

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## Communications Division

Third Annual Report to the Governor and the Legislature

October

# 2010

## DIVCA Report



The Digital Infrastructure and Video Competition Act of 2006

“To promote competition, the state should establish a state-issued franchise authorization process that allows market participants to use their networks and systems to provide video, voice, and broadband services to all residents of the state...” DIVCA 5810



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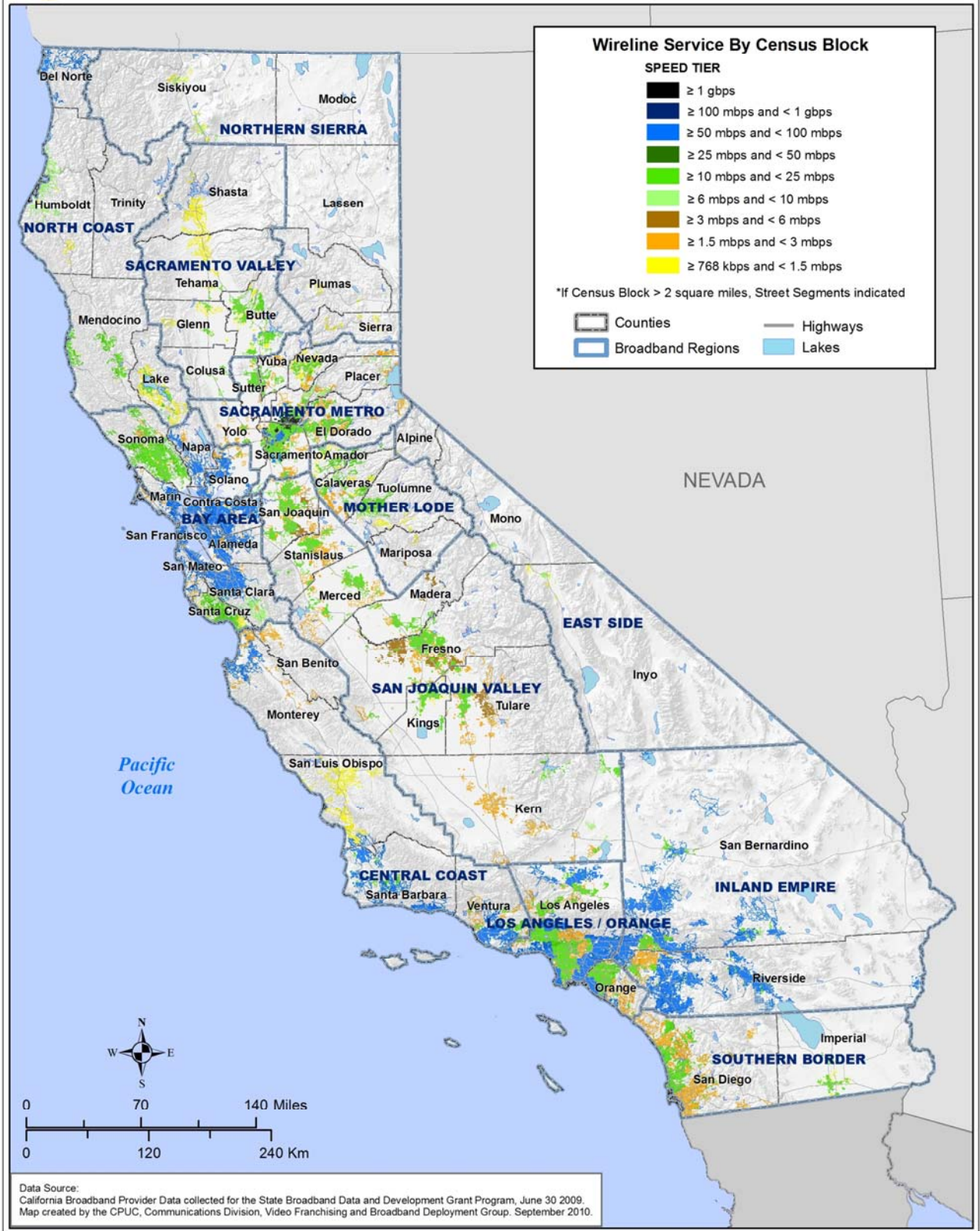
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# BROADBAND AVAILABILITY FROM CALIFORNIA STATE VIDEO FRANCHISEES

## Maximum Advertised Download Speed Tier by Census Block or Street Segment\*



# Executive Summary

This year's DIVCA report contains good news in all areas. All the metrics available to us show increasing investment in video and broadband infrastructure. They also show that more households have more choices offered by more competing video and broadband service providers.

## Video Deployment and Choice Continues to Grow

The number of households offered video by all state-issued video franchise holders and their local affiliates increased 13% to 18.5 million during 2009.<sup>1</sup> AT&T and Verizon combined, more than quadrupled the number of households to which they offer video between 2007 and 2009 and now cover almost 5 million households. Accordingly, both AT&T and Verizon have exceeded their statutory build out obligations, as defined in DIVCA.

Video penetration of households served by state-issued video franchisees and their local affiliates is 49.9% (6,394,538 households).

As a result of this new video competition, over one million more households (8.6% of the state) gained a choice of a second state franchised video provider in 2009. Over 63% of California households (8.1 million) are now located in census tracts in which two or more state video franchise holders offer video services.

## Broadband Availability, Penetration and Speed are all Increasing

The number of broadband subscribers (both business and residential) has almost tripled to 9.5 million over the six years since 2003, in California. Between 2007 and 2009, the number of residential broadband subscribers served by state-issued video franchisees and their local affiliates increased by 23.8% to 8.5 million households in California, resulting in a wireline broadband penetration rate of 66%, up from 55% in 2007.

The map on the opposite page illustrates broadband availability provided by state-issued video franchisees and their local affiliates in the state of California.

Compared with last year, 1.2 million more households (9.4% of the total households in the state) subscribe to wireline broadband with bandwidth that is advertised as having maximum download speeds of 10 – 25 mbps. This is a 240% increase over last year. Correspondingly, 1.4 million **fewer** households have broadband advertised at speeds in the 768 kbps – 1.5 mbps and 3 – 6 mbps speed tiers.

Forty five percent of the residential broadband connections (3.8 million) provided by state-issued video franchise holders and their local affiliates have maximum advertised bandwidth speeds of greater than 6 mbps.

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<sup>1</sup> Due to multiple franchisees offering video to the same households, more households are offered video than the total number of households in the state (12,790,143). For details, see Appendix D, Section B titled: "Census Tract Data Limitations" on page 61.

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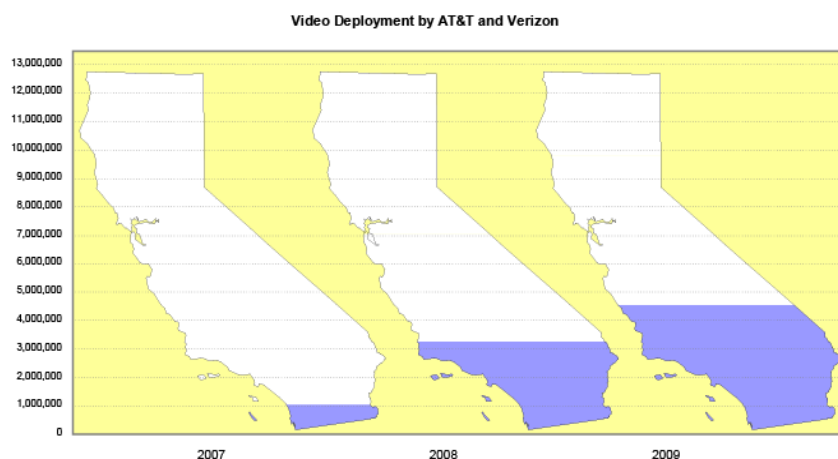
# I. Video Findings

Section I summarizes data describing video services that are provided by state-issued video franchise holders and their local affiliates, in response to the statutory requirements of DIVCA. These data were aggregated and show the success of DIVCA in enabling telephone companies to rapidly deploy infrastructure and offer video services to households throughout California.

## A. Video Deployment Continues to Grow

- The number of households **offered video** by all state-issued video franchise holders and their local affiliates increased 13% to 18.5 million during 2009, from 16.4 million households in 2008.<sup>2</sup>
- AT&T and Verizon, combined, more than quadrupled the number of households to which they offer video between 2007 and 2009, as shown in the chart below.
- During 2009, AT&T and Verizon, combined, increased the number of households to which they **offer video** by 39.4% to almost 5 million households.
- Both AT&T and Verizon have exceeded their build out obligations, as defined in DIVCA.
- Both AT&T and Verizon have satisfied their obligation in DIVCA to provide free video services to community centers based on the number of subscribers that purchase video services from them.

### Number of Households Offered Video Service by AT&T & Verizon



<sup>2</sup> Due to multiple franchisees offering video to the same households, more households are offered video than the total number of households in the state (12,790,143). For details, see Appendix D, Section B titled: "Census Tract Data Limitations" on page 61.



## B. Video Deployment Drives Faster Broadband Speeds

Because video requires significantly more bandwidth than telephony, DIVCA was a catalyst for increased investment in both video and faster broadband infrastructure. This investment has enabled AT&T and Verizon to significantly increase the amount of bandwidth that they offer to their broadband customers.

DIVCA contains build out obligations affecting Verizon and AT&T.<sup>3</sup> **Verizon** exceeded its **two year** build out obligation / milestone by offering video services to more than **25%** of the households in its telephone service area.<sup>4</sup> By 2012 (five years after it began providing video service), Verizon is obligated to offer video service to at least 40% of the customer households in its telephone service area.

**AT&T** exceeded its **three year** build out obligation / milestone by offering video services to more than **35%** of the households in its telephone service area.<sup>5</sup> By 2012 (five years after it began providing video service), AT&T is obligated to offer video service to at least 50% of the customer households in its telephone service area.

Recently, however, when reporting to Wall Street, both Verizon and AT&T indicated that they plan to significantly reduce additional nationwide investment in Video infrastructure during 2010. Verizon reported that it reduced nationwide wireline capital spending in the first six months of 2010 by nearly \$1 billion from 2009, to \$3.35 billion. Verizon also stated that nationally, they plan to reduce their FiOS<sup>6</sup> video investment by 75%.<sup>7</sup> AT&T does not break out their video investment separately, as Verizon does. However, during 2009, AT&T stated that it reduced its nationwide investment in U-Verse<sup>8</sup> infrastructure, by approximately 33%.<sup>9</sup> Future reports will show to what extent AT&T and Verizon Continue to expand their video deployment.

We have no reason to believe that Verizon and AT&T will not honor the build out requirements of DIVCA. However, they may choose to delay additional infrastructure investment until the end of their five year build out obligations.

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<sup>3</sup> See Section B. of Appendix A, page 44.

<sup>4</sup> **Verizon's** obligation is to offer video service to **at least 25%** of customer households in its telephone service area **within two years** of when it began providing video service. California Public Utility Code, Division 2.5, The Digital Infrastructure and Video Competition Act of 2006. ("DIVCA"), Section 5890.

<sup>5</sup> **AT&T's** obligation is to offer video service to **at least 35%** of customer households in its telephone service area **within three years** of when it began providing video service. P.U. Code §5890.

<sup>6</sup> FiOS (Fiber Optic Service) is Verizon's name for their video and broadband service offering.

<sup>7</sup> Benton Institute

<sup>8</sup> U-Verse is AT&T's name for their video and broadband service offering.

<sup>9</sup> The Benton Foundation

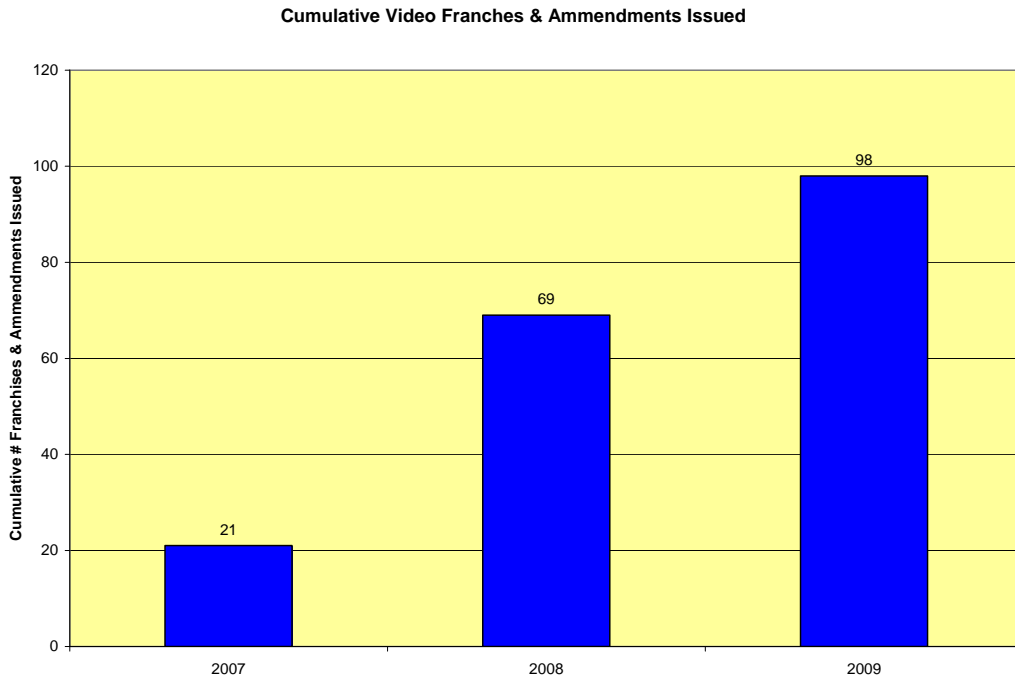
## C. State Video Franchising Growth Continues

Ninety eight state video franchises and franchise amendments were issued by the CPUC's video franchising group through 2009, as shown in the chart below. This is a 42% increase from 69 state franchises and amendments that were issued by the CPUC through 2008.

A state video franchise grants the right to offer video services in an area. State video franchises are not exclusive. Multiple firms can receive video franchises for the same geographic area. An amendment to a franchise is a change of some type to the original franchise agreement, generally involving expansions or contractions in the geography of the franchise area. Applications for initial franchises and for subsequent amendments involve the same process for staff to determine whether each type of application is "complete."

