitted 30 priority areas to the CPUC and designated them as either “unserved” or “underserved”. Napa had not submitted any priority areas at that time. Based on the California Broadband Availability Map, 22 of these 30 priority areas are designated as “served”, including 13 priority areas that are only reached by mobile wireless service. **Exhibit #1** provides a listing of these 30 priority areas as they appear in Appendix 4 of the CPUC Resolution T-17443, approved June 26, 2014.

As noted, over 50 percent of the NBNCBC priority areas, as well as several of the submissions of the other regional consortia are designated as “served”, based on only having mobile wireless service. ***We believe this skews the reality of broadband infrastructure deployment throughout California.*** We expressed our concern in a July 16, 2014 in letter to the CPUC that standalone mobile wireless should not qualify as a replacement for fiber-based broadband infrastructure to serve households, but only as a complement.

As stated in our letter, the significant designation differences between what NBNCBC submitted as “unserved” and “underserved” priority areas and what the providers reported to the CPUC as being served raised questions including: *“What rationale was used by the CPUC to justify having standalone mobile wireless technology qualify a geographic area to be designated as “served”?* The CPUC responded by stating that the Commission had made the decision to include mobile wireless in Decision 12-02-015 on February 1, 2012 and could only be changed or modified by Commission action.

CPUC CASF staff suggested the best recourse for **NBNCBC** would be to prove that the provider advertised speeds in the California Broadband Availability Map for specific priority areas were incorrect through ground truth testing evidence. Thus, this project was undertaken.

IV. SCOPE OF THE PROJECT

In September 2014 **NBNCBC** launched a multi-faceted ground truth testing effort across the four counties to test wireline, fixed wireless and mobile wireless speeds. The primary purpose of this effort is to validate or refute the claims of the advertised download and upload speeds reported to the CPUC by the providers in the NBNCBC priority areas.

This specific part of the effort is the Mobile Wireless Ground Truth Testing project. It is being conducted in three phases. CSU Chico GIC was contracted to conduct the mobile testing using the CPUC’s standing protocols and methodology.

In Phase 1 field tests were conducted at 112 locations in the 13 of 30 priority areas in Marin (7), Sonoma (4) and Mendocino (2) currently serviced by mobile wireless providers and have been designated as “served” in the California Broadband Availability Map. The following are the areas and the number of test locations in Phase 1.

- Ocean Meadow Drive – 2
- Muir Beach CDP – 3
- Dillon Beach CDP – 5
- Point Reyes Station CDP – 8
- Stinson Beach CDP – 10

Bolinas CDP – 11
Cazadero CDP – 10
Inverness CDP – 10
Joy Rd Area – 10
Nicasio Area – 10
Sherwood Rd/Willowbrook – 10
Sea Ranch CDP – 11
Dry Creek -- 12

Phase 2 field tests were concentrated in Mendocino County. Mendocino originally had eight (8) priority areas designated as “served” by mobile technology. Given that two (2) of the eight (8) priority areas were tested In Phase 1, the original plan in Phase 2 was to test the remaining six (6) priority areas plus some additional areas BAMC believes to be “underserved”. The six (6) priority areas in Appendix 4 of the CPUC Resolution T-17443 included: Gualala, Albion, Pacific Reefs, Fort Bragg, Road 409, Road 408, and Laytonville. Based on an examination of the latest California Broadband Availability Map data only Gualala was designated as being served by one of the four providers being tested. Thus, mobile testing was not deemed necessary in the other five (5) areas.

However, BAMC had identified Calpella, Rancho Navarro and the greater Willits areas as additional priority areas to be tested. So, there were 46 locations in four (4) priority areas tested in Phase 2.

Phase 3 has involved Napa County developing its priority areas since none had been identified as part of Appendix 4 of the CPUC Resolution T-17443, approved June 26, 2014. Nine (9) areas with a 100 locations were identified for field tests. These included:

Callistoga -20
Pope Valley -28
St. Helena -7
Oakville -13
Monticello Road -9
Rim Rock -6
Wild Horse Valley Road -9
Prowns Valley -1
American Canyon -7

Separate reports are being produced for each phase. This report is for Phase 3.

V. METHODOLOGY

The methodology involved two major steps—field-testing and analysis of the ground truth results.

Field Testing. Equipped with the CPUC testing equipment and software the Chico GIC conducted the field-testing following the detailed procedures set out in the *CPUC Field Testing-User Manual, Version Number 1.8*. CSU Monterey Bay (CSUMB), under contract with the CPUC,

developed the software and procedures in this manual.

In Phase 3 Chico GIC conducted tests at 100 locations in nine (9) Napa County priority areas. The test locations were randomly generated within the priority areas using spatial analysis software. Then, Chico GIC manually adjusted them toward the nearest area with residential or commercial area based on aerial imagery.

Each location tested involved running a test for each of the four major providers—AT&T, Verizon, T-Mobile and Sprint. In all 400 tests were performed. The results from these 400 tests conducted in the field were automatically uploaded to servers to which CSUMB has access. The servers themselves are Amazon cloud servers so they are not physically based at CSUMB.

Analysis of Results. Chico GIC executed the following tasks to yield the results:

1. Received the results from CSUMB. Both the mean results and the mean -1 standard deviation results are outputs from CSUMB.
2. Plotted Latitude and Longitude of each test location. Visually removed any points that were outliers. (i.e. point plotted in the Pacific Ocean or otherwise outside of project area)
3. Used the “Median Center” tool in ArcMap under the Spatial Statistics Tools to find the median center of all coordinates per each site. The output for this is a shapefile with each site and the median Latitude and Longitude. This shapefile was titled “Test Sites Actual”
4. From results spreadsheet, split results into separate spreadsheets for each Provider and Client type. (i.e. AT&T Phone and AT&T Netbook).
5. Cleaned up results to remove duplicate tests at the same site. This included removing tests that were quit by the user or site where first result has no connection and second result has successful connection.
6. For each provider combined the mean Netbook and phone results into single spreadsheet. Then calculated the mean of the Netbook and phone results. If either Netbook or phone has no connection or a zero result, the result from other device is used on its own.
7. Appended the values from step 7 to the “Test Sites Actual” shapefile from step 3. The mean result between the Netbook and phone is the final result reported.
8. Applied the same methodology for the mean results and the mean -1 standard deviation results.

