



CONNECT
Nevada[®]

Nevada Broadband

Updated Overview of Broadband
Infrastructure in Nevada

Second in a series of Working
Reports by Connect Nevada on
broadband-related issues in the state
of Nevada, produced in partnership
with the Nevada Broadband Task Force.

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Executive Summary

This updated assessment of the broadband market in Nevada is conducted by Connect Nevada in partnership with the Nevada Broadband Task Force, as part of the State Broadband Initiatives program (SBDD), funded by the National Telecommunications and Information Administration (NTIA). This update of broadband availability estimates in the state supplants similar broadband data that were presented as part of an initial working report released in October 2010. This series of working reports is intended to provide detailed reviews of the current state of broadband in Nevada that will enable discussion across multiple broadband stakeholders in the state on key policy and strategies to expand and enhance the broadband experience for all Nevadans.

This report analyzes broadband availability in Nevada, current as of April 2011.

Overview of the Broadband Market in Nevada

As noted in Connect Nevada's initial working report, Nevada's broadband marketplace is an extremely interesting case study in extremes. Geographically large, Nevada is a state that is very urban in two places and very rural everywhere else. Because more than four-fifths of Nevadans reside in the Las Vegas and Reno/Carson City areas, broadband inventory data shows high availability of broadband in the state, with pockets of households in the state's vast, rural areas without access to broadband or broadband at higher speed tiers.

It is estimated that as of April 2011, terrestrial, fixed broadband providers offer service to 98.92% of all Nevada households, an increase since April 2010 of approximately one percentage point.^{1,2} This implies that an estimated 8,084 Nevada households (1.08%) lack basic broadband service and remain unserved by terrestrial, fixed broadband. It is further estimated that approximately 97.94% of Nevada households have broadband available at download speeds of 3 Mbps or more. This implies that an estimated 7,358 Nevada households (or 0.98%) have basic broadband available but lack fixed broadband service of at least 3 Mbps downstream – a service level now often considered necessary for effectively conducting many Internet applications. The NTIA classifies broadband service at download speeds below 3 Mbps as “underserved.”

Furthermore, data collected by Connect Nevada since the spring of 2010 indicates a significant increase in the percentage of households that are able to access broadband at speeds of 25 Mbps or greater. In Connect Nevada's October 2010 working report, broadband of speeds at least 25 Mbps or greater was available to only 0.55% of households in the state, whereas estimates today indicate that more than 89% of households are able to access broadband at those speeds. Similarly, broadband availability across different platforms has increased, and this is evident particularly when examining individual county availability data.

The data necessary to compile these broadband inventory estimates were collected on a voluntary basis from broadband providers serving the state of Nevada. Appendix A of this report details which providers did, and did not, allow the use of their data in the creation of Nevada's broadband inventory map. Connect Nevada and the Nevada Broadband Task Force were successful in obtaining the participation of seven more providers in the Connect Nevada program between April 2010 and April 2011.

Statewide estimates do not necessarily reflect the reality faced by each Nevada community. Connect Nevada county-level availability estimates have revealed variances, in some cases large, in measured broadband inventory across counties, highlighting the importance of granular data in order to identify gaps in infrastructure and adoption at the community level. Current data estimates indicate that many of these gaps have narrowed considerably since the spring of 2010. County-level as well as more granular, street-level broadband inventory

1 Broadband is defined according to current NTIA definition of at least 768 Kbps download and 200 Kbps upload speeds.

2 Broadband data collected from 52 Nevada broadband providers. See Appendix A.

data is available through Connect Nevada's interactive, online broadband inventory map at <http://www.connectnv.org>.

Similarly, variance in broadband availability across rural and non-rural counties is measured at different speed tiers, and availability at the county level by different broadband platforms similarly varies greatly (for example, fixed wireless availability in rural counties varies from 0% in Lincoln County, to 100% of households served in the Consolidated Municipality of Carson City. Only three counties in Nevada have any access to a fiber-to-the-home broadband connection). What is important to understand when considering broadband availability in the state of Nevada is that close to 86% of the state's population resides in two counties: Clark (which includes the city of Las Vegas) and Washoe (which includes the city of Reno). The remaining 14% (or 106,000 households) reside in a state that is the seventh largest in the U.S. geographically, but where 86% of the land is owned by the United States government.³ In fact, while terrestrial, non-mobile broadband is available to 98.92% of Nevada, geographic availability is only 13.85% of the state's total landmass (by comparison, geographic broadband availability in the spring of 2010 measured only 6.05% of the state's total landmass).

3 U.S. Bureau of Land Management, 2007.

1 Introduction

This updated assessment of the broadband market in Nevada is conducted by Connect Nevada in partnership with the Nevada Broadband Task Force, as part of the State Broadband Initiatives program (SBDD), funded by the National Telecommunications and Information Administration (NTIA). The SBDD grant program was created by the Broadband Data Improvement Act (BDIA), unanimously passed by Congress in 2008 and funded by the American Recovery and Reinvestment Act (ARRA) in 2009.⁴

The original SBDD grant program included two key components as defined in the Notice of Funds Availability (NOFA) released by the National Telecommunications and Information Administration, U.S. Department of Commerce, in 2009: the Broadband Mapping and Planning programs.⁵

As part of the SBDD grant program, in May 2010, Connect Nevada produced an initial map of broadband availability to identify served and unserved areas across the state. Since the initial map's release, Connect Nevada has collected and released new data every six months, with updates in October 2010 and April 2011 (the next update is scheduled for October 2011).

This update of broadband availability estimates in the state supplants similar broadband data that were presented as part of an initial working report released in September 2010.