The state began issuing video franchises in 2007. Since that time, as of December 2009, the CPUC cumulatively issued initial state video franchises to 35 different companies:

- During 2007, when the state began issuing video franchises, 20 were issued.
- During 2008, 10 additional companies were issued state franchises.
- In 2009, 5 more operators of video systems were issued state video franchises.
- So far during 2010, two more video franchises have been issued to companies previously without state franchises.



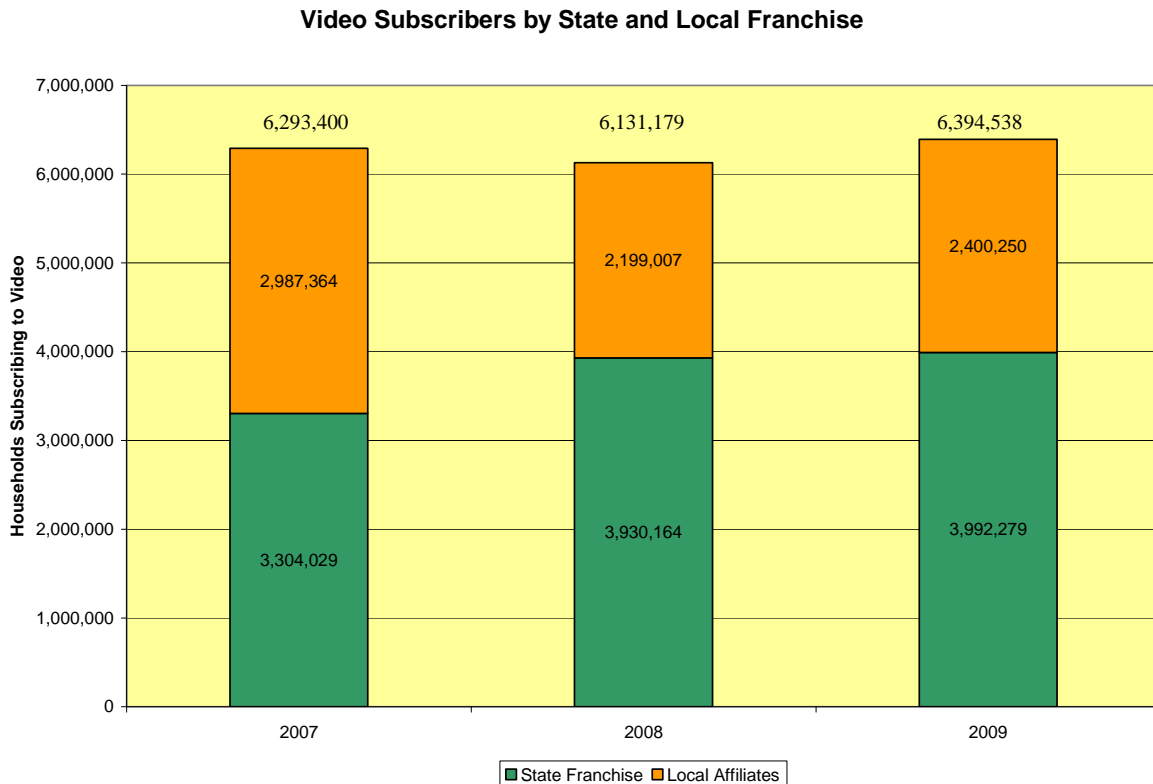
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## D. Video Penetration and Subscribers Segmented by State and Local Franchises

Video penetration of households served by state issued video franchisees in 2009 is 49.9% (6,394,538 households).<sup>10</sup>

In 2007, AT&T and Verizon were issued video franchises and they began deploying their video systems in various parts of the state. Since then, many incumbent cable operators have chosen to shift their video franchises from local entities - primarily municipalities and counties - to state-issued video franchises, as DIVCA allows. This process began in 2007 and continues today.

The bar chart below illustrates this shift from local video franchises to state video franchises in terms of the number of video subscribers served. One manifestation of this shift is that the **number of households subscribing to video in areas served by state-issued franchises, increased by 21% between 2007 and 2009 to 3.99 million households**, as shown in the chart below. (The green bars in the chart below represent the households served by state franchisees.)



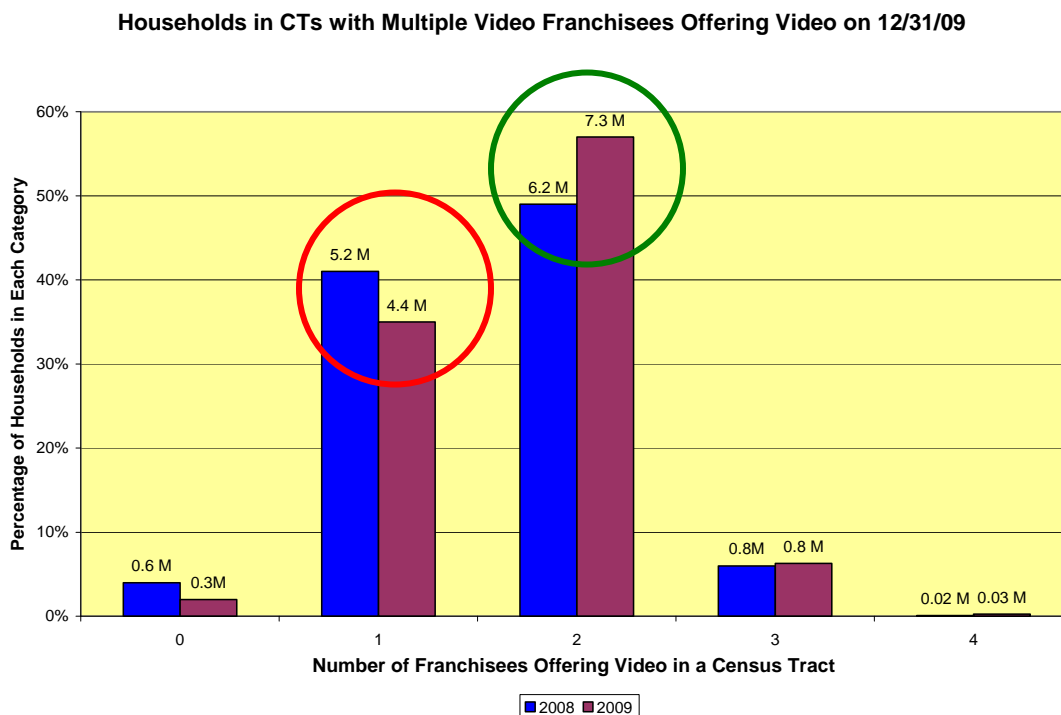
<sup>10</sup> The total number of households in California is 12,790,143, according to the State Department of Finance.

## E. More Households Have More Video Choices: 63% of HHs Offered Video Service by Multiple State Franchise Holders

Over one million more households (8.6% of the state) gained a choice of a second state franchised video provider in 2009, as illustrated in the bar chart below.

Sixty three percent (8.1 million) of California households (HHs) are located in census tracts in which two or more state video franchise holders offer video services, as illustrated in the bar and pie charts below and on the opposite page.<sup>11</sup> This metric is eight percentage points higher than last year's 55% and 27 percentage points higher than in 2007. At the end of 2007, only 37% of households had choices among multiple service providers in their census tracts.<sup>12</sup>

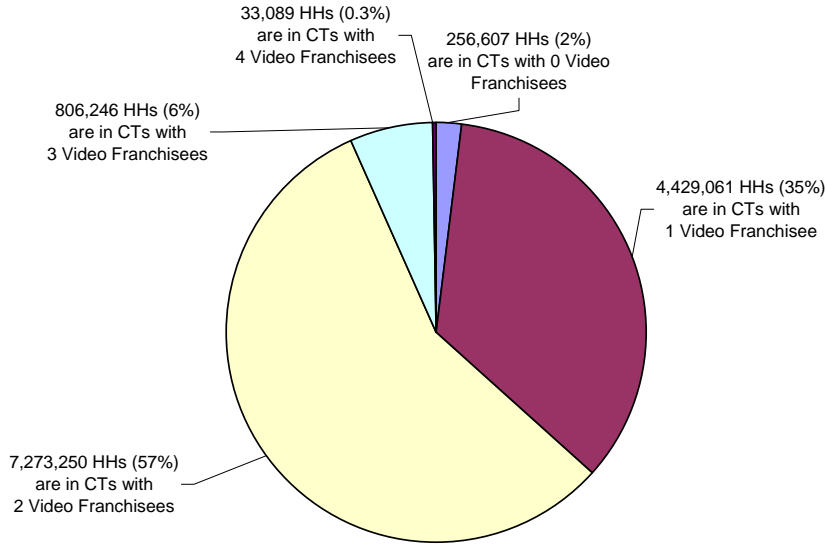
Only 2% of households (256,607) have no video providers offering video services in their census tracts, down from 4.4% (566,829) last year.



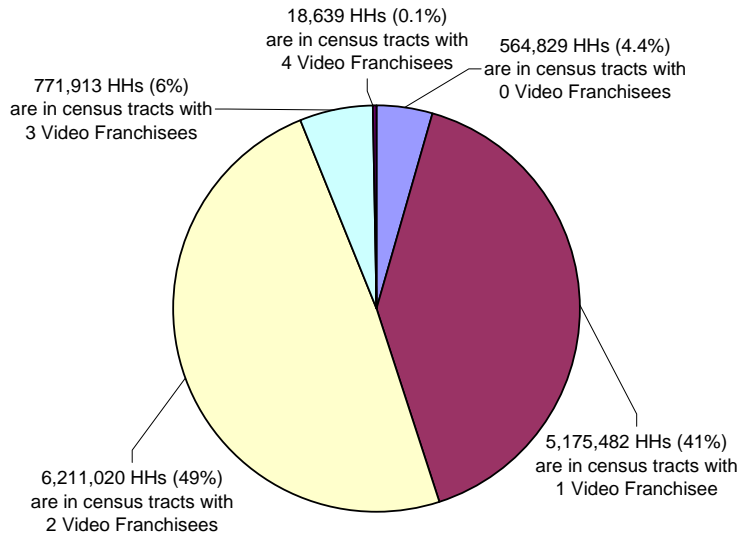
<sup>11</sup> This report does not include the services offered by unaffiliated cable, satellite Internet, or wireless service providers, as DIVCA does not compel them to provide data to the state. If we were able to include data from local cable operators that are not affiliated with state franchised affiliates in this analysis, the percentage of households located in census tracts with two or more video providers would be even higher. However, unaffiliated local cable operators do not provide their data to the state.

<sup>12</sup> While the census tract-based data we have is an indicator that video competition is increasing, in areas where multiple state-issued franchisees (or locally franchised affiliates) offer video within the same census tract, it is possible that they may not directly compete for the same subscribers. The reason for this ambiguity is providers are not required to report where within each census tract they have deployed their video services. Therefore, we are not able to determine whether the franchise holders offering broadband services in the same census tracts are offering broadband services to the same households. The limitations of census tract data reporting are explained in detail in the "census tract data limitations" section of the Methodology Appendix B on page 48.

**2009 - Households in Census Tracts in which  
Multiple State Franchisees & Local Affiliates Offer Video Service in CA**



**2008 - Households in Census Tracts in which  
Multiple State Franchisees & Local Affiliates Offer Video Service in CA**



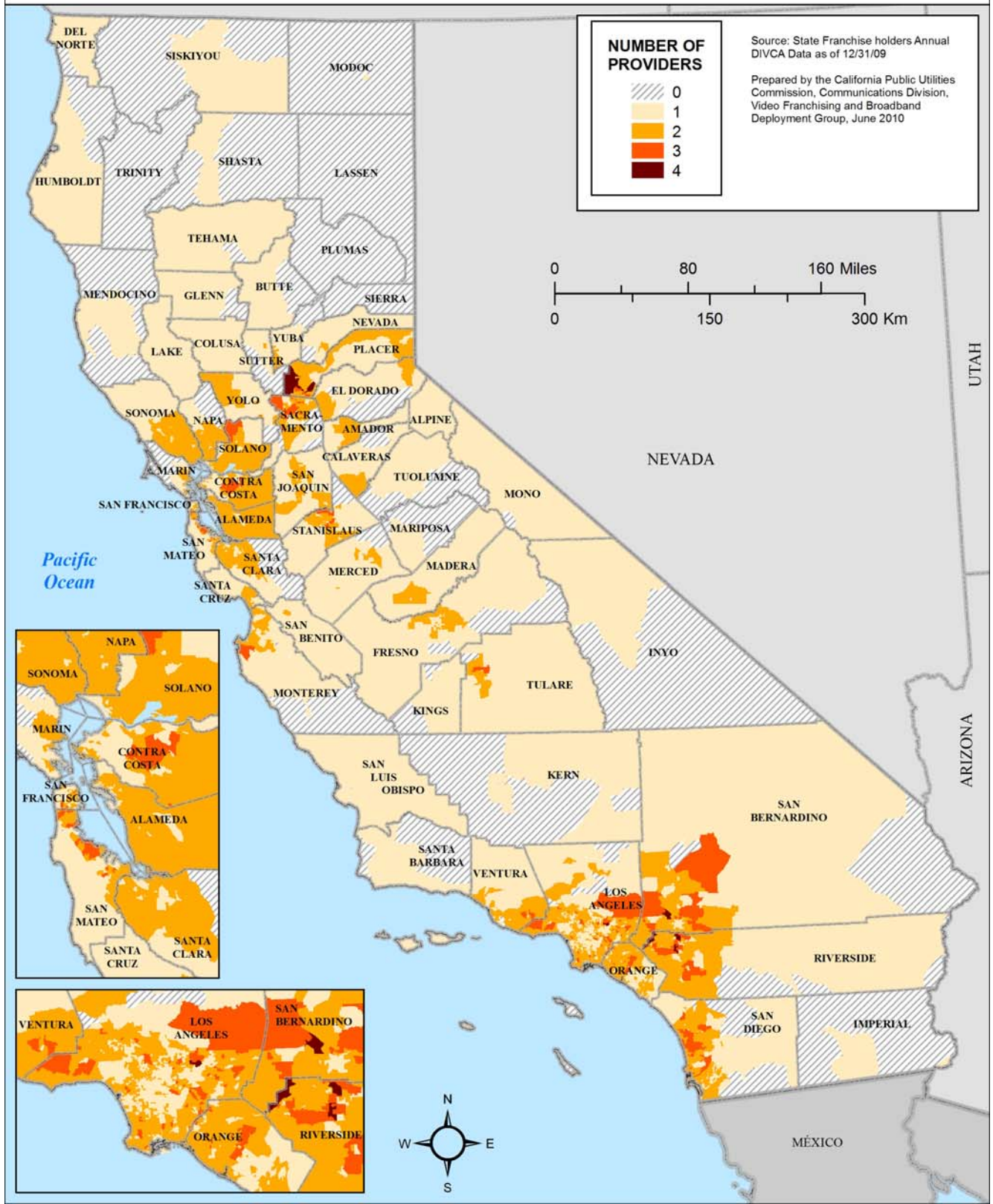
## **F. Map Showing Where Multiple State Franchisees Offer Video Service in the Same Census Tract**

The map on the opposite page is another way to analyze the same data contained in bar and pie charts on the previous two pages. It illustrates the number of video franchise holders offering video service in each census tract in the state.