Columns used from the result exports from CSUMB in the analysis were as follows:

- a. Mean -1 SD Download

TCPDnMn-1

- b. Mean -1 SD Upload

TCPUpMn-1

VI. RESULTS FOR PHASE 3

The primary purpose of the **NBNCBC** Mobile Ground Truth Testing project was to validate or refute the claims of the advertised download and upload mobile wireless speeds reported to the CPUC by the providers within **NBNCBC** priority areas. For complete Phase 3 result details see **Exhibit #2. CPUC's Mean-1 Standard Deviation formula is applied to the AT&T, Verizon, Sprint and T-Mobile field test results.**

As stated earlier, the nine (9) Napa County priority areas tested In Phase 3 of this project are currently designated as "served" by the CPUC and are depicted as "served" on the California Broadband Availability Map for Mobile Wireless services. **Based on 400 field tests in 100 locations across the nine (9) priority areas and the subsequent analysis only two of these nine (9) Napa County priority areas should be designated as being "served". Those priority areas are Browns Valley and American Canyon. The other seven (7) priority areas should be designated as either "unserved" or "underserved".**

1. RESULTS BY THE FOUR MAJOR PROVIDERS

As shown in **Table 1**, of the 400 field tests, 30 rate a "served" speed ranking, 72 rate "underserved" and 298 fall into the "unserved" speed definitions. Verizon has the best test results with 19 readings at "served", 27 readings at "underserved" speed level and 54 "unserved" speeds. AT&T has the second best test results with 13 of the 100 tests as "served", 21 at "underserved" speed level and 66 "unserved" speeds. Sprint had five (5) readings at "served", 12 at "underserved" speeds and 83 readings at "unserved" speeds. T-Mobile had seven (7) readings at "served" 19 at "underserved" and 74 at "unserved" speed levels. As mentioned, these results were based on applying the Mean-1 Standard Deviation formula recently adopted by the CPUC.

Exhibit #3 provides a map for each of the providers showing the approximate locations and results of the tests.

TABLE 1	TOTALS
AT&T	
AT&T Served	13
AT&T Underserved	21
AT&T Unserved	66
SPRINT	
Sprint Served	5
Sprint Underserved	12
Sprint Unserved	83
T-MOBILE	
T-Mobile Served	7
T-Mobile Underserved	19
T-Mobile Unserved	74
VERIZON	
Verizon Served	19
Verizon Underserved	27
Verizon Unserved	54

2. PHASE 3 RESULTS BY PRIORITY AREA

When CPUC Resolution T-17443 was passed in June 2014, Napa County had not submitted any priority areas to be listed in Appendix 4 of the Resolution. Subsequently, Napa identified three major priority areas that were then divided into nine (9) priority areas for this mobile ground truth-testing project. Nine (9) areas with a 100 locations were identified for field tests. These included:

- Calistoga -20
- Pope Valley -28
- St. Helena -7
- Oakville -13
- Monticello Road -9
- Rim Rock -6
- Wild Horse Valley Road -9
- Browns Valley -1
- American Canyon -7

These nine (9) priority areas are currently designated “served” by mobile wireless technology in the California Broadband Availability Map. As depicted in Table 2, as a result of the field tests, seven (7) of the nine (9) priority areas tested out as being “unserved” or “underserved”. Browns Valley American Canyon proved to be “served”.

		NAPA COUNTY								
		Calistoga	Pope Valley	St. Helena	Oakville	Monticello Road	Rim Rock	Wild Horse Valley Rd.	Browns Valley	American Canyon
TABLE 2	Total Locations	20	28	7	13	9	6	9	1	7
	AT&T									
	AT&T Served	0	2	2	2	0	0	1	1	5
	AT&T Underserved	9	1	0	4	0	5	0	0	2
	AT&T Unserved	11	25	5	7	9	1	8	0	0
	SPRINT									
	Sprint Served	1	0	0	1	0	0	0	0	3
	Sprint Underserved	7	0	0	1	0	0	1	1	2
	Sprint Unserved	12	28	7	11	9	6	8	0	2
	T-MOBILE									
	T-Mobile Served	0	0	0	2	0	0	0	0	5
	T-Mobile Underserved	6	3	1	1	1	5	0	0	2
	T-Mobile Unserved	14	25	6	10	8	1	9	1	0
	VERIZON									
	Verizon Served	9	3	0	0	1	2	1	1	2
	Verizon Underserved	8	6	2	3	1	2	1	0	4
	Verizon Unserved	3	19	5	10	7	2	7	0	1

Calistoga. Based on the field tests this priority area should be designated as “unserved” in the California Broadband Availability Map. As shown in Exhibits 3, 20 locations were tested for each of the four providers. Of the 80 filed tests conducted 10 indicated speeds that would qualify as served. Thirty (30) field tests came out as “underserved” and 40 tested as “unserved” speeds.

Pope Valley. Based on the field tests this priority area should be designated as “unserved” in the California Broadband Availability Map. As shown in Exhibits 3, 28 locations were tested for

each of the four providers. Of the 112 tests conducted five (5) indicated speeds that would qualify as served. Ten (10) field tests came out as “underserved” and 97 tested as “unserved” speeds.

St. Helena. Based on the field tests this priority area should be designated as “unserved” in the California Broadband Availability Map. As shown in **Exhibits 3**, seven (7) locations were tested for each of the four providers. Of the 28 tests conducted only two (2) indicated speeds that would qualify as served. Three (3) field tests came out as “underserved” and 23 tested as “unserved” speeds.

Oakville. Based on the field tests this priority area should be designated as “unserved” in the California Broadband Availability Map. As shown in **Exhibits 3**, 13 locations were tested for each of the four providers. Of the 52 tests conducted five (5) indicated speeds that would qualify as served. Nine (9) field tests came out as “underserved” and 38 tested as “unserved” speeds.

Monticello Road. Based on the field tests this priority area should be designated and “unserved” in the California Broadband Availability Map. As shown in **Exhibits 3**, nine (9) locations were tested for each of the four providers. Of the 36 tests conducted one (1) indicated speeds that would qualify as served. Only two (2) field tests came out as “underserved” and 33 tested as “unserved” speeds.

Rim Rock. Based on the field tests this priority area should be designated as “underserved” in the California Broadband Availability Map. As shown in **Exhibits 3**, six (6) locations were tested for each of the four providers. Of the 24 tests conducted two (2) indicated speeds that would qualify as served. Twelve (12) field tests came out as “underserved” and nine (9) tested as “unserved” speeds.

Wild Horse Valley Road. Based on the field tests this priority area should be designated as “unserved” in the California Broadband Availability Map. As shown in **Exhibits 3**, nine (9) locations were tested for each of the four providers. Of the 36 tests conducted two (2) indicated speeds that would qualify as served. Two (2) field tests came out as “underserved” and 32 tested as “unserved” speeds.

Browns Valley. Based on the field tests this priority area should remain designated as “served” in the California Broadband Availability Map. As shown in **Exhibits 3**, one location was tested for each of the four providers. Of the four (4) tests conducted two (2) indicated speeds that would qualify as served; one (1) field test came out as “underserved” and one (1) tested as “unserved” speeds.

American Canyon. Based on the field tests this priority area should remain designated as “served” in the California Broadband Availability Map. As shown in **Exhibits 3**, seven (7) locations were tested for each of the four providers. Of the 28 tests conducted 15 indicated speeds that would qualify as served; Ten (10) tests came out as “underserved” and only two (2) tested as “unserved” speeds.