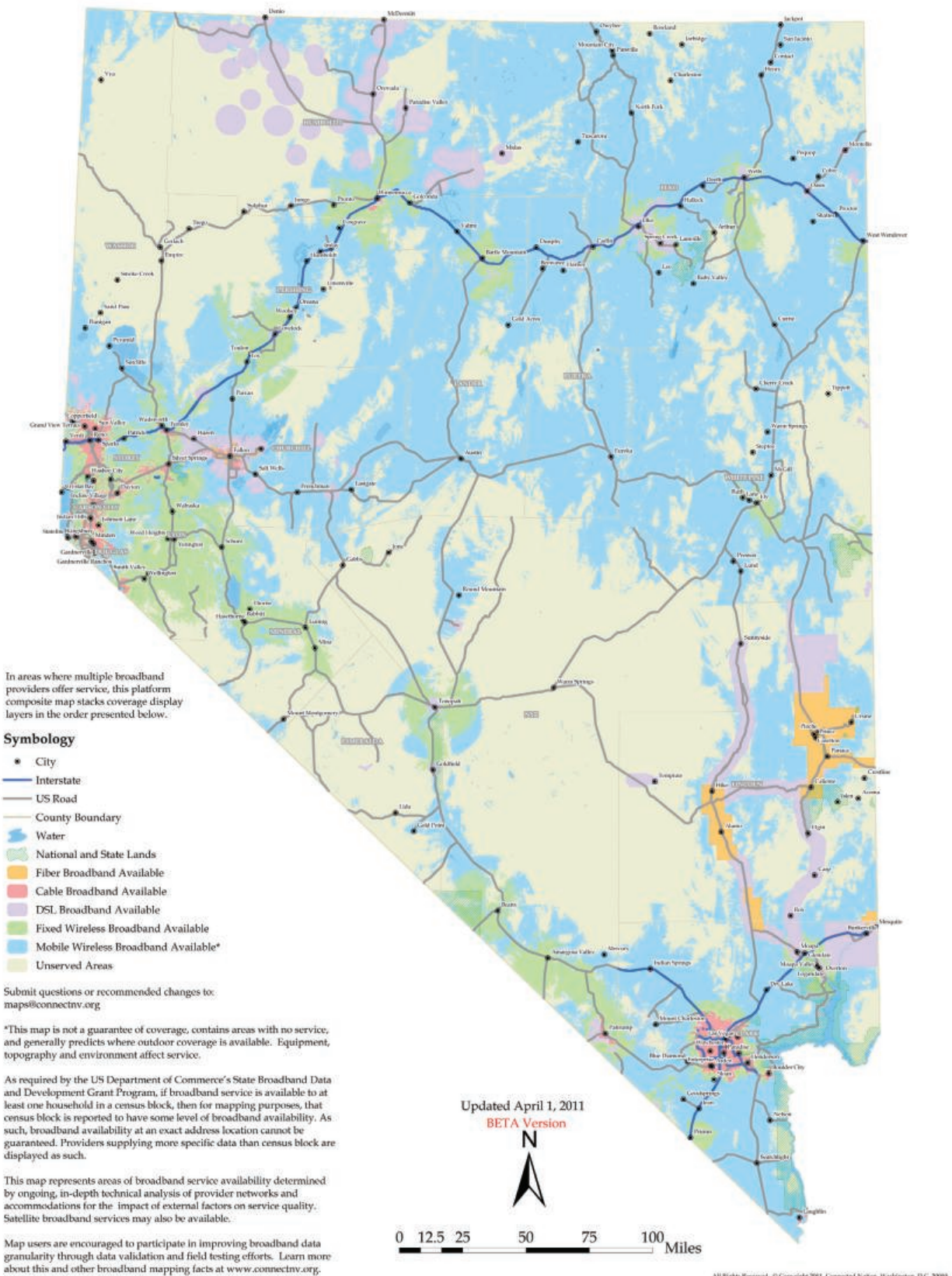
The purpose of the mapping program is to collect comprehensive data from all broadband providers to create an inventory of the broadband infrastructure across the state. A key goal of the mapping exercise is to identify communities and households that remain unserved or underserved by broadband service; information that is essential to estimate the "Broadband Availability Gap" and understand the scope and scale of providing universal broadband service to all citizens across the state. The Connect Nevada Broadband Inventory Map is the first comprehensive inventory of broadband infrastructure in the state.

The below map has been included for illustration purposes only. A high-quality version of this map is available at: ftp://ftp.connectnv.org/CNVPublic/Connect_Nevada_Mapping/Statewide_Maps/NV_Statewide_Broadband_Official.pdf.

⁴ *Broadband Data Improvement Act*, P.L. 110-385, ("BDIA").

⁵ *State Broadband Data and Development grant program Notice of Funding Availability*, NTIA, U.S. Department of Commerce, July 9, 2009. ("SBDD NOFA"). Available at http://www.ntia.doc.gov/frnotices/2009/FR_BBNofa_090709.pdf.

**Figure 1: Broadband Service Inventory for the State of Nevada
 Advertised Speeds of at Least 768 kbps Downstream and 200 kbps Upstream**



An interactive version is available at: http://www.connectnv.org/mapping/_interactive_map_interface/?q=map

In addition, the broadband availability data collected by Connect Nevada in their raw format has been sent on a semi-annual basis to the NTIA to be used in the National Broadband Map, and comprises the source of Nevada's broadband availability estimates reported by the NTIA and the FCC in the National Map. The National Broadband Map can be found here: www.broadbandmap.gov, and the Map's specific page for Nevada can be found here: <http://www.broadbandmap.gov/summarize/state/nevada>.

The Planning program complements and builds upon this Mapping program. To complement the broadband inventory and mapping data, Connect Nevada has undertaken survey research to understand broadband demand trends across the state.

Detailed, benchmarking assessments of technology use by both residential and business broadband consumers have been released previously by Connect Nevada. These assessments are designed to better understand the drivers and barriers to technology and broadband adoption and estimate the "Broadband Adoption Gap" across the state of Nevada. Key questions the data address are: Which citizens and businesses are using broadband technology across the state of Nevada? How and where are they using it across the state? How is this technology impacting Nevada households, businesses, and citizens? And, importantly, who is not adopting broadband service and why? What are the barriers that still prevent citizens and businesses from embracing this empowering technology?

Connect Nevada's initial residential technology assessment was analyzed and released as part of the program's October 2010 working report, and can be found here: http://www.connectnv.org/_documents/NV_RES2010Q1_FINAL.pdf.

Connect Nevada's business technology assessment was released during the spring of 2011 and can be found here: http://www.connectnv.org/_documents/NV_BizWhitePaper_FINAL.pdf.

Connect Nevada's series of working reports is intended to provide detailed reviews of the current state of broadband in Nevada that will enable discussion across multiple broadband stakeholders in the state on key policy and strategies to expand and enhance the broadband experience for all Nevadans.

This update is structured as follows: Section 2 provides a detailed analysis of the updated broadband availability gap across the state. Appendix A provides a list of participating broadband providers in Nevada's SBDD program, without which the creation of Nevada's broadband inventory maps would not have been possible.