The major conclusion this map enables us to draw is that multiple state franchisees tend to offer services in the same census tracts in the areas of the state that have the highest population densities.

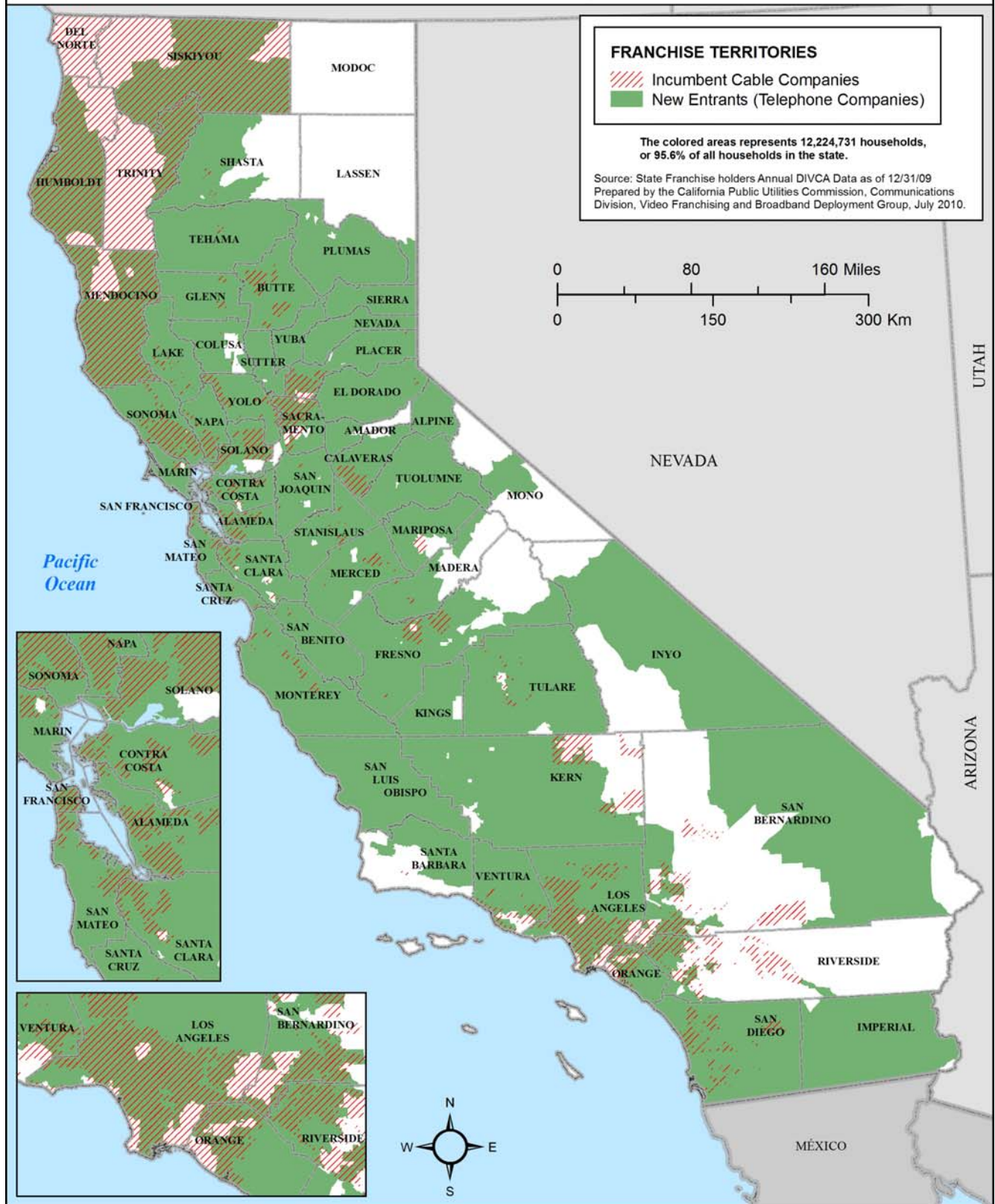
# NUMBER OF STATE-FRANCHISED VIDEO PROVIDERS BY CENSUS TRACT

(Number of Providers Offering Video Service to at Least one Household)





# STATE-ISSUED VIDEO FRANCHISE TERRITORIES IN CALIFORNIA AS OF JANUARY 1, 2010



## G. State Video Franchise Territories

The map on the previous (opposite) page shows the franchise territories of state-issued video franchisees in California.

## H. Low Income Households Offered Video

DIVCA requires state video franchise holders to provide information describing the number of low-income households in their video service areas, as well as the number of low-income households to which they offer video service.<sup>13</sup> These data have been aggregated, and are shown in the table below:

Low Income Households Offered Video

	2008 # Households	2009 # Households
Low Income Households in the state of California		3,585,838 <sup>14</sup>
<b>Low Income Households Offered Video</b> by both State-issued video franchisees and their local affiliates.	5,024,002	5,169,039

The number of low income households offered video by state-issued video franchisees and their local affiliates exceeds the number of low income households in the state due to the fact that one house may have access to multiple video providers.

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<sup>13</sup> P.U. Code §5960

<sup>14</sup> U.S. Census data

## I. Residential Video Penetration by County

The table below shows the residential video penetration rate<sup>15</sup> for state-issued video franchisees and their local affiliates in each county in California.

The statewide video penetration rate for state-issued franchisees and their affiliates is 49.9%.

County	2009 Video Penetration Rate	Households
Alameda	55%	558,230
Alpine	1%	581
Amador	19%	14,999
Butte	45%	90,405
Calaveras	44%	20,327
Colusa	38%	7,112
Contra Costa	77%	388,353
Del Norte	56%	9,866
El Dorado	44%	70,245
Fresno	53%	294,547
Glenn	15%	10,019
Humboldt	49%	54,957
Imperial	29%	50,352
Inyo	33%	7,908
Kern	5%	253,957
Kings	39%	40,347
Lake	33%	26,264
Lassen	0%	10,638
Los Angeles	40%	3,286,860
Madera	33%	44,755
Marin	80%	104,407
Mariposa	3%	7,885
Mendocino	24%	35,848
Merced	38%	79,542
Modoc	12%	4,090
Mono	0%	6,276
Monterrey	50%	130,064
Napa	61%	50,980
Nevada	39%	42,140
Orange	56%	1,005,502
Placer	48%	134,740
Plumas	0%	10,502
Riverside	53%	682,283
Sacramento	47%	531,516
San Benito	23%	17,159
San Bernardino	38%	613,382
San Diego	71%	1,103,320
San Francisco	55%	350,758
San Joaquin	48%	220,778

County	2009 Video Penetration Rate	Households
San Luis Obispo	42%	108,034
San Mateo	64%	264,422
Santa Barbara	61%	149,574
Santa Clara	60%	615,202
Santa Cruz	64%	96,891
Shasta	27%	71,791
Sierra	0%	1,588
Siskiyou	21%	20,503
Solano	68%	147,105
Sonoma	69%	188,593
Stanislaus	41%	171,685
Sutter	56%	32,262
Tehama	12%	24,717
Trinity	0%	6,017
Tulare	24%	131,915
Tuolumne	28%	22,730
Ventura	61%	269,011
Yolo	39%	71,615
Yuba	45%	24,594

<sup>15</sup> The penetration rate is the percentage of households in each county that subscribe to video services from a state franchised provider or their local affiliates.

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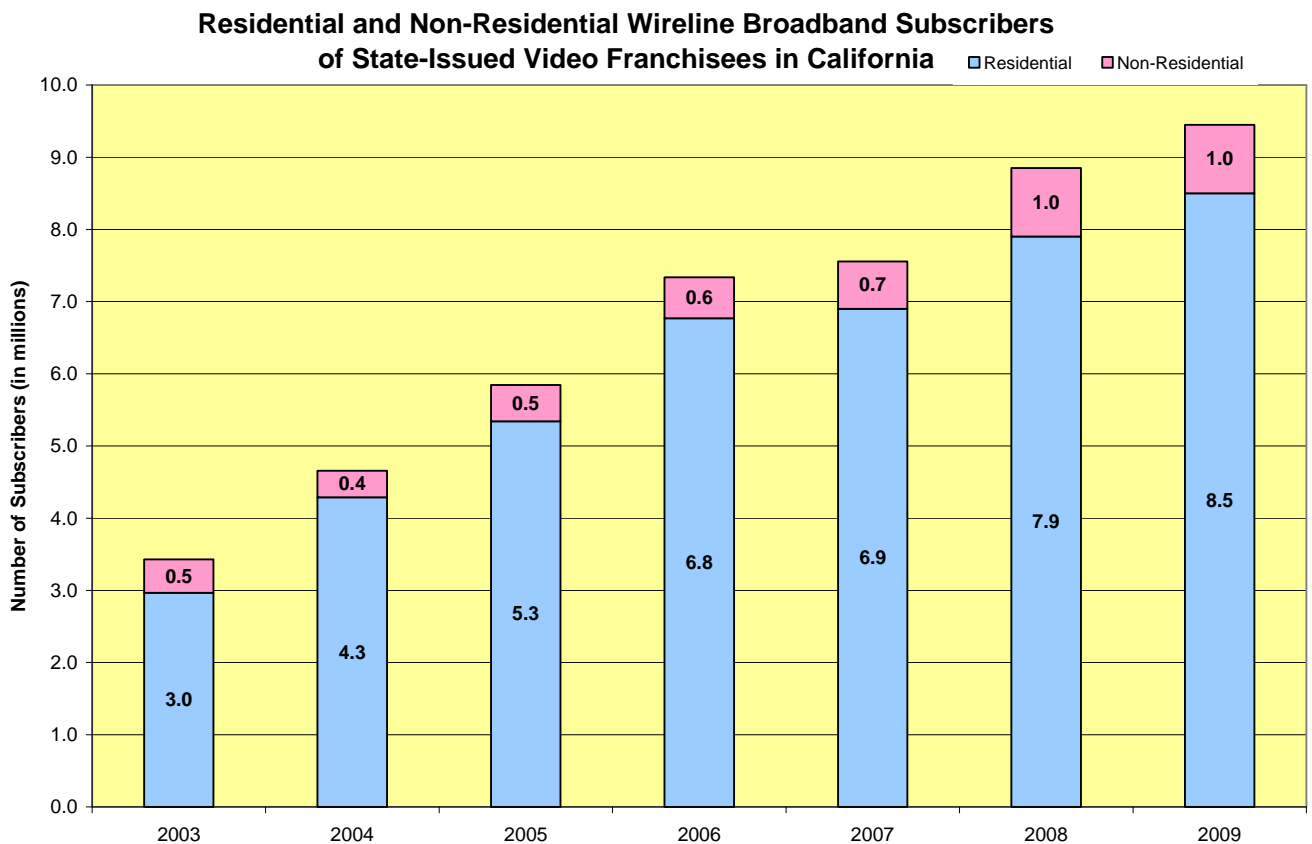
## II. Broadband Findings

Section II summarizes data describing broadband services provided by state-issued video franchise holders and their local affiliates. These data were provided in response to the statutory requirements of DIVCA. They were aggregated and provide metrics illustrating changes in broadband penetration. These data also show the number of wireline and wireless broadband connections, download and upload speed tier information, and the predominant technologies used to deploy broadband.

This report does not include data from providers unaffiliated with state-issued franchisees. Providers such as wireless, satellite, unregulated wireline Internet service providers or other unaffiliated entities are not included in this report. If we had included those unaffiliated providers' metrics in this report, then the subscriber counts / penetration rates and other metrics would, of course, have been higher.

### A. Broadband Subscriptions Almost Tripled Since 2003

The chart below shows that the number of broadband subscriptions in the state of California has almost tripled to 9.5 million connections over the six years since 2003.



## B. Broadband Penetration Growth Increased by 24% Since 2007

The residential **wireline broadband**<sup>16</sup> **penetration rate** for households served by state-issued video franchisees or their local affiliates:

- Increased 7.3% in 2009 to 66% (8.5 million connections), from 62% in 2008.
- Increased 23.8%, between 2007 and 2009, to 66% (8.5 million households) from 55% in 2007.