VII. SUMMARY AND RECOMMENDED ACTION BY CPUC

The results of the field tests and analysis conducted by Chico GIC, using CPUC's protocols and procedures, in 100 locations for AT&T, Sprint, T-Mobile and Verizon mobile services provide clear evidence that seven (7) of the nine (9) Napa County priority areas should be designated either as "unserved" or "underserved" for mobile wireless services.

In a cover letter along with the submission of this report to the CPUC, **NBNCBC** has requested the CPUC change the current designations of "served" to either "unserved" or "underserved" for mobile wireless services and that these data results be used to update the California Broadband Availability Map.

ATTACHMENTS

Exhibit #1---NBNCBC Priority Areas that appear in Appendix 4 of the CPUC Resolution T-17443

Exhibit #2---Detailed Phase 3 results of the 400 field tests and analysis conducted by Chico GIC

Exhibits #3.1, 3.2, 3.3, and 3.4---A Map for each Provider showing the approximate locations and results of the tests

Exhibit #1
NBNCBC Priority Areas
6/26/2014

Consortia	County	Community Name	Census Block Based on Geographic Coordinates Provided by Consortia	Service Type as Presented by Consortia	CA Broadband Availability Map Data - Service Type Combined (CPUC Validation R8)	CA Broadband Availability Map Data - Wireline Service Type (CPUC Validation R8)	Wireline Providers RB	CA Broadband Availability Map Data - Wireless Service Type (CPUC Validation R8)	Fixed Wireless Providers RB	CA Broadband Availability Map Data - Mobile Service Type (CPUC Validation R8)	Mobile Providers RB	Public Feedback in the Area to Prove Actual Service Type	Cal Environments Screen Rank**	GO Priorities**
		Route 1 Corridor Clusters - Angelo Reserve/Wilderness Res/ Jack-of-Hearts Creek Road			Underserved Populated	Underserved Populated		Underserved Populated		Underserved Populated			5	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Navarro Ridge	060450110002342	Underserved GT	Underserved Populated	Underserved Populated		Underserved Populated		Underserved Populated			3	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Irish Beach	06045011001047	Underserved	Underserved	Underserved	CENTRAL VALLEY CABLE TV	Underserved		Underserved	AT&T Mobility LLC/United States Cellular Corporation		5	
North Bay/North Coast	Mendocino	Rancho Navarro	060450112001147	Underserved GT Hybrid	Underserved	Underserved Populated		Underserved Populated		Underserved	United States Cellular Corporation		5	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Elk	060450110011219	Underserved/Underserved (rel) GT	Underserved	Underserved		Underserved Unpopulated		Underserved	United States Cellular Corporation		3	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Manchester	60450110021293	Underserved GT	Underserved	Underserved	CENTRAL VALLEY CABLE TV	Underserved Populated		Underserved	AT&T Mobility LLC/United States Cellular Corporation		5	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Point Arena	6045011002042	Underserved	Underserved	Underserved	CENTRAL VALLEY CABLE TV	Underserved Populated		Underserved	AT&T Mobility LLC		5	
North Bay/North Coast	Sonoma	Jenner (Ict. Hwy 1 and Hwy 116)	06097154042081	Underserved/Underserved by wireline and fixed wireless. Partially served by mobile	Underserved	Underserved	Verizon California, Inc.	Underserved Populated		Underserved Populated			2	

* The California Broadband Map found here: <http://www.broadbandmap.ca.gov/map/> was used to determine service type. Please see the section on Priority Areas in Resolution T-1743.
 ** Please see the section on Priority Areas in Resolution T-1743 for more information about the Cal Environments Screen Rank.
 *** Values represent the priorities established by the Governor's Office of Business and Economic Development (GO-BED) where 'E' represents Employment Zones, 'P' represents areas of poverty and high unemployment and 'B' represents both. Please see the section on GO-BED in Resolution T-1443 for more information.

Exhibit #1
NBNCBC Priority Areas
6/26/2014

Comsortia	County	Community Name	Census Block Based on Geographic Coordinates Provided by Consortia	Service Type as Prevented by Consortia	CA Broadband Availability Map Data - Service Type Combined (CPUC Validation #8)	CA Broadband Availability Map Data - Wireline Service Type (CPUC Validation #8)	Wireline Providers B2	CA Broadband Availability Map Data - Wireless Service Type (CPUC Validation #6)	Fixed Wireless Providers B3	CA Broadband Availability Map Data - Mobile Service Type (CPUC Validation #8)	Mobile Providers B8	Public Feedback in this Area to Prove Actual Service Type	Cell Emissions Screen Rank**	GO Priorities**
North Bay/North Coast	Sonoma	Dry Creek	0609715A1002098	Underserved	Served	Served	ELECTRIC LIGHTWAVE, LLC; PACIFIC BELL TELEPHONE COMPANY; MegPath Corporation; Sonic Telecom	Served	VISTA BROADBAND NETWORKS, INC.; Digital Path, Inc.	Served	AT&T Mobility LLC; Sprint Nextel Corporation; Cellco Partnership; T-Mobile USA, Inc.	Public feedback surveys needed to prove that the area is not served.	6	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Branscomb	060450102004196	Underserved -GT	Served	Underserved Populated	Comcast Cable Communications, LLC; CENTRAL VALLEY CABLE TV	Served	101 Netlink	Underserved	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	5	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Ocean Meadows Circle	060450102003134	Underserved GT	Served	Served	Comcast Cable Communications, LLC; CENTRAL VALLEY CABLE TV	Served	101 Netlink	Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	5	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Guadalupe	06045011023153	Underserved	Served	Underserved	Comcast Cable Communications, LLC; CENTRAL VALLEY CABLE TV	Underserved Populated	101 Netlink	Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	5	
North Bay/North Coast	Marin	B - Greater Nicasio (CDP and Surroundings) Area	060411330002048	Wireless	Served	Underserved Populated	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	4	
North Bay/North Coast	Marin	C - Dillon Beach (CDP) Area	060411330003007	Wireless	Served	Underserved Populated	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	4	
North Bay/North Coast	Marin	Inverness CDP	060411330001030	Wireless	Served	Underserved Populated	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	4	
North Bay/North Coast	Marin	Point Reyes Station CDP	060411330001123	Hybrid	Served	Underserved	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	4	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Albion	060450110011205	Underserved/Underserved	Served	Served	Comcast Cable Communications Management, LLC; Comcast Cable	Underserved Populated		Underserved Populated	AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	3	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Pacific Reefs	060450110011060	Underserved GT	Served	Served	Comcast Cable Communications Management, LLC; Comcast Cable	Underserved Populated		Served	CellCo Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	3	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Boice Lane (Fort Bragg)	060450110025025	Underserved -GT	Served	Served	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Caspar & Prairie Way (outer Rd. 469)	060450110021074	Underserved GT	Served	Served	PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Mendocino (outer Rd 408) Sherwood	060450110022106	Underserved GT	Served	Served	Comcast Cable Communications Management, LLC; PACIFIC BELL TELEPHONE COMPANY; Comcast Cable	Underserved Populated		Served	CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Willowbrook	060450106001099	Underserved GT	Served	Underserved Populated	Comcast Cable Communications Management, LLC; Sonic Telecom	Underserved Populated		Served	CellCo Partnership; T-Mobile USA, Inc.	MBTF will launch public availability testing.	2	

Served Areas (tribal areas not included)

* The California Broadband Map found here: <http://www.broadbandmap.gov/map/> was used to determine service type. Please see the section on Priority Areas in Resolution T-1743.
 ** Please see the section on Priority Areas in Resolution T-1743 for more information about the California Broadband Map.
 *** Values represent the priorities established by the Governor's Office of Business and Economic Development. (00-812) where 'S' represents Enterprise Zones, 'P' represents areas of poverty and high unemployment and 'U' represents both. Please see the section on 00-812 in Resolution T-1743 for more information.