2 Connect Nevada Broadband Inventory and Analysis – Spring 2011

2.1 Broadband Availability In Nevada – A State Bird's-Eye View

2.1.1 Fixed Broadband Inventory

This section provides a bird's-eye, statewide assessment of the availability of broadband speeds and platforms in Nevada. However, as discussed in more detail below, Nevada is a state of extremes, and statewide figures can often present a distorted view.

Table 1 reports updated summary statistics of the estimated fixed, terrestrial broadband availability inventory across the state of Nevada. The table presents the number and percentage of unserved and served households by fixed broadband by speed tiers. Speed tiers are based on the definitions provided by the NTIA's rules for the implementation of the SBDD grant program.⁶ Table 1 is based on data from all terrestrial, non-mobile platforms, including cable, DSL, fiber, and fixed wireless, but while the NTIA definition of unserved areas encompasses all broadband platforms, including mobile wireless networks, Table 1 focuses only on fixed, terrestrial broadband infrastructure and excludes mobile and satellite service territory.⁷ Table 2, in Section 2.1.2, presents served and unserved household data by all terrestrial broadband platforms, including mobile.

With the vast majority of the population residing in two relatively urban counties and many of the remaining counties being among the most sparsely populated in the United States, statewide averages do not present a complete picture. There remain, in fact, many areas and communities in Nevada that do not have access to robust broadband infrastructure today, a gap that can only widen as demands on bandwidth increase over time.

6 Speed tiers are based on the tiers defined by the NTIA in the SBDD NOFA, Technical Appendix.

7 "*Unserved area* means a proposed funded service area, composed of one or more contiguous Census Blocks, where at least 90 percent of households in the proposed funded service area lack access to facilities-based, terrestrial broadband service, either fixed or mobile, at the minimum broadband transmission speed (set forth in the definition of broadband above). A household has access to broadband service if the household can readily subscribe to that service upon request." SBDD NOFA Section III Page 32549.

**Table 1 –Estimate of Broadband Service Availability in the State of Nevada –
By Speed Tier Among Fixed Platforms**

SBDD Download Speed Tiers	Unserved Households	Served Households	Percent Households By Speed Tier
At Least 768 Kbps	8,084	743,081	98.92%
At Least 1.5 Mbps	8,846	742,319	98.82%
At Least 3 Mbps	15,442	735,723	97.94%
At Least 6 Mbps	19,826	731,339	97.36%
At Least 10 Mbps	60,412	690,753	91.96%
At Least 25 Mbps	81,379	669,786	89.17%
At Least 50 Mbps	140,108	611,057	81.35%
At Least 100 Mbps	751,165	0	0.00%
At Least 1 Gbps	751,165	0	0.00%

Source: Connect Nevada, April 2011.

The total number of households in Nevada in 2000 was 751,165 for a total population of 1,998,257.^{8,9} Table 1 indicates that the extent of broadband across Nevada has increased in the past 12 months, with 98.92% of households able to connect at download speeds of at least 768 Kbps.¹⁰ This implies that the number of households estimated by Connect Nevada to be unserved has dropped from approximately 16,000 households to approximately 8,000 households, or 1.08%.^{11,12} Further, approximately 735,000 households across Nevada have broadband available of at least 3 Mbps download speeds. The percentage of Nevada households having fixed broadband access available of at least 6 Mbps download speeds is estimated at 97.36%.

The number of households that are underserved (able to subscribe to broadband at speeds of at least 768 Kbps download but unable to subscribe to broadband at speeds of at least 3 Mbps download or greater) has also fallen, from 29,000 to 7,357 households.¹³ However, given the low density of population in unserved areas across Nevada, it is likely that providing support to connect unserved households across Nevada will continue to fall well within the established rules and programs of the Connect America Fund, currently being designed by the FCC. The average density of households per Census Block that remains unserved across Nevada is 0.35 (households per square mile of land territory), which represents a drop in household density for unserved Census

8 National Census, 2000, U.S. Census Bureau.

9 2010 Census data was not available in Census Block level format at the time of this report's writing. Connect Nevada anticipates that 2010 Census data will impact broadband availability percentages and intends to supplant the current 2000 Census data for 2010 Census data as soon as the latter become available.

10 Broadband is defined according to the current NTIA and FCC definition as 768 Kbps download and 200 Kbps upload speeds.

11 "Unserved area means a proposed funded service area, composed of one or more contiguous Census Blocks, where at least 90 percent of households in the proposed funded service area lack access to facilities-based, terrestrial broadband service, either fixed or mobile, at the minimum broadband transmission speed (set forth in the definition of broadband above). A household has access to broadband service if the household can readily subscribe to that service upon request." SBDD NOFA Section III Page 32549.

12 While the NTIA definition of "unserved" and "underserved" areas encompasses all broadband platforms, including mobile wireless networks, Table 3 focuses only on fixed, terrestrial broadband infrastructure. Table 8 includes data across all terrestrial platforms.

13 Connect Nevada collected data from providers in order to estimate the statewide broadband inventory using the NTIA speed tiers defined in the SBDD NOFA. There is no speed tier in this classification that corresponds directly to the floor target selected by the NBP, of 4 Mbps actual download speeds and 1 Mbps actual upload speed. The closest feasible comparison, therefore, is the NTIA defined tier of at least 3 Mbps to 6 Mbps download speeds.

Blocks since Connect Nevada's initial report, at which time average household density for unserved Census Blocks was 0.67.¹⁴

Taking into account both fixed and mobile broadband service platforms, an estimated 99.78% of Nevada households had broadband available from at least one provider at download speeds of 768 Kbps or higher. This implies that 0.22% of households remain unserved by a terrestrial broadband connection (including mobile).¹⁵ Statewide mobile broadband availability is discussed in greater detail in Section 2.1.4.

Data collected includes the majority of known broadband providers in the state; however, there remain a handful of broadband providers that were unable or unwilling to participate in this first round of data collection. As differences in broadband availability estimates between the spring of 2010 and the spring of 2011 show, additional participating broadband providers can have a large impact upon Nevada broadband mapping inventory updates. Further, the measured broadband inventory provides an estimate of the true extent of broadband coverage across the state. There is a degree of measurement error inherent in this exercise, which needs to be taken into consideration when analyzing the data. This measurement error will decrease as the maps become active tools for local, state, and federal stakeholders, who will be able to identify areas where the displayed coverage is underestimated or overestimated. Connect Nevada welcomes such feedback to be analyzed in collaboration with broadband providers to correct errors identified in the maps.¹⁶ The following sections summarize results from these mapping efforts focusing at the state and county levels.