The **mobile broadband wireless service plan penetration rate** for households served by state-issued video franchisees or their local affiliates:

- Increased to 7.2% (2.7 million subscribers) in 2009, up 50% from 4.8% in 2008
- Increased 242% between 2007 and 2009, from 2.1% in 2007 to 7.2% at the end of 2009

### Broadband (Wireline and Wireless) Penetration Rates and Growth<sup>17</sup>

	2007	2008	2009
Residential Wireline Broadband Penetration (% total HHs in CA)	55%	62%	66%
Mobile Broadband Wireless Service Plan Penetration (% of total population in CA)	2.1%	4.8%	7.2%

### Number of Broadband (Wireline and Wireless) Subscribers

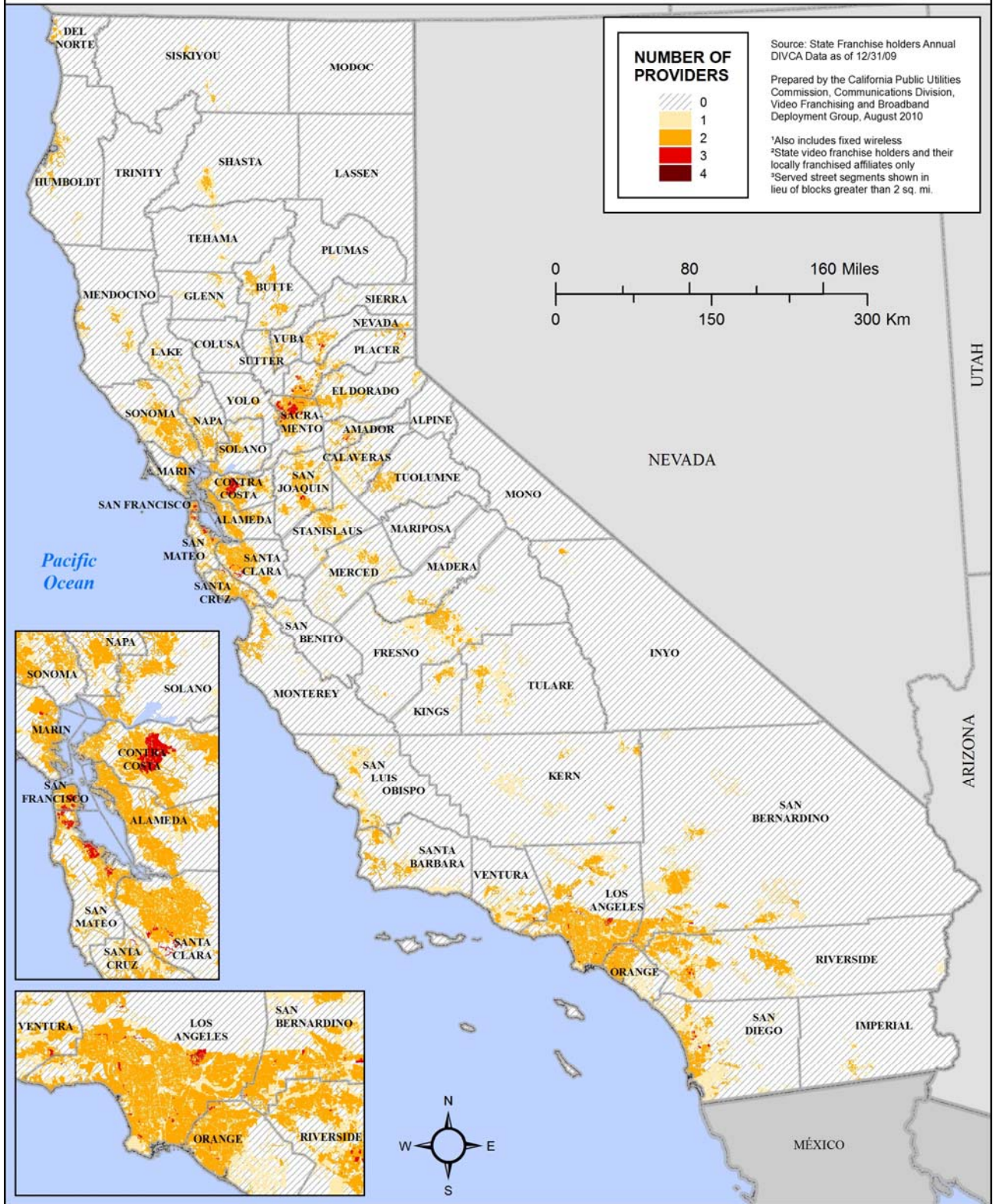
Number Subscribers	2007	2008	2009	2008 - 2009 Growth Rate	2007 - 2009 Growth Rate
Residential Wireline Broadband	6,851,743	7,910,166	8,484,435	7.3%	23.8%
Mobile Broadband Wireless Service Plans	776,903	1,768,215	2,659,035	50.4%	242%

Mobile broadband wireless subscribers are those customers subscribing to monthly mobile broadband wireless service plans. The most popular devices that are used to access mobile broadband wireless services are smart phones such as iPhones, Android based smart phones and Blackberrys. Additionally, iPads, “data cards” and a host of emerging devices access the Internet via terrestrial mobile wireless broadband.

<sup>16</sup> Wireline broadband contains 273 connections of terrestrial fixed wireless (microwave) technology. This is down significantly from 879 connections of terrestrial fixed wireless last year.

<sup>17</sup> Total statewide households (12,790,143) provided by the California Department of Finance. Projected population in CA for 2007, 2008 & 2009 provided by US Census

**WIRELIN<sup>1</sup> BROADBAND PROVIDERS<sup>2</sup> BY CENSUS BLOCK OR STREET SEGMENT<sup>3</sup>**  
 (Number of Providers Offering Broadband to at Least one Household per Census Block or Street Segment)

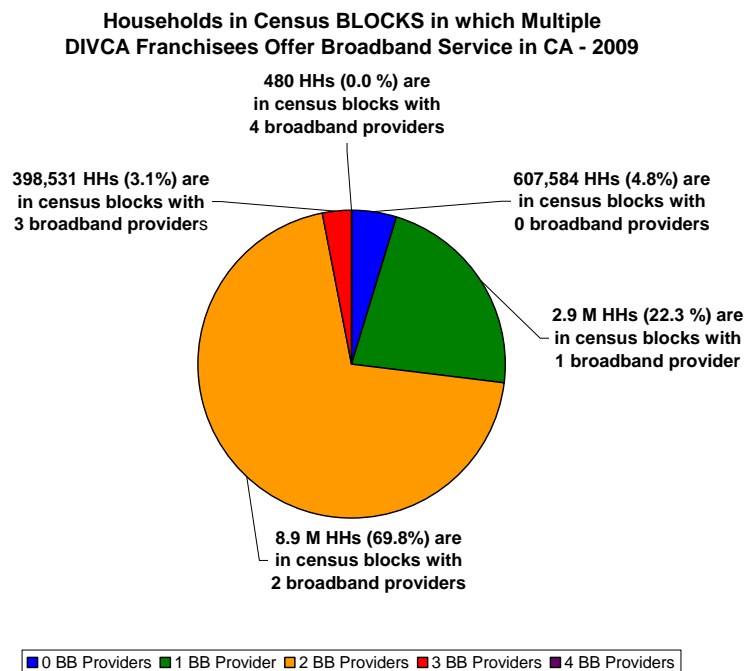


## C. 73% of Households are Offered Broadband Service by Multiple State Franchise Holders

Seventy three percent (9.33 million) of the households in California are located in **census blocks** in which two or more state video franchise holders or their locally franchised affiliates offer broadband services, as illustrated in the pie chart below.<sup>18</sup> This is further illustrated on the map on the opposite page.<sup>19</sup>

Three percent (399,011) of the households in California are located in census blocks in which three or four state video franchise holders or their locally franchised affiliates offer broadband services, as illustrated in the pie chart below.

These percentages are lower than reported in last year's report due to the fact that last year's analysis used **census tract**-based data and this year's uses **census block and street segment** data. Thus, this year's data reflect fewer "false positives" because homes in unserved census blocks within served census tracts are **not counted as served** this year, while in previous years, they would have been counted as served. California has more than 500,000 census blocks, but only 7,049 census tracts.<sup>20</sup>



<sup>18</sup> This report does not include the services offered by unaffiliated Internet service providers, or unaffiliated cable, satellite or wireless service providers, as DIVCA does not compel them to provide data to the state.

<sup>19</sup> Next year we expect to have the 2010 census data and data that will help us locate parcels within each census block from Tax Assessors' parcel maps. We expect those new data to significantly increase the accuracy of these metrics in subsequent reports.

<sup>20</sup> The metrics in this chart ought to be considered merely rough estimates due to several factors, including: (1) Household counts in each census block are based on 2000 census data projected by the CA Dept. of Finance at the county level. (2) Projected county growth rates are assumed to be uniform in all census blocks within the county. In reality different areas within each county have grown at different rates over the past decade. (3) While approximately half of the data was submitted based on census blocks, approx. half was submitted based on street segments. The potential inaccuracies caused by the limitations of census tract reporting are described in more detail in the methodology section of the Appendix B on page 48.



## **D. Broadband Speed Tier and Technology Type Data Reported by Broadband Service Providers**

The definition of broadband fundamentally changed in June 2008 when the FCC changed how it defines and gathers data about broadband services.<sup>21</sup> Between 1996 and June, 2008 the FCC considered services to be “broadband” if they involved transmission speeds in excess of 200 kbps in one direction. All that changed on June 12, 2008 when the FCC passed new Form 477 reporting requirements for broadband and Internet service providers.

As a result of the FCC’s action, on July 10 2008, the CPUC amended G.O. 169 to match the FCC’s broadband reporting requirements. Until 2008, broadband connections were only reported as a statewide total. Now each broadband provider, including each state-issued video franchise holder, is required to report broadband connections by subscription speeds and technology types. Video franchisees satisfy this obligation by submitting their Form 477 data for California directly to the CPUC, identical to the way they report to the FCC.

The FCC’s June 2008 order required service providers to report their services and subscribers by different technologies, bandwidth offered and the following eight speed tiers<sup>22</sup> in each census block:

- 200 kbps to < 768 kbps
- 768 kbps to < 1.5 mbps
- 1.5 mbps to < 3 mbps
- 3 mbps to < 6 mbps
- 6 mbps to < 10 mbps
- 10 mbps to < 25 mbps
- 25 mbps to <100 mbps
- Greater than 100 mbps

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<sup>21</sup> Form 477, available at <http://www.fcc.gov/form477>.

<sup>22</sup> The data in this section is based on 477 data, which are advertised speeds. Advertised speeds do not necessarily equal the speeds users receive.

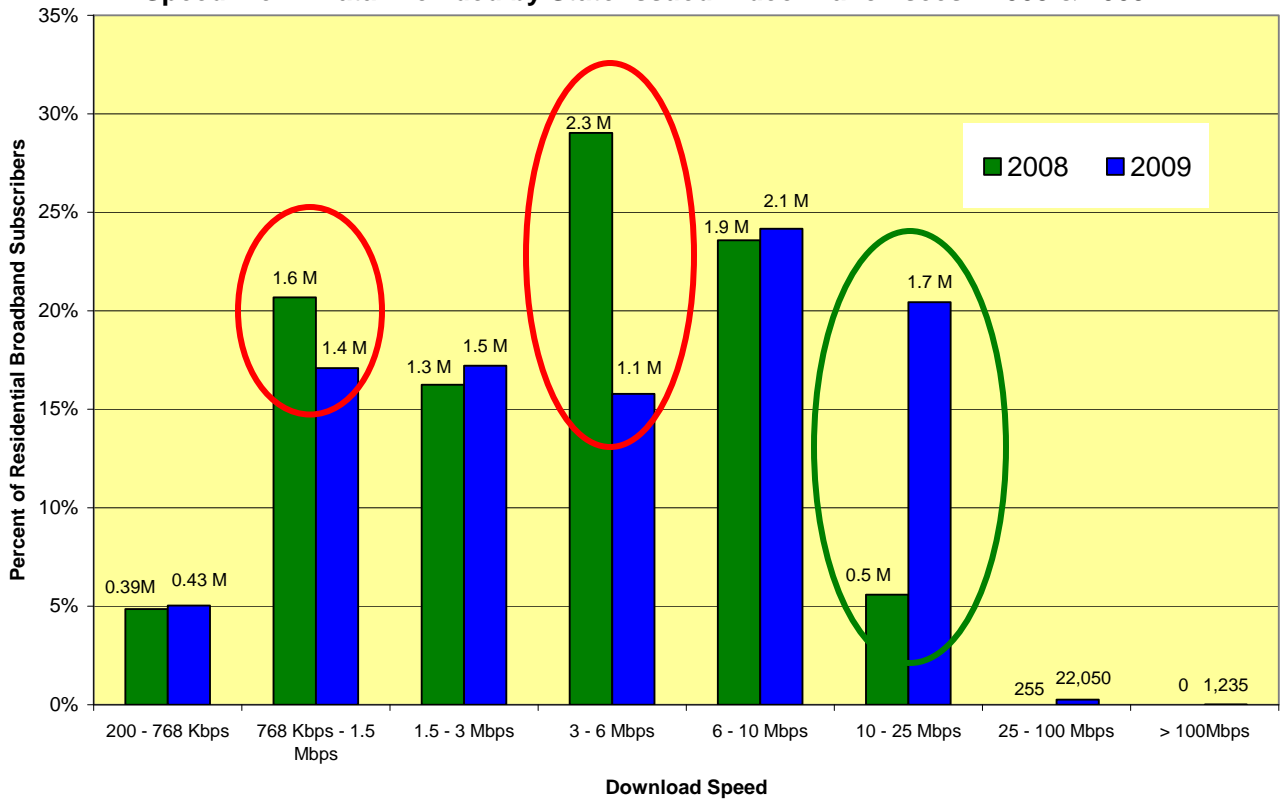
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## E. Broadband Speed is Getting Faster: Broadband Download Speeds Are Increasing

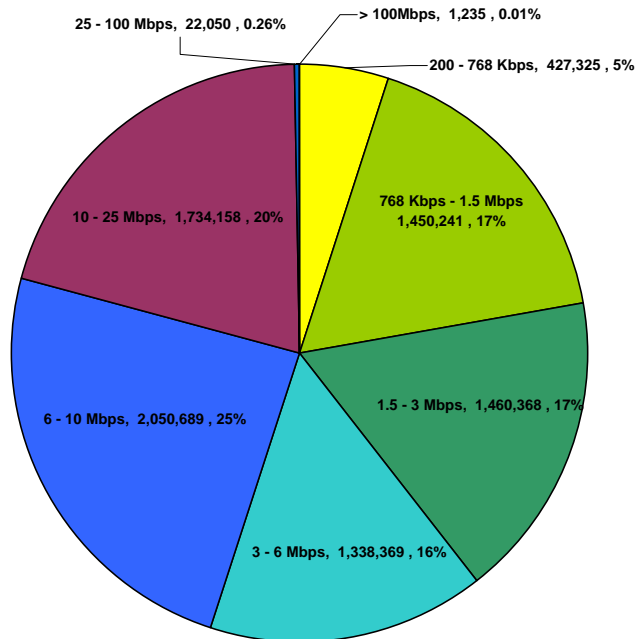
The bar chart below shows the number of subscribers served by state-issued video franchise holders and their local affiliates in each wireline broadband maximum advertised download speed tier category for 2008 and 2009. The pie chart on the previous page describes the same aggregated data. Analyzing these data yields the following facts at the end of 2009:

- Compared with last year, 1.2 million more households (9.4% of the total households in the state) have wireline broadband bandwidth with maximum advertised download speeds of 10 – 25 mbps (See the green oval in the table on the opposite page). This is a 240% increase from 2008.
- Correspondingly, compared with last year, 1.4 million **fewer** households have wireline broadband bandwidth in the two maximum advertised download speed categories of 768 kbps – 1.5 mbps and 3 – 6 mbps (shown in the two red ovals in the table on the opposite page).
- Sixty one percent of residential broadband download subscribers (4.9 million) served by state-issued video franchise holders and their local affiliates in California have wireline bandwidth with maximum advertised download speeds **greater than 3 mbps**. This is a three percentage point increase from last year.
- Forty Five percent of the residential broadband subscribers (3.8 million) served by state-issued video franchise holders and their local affiliates have wireline bandwidth with maximum advertised download speeds **greater than 6 mbps**. This is a 15 percentage point increase from last year.
- Twenty percent of the residential broadband subscribers (1.7 million) served by state-issued video franchise holders & their local affiliates have wireline bandwidth with maximum advertised download speeds of **10 mbps- 25 mbps** compared with only 6% last year.