Exhibit #1
NBNCBC Priority Areas
6/26/2014

Consortia	County	Community Name	Census Block Based on Geographic Coordinates Provided by Consortia	Service Type as Presented by Consortia	CA Broadband Availability Map Data - Service Type Combined (CPUC Validation 88)	CA Broadband Availability Map Data - Wireline Service Type (CPUC Validation 88)	Wireline Providers 88	CA Broadband Availability Map Data - Wireless Service Type (CPUC Validation 88)	Fixed Wireless Providers 88	CA Broadband Availability Map Data - Mobile Service Type (CPUC Validation 88)	Mobile Providers 88	Public Feedback in the Area to Prove Actual Service Type	Cal Emissions Screen Rank**	GO Priorities**
North Bay/North Coast	Sonoma	Joy Road (near Occidental)	060971543032000	Unserviced/Unserviced by wireline and fixed wireless. Partially served by mobile tech. Partially served by all	Served	Unserviced Populated		Unserviced Populated		Served	AT&T Mobility LLC/Celco Partnership; T-Mobile USA, Inc.; AT&T Mobility LLC/MetroPCS AWS LLC/Celco Partnership; AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.	Connect Joy Road & Area committee members have collected surveys from over 1/2 of all HHs. plus commitments to buy broadband service if made available. Sonic.net is willing to offer service, also submits application to CAF. Rhinobee's	2	
North Bay/North Coast	Sonoma	Casadero (near Guerneville)	060971543042000	Unserviced/Unserviced in other areas	Served	Unserviced Populated		Unserviced Populated		Served	AT&T Mobility LLC; CellCo Partnership; T-Mobile USA, Inc.		2	
North Bay/North Coast	Marin	A - Point Reyes - Stinson Beach Area	060411321001001	Under/Unserviced by Wireline or Fixed Wireless	Served	Unserviced Populated	PACIFIC BELL TELEPHONE COMPANY	Unserviced Populated		Served	Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Marin	Bollinas CDP	060411321002040	Under/Unserviced by Wireline or Fixed Wireless	Served	Unserviced Populated	PACIFIC BELL TELEPHONE COMPANY; MegaPath Corporation;	Unserviced Populated		Served	Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Marin	D - Muir Beach (CDP) Area	060411311002063	Under/Unserviced by Wireline or Fixed Wireless	Served	Unserviced Populated	PACIFIC BELL TELEPHONE COMPANY	Unserviced Populated		Served	Mobile USA, Inc.	MBTF will launch public availability testing.	2	
North Bay/North Coast	Marin	Stinson Beach CDP	060411321003004	Under/Unserviced by Wireline or Fixed Wireless	Served	Unserviced Populated		Unserviced Populated		Served	CellCo Partnership;		2	
North Bay/North Coast	Sonoma	Sea Ranch (along Hwy 3)	060971543032000	Served by mobile only	Served	Unserviced Populated		Unserviced Populated		Served	CellCo Partnership;		1	
North Bay/North Coast	Mendocino	Route 1 Corridor Clusters - Laytonville	060415010205000	Unserviced - GT	Served	Unserviced Populated		Served	101 Netlink	Served	AT&T Mobility LLC/United States Cellular Corporation; CellCo Partnership;	Y - public feedback surveys needed to prove that the area is not served.	5	

* The California Broadband Map found here: <http://www.broadbandmap.org/map/> was used to determine service type. Please see the section on Priority Areas in Resolution T-1743.
 ** Please see the section on Priority Areas in Resolution T-1743 for more information about the Call/Wireless Screen Mark.
 *** Values represent the priorities established by the Governor's Office of Business and Economic Development (OO-BED) where '1' represents Ensign/Screen Zones, '2' represents areas of poverty and high unemployment and '3' represents both. Please see the section on OO-BED in Resolution T-1443 for more information.

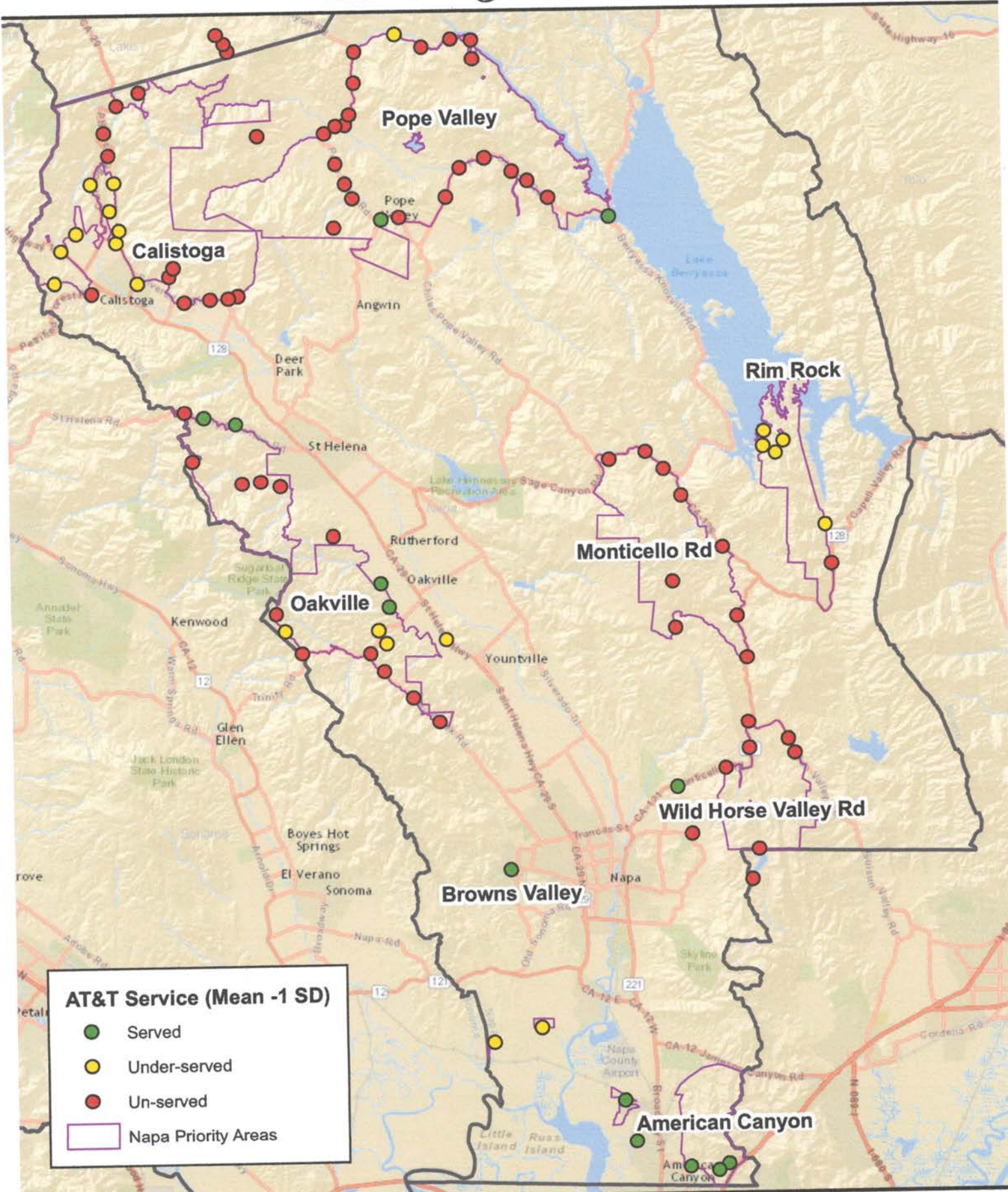
EXHIBIT #2
Mobile Ground Truth Test Results
Phase 3-Napa County