2.1.2 Broadband Availability by Technology Platform

The spring 2011 Nevada Broadband Inventory Map is based on data from 43 terrestrial fixed broadband providers. Together these broadband providers offer service to an estimated 98.92% of the Nevada households. An examination of the broadband market by technology platform reveals trends that suggest that the Nevada broadband market offers some unique characteristics.

The Nevada broadband sector is characterized by a relatively low number of providers, serving a very large geographic area where the vast majority of residents live in just three cities and/or four counties. Table 2 below reports that there are a total of 6 mobile wireless broadband providers accounted for in the state of Nevada broadband map serving an estimate of 746,955 households, or 99.44%. There are a total of 7 cable providers reflected on the map, serving 90.43% of the state's households. Fixed wireless availability is relatively high, with a total of 20 fixed wireless providers supplying service to 96.22% of households across the state. There are 12 Digital Subscriber Line (DSL) broadband providers in Nevada who collectively provide service to 93.95% of Nevada households.

Four broadband providers offer fiber-to-the-home (FTTH) to just 6,090 (or 0.81%) households across the state. In fact, fiber coverage is limited to just three Nevada counties: Clark County (Las Vegas) with 2,785 households served by a fiber connection, Lincoln County (total households 1,540) that has 1,404 households (or 91.14%) served by a fiber connection, and Churchill County with 1,902 households capable of receiving FTTH broadband.

14 See Section 3 below for a full discussion of the density of population across served and unserved areas in the state of Nevada.

15 Note that this measure of broadband availability is based on households passed, not geography served. Further, consumers may experience lower availability of mobile broadband service since typically each consumer has access to only one mobile broadband provider. Hence, existence of mobile broadband service by one provider does not necessarily imply that all mobile subscribers have access at that location. Only subscribers to the mobile services available within that location will experience reception.

16 Questions regarding the maps and data collection can be directed to maps@connectnevada.org.

Table 2 - Availability Estimate by Broadband Platform in the State of Nevada

Platform Type	Served Households	Percent of Households Served	Number of Providers - By Platform
Cable	679,306	90.43%	7
DSL	705,726	93.95%	12
Fiber	6,090	0.81%	4
Fixed Wireless	722,776	96.22%	20
Mobile	746,955	99.44%	6
Total -All Platform Except Mobile	743,081	98.92%	43
Total – All Platforms	749,488	99.78%	49

Source: Connect Nevada, April 2011.

2.1.3 Household Density Across Unserved, Underserved, and Served Areas

Given the direct correlation between density of population and the cost of providing broadband infrastructure outlined in Connect Nevada’s initial planning report, this factor should play a significant role in explaining infrastructure investment across Nevada. The average density or number of households, per square mile, across Nevada is 6.8, varying greatly by county (see county-level analysis in Section 2.2).¹⁷ Table 3 presents average household density by Census Block in areas that the broadband inventory measures as unserved, underserved, and served, based on NTIA definitions.

Consistent with expectations, the data show correlation between density of households and infrastructure build-out across Nevada. The average density of households per Census Blocks measured as unserved is a mere 1.03, when accounting for all Census Blocks, and only 0.35 when considering only Census Blocks with population, a change from data collected in the spring of 2010, when average household density in unserved Census Blocks with households was 0.67. When considering only areas that have service offered with download speeds of 3 Mbps or more, average population density is estimated at the much higher 159.17. Broadly, average household density in Nevada’s served areas has dropped since the spring of 2010 while broadband availability has increased, and this is not surprising. Broadband has been deployed across previously unserved areas that had low population density and this has in turn decreased the average. The unserved areas that remain in the state together have a lower household density than previous averages. In short, as expected broadband network investment has focused on areas of higher population density and the areas that remain unserved have very low density of population. It is important to note, as discussed in Section 2.2 below, that an analysis of data at the county level reveals that this correlation does not hold across all counties.

¹⁷ U.S. Census, 2000, U.S. Census Bureau. Household density is defined as number of households per square mile of land area.

Table 3 - Average Number of Households Per Square Mile Across Census Blocks with Fixed, Terrestrial Broadband Available

By Download Speeds	All Census Blocks	Census Blocks with Households
Below 768 Kbps - "Unserved"	1.03	0.35
Between 768-3000 Kbps - "Underserved"	1.42	3.62
At Least 768 Kbps	48.68	111.72
At Least 3 Mbps	72.75	159.17

Note: Data does not include mobile or satellite broadband.

Source: Connect Nevada, April 2011.

Table 4 reports broadband availability in Nevada across areas defined as “rural” by the NTIA SBDD definition standards.¹⁸ According to this definition approximately 97,170 households across Nevada are classified as rural (or 12.93% of total households). Of these, approximately 89,736 households are served by at least one terrestrial, non-mobile broadband provider with at least 768 Kbps download and 200 Kbps upload speeds, or 92.35% of all rural households. The number of rural households remaining unserved is estimated to be 7,434. The total number of households – rural and non-rural – estimated to be unserved by non-mobile broadband across Nevada is 8,084. Therefore, the overwhelming majority of unserved households that remain in Nevada are in rural areas.

Table 4 - Rural Availability Estimate of Broadband Service of at Least 768 Kbps Download/200 Kbps Upload

Platform Type	Total Rural Households	Unserved Rural Households	Percent of Rural Households Served
Fixed Broadband (Excluding Mobile)	97,170	7,434	92.35%
All Terrestrial Platforms (Including Mobile)	97,170	1,635	98.32%

Source: Connect Nevada, April 2011.

18 “Rural Area. Any area, as confirmed by the latest decennial census of the Bureau of the Census, which is not located within: (i) a city, town, or incorporated area that has a population of greater than 20,000 inhabitants; or (ii) an urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants. For purposes of the definition of rural area, an urbanized area means a densely populated territory as defined in the latest decennial census of the U.S. Census Bureau.”
SBDD NOFA Section III Page 32549.
This analysis includes only used Census Blocks that following this definition are completely rural, and not any Census Blocks that fell within both rural and non-rural.