**Residential Wireline Broadband Subscribers in each Advertised Download Speed Tier - Data Provided by State-Issued Video Franchisees - 2008 & 2009**



**Residential Wireline Broadband Subscribers in each Advertised Download Speed Tier - 2009**

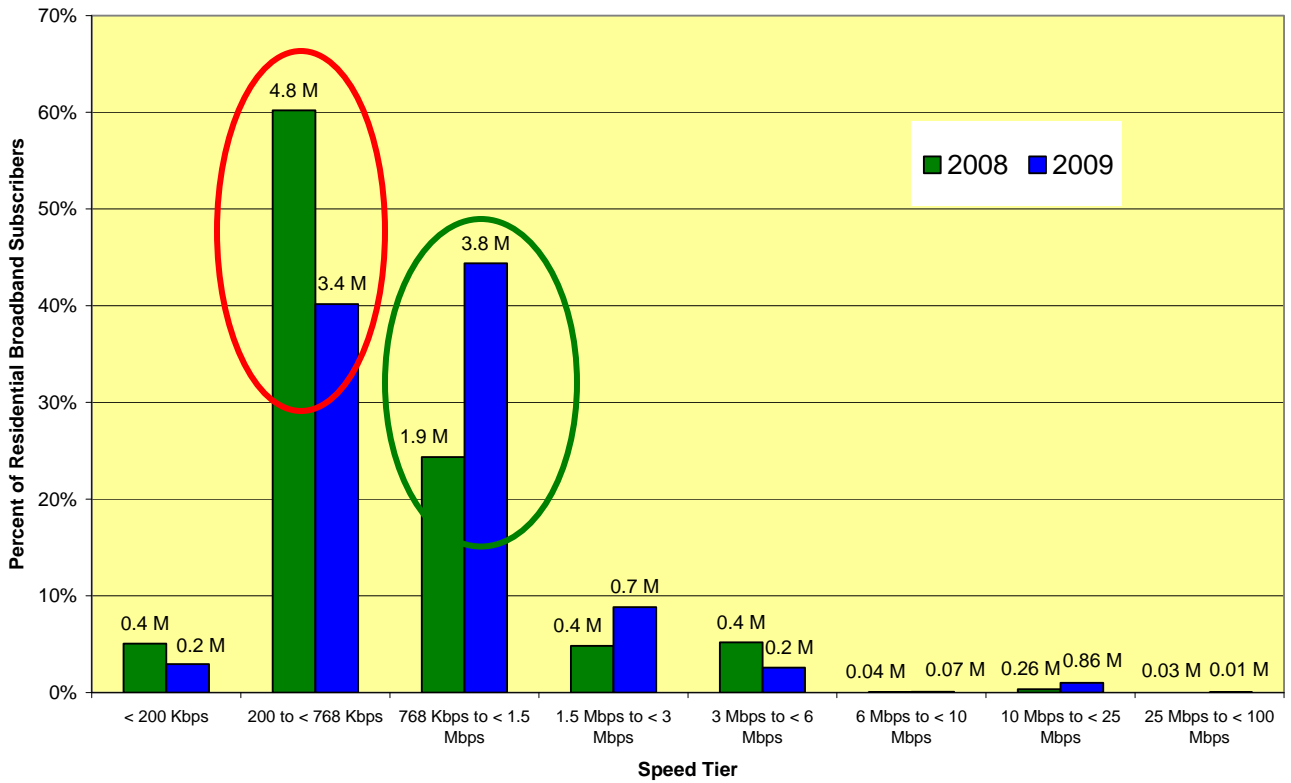


## F. Broadband Upload Speeds Are Increasing

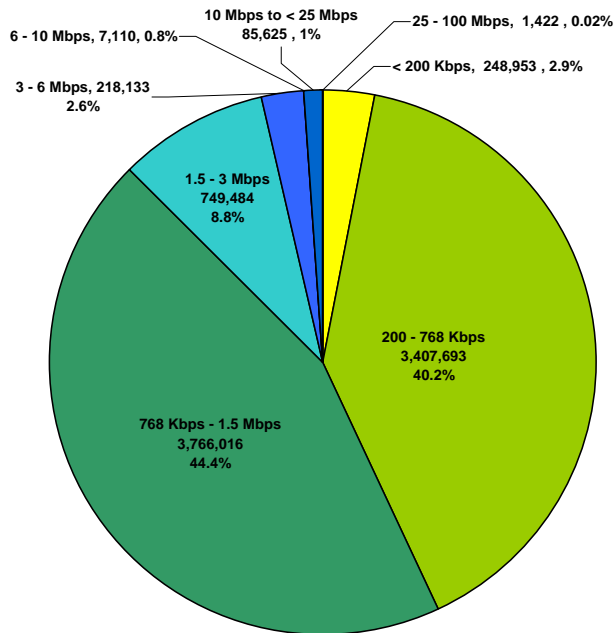
The bar chart on the opposite page compares the changes between 2008 and 2009, while the pie chart on the opposite page shows the residential broadband upload speeds offered by state-issued video franchise holders and their local affiliates at the end of 2009. Analyzing these data yields the following facts about wireline upload broadband speed tiers in the state:

- Compared with last year, 1.9 million more households (14.8% of the total households in the state) have wireline broadband bandwidth with maximum advertised **upload speeds of between 768 kbps and 1.5mbps** (see green oval in the table below.) This is an 100% increase from 2008.
- Correspondingly, compared with last year, 1.4 million **fewer** subscribers have wireline broadband bandwidth with maximum advertised **upload speeds of 200 to < 768 kbps**. (The percentage decreased from 60% to 40% - see red oval in the table on the opposite page.)
- Over 84% of residential broadband upload subscribers (7.2 million) served by state-issued video franchise holders and their local affiliates have wireline bandwidth with maximum advertised upload speeds **below 1.5 mbps**.
- Almost 4% of residential broadband upload subscribers (310,868) served by state-issued video franchise holders and their local affiliates have wireline bandwidth with maximum advertised upload speeds **greater than 3 mbps**.
- Over 1% of residential broadband upload subscribers (94,157) served by state-issued video franchise holders and their local affiliates have wireline bandwidth with maximum advertised upload speeds **greater than 6 mbps**.

**Residential Wireline Broadband Subscribers in each Advertised Upload Speed Tier - Data Provided by State-Issued Video Franchisees - 2008 & 2009**

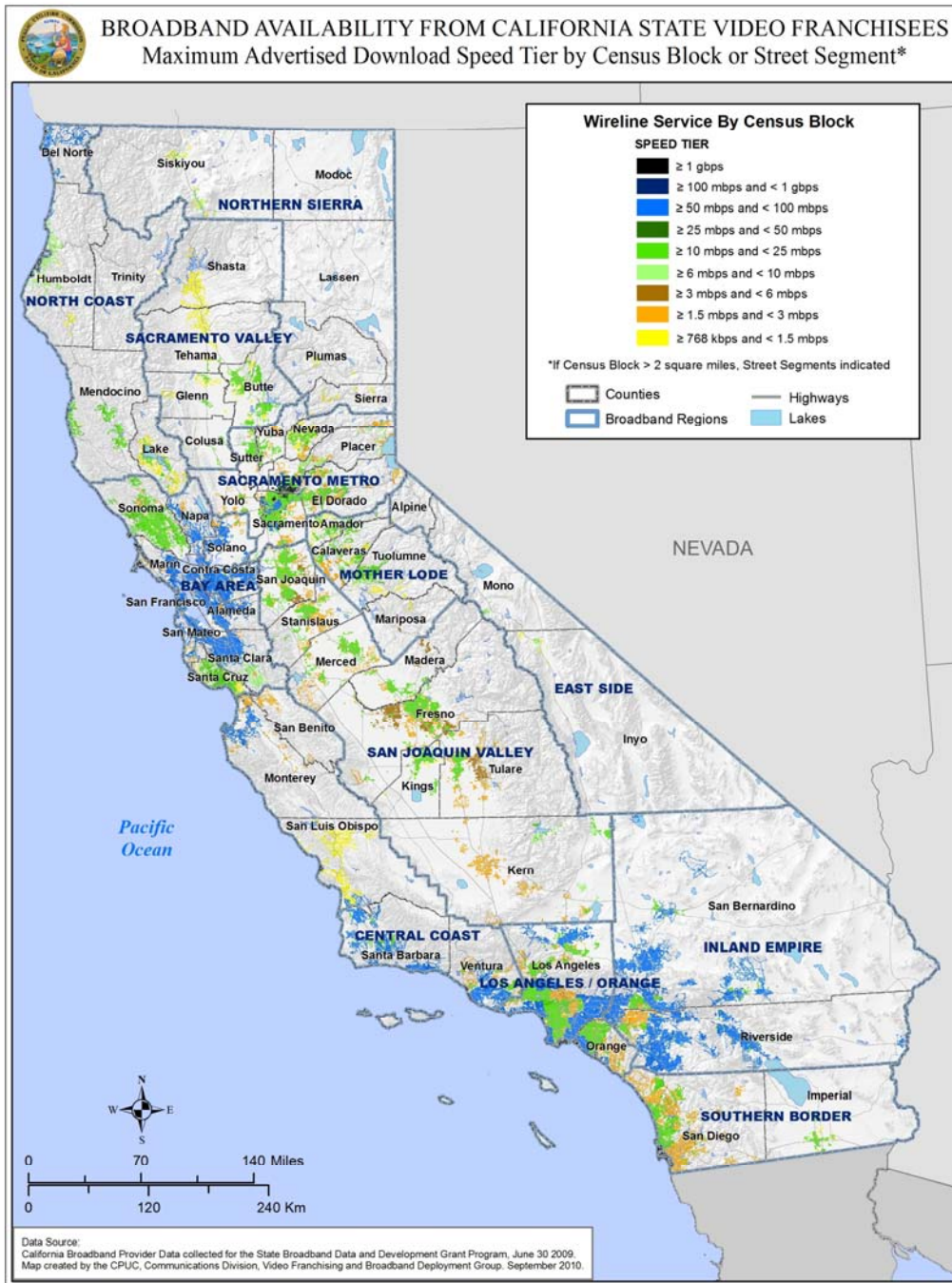


**Residential Wireline Broadband Subscribers in each Advertised Upload Speed Tier - 2009**



## G. Broadband Availability Map of Maximum Advertised Broadband Download Speed Tiers by Census Block

The map below uses the download speed tier information that is summarized in the pie chart below to display which one speed tier is the maximum advertised broadband download speed tier for each census block in the state of California.



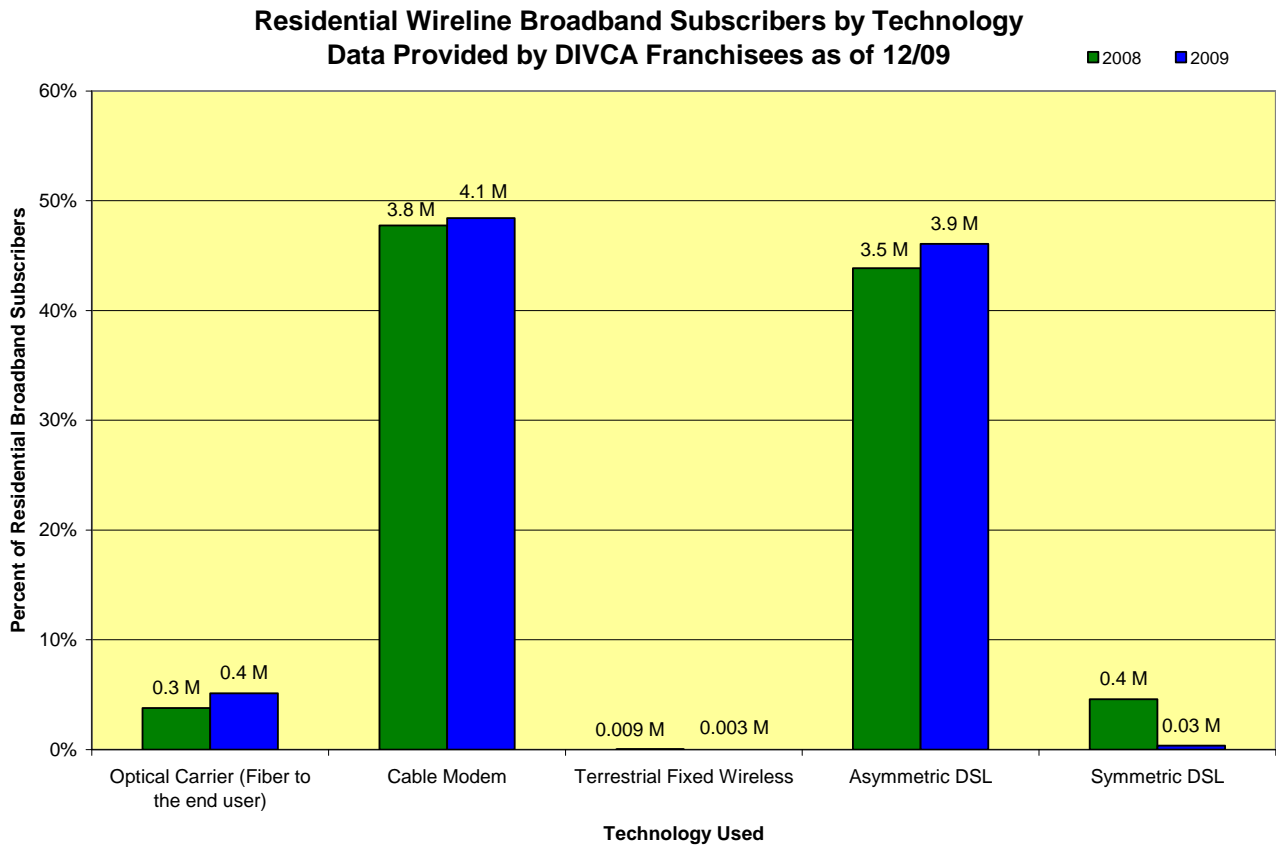
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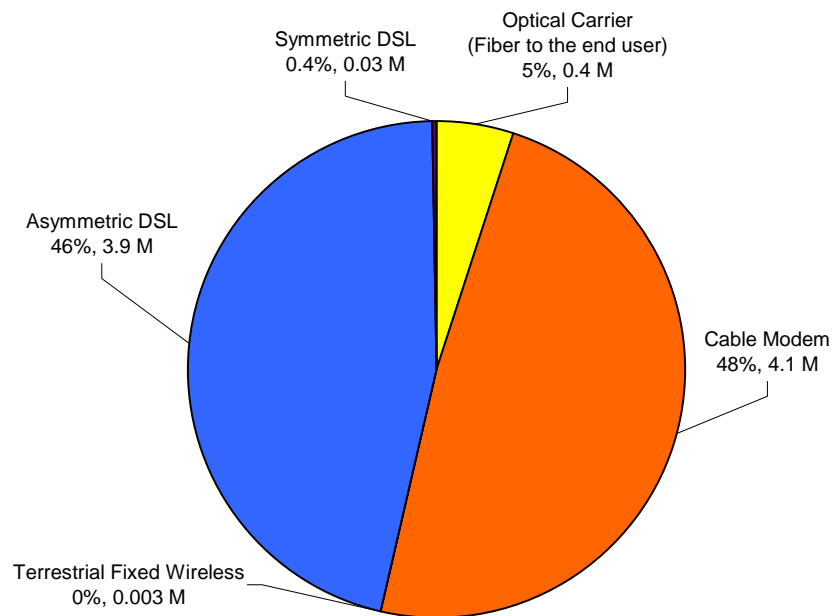
## H. Broadband Technologies: DSL & Cable Modems Almost Evenly Split