Location ID	Area Name	Latitude	Longitude	AT&T		Sprint		Verizon		T-Mobile		Verizon Service		Census Block ID
				Upload	Download	Upload	Download	Upload	Download	Service	Service	Service	Service	
1166	Callistoga	-122.612	38.6069	773	1987	0	5311	4862	7411	0	13292	Under-served	Served	060552019001026
1172	Callistoga	-122.589	38.6315	568	371	0	2597	785	536	0	5507	Under-served	Under-served	060552019001029
1173	Callistoga	-122.575	38.5836	688	2935	3590	6823	2395	1346	2149	8048	Under-served	Served	060552020001001
1174	Callistoga	-122.621	38.5985	636	679	2655	9326	1679	836	1741	11285	Under-served	Served	060552019001025
1176	Callistoga	-122.575	38.6745	0	0	0	0	0	0	0	0	Un-served	Un-served	060552019001020
1190	Callistoga	-122.589	38.6681	0	0	0	0	0	0	0	0	Un-served	Un-served	060552019001025
1192	Callistoga	-122.53	38.5762	0	637	0	202	0	726	0	1044	Un-served	Under-served	060552019002014
1193	Callistoga	-122.602	38.5783	258	299	386	3874	448	653	87	3714	Un-served	Un-served	060552019001008
1200	Callistoga	-122.596	38.6552	0	0	0	0	0	0	0	2055	Un-served	Under-served	060552019001008
1202	Callistoga	-122.546	38.5747	0	199	0	1816	0	86	0	9044	Under-served	Served	060552019001025
1203	Callistoga	-122.603	38.6308	522	209	0	7516	4579	296	0	1786	Un-served	Under-served	060552019001025
1205	Callistoga	-122.593	38.6445	0	443	0	417	0	591	0	7689	Under-served	Served	060552019001029
1206	Callistoga	-122.592	38.6184	522	256	0	4433	2678	507	0	802	Under-served	Under-served	060552019001018
1211	Callistoga	-122.586	38.6029	785	957	0	5705	4808	2157	0	5691	Un-served	Under-served	060552019001017
1215	Callistoga	-122.555	38.587	0	733	3352	4766	0	916	1326	14420	Under-served	Served	060552019002014
1239	Callistoga	-122.625	38.5831	451	740	3277	6440	866	713	1214	6916	Under-served	Served	060552019001008
1243	Callistoga	-122.553	38.5912	0	6449	2867	6285	0	2027	1432	11160	Un-served	Served	060552017004014
1247	Callistoga	-122.514	38.5782	0	6383	1459	4962	0	2198	1383	9230	Under-served	Served	060552019001024
1258	Callistoga	-122.586	38.6087	565	229	0	5731	3710	313	0	4595	Un-served	Under-served	060552019001012
1262	Callistoga	-122.519	38.577	0	898	122	3322	0	2555	38	6183	Un-served	Served	060552018001087
1169	Pope Valley	-122.417	38.6168	0	0	0	1797	0	0	0	0	Un-served	Un-served	060552018001087
1175	Pope Valley	-122.366	38.6456	0	0	0	0	0	0	0	6109	Un-served	Served	0603300013001088
1178	Pope Valley	-122.522	38.6949	0	0	0	1563	0	0	0	0	Un-served	Served	060552018001061
1179	Pope Valley	-122.404	38.698	0	0	0	0	0	0	0	0	Un-served	Un-served	060552018001054
1186	Pope Valley	-122.45	38.6604	0	0	0	0	0	0	0	534	Un-served	Un-served	060552018001064
1191	Pope Valley	-122.374	38.6926	0	123	0	629	0	31	0	5978	Un-served	Under-served	060552018001087
1194	Pope Valley	-122.445	38.6254	0	0	0	1683	0	0	0	27	Un-served	Un-served	060552017004004
1195	Pope Valley	-122.445	38.6953	0	0	0	0	255	55	0	0	Un-served	Un-served	060552017004000
1204	Pope Valley	-122.456	38.6112	90	86	0	26	0	0	0	4162	Served	Under-served	060552018001149
1212	Pope Valley	-122.456	38.6417	0	0	0	0	0	0	0	246	Un-served	Un-served	060552018001075
1214	Pope Valley	-122.29	38.6183	5064	151	360	3955	8801	77	4783	6070	Served	Under-served	060552018001087
1218	Pope Valley	-122.327	38.6271	0	0	0	270	0	0	0	31	Un-served	Un-served	0603300013001088
1219	Pope Valley	-122.427	38.6156	2692	140	0	1368	11260	78	0	53	Un-served	Un-served	060552018001054
1221	Pope Valley	-122.524	38.6983	0	149	0	92	0	73	0	1753	Under-served	Under-served	060552018001054
1222	Pope Valley	-122.448	38.6651	0	0	0	92	0	0	0	0	Un-served	Un-served	060552019001000
1223	Pope Valley	-122.421	38.7039	684	131	932	793	2410	63	7629	0	Un-served	Un-served	060552018001054
1226	Pope Valley	-122.445	38.6804	0	0	0	0	0	0	0	8765	Un-served	Served	0603300013001087
1230	Pope Valley	-122.529	38.7025	0	149	0	3012	0	37	0	0	Un-served	Un-served	060552018001083
1231	Pope Valley	-122.388	38.6267	0	0	0	0	0	0	0	0	Un-served	Un-served	060552018001066
1234	Pope Valley	-122.339	38.6349	0	0	0	0	0	0	0	0	Un-served	Un-served	060552018001056
1236	Pope Valley	-122.349	38.6394	0	0	0	0	0	0	0	838	Un-served	Under-served	060552018001087
1237	Pope Valley	-122.463	38.6562	0	68	0	660	0	63	0	973	Un-served	Under-served	060552018001238
1248	Pope Valley	-122.387	38.7018	0	82	0	487	0	40	0	0	Un-served	Under-served	060552017004000
1250	Pope Valley	-122.449	38.6324	0	0	0	0	0	0	0	0	Un-served	Un-served	060552018001245
1251	Pope Valley	-122.374	38.7015	0	0	0	0	0	0	0	0	Un-served	Un-served	060552018001087
1256	Pope Valley	-122.38	38.6408	0	147	0	0	0	64	0	0	Un-served	Un-served	060552019001000
1260	Pope Valley	-122.456	38.6596	0	0	0	0	0	0	0	0	Un-served	Un-served	060552019001000
1263	Pope Valley	-122.503	38.6546	0	76	398	0	0	74	7375	0	Un-served	Un-served	060552019001031