2.1.4 All Terrestrial Broadband Inventory – Including Mobile Wireless Networks

Table 5 represents data of availability of broadband across Nevada including all types of terrestrial platforms, including mobile broadband. In April 2011, there were a total of 6 facilities-based mobile broadband providers in Nevada providing data, collectively serving an estimated 99.44% of all households.^{19,20}

Taking into account both fixed and mobile broadband service available, an estimated 99.78% of Nevada households had broadband available from at least one provider at download speeds of 768 Kbps or higher. This implies that 0.22% of households remain unserved by a terrestrial broadband connection (including mobile).

Table 5 - Estimate of Broadband Service Availability in the State of Nevada - By Speed Tier - All Terrestrial Platforms (Including Mobile)

SBDD Download Speed Tiers	Unserved Households	Served Household	Percent Households by Tier
At Least 768 Kbps	1,677	749,488	99.78%
At Least 1.5 Mbps	2,085	749,080	99.72%
At Least 3 Mbps	3,993	747,172	99.47%
At Least 6 Mbps	19,676	731,489	97.38%

Source: Connect Nevada, April 2011.

2.2 Broadband in Nevada Counties

Section 2.2 analyzes estimated broadband inventory across all Nevada counties. The data reveals that the large variances in measured broadband inventory across counties measured in 2010 have narrowed somewhat, although the large differences between county population and household density remain, highlighting the importance of granular data in order to identify gaps in infrastructure and adoption at the community level. Such information is essential to develop pragmatic policy solutions tailored to the challenges facing each community.

2.2.1 Terrestrial, Fixed Broadband Availability by County

Figures 2 and 3 below present estimated number and percentage of households served by terrestrial, non-mobile broadband at speeds of 768 Kbps download/200 Kbps upload and above, as well as 3 Mbps download speeds or more, and including household density by county and an indication of whether the county is urban or rural.²¹ These data are also presented under Table 6.

¹⁹ Connect Nevada, Spring 2011.

²⁰ Note that this measure of broadband availability is based on households passed, not geography served. Further, consumers may experience lower availability of mobile broadband service since typically each consumer has access to only one mobile broadband provider. Hence, existence of mobile broadband service by one provider does not necessary imply that all mobile subscribers have access at that location. Only subscribers to the mobile services available within that location will experience reception.

²¹ Based on NTIA definitions, broadband is defined as 768 Kbps download and 200 Kbps upload speeds or more. Areas with service below these speeds are deemed "unserved." Areas where broadband is available at speeds between 768 Kbps download and 200 Kbps upload and 3Mbps are defined as "underserved." Areas where broadband is available at 3 Mbps or above are defined as "served." SBDD NOFA. Technical Appendix Page 32557.

Figure 2: Broadband Availability in the State of Nevada
 Percentage of Households Served by Terrestrial, Non-Mobile Broadband Service

At Least 768 Kbps Download/200 Kbps Upload Speeds
 Rural and Non-Rural Counties

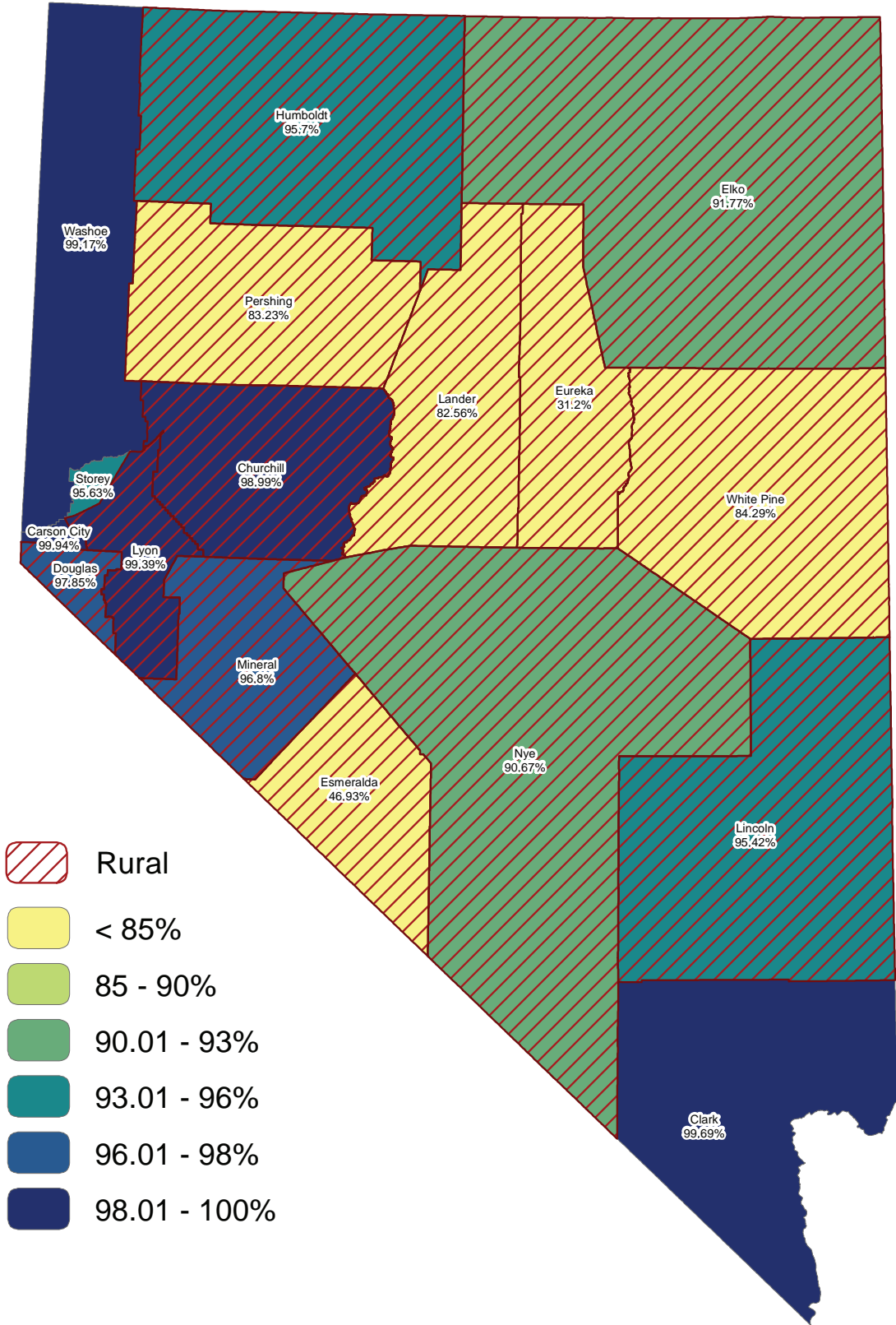


Figure 3: Broadband Availability in the State of Nevada
 Percentage of Households Served by Terrestrial, Non-Mobile Broadband Service