The distribution of broadband technology deployed is a new metric made possible by the changes in the FCC Form 477 reporting rules mandated by the FCC in 2008. On the opposite page is a pie chart that shows the technologies that State-issued video franchisees and their local affiliates used to deploy broadband as of December 31, 2009. The pie and bar charts show:

- **Cable modems** are used by state-issued video franchise holders to serve 48% of the residential households in their franchise territories that subscribe to broadband. This is a one percentage point increase from 47% a year ago.
- **DSL (both Asymmetric and Symmetric)** is used by state-issued video franchise holders to serve 46% of the residential households in their franchise territories that subscribe to broadband. This is a 3 percentage point decrease from 49% last year. (46% = 46% asymmetric DSL + 0.4% symmetric DSL)



**Residential Broadband Subscribers by Technology - 2009**  
**Data Provided by DIVCA Franchisees as of 12/09**



## I. Map Showing Predominant Technologies to Deploy Broadband in Individual Census Tracts

The map on the opposite page uses the information shown in the pie chart on the previous page to illustrate which one technology is most predominant<sup>23</sup> in each census tract in the state of California. One of the limitations of using the predominant type of technology in this map is that the second, third and fourth most predominant technologies in each census tract do not appear in the map.

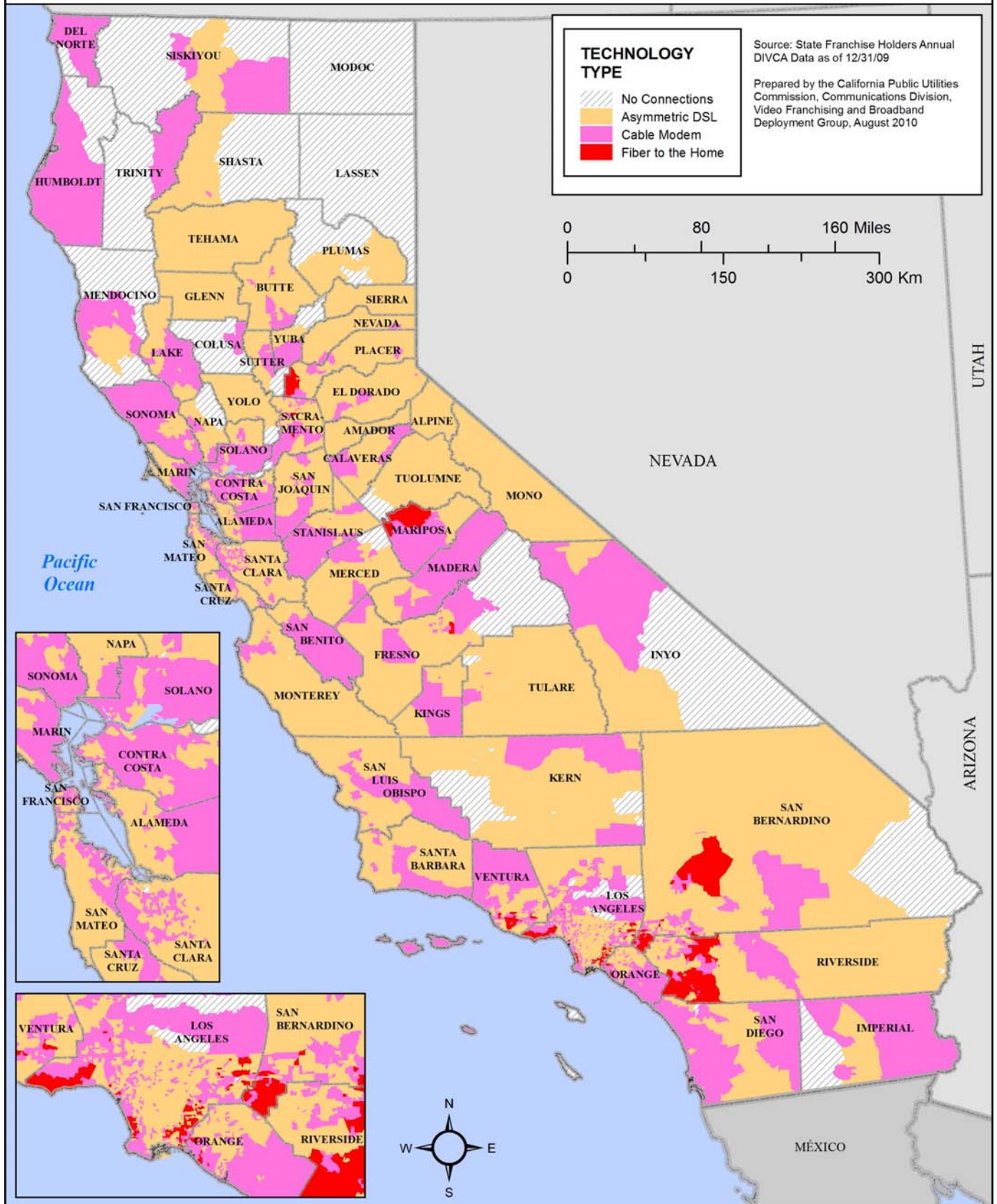
This map shows:

- In most metropolitan areas in California cable modems and asymmetric DSL are the two predominant technologies used to deploy broadband.
- Symmetric DSL is the predominant technology in approximately ten rural census tracts in southern and eastern portions of the State and in Santa Barbara.
- Fiber optic cable (to the home) is the predominant technology in some census tracts in the following counties: Los Angeles, Venture, Riverside, San Bernardino, Sutter and Mariposa.

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<sup>23</sup> The **predominant** technology in a census tract is the technology used to serve the largest number of subscribers in that census tract.

# PREDOMINANT WIRELINE BROADBAND TECHNOLOGY BY CENSUS TRACT (Technology Type with Greatest Number of Residential Connections per Census Tract)



## J. Broadband Penetration by County

The graph, table and map on the following pages show the residential wireline broadband penetration rate<sup>24</sup> of each county and how they compare with other counties throughout California.

Below are some key facts describing broadband penetration rates in California:

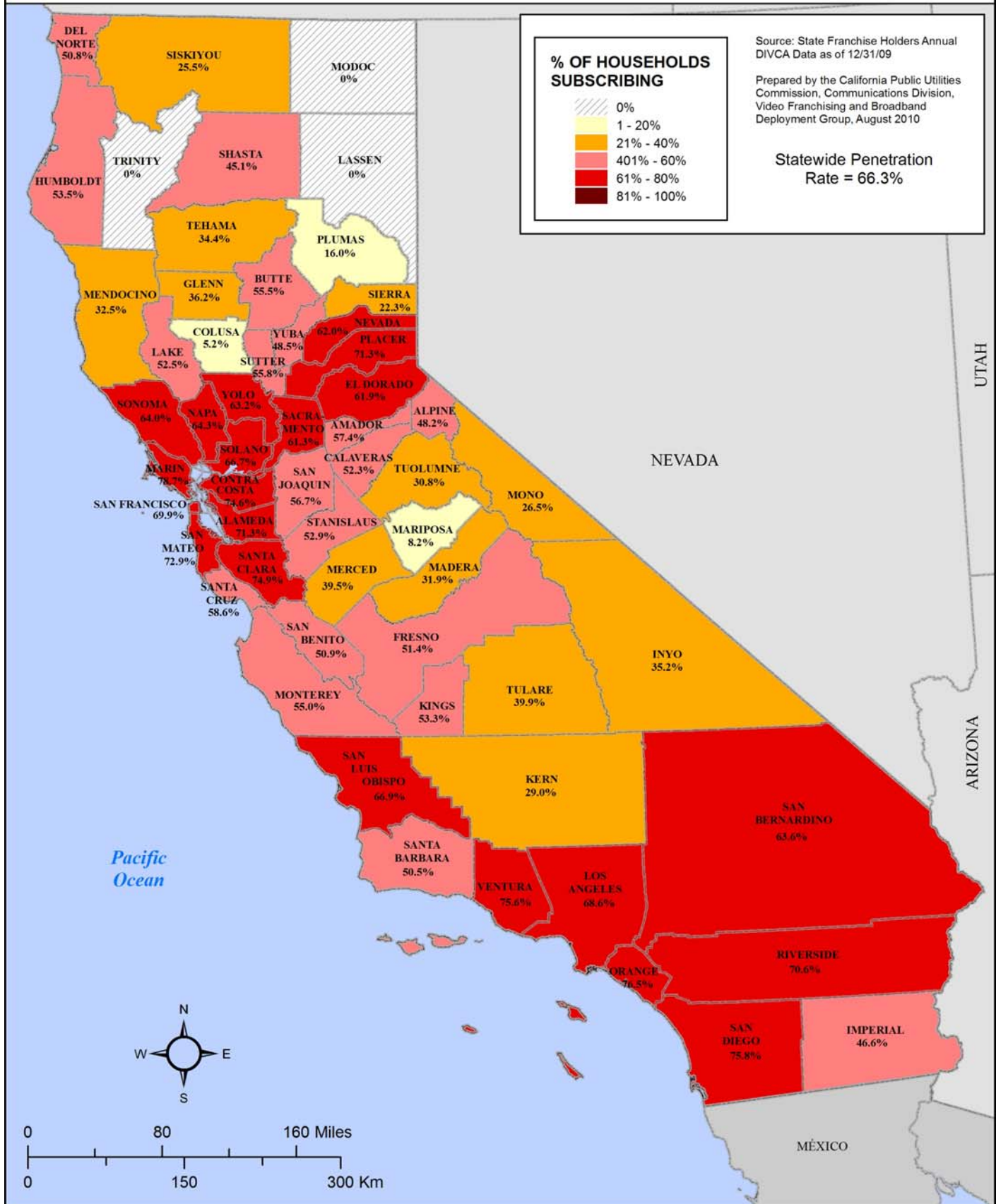
- The **statewide** residential wireline broadband **penetration rate** is 66.3%, up 4.3 percentage points from 62% a year ago.
- The **median broadband penetration rate among counties** for 2009 was 53%, up 5.5 percentage points from 47.5% last year and up 15.5 percentage points from 37.5% in 2007.
- Marin county has the highest residential wireline broadband penetration rate of 78.7%. This is 4.7 percentage points higher than the highest rate last year of 74%. Last year Marin also was the county with the highest residential broadband penetration rate.
- Orange county has the second highest residential wireline broadband penetration rate of 76.5% and San Diego has the third highest at 75.8%.
- Data submitted pursuant to DIVCA by state franchisees show that Trinity, Lassen and Modoc counties have no broadband subscribers. So the data provided by video franchisees shows that they have 0% broadband penetration.

However, other the statewide broadband data we have access to shows that each of those three counties have broadband availability provided by non-state franchised wireline and wireless service providers.

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<sup>24</sup> For the purposes of this DIVCA report, residential wireline broadband includes 273 connections of fixed wireless.

# RESIDENTIAL WIRELINE BROADBAND PENETRATION BY COUNTY (Percent of Households Subscribing to Broadband)



## Residential Broadband Penetration by County

The statewide residential broadband penetration rate for households served by state-issued video franchisees and their local affiliates is 66.3%.