EXHIBIT #2
Mobile Ground Truth Test Results
Phase 3-Napa County

Location ID	Area Name	Latitude	Longitude	AT&T		Sprint		Verizon		AT&T Service		Sprint Service		T-Mobile Service		Verizon Service		Census Block ID
				Upload	Download	Upload	Download	Upload	Download	0	Un-served	0	Un-served	0	Un-served	0	Un-served	
1182	St Helena	-122.54	38.4994	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060971516012000			
1196	St Helena	-122.545	38.5229	0	146	85	519	0	66	2243	Un-served	Un-served	Un-served	Un-served	060552015001007			
1209	St Helena	-122.51	38.4891	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552015001014			
1210	St Helena	-122.533	38.5207	3320	208	1080	2698	6467	70	2267	Served	Un-served	Un-served	Un-served	060552015001018			
1233	St Helena	-122.487	38.4881	0	106	0	0	0	90	0	Un-served	Un-served	Un-served	Un-served	060552015001014			
1246	St Helena	-122.514	38.5176	4057	0	0	128	12471	0	0	Served	Un-served	Un-served	Un-served	060552015001012			
1265	St Helena	-122.498	38.49	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552015001014			
1265	St Helena	-122.422	38.3995	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552012001011			
1180	Oakville	-122.42	38.4307	5631	237	0	379	9526	36	775	Served	Un-served	Un-served	Un-served	060552015001047			
1183	Oakville	-122.426	38.4193	698	118	0	0	2508	89	0	Un-served	Un-served	Un-served	Un-served	060552012001011			
1185	Oakville	-122.454	38.4642	0	10320	7464	0	0	10303	8163	Un-served	Served	Served	Served	060552015001055			
1188	Oakville	-122.454	38.3752	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552012001011			
1197	Oakville	-122.389	38.3869	0	131	0	0	0	77	0	Un-served	Un-served	Un-served	Un-served	060552012001011			
1201	Oakville	-122.405	38.3869	0	131	0	0	0	77	0	Un-served	Un-served	Un-served	Un-served	060552015001052			
1227	Oakville	-122.488	38.4265	135	127	0	0	829	72	0	Un-served	Un-served	Un-served	Un-served	060552012001011			
1232	Oakville	-122.421	38.4131	337	0	0	0	1069	0	0	Un-served	Un-served	Un-served	Un-served	060552015001040			
1238	Oakville	-122.425	38.4418	4762	539	4582	928	13485	1340	9338	Served	Un-served	Un-served	Un-served	060552015001040			
1240	Oakville	-122.482	38.4184	809	147	0	0	4974	64	0	Un-served	Un-served	Un-served	Un-served	060552015001042			
1252	Oakville	-122.472	38.4078	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552015001053			
1255	Oakville	-122.431	38.4082	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552015001042			
1255	Oakville	-122.385	38.4151	833	206	301	2754	1261	63	3000	Un-served	Un-served	Un-served	Un-served	060552014032017			
1261	Oakville	-122.247	38.4219	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014032017			
1168	Monticello Rd	-122.21	38.428	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014032000			
1171	Monticello Rd	-122.266	38.5065	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552018002022			
1217	Monticello Rd	-122.244	38.4856	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552018002016			
1220	Monticello Rd	-122.219	38.4608	0	168	0	0	8836	74	0	Un-served	Un-served	Un-served	Un-served	060552014032017			
1229	Monticello Rd	-122.249	38.4441	0	0	284	326	0	0	3988	Un-served	Un-served	Un-served	Un-served	060552018001134			
1241	Monticello Rd	-122.255	38.4984	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014031006			
1242	Monticello Rd	-122.204	38.4079	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014032000			
1244	Monticello Rd	-122.288	38.5028	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552018001217			
1257	Monticello Rd	-122.153	38.4534	0	0	233	257	0	0	3915	Un-served	Un-served	Un-served	Un-served	060552018002008			
1167	Rim Rock	-122.187	38.5066	582	124	262	597	6623	99	2630	Un-served	Un-served	Un-served	Un-served	060552018001217			
1184	Rim Rock	-122.157	38.4718	377	74	216	1612	2352	35	3481	Un-served	Un-served	Un-served	Un-served	060552018001217			
1189	Rim Rock	-122.195	38.517	888	117	938	6286	2205	81	6445	Un-served	Un-served	Un-served	Un-served	060552018002001			
1198	Rim Rock	-122.183	38.5123	854	88	906	1728	6299	73	3373	Un-served	Un-served	Un-served	Un-served	060552018002008			
1216	Rim Rock	-122.195	38.5097	1114	58	0	166	5218	65	0	Un-served	Un-served	Un-served	Un-served	060552018002001			
1235	Rim Rock	-122.245	38.3456	8064	524	0	794	22617	412	0	Un-served	Un-served	Un-served	Un-served	060552014023002			
1170	Wild Horse Valley Rd	-122.195	38.3161	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014031015			
1177	Wild Horse Valley Rd	-122.174	38.362	0	147	0	2536	0	93	0	Un-served	Un-served	Un-served	Un-served	060552014031015			
1199	Wild Horse Valley Rd	-122.199	38.3018	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060952522013029			
1207	Wild Horse Valley Rd	-122.178	38.3686	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014031015			
1208	Wild Horse Valley Rd	-122.216	38.3546	0	40	0	0	0	100	0	Un-served	Un-served	Un-served	Un-served	060552014012000			
1225	Wild Horse Valley Rd	-122.236	38.3232	167	569	157	422	1312	793	1299	Un-served	Un-served	Un-served	Un-served	060552014023002			
1245	Wild Horse Valley Rd	-122.202	38.3642	0	148	0	0	0	61	0	Un-served	Un-served	Un-served	Un-served	060552014031015			
1249	Wild Horse Valley Rd	-122.203	38.3767	0	0	0	0	0	0	0	Un-served	Un-served	Un-served	Un-served	060552014012000			
1259	Wild Horse Valley Rd	-122.345	38.3053	9584	488	232	9139	16415	774	175	Served	Un-served	Un-served	Served	060552010051068			
1253	Browns Valley	-122.275	38.1958	7728	1691	8716	4672	7142	8749	12347	Served	Served	Served	Served	060552010031022			
1213	American Canyon	-122.235	38.1642	8328	5124	8647	9056	14512	9169	9568	Served	Served	Served	Served	060552010031039			
1224	American Canyon	-122.218	38.1628	11409	6974	9559	10244	16282	10118	12737	Served	Served	Served	Served	060552010051090			
1228	American Canyon	-122.268	38.1759	4172	737	8987	702	6067	794	8435	Un-served	Un-served	Un-served	Un-served	060552010031039			
1181	American Canyon	-122.212	38.1657	11352	3010	8222	10776	18206	3332	12750	Un-served	Un-served	Un-served	Un-served	060552011022008			
1187	American Canyon	-122.325	38.2303	935	146	1426	7543	1358	416	3387	Un-served	Un-served	Un-served	Un-served	060552011022008			
1254	American Canyon	-122.354	38.223	4705	159	351	4467	2377	82	3329	Un-served	Un-served	Un-served	Un-served	060552011022011			