At Least 3 Mbps Download Speeds
 Rural and Non-Rural Counties

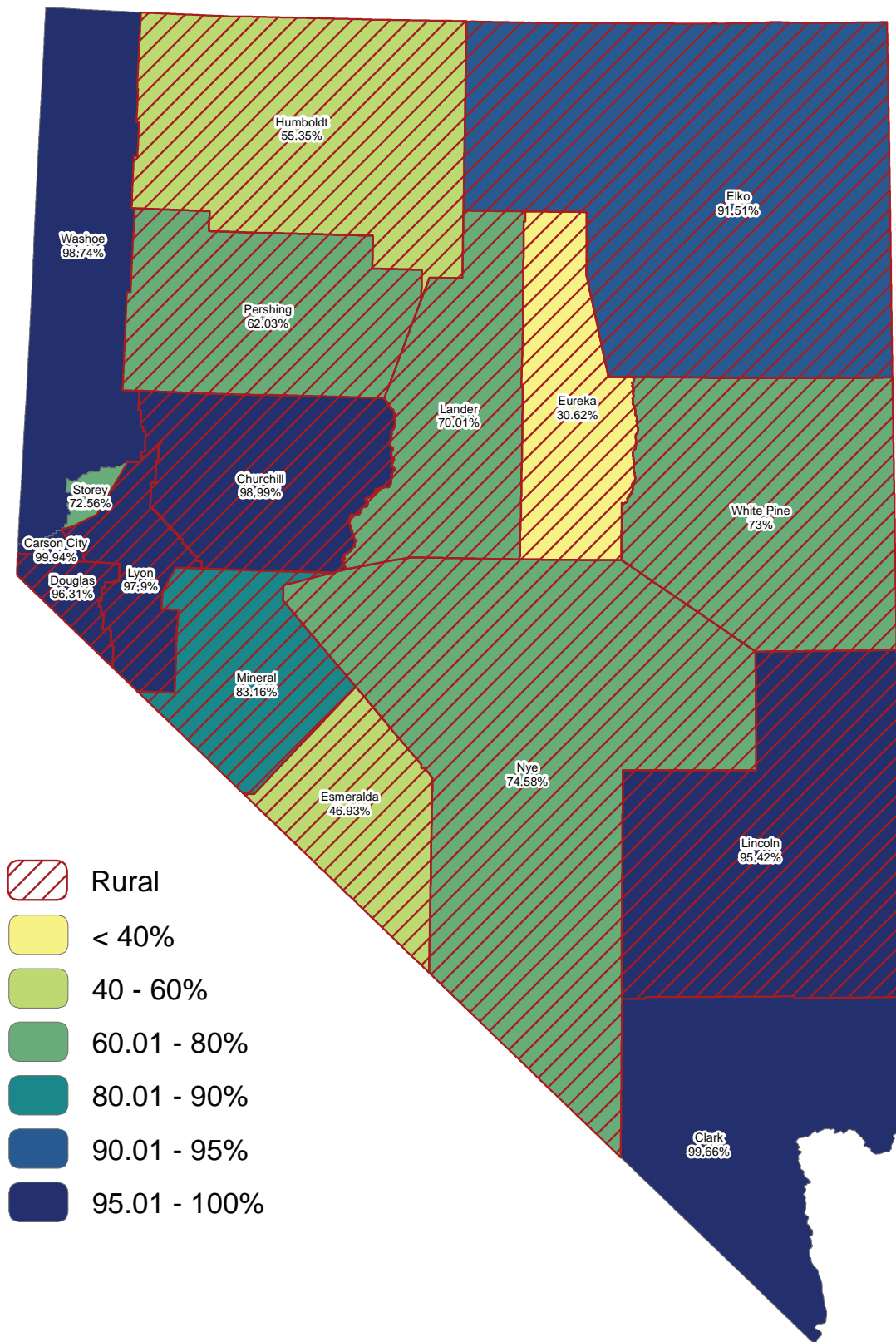


Table 6 reports greater variation of infrastructure build-out at different speed tiers across counties than at the statewide level. The data collected during the spring of 2011 reports much higher broadband availability in several counties than what was reported in the spring of 2010, however, reflecting the addition of new or updated broadband provider data, and/or broadband infrastructure investments, additions, and upgrades.

Table 6 - Estimated Availability of Broadband Service by County Terrestrial Broadband (Excluding Mobile)								
			≥ 768 Kbps Download/200 Kbps Upload Speeds	≥ 3 Mbps Download Speeds	≥ 6 Mbps Download Speeds	≥ 10 Mbps Download Speeds	≥ 25 Mbps Download Speeds	≥ 50 Mbps Download Speeds
County	Household Density	Number of Households	Percentage Households Served					
Churchill County	2.0	8,912	98.99%	98.99%	98.96%	79.92%	79.85	0.00%
Clark County	70.8	512,253	99.69%	99.66%	99.61%	98.16%	95.49%	94.86%
Douglas County	26.8	16,401	97.85%	96.31%	96.15%	96.15%	92.56%	0.00%
Elko County	1.1	15,638	91.77%	91.51%	85.62%	0.00%	0.00%	0.00%
Esmeralda County	0.2	455	46.93%	46.93%	0.00%	0.00%	0.00%	0.00%
Eureka County	0.2	666	31.20%	30.62%	30.5%	0.00%	0.00%	0.00%
Humboldt County	0.5	5,733	95.70%	55.35%	55.35%	0.00%	0.00%	0.00%
Lander County	0.5	2,093	82.56%	70.01%	70.01%	0.00%	0.00%	0.00%
Lincoln County	0.2	1,540	95.42%	95.42%	94.54%	92.4%	0.00%	0.00%
Lyon County	7.2	13,007	99.39%	97.9%	97.25%	97.18%	65.94%	0.00%
Mineral County	0.8	2,197	96.80%	83.16%	70.05%	0.00%	0.00%	0.00%
Nye County	0.9	13,309	90.67%	74.58%	58.0%	0.03%	0.00%	0.00%
Pershing County	0.4	1,962	83.23%	62.03%	57.71%	0.00%	0.00%	0.00%
Storey County	6.1	1,462	95.63%	72.56%	70.79%	66.69%	15.88%	0.02%
Washoe County	22.7	132,085	99.17%	98.74%	98.58%	98.34%	98.06%	94.72%
White Pine County	0.5	3,282	84.29%	84.29%	73.0%	73.0%	0.00%	0.00%
Carson City	148.5	20,171	99.94%	99.94%	99.83%	99.6%	99.17%	0.00%

Source: Household Numbers and Density - Census Bureau, 2000. Broadband Availability Rates - Connect Nevada, April 2011.