The median broadband penetration rate for the 57 counties in the state is 53%

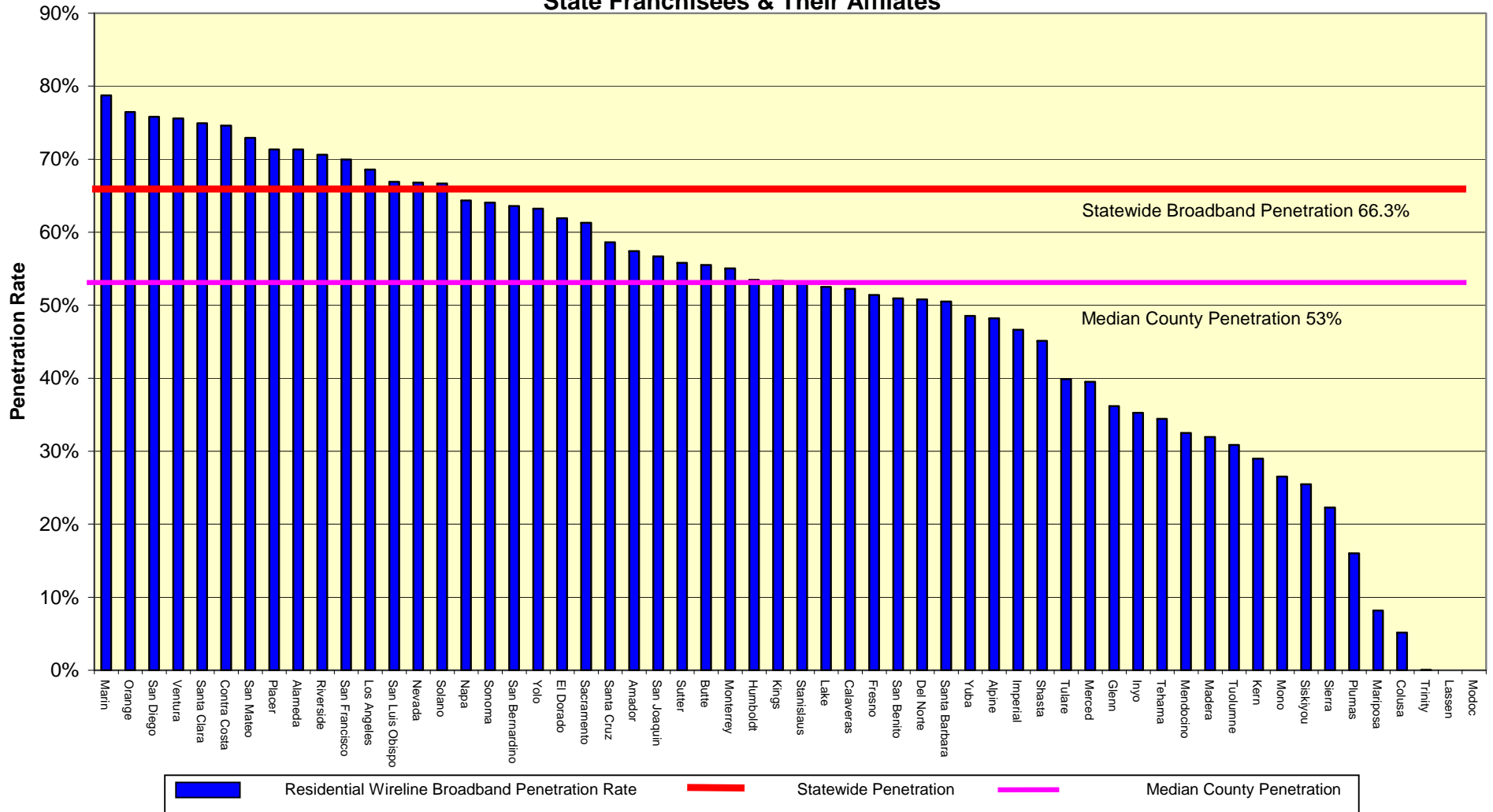
The table below and the graph on the opposite page are two different ways of displaying the same county by county broadband penetration data for households served by state franchised video franchisees that is shown in the bar graph on the previous page.

County	2009 Residential Wireline & Fixed Wireless Broadband Penetration Rate	Households in each county
Alameda	71%	558,230
Alpine	48%	581
Amador	57%	14,999
Butte	56%	90,405
Calaveras	52%	20,327
Colusa	5%	7,112
Contra Costa	75%	388,353
Del Norte	51%	9,866
El Dorado	62%	70,245
Fresno	51%	294,547
Glenn	36%	10,019
Humboldt	54%	54,957
Imperial	47%	50,352
Inyo	35%	7,908
Kern	29%	253,957
Kings	53%	40,347
Lake	53%	26,264
Lassen	0%	10,638
Los Angeles	69%	3,286,860
Madera	32%	44,755
Marin	79%	104,407
Mariposa	8%	7,885
Mendocino	33%	35,848
Merced	40%	79,542
Modoc	0%	4,090
Mono	27%	6,276
Monterrey	55%	130,064
Napa	64%	50,980
Nevada	62%	42,140
Orange	77%	1,005,502

County	2009 Residential Wireline & Fixed Wireless Broadband Penetration Rate	Households in each county
Placer	72%	134,740
Plumas	16%	10,502
Riverside	71%	682,283
Sacramento	61%	531,516
San Benito	51%	17,159
San Bernardino	64%	613,382
San Diego	76%	1,103,320
San Francisco	70%	350,758
San Joaquin	57%	220,778
San Luis Obispo	67%	108,034
San Mateo	73%	264,422
Santa Barbara	51%	149,574
Santa Clara	75%	615,202
Santa Cruz	59%	96,891
Shasta	45%	71,791
Sierra	22%	1,588
Siskiyou	26%	20,503
Solano	67%	147,105
Sonoma	64%	188,593
Stanislaus	53%	171,685
Sutter	56%	32,262
Tehama	34%	24,717
Trinity	0%	6,017
Tulare	40%	131,915
Tuolumne	31%	22,730
Ventura	76%	269,011
Yolo	63%	71,615
Yuba	49%	24,594
<b>Median</b>	<b>53%</b>	<b>12,790,143</b>

## Residential Wireline Broadband Penetration by County - 2009

### State Franchisees & Their Affiliates





## **K. DIVCA’s Broadband Penetration Rate of 66% is similar to Findings for the Entire Nation as well as other organizations’ Findings for Broadband Usage in the State of California**

While the DIVCA penetration rate consists only of wireline subscribers, the broadband metrics reported by the Pew Internet & American Life Project and the Public Policy Institute of California (PPI), used a different self reporting methodology. While DIVCA franchisees report the number of subscribers they have to the CPUC, the PPI and Pew rely on respondents to self report their types of broadband connections via a telephone survey.

While Pew’s study states that “66% of American adults have a home broadband connection in 2010,” they acknowledge that some of the self-reporting respondents they interviewed by telephone may be accessing the Internet via mobile Smart phones or mobile laptop USB modems or mobile laptop air cards when they report they have “a home broadband connection.”<sup>25</sup> While DIVCA’s penetration rate for landline broadband of 66% appears to be identical to the nationwide broadband internet usage at home findings gathered by the Pew Research Center’s Internet & American Life Project, these are not equivalent comparisons.

Similarly, while the Public Policy Institute of California (PPI) reported in August 2010 that “70% of Californians have access to high-speed broadband Internet at home (up from 62% a year ago and 55% in 2008), they too are relying on respondents to self report the type of connection they use to connect to the Internet.”<sup>26</sup>

Organization Reporting Broadband Findings	2009 (Wireline) Broadband“Penetration”	2010 (Wireline) Broadband“Penetration”
Public Policy Institute (California)	62% (Adults Reporting Access to Broadband Internet at Home)	70% (Adults Reporting Access to Broadband Internet at Home)
Pew Internet & American Life Project	63% Adults Reporting Home Broadband Connection	66% Adults Reporting Home Broadband Connection
DIVCA Report	63% DIVCA Franchisees Reported Number of Resid. BB Subscribers	66% DIVCA Franchisees Reported Number of Resid. BB Subscribers

<sup>25</sup> Both Pew and PPI’s findings are based on a different methodology than the DIVCA report uses. While the DIVCA penetration rates are based on the number of connections reported by DIVCA franchisees, Pew based their findings on a telephone survey of 2,252 adults between April 29 and May 30, 2010. To complete these interviews, Princeton Survey Research Associates made random digit dialing calls to 20,895 land line numbers and to 12,699 cell phone numbers.

<sup>26</sup> PPI gathered their data via a telephone survey of 2,502 adults in July 2010.

## **L. Subsidy Programs for Broadband Deployment**

There are a number of efforts underway to provide incentives to service providers to increase their deployment of broadband services in unserved and underserved areas.

Though market forces in conjunction with lower-cost technology will always influence broadband availability, a variety of programs are underway to encourage more competition and investment in video and broadband infrastructure. DIVCA is but one example. Below are brief descriptions of several programs that are intended to create incentives for deployment of additional infrastructure in unserved and underserved areas throughout California:

The California Advanced Services Fund (CASF) provides matching funds for the deployment of broadband infrastructure in unserved and underserved areas in California. Senate Bill 1193 (Padilla, Chapter 393, 2008) requires the CPUC to provide for transfer payments to encourage service providers to deploy high quality advanced communications services to all Californians. The goal is to promote economic growth, job creation and other social benefits of advanced information and communications technologies.

The California Emerging Technology Fund makes investments in programs and projects to minimize the digital divide by accelerating the deployment and adoption of broadband and other advanced communication services to unserved and underserved communities, and to increase subscribership to these services.

The California Telehealth Network is a three year pilot program funded by a \$22 million grant from the FCC. The Telehealth network uses advanced telecommunications and information services to connect more than 300 rural healthcare sites with a network of specialized healthcare providers at academic medical centers and other healthcare providers throughout the state of California.

The California Rural Telecommunications Infrastructure Grant Program aids in the establishment of telecommunications service in areas not currently served by existing local exchange carriers. In 2008, the Governor signed SB 1149 which extended the program to January 2012. The CPUC can now grant \$40 million over a four year period and can issue individual grants of \$5 million.

The Federal American Recovery and Reinvestment Act of 2009 (ARRA) was passed by Congress and appropriated:

- \$2.5 billion to the Dept. of Agriculture's Rural Utilities Service to fund broadband loans, loan guarantees and grants to support distance learning, telemedicine and broadband.
- \$4.7 billion dollars to be used by the National Telecommunications and Information Administration (NTIA) to fund the Broadband Technology Opportunities Program . The Recovery Act requires NTIA initiate the Broadband Technology Opportunities Program (BTOP) to accelerate broadband deployment to unserved and underserved areas and ensure that institutions strategically placed to create jobs and provide other public benefits have broadband access.
- BTOP has five overarching purposes:
  - 1) Extend broadband access to unserved areas;
  - 2) Provide improved access in underserved areas;
  - 3) Improve use of broadband by public safety agencies; and
  - 4) Stimulate broadband demand as an engine for economic growth.
  - 5) Provide education, training, equipment and support to strategic institutions such as at libraries, community organizations and job-creating facilities;

**Appendix A:  
Overview of  
The Digital Infrastructure and  
Video Competition Act**

## A. Overview of DIVCA

On September 29, 2006, the Governor signed into law Assembly Bill 2987, the Digital Infrastructure and Video Competition Act of 2006 (DIVCA).<sup>27</sup> DIVCA's overriding goals are to promote rapid, widespread competition in the broadband and video markets and accelerate the deployment of additional infrastructure in California.

DIVCA, which the CPUC implements, addresses not only video franchising, but also the deployment of additional broadband infrastructure within California, particularly to unserved and underserved areas. DIVCA fundamentally changed video franchising within California by transferring the authority for issuing franchises for the provision of video services from local entities to the State of California. The State Legislature designated the CPUC as the sole franchising authority for issuing state video franchises as of January 1, 2007.

California was the eighth state to fundamentally reform video franchising to facilitate competitive video entry.<sup>28</sup> Approximately 17 states have transferred video franchising authority to the state. These states include California, Florida, Georgia, Iowa, Illinois, Indiana, Kansas, Michigan, Missouri, New Jersey, North Carolina, Nevada, Ohio, South Carolina, Texas, Virginia and Louisiana.<sup>29</sup>

Prior to DIVCA, cable television franchises were issued by local entities, primarily cities, counties and special districts. This required cable operators to negotiate separate franchise agreements with each locality where they wished to provide video service. California is made up of 58 counties encompassing over 6,000 cities and towns.<sup>30</sup> These local franchise agreements required that service providers comply with specified customer service and performance standards and other requirements that often varied by locality.

For new entrants seeking to provide video and broadband services on a widespread basis, the process of negotiating franchise agreements with each individual local entity would inevitably have been a long process, delaying the widespread market entry of additional competitive service providers for many years. To speed the entry of new video and broadband providers into the marketplace, the Legislature sought to replace the local franchising system with one in which video franchises would be issued by the state. The CPUC was designated as the agency charged with issuing state video franchises.

In order to carry out its statutory goals, the CPUC developed and adopted rules to implement DIVCA through a series of three formal decisions and several resolutions. See pages 43 – 45 in Appendix C for descriptions of these decisions.

Following the adoption of these new rules, the CPUC began issuing ten-year state video franchises. The state video franchise application process is ministerial. A state video franchise

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<sup>27</sup> A.B. 2987, 2005-2006 Session, (Ca. 2006); Cal. Pub. Util. Code, Division 2.5, The Digital Infrastructure and Video Competition Act of 2006. ("DIVCA").

<sup>28</sup> Passage of Cal. Video Bill Expands Franchise Reform to 1/3 of U.S. Population, *Communications Daily*, September 5, 2006.

<sup>29</sup> Miller & Van Eaton, PLLC., *State Cable Franchise Laws at a Glance*, available at <http://www.millervaneaton.com/00130020.pdf>. (Last visited June 16, 2008).

<sup>30</sup> *California Gazetteer: City Profiles, Physical and Cultural Features*, <http://california.hometownlocator.com/cities/> (Last visited June 16, 2008); *California State Association of Counties*, <http://www.csac.counties.org/> (Last visited June 16, 2008).

will be issued, so long as an applicant is eligible for a state franchise, the application is complete, and the applicant swears that it will adhere to all state and federal laws, rules, and regulations.

Holders of state video franchises are required to submit certain data annually on April 1 relating to their provision of video and broadband services, and information pertaining to their service to low-income households within the holders' video service areas as of December 31 of the previous year. DIVCA directs the CPUC to aggregate the data described above and to report the aggregated totals to the Governor and the Legislature annually.

While DIVCA provides that the CPUC is the sole franchising authority for issuing state video franchises,<sup>31</sup> the statute also provides that video service providers are not public utilities and prohibits the Commission from imposing any requirements on state franchise holders that are not expressly provided by DIVCA.<sup>32</sup>

DIVCA defined the jurisdiction of the Commission quite narrowly. The Commission is charged with the following tasks:<sup>33</sup>

- Issuing and renewing 10-year video franchises.
- Gathering data from franchise holders on their deployment of video and broadband services on an annual basis.
- Aggregating data submitted by holders for use in an Annual Report from the CPUC to the Governor and Legislature.
- Monitoring Franchise holders' deployment of infrastructure and services to protect against discrimination and enforce build-out requirements contained within the statute.
- Protecting against telco-video cross subsidization.
- Collecting fees from state franchise holders to equal the cost of carrying out the CPUC's duties under DIVCA.