Exhibit 3.1 - AT&T



AT&T Service (Mean -1 SD)

- Served
- Under-served
- Un-served
- Napa Priority Areas



Exhibit 3.2 - Sprint

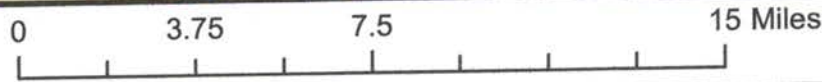
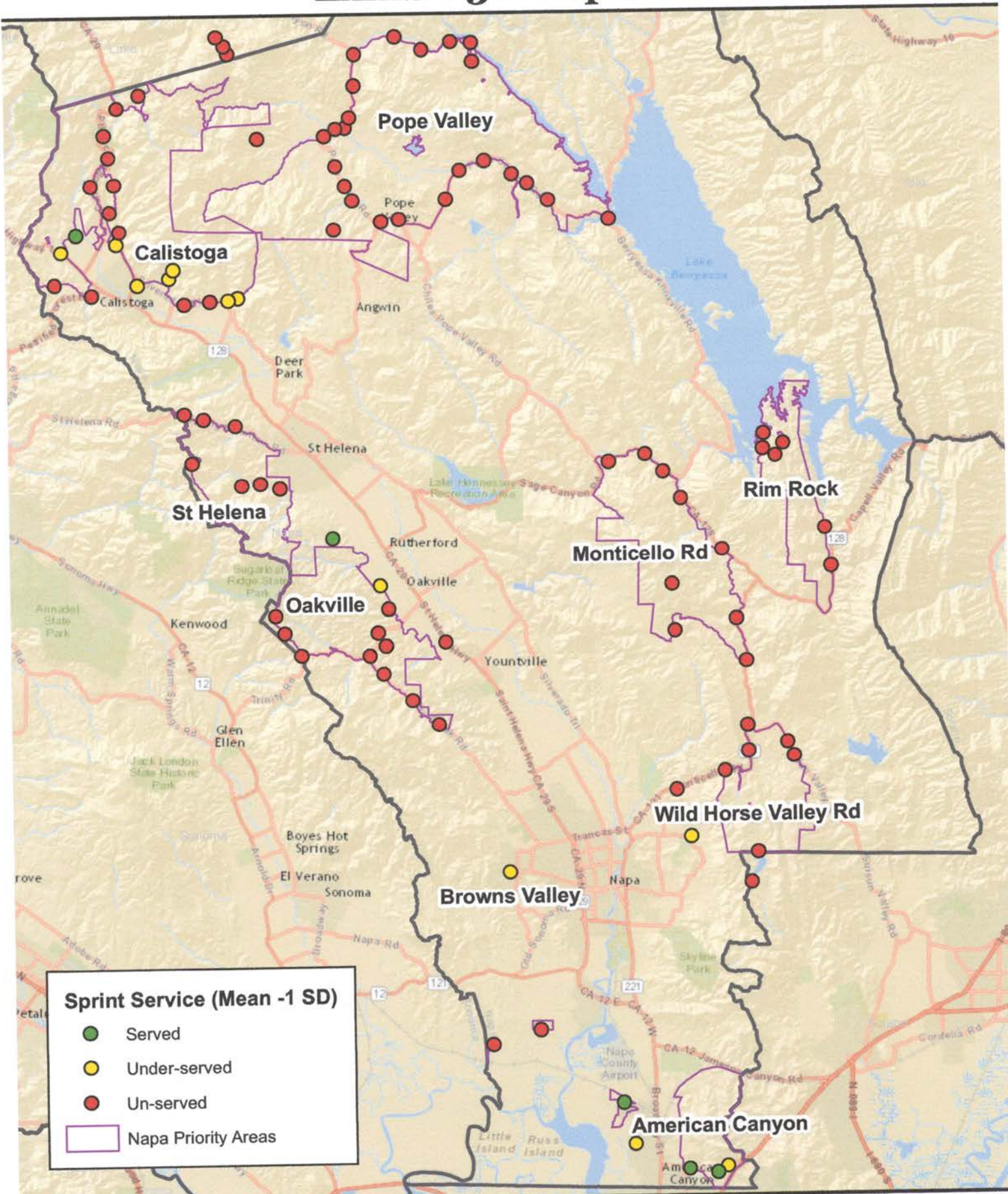