Detailed information on the estimated inventory of broadband in each county can be found on the Connect Nevada website at http://www.connectnv.org/mapping/county_maps/.

For more granular information regarding the estimated broadband inventory see the Nevada online broadband inventory map at http://www.connectnv.org/mapping/interactive_map.php.

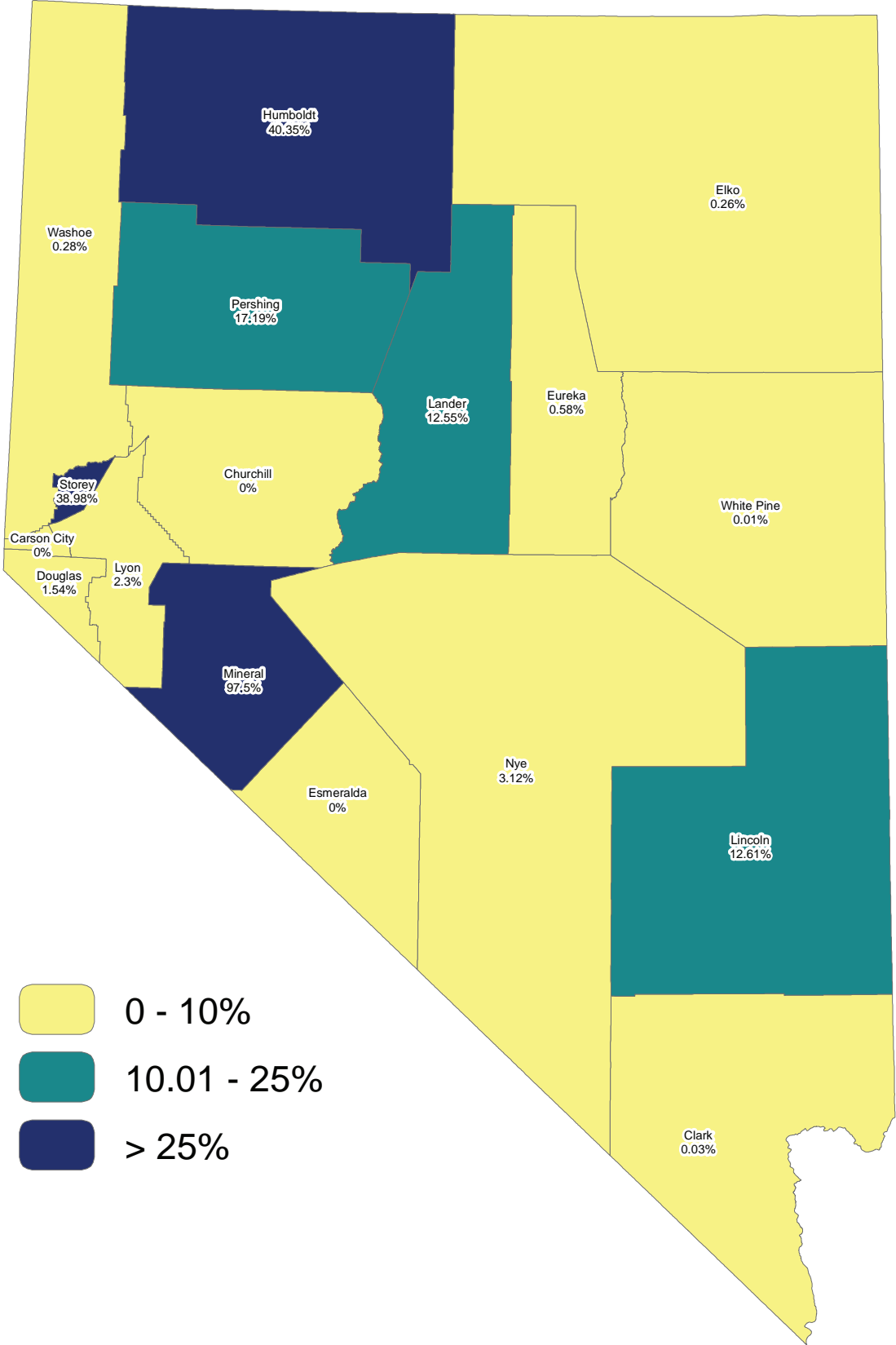
2.2.2 Nevada's Underserved Households Across Counties

Nevada does not have a high percentage of underserved households, 7,358 households (or 0.98%) are able to subscribe to broadband via fixed, terrestrial provider at speeds of at least 768 Kbps download/200 Kbps upload but are not able to subscribe to broadband at speeds of at least 3 Mbps download.²² Figure 4 below illustrates by percentage the underserved households in each county in Nevada.

22 "Underserved area means a proposed funded service area, composed of one or more contiguous Census Blocks meeting certain criteria that measure the availability of broadband service and the level of advertised broadband speeds. [...] Specifically, a proposed funded service area may qualify as underserved for last mile projects if at least one of the following factors is met, though the presumption will be that more than one factor is present: 1. No more than 50 percent of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed (set forth in the definition of broadband above); 2. No fixed or mobile broadband service provider advertises broadband transmission speeds of at least three megabits per second ("mbps") downstream in the proposed funded service area; or 3. The rate of broadband subscribership for the proposed funded service area is 40 percent of households or less." SBDD NOFA.

Figure 4: Broadband Availability in the State of Nevada
Percentage of Households Served at Download Speeds Between 768 Kbps and 3 Mbps

Percent of "Underserved" Households



2.2.3 Broadband Availability by Platform, by County

Table 9 reports measured percentage of households served by the type of platform by each county, including cable, DSL, fiber, fixed wireless, and mobile wireless technologies.