DIVCA guided the CPUC in its job of implementing the act by setting forth the following goals:<sup>34</sup>

- Create a fair and level playing field for all market competitors that does not disadvantage or advantage one service provider or technology over another.
- Promote widespread access to the most technologically advanced cable and video services to all California communities in a nondiscriminatory manner regardless of socioeconomic status.
- Protect local government revenues and their control of public rights-of-way.
- Require market participants to comply with all applicable consumer protection laws.
- Complement efforts to increase investment in broadband infrastructure and close the digital divide.

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<sup>31</sup> P.U. Code § 5890.

<sup>32</sup> Id. at §5840 (a).

<sup>33</sup> On March 1, 2007, the CPUC issued decision 07-03-014, adopting a General Order and Procedures to Implement the Digital Infrastructure and Video Competition Act of 2006, (Phase I Decision), at p. 7.

<sup>34</sup>P.U. Code §5840 (a).

- Continue access to and maintenance of the public, education, and government (PEG) channels.
- Maintain all existing authority of the California Public Utilities Commission as established in state and federal statutes.

## B. Enforcement of Video Build-out Requirements: Protecting Against Discrimination and Closing the Digital Divide

DIVCA requires the CPUC to monitor holders' deployment of infrastructure and services to protect against discrimination and enforce build-out requirements contained in the statute.<sup>35</sup> Also, as discussed above, DIVCA mandates that the CPUC should promote efforts to increase investment in broadband infrastructure and close the digital divide.

In order to carry out these goals, the Commission applies a number of nondiscrimination and build-out tests to protect against discrimination and enforce DIVCA's build-out requirements. For example, the build-out requirements for holders with over one million telephone customers are set out in the table below:

	More than ONE million telephone customers in CA	
	Predominantly fiber optic to premises	Not predominantly fiber optic to premises
Within 2 years	25% of customer households in telephone service area must have access to video service	
Within 3 years		35% of households in telephone service area must have access to video service

The DIVCA legislation calls for AT&T to build out video and as a result, associated faster broadband infrastructure 50% of its telephone service territory within five years after it began providing video service (Spring, 2012). Verizon is required to build out video infrastructure to 40% of its telephone service territory within five years after it began providing video service (Spring, 2012). So far Verizon met its two year mandate to build out to 25% of the households in its service area. AT&T met its three year mandate to build out to 35% of the households in its service area.

As can be seen in this table, the trigger points for this build-out requirement do not occur until the end of the second year of operation (in the case of holders predominantly deploying fiber optic to the premises) or the end of the third year (in the case of holders not predominantly deploying fiber optic to the premises.)<sup>36</sup> Similarly, the other benchmarks that holders must reach with regard to building out facilities and doing so in a nondiscriminatory manner are only to be applied in future years. The benchmarks are:

<sup>35</sup> Phase I Decision, at 7; See P.U. Code §5890.

<sup>36</sup> *Id.* at (e)(1) and (2).



- Verizon has exceeded their two year build out obligation / milestone by offering video services to more than 25% of the households in their telephone service area. The obligation is to offer video service to at least 25% of customer households in their telephone service area within two years.
- AT&T has exceeded their three year build out obligation / milestone by offering video services to more than 35% of the households in their telephone service area. The obligation is to offer video service to at least 35% of customer households in their telephone service area within three years.

## C. Protecting Against Telco-Video Cross Subsidization

DIVCA directs the CPUC to assure that state franchise holders that provide stand-alone, residential, primary line basic telephone service shall not increase their rate for such service to finance the cost of deploying a network to provide video service.<sup>37</sup>

Both DIVCA<sup>38</sup> and the CPUC's Uniform Regulatory Framework (URF) decision<sup>39</sup> prohibited AT&T and Verizon from raising these rates at all, prior to January 1, 2009, except to reflect increases in inflation. The CPUC's decision D 08-09-042 OP 12 extended this freeze on basic rate increases (other than inflation) to December 30, 2010.

To date, these safeguards have served to protect against cross-subsidization.

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<sup>37</sup> P.U. Code § 5940

<sup>38</sup> *Id.* at § 5950

<sup>39</sup> Order Instituting Rulemaking on the Commission's Own Motion to Assess and Revise the Regulation of Telecommunications Utilities, Decision 06-08-030, Opinion (Cal. P.U.C. August 24, 2006).



## **Appendix B: Methodology**

## A. Data & Method

### Sources of Annual Video and Broadband Data

DIVCA requires state franchise holders to submit annual data describing their territories, availability of service, and subscribership. The data used in this third annual report, were as of December 31, 2009. These data were used throughout this report and provided a base from which to compare and evaluate providers' year-to-year performance under DIVCA.

The analyses of broadband subscribership and broadband penetration rates in this report were conducted using data collected from franchisees under the FCC's Form 477 requirements, as required by DIVCA. Analyses of broadband availability were conducted using data collected from the franchisees under the State Broadband Data and Development Grant Program (SBDDGP). The NTIA has authorized the CPUC as the sole authority in California for collecting, compiling, analyzing, and presenting broadband data. Details are described in section three on the next page.

To aggregate the data reported by census tract and map and analyze it, we used an Oracle database and a Geographic Information System (GIS). We also used Excel spreadsheets to aggregate, analyze and create graphs of the annual data. The findings are illustrated in maps, graphs, and charts throughout the report.

All state video franchise holders who had state franchises and/or amendments issued before December 31, 2009, submitted annual data pursuant to Sec. 5960. Each parent company of a state video franchise holder filed one annual report which included broadband and video service data for all of their state franchised operations as well as their local affiliates that operate in California and provide video or broadband service in the state.

The companies that filed annual reports include:

AT&T California, Astound Broadband, Baldwin County Internet, Cable USA, Cableview Communications, Calaveras Cablevision, Capps TV, Champion Broadband, Charter Communications, Comcast Cable, Cox Communications, Greenfield Communications, Mediacom, Northland Cable Television, Redwood IPTV, Sebsatian, Suddenlink Communications, SureWest Broadband, Time Warner Cable, Verizon California, Volcano Vision, and Wave Broadband.

The analyses of video and broadband service are based on these self-reported data from parent companies of the state video franchise holders listed above and exclude companies that are not yet state franchise holders. State video franchise holders reported the following data by census tract as of December 31, 2009:<sup>40</sup>

1. Broadband service
  - a. The number of households that subscribe to broadband to which the holder makes available

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<sup>40</sup> Some of the small video franchisees did not report SBDDGP data.

- b. Whether the broadband provided by the holder utilizes wireline-based facilities or another technology
  - c. Number of subscribers to each download and upload broadband speed tier
  - d. Types of technology used to deploy broadband services
2. Video service
- a. If the holder is a telephone corporation:
    - i. The number of households in the holder's telephone service area
    - ii. The number of households in the holder's telephone service area that are offered video service by the holder
  - b. If the holder is not a telephone corporation:
    - i. The number of households in the holder's video service area
    - ii. The number of households in the holder's video service area that are offered video service by the holder
  - c. The number of low-income households in the holder's video service area
  - d. The number of low-income households in the holder's video service area to which video service is made available by the holder

### 3. Broadband Availability Data Sources

Broadband availability data used in this analysis was collected by the CPUC's Broadband Mapping Program, under the auspices of the National Telecommunication and Information Administration's (NTIA) State Broadband Data and Development Grant Program (SBDDGP).

Broadband availability data collected by the CPUC's Broadband Mapping Program from current state video franchisees has been used in this report in lieu of data mandated under the 2006 Digital Infrastructure and Video Competition Act (DIVCA). We used this data because the SBDDGP data is aggregated to the census block and street segment level, and therefore can be up to 8,991 times more granular than data collected at the census tract level under DIVCA.<sup>41</sup>

According to SBDDGP rules, a broadband provider may elect to provide data on the availability of their service by either 1) address, or 2) census blocks and street segment. If an entity provides service in a census block that is less than 2 square miles in size, they may assert that they provide service everywhere in that block. If an entity provides service in a block that is 2 square miles or larger in size, they must specify to which segment they provide service. All collected data is rolled up to census blocks and street segments, preserving the 2 square mile break. More details are available on the Video Franchising web page of the CPUC at (<http://www.cpuc.ca.gov/PUC/Telco/Information+for+providing+service/BB+Mapping.htm>).

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<sup>41</sup> There can be up to 999 census blocks (CBs) in a single census block group (CBG), and up to 9 CBGs in a single census tract.

## **Method for calculating the number of broadband providers by census block**

Broadband availability data for each provider, aggregated by census block, was incorporated into a single census block shapefile through a process of attribute joining and field calculation. Data fields containing the names of each broadband provider were concatenated together into a single field using the “&” operator in the Field Calculator. The resulting concatenation sequences were then sorted alphabetically, common blocks of sequences selected, and the appropriate provider count for each census block recorded in a new field using the Field Calculator. The same method was used for the street segment data.

## **Method for Estimating the Aggregate Number of Households in Census Blocks with a Common Number of Broadband Providers**

While we used the best data available from the California Department of Finance to estimate the number of households and growth in each county, we found that there are a number of inherent problems with estimating aggregate household totals associated with any specific broadband metric.

First and foremost is the projection of household totals from 2000 to 2009. Rather than use a single average household growth rate for the entire state, as we did in the 2008 report, we applied separate county growth rates to all census blocks in each county. While this accounts for regional variation in growth rates, it doesn’t address the urban/rural growth dichotomy present in every county.<sup>42</sup> A single growth rate for an entire county will result in an underestimate of households in the faster growing (i.e. urban or suburban) census blocks, and an overestimate of households in the slower growing, or shrinking, (i.e. rural) census blocks. When this fact is combined with the fact that urban and suburban areas generally have a greater number of entities providing broadband service, it means that the aggregate household totals for census blocks with more broadband providers are overestimated, and the aggregate household totals for census blocks with fewer broadband providers are underestimated. In the end, this paints a rosier picture of broadband competition in California than may actually be the case.

Another problem we encountered was how to aggregate households from street segment data. Street segment data amounted to nearly half of all broadband availability data collected; yet linear (polyline) data has no associated census household data. A simple overlay selection with the existing census block layer containing provider and household data wouldn’t work; since street segments, by their very nature, overlap or straddle multiple census blocks, which would result in double counting of households in many census blocks. Instead, we did a census block overlay selection for each group of street segments with a common number of providers; then removed any selected blocks that may already have had a non-zero provider count (i.e. blocks 2 square miles or larger in size), before summing the households in those blocks.<sup>43</sup>

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<sup>42</sup>With the possible exception of the most rural counties, such as Alpine, Modoc, or Trinity.

<sup>43</sup> Note that census blocks and street segments with a non-zero provider count are spatially exclusive, due to the 2 square mile SBDDGP criteria; so a simple additive approach was used.

The census blocks and street segments with no providers could not be directly selected and summed, since they overlap each other (they are not spatially exclusive). So instead, that total was derived by subtracting the census block / street segment household totals for 1, 2, 3, and 4 providers from the statewide household grand total.

An implicit assumption in this method is that a single served street segment causes an entire block (and all households in it) to be classified as served. The same assumption is also made regarding the number of households being served by 0, 1, 2, 3, and 4 video providers, in this, and previous, years' reports.



## Limitations of Census Tract Reporting

The data presented in this DIVCA report was reported to us in several different units (address, street segment, census block, census tract). Address-level availability data was aggregated to either the census block or street segment level before being incorporated into the analyses in this report. For the purpose of estimating households, street segment availability was also rolled up the census block level. Most of our work here, therefore, deals only with census geographies (block and tract).

Although census blocks are a much more granular mapping unit than census tracts, and therefore provide a much improved picture of broadband availability than we could produce in previous years, the unavoidable fact of aggregation means that staff's ability to perfectly analyze and depict the availability of broadband and video service is still limited. The table below compares the relative sizes of census tracts and blocks.

Geography	Count	Min. size in sq. mi.	Ave. size in sq. mi.	Max. size in sq. mi.	Min. no. of HH	Ave. no. of HH	Max. no. of HH
Census block	532,900	<0.000001	0.31	1,278	0	24	2,367
Census tract	7,049	0.021	22	8,007	0	1,628	8,530

In addition, census tract basis reporting, rather than actual addresses reporting, for video availability data makes it impossible to obtain an accurate, absolute number of households offered video service, either by census tract or statewide. Individual franchise holders reported the number of households to which they offered service by census tract, and for census tracts where they were the only provider, this figure could be used as an accurate estimate of the total number of households offered service in that tract. But for census tracts in which there were multiple providers, it was impossible to know whether the two (or more) services were offered to different households, or to the same households. Therefore, simply adding the household figures from two or more providers could result in double or triple counting, bringing some availability and subscription rates to over 100%.

Consequently, mapping where competition has occurred (one of the core concerns of DIVCA) is complicated. Rather than being able to show where different franchise holders are providing service in a census tract, we were forced to classify an entire census tract as being either served or unserved by each provider, then simply add up the number of providers for each tract, regardless of where they are actually offering service within that tract. In this way, the current level of video competition was also overstated.

Similarly for broadband, if one household in a census block was offered service by any franchise holder, then it was assumed that all households within it were offered the service, and the block was considered 'served.' This naturally resulted in an overstatement of the level of availability. Error estimation was not done for this report, so it is not known how inaccurate these estimates are.

On the other hand, the population density within California varies widely (as evidenced by the extreme variation in its census geography sizes). This means that the total number of census tracts comprising California's rural heartland (where most of the error in the results may lie) are relatively few, and that the total number of households this represents are also relatively few.

Adoption or subscription to broadband and video services was analyzed using penetration rate, or the ratio of households that purchase broadband or video service to the total number of households in the block or tract. The holders used a variety of consultants to derive census numbers for 2009, since the Census Bureau does not report household counts by for inter-census years. Accordingly, the block/tract values reported by the holders vary. For this third DIVCA Report, to estimate the number of households in California, we used the estimates derived by the California Department of Finance (DOF).

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## **Appendix C:**

### **Implementing DIVCA: Decisions and Resolutions**

## **Rules Adopted to Implement DIVCA**

Shortly after DIVCA was enacted on September 29, 2006, the CPUC, on October 5, 2006 issued its Order Instituting Rulemaking to consider the adoption of a General Order and procedures to implement the Digital