Exhibit 3.3 - T-Mobile

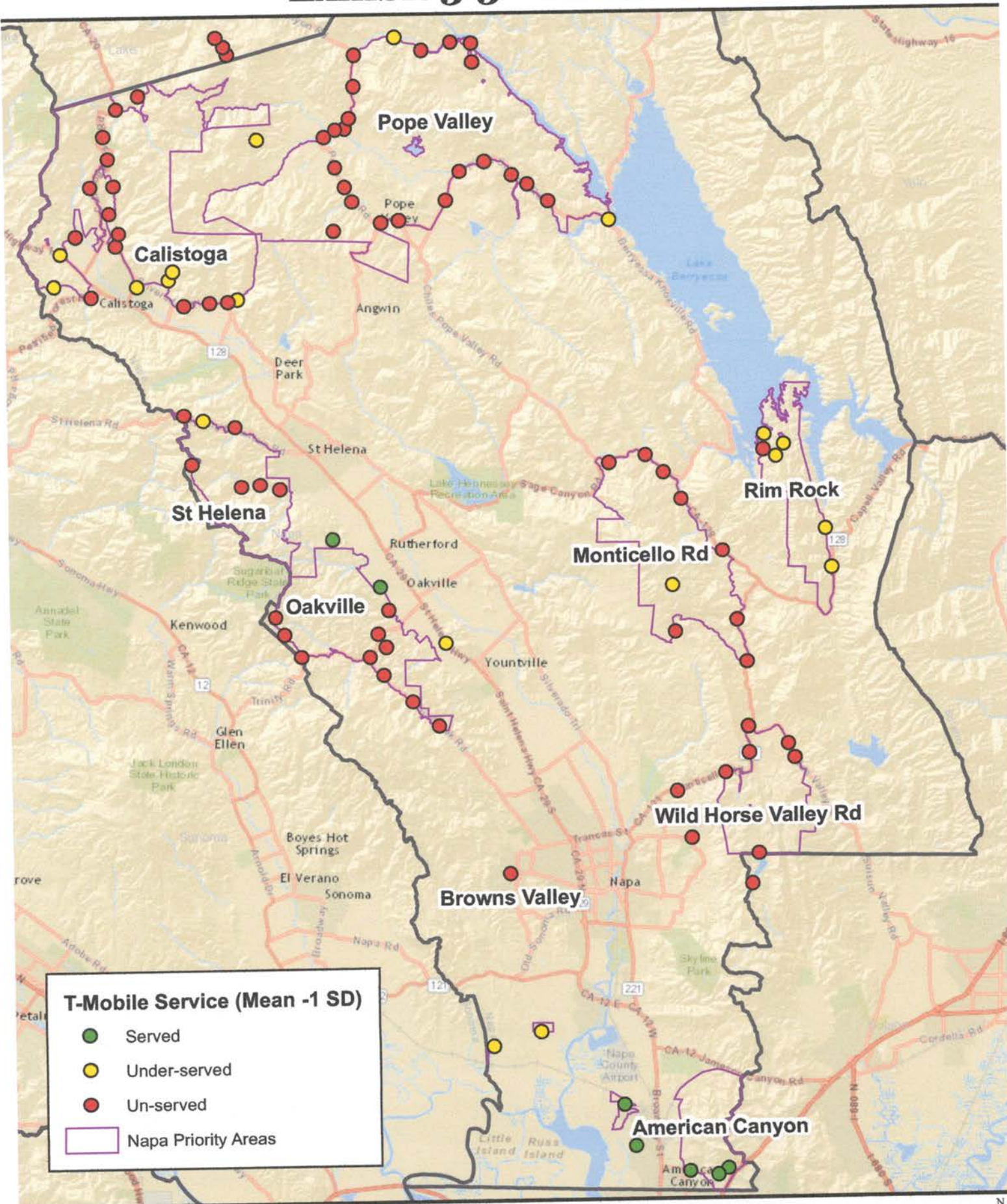
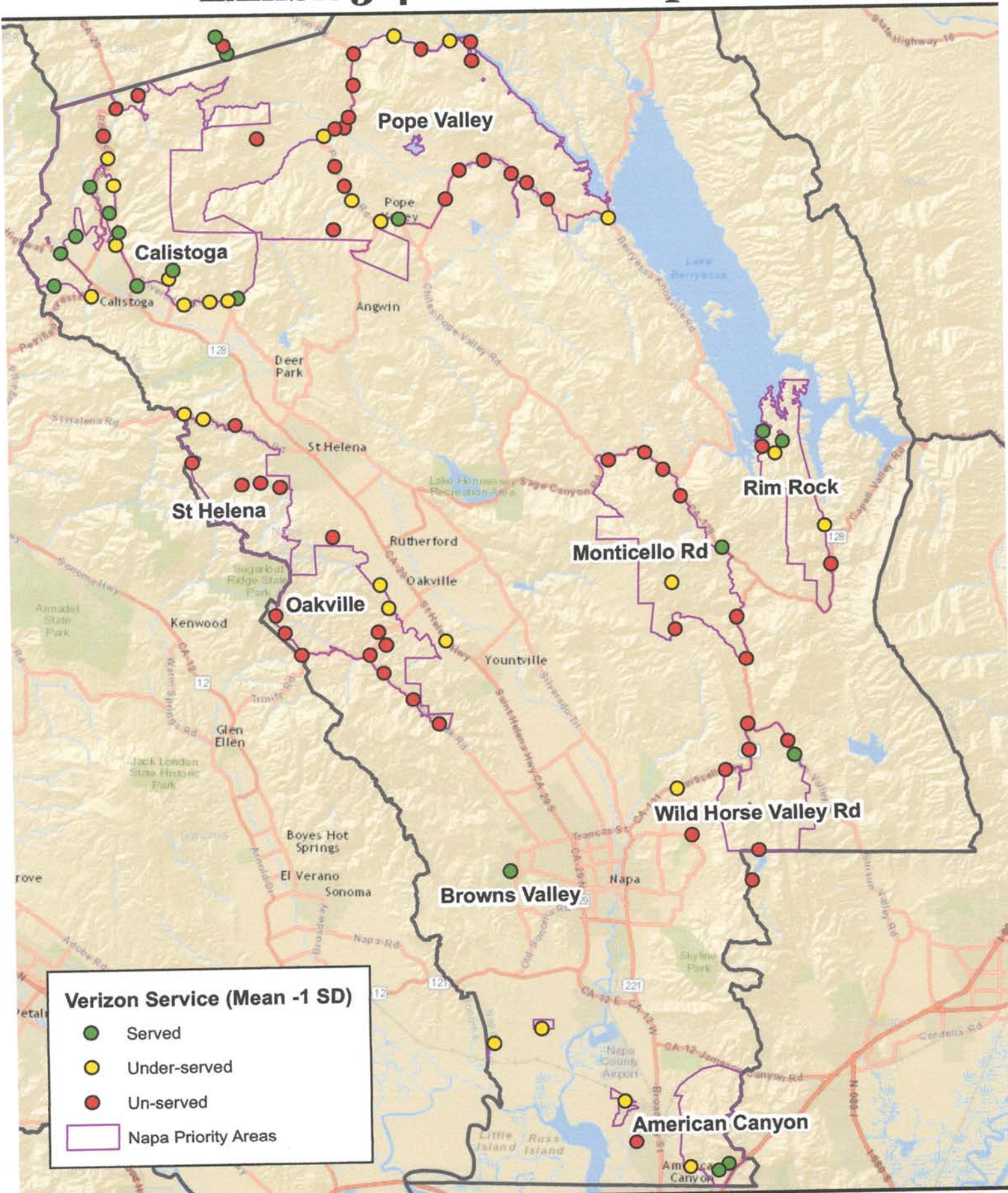


Exhibit 3.4 - Verizon - Updated



Verizon Service (Mean -1 SD)

- Served
- Under-served
- Un-served
- Napa Priority Areas