Table 9 - County-Level Estimated Availability by Broadband Technology
Percentage of Households Served by Broadband, by Technology Platform
(≥ 768 Download/200 Upload Kbps Speeds)

County	Cable	DSL	Fiber	Fixed Wireless	Mobile Wireless	All Platforms Except Mobile
Churchill County	79.85%	98.91%	21.35%	84.99%	99.91%	99.95%
Clark County	96.1%	97.34%	0.54%	98.82%	99.97%	99.98%
Douglas County	96.76%	66.3%	0.0%	74.57%	94.85%	94.14%
Elko County	0.0%	90.18%	0.0%	86.44%	99.17%	99.25%
Esmeralda County	0.0%	43.99%	0.0%	46.54%	10.3%	47.29%
Eureka County	0.0%	31.19%	0.0%	0.02%	98.88%	98.93%
Humboldt County	63.69%	64.4%	0.0%	86.62%	96.98%	98.71%
Lander County	0.0%	70.01%	0.0%	81.8%	95.44%	95.45%
Lincoln County	0.0%	95.42%	91.14%	0.0%	93.85%	98.0%
Lyon County	65.94%	56.63%	0.0%	99.32%	95.19%	99.67%
Mineral County	0.0%	70.05%	0.0%	93.37%	85.63%	98.95%
Nye County	15.63%	66.28%	0.0%	88.84%	93.96%	97.09%
Pershing County	0.0%	57.71%	0.0%	83.23%	96.48%	96.51%
Storey County	15.88%	50.34%	0.0%	73.08%	96.96%	99.96%
Washoe County	98.06%	94.66%	0.0%	94.19%	99.73%	99.77%
White Pine County	0.0%	71.33%	0.0%	70.12%	95.81%	98.3%
Carson City	99.17%	95.64%	0.0%	99.94%	100%	100%
State Total	90.43%	93.95%	0.81%	96.22%	99.44%	99.78%

Source: Connect Nevada, April 2011

3 Conclusion

The data presented in this update report reflect the differences one year can make in broadband deployment. Data collected and reflected in this report indicates much higher broadband availability in many counties of Nevada than the data of the spring of 2010. Part of the change represents the addition of datasets by broadband providers in the state that were unable to participate in the spring of 2010.

At least some of this data, however, requires the assumption that Nevada's broadband landscape has seen network investments that have closed the broadband availability gap for close to half of Nevada's previously unserved households.

Furthermore, the differences between the data of the spring of 2010 and the spring of 2011 underscore the need for broadband mapping and data collection that is conducted on a continual basis to ensure that outdated data is not inadvertently used to arrive at false broadband policy conclusions.

They also underscore the need for a robust data validation process involving multiple methodologies to confirm on the ground the estimates these data provide. To date, in addition to confirmation of service areas by each participating provider, Connect Nevada has conducted field validation efforts for 27 (or 51.92% of) participating providers.

Appendix A provides a list of participating and non-participating providers in the Connect Nevada data collection process.

This report will be updated on a regular basis.

Appendix A:

List of Participating and Non-Participating Providers in Connect Nevada's Broadband Inventory

Connect Nevada's initial data submission as part of the State Broadband Initiatives program represents participation by approximately 94.55% of the Nevada broadband provider community, or 52 of 55 total providers. Three broadband providers in the state have refused to participate or to date remain unresponsive to Connect Nevada outreach. A complete roster depicting participation status is contained below.

Of the 52 broadband companies contributing data for the spring of 2011, 22 supplied an update to their network or coverage areas, while 29 reported no change. One provider previously supplied data but was non-responsive in the spring of 2011 effort and its previous dataset was used.

It is the collective opinion of the Connect Nevada principals that all commercially-reasonable efforts were made to account for 100% of the known Nevada broadband provider community.

At the program's inception, Connect Nevada launched a website to create awareness about the initiative. During the provider outreach process, the website prominently featured an informational page specifically for Nevada broadband providers. While one-to-one contact was made with each and every identified provider, the portal page was created to ensure that no provider was overlooked. The website offered clear instructions about the data transfer process and a means to contact a Connect Nevada representative.

The Connect Nevada provider outreach campaign has been, and remains, a comprehensive effort that involves multiple provider contacts from Connected Nation. In addition, the Nevada Broadband Task Force, consisting of a group of principal Nevada providers and industry association representatives, has conducted several meetings and continuous e-mail outreach to keep providers abreast of the status of the overall effort.

Later efforts have included phone-based outreach as well as face-to-face solicitations on-site in Nevada. Along with the high-touch, individual provider outreach, Connect Nevada has undertaken multiple public forum solicitations over the course of this first phase of the project.

Providers Participating in the Connect Nevada Broadband Inventory:

Arizona Nevada Tower Corporation
AT&T Nevada
Baja Broadband LLC
Beehive Telephone Co., Inc. NV
CalNeva Broadband, LLC
CC Communications
Cellco Partnership
CenturyLink
Charter Communications
Cheetah Wireless Technologies, Inc.
Citizens Telecommunications Company of Nevada
Clearwire
Cogent Communications, Inc.
Cox Communications Las Vegas, Inc.
ETAN Industries
DIECA Communications, Inc.
DISH Network Corporation
Filer Mutual Telephone Company
Great Basin Internet Services, Inc.
High Desert Internet Services
High Speed Networks-Mound House, LLC
Highlands Wireless, Inc.
Hot Spot Broadband, Inc.
Hughes Network Systems, LLC
InfoWest, Inc.
KeyOn Communications, Inc.
LasVegas.Net LLC
Leap Wireless International, Inc.
Level 3 Communications, LLC
Lincoln County Telephone System, Inc.
Moapa Valley Telephone Company
Mt. Wheeler Power, Inc.
Nevada System of Higher Education
Oasis Online, Inc.
Oregon-Idaho Telephone Company
Performance Computing Internet
Qwest Communications Company, LLC
Rio Virgin Telephone Co.
Rural Telephone Company
Satview Broadband LTD
Schatnet Internet LLC
Sprint Nextel Corporation
360networks
T-Mobile USA, Inc.
tw telecom of nevada, llc
United Cable Management, Inc.
Vegas Wifi Communications LLC
Wells Rural Electric Company

WildBlue Communications, Inc.
XO Communications, LLC
Yonder Media
Zayo Bandwidth, LLC

Providers Refusing or Unable to Participate in the Connect Nevada Broadband Inventory:

ACI, Inc.
Air-Internet.com, Inc.
Avant Wireless

Source: Connect Nevada, April 2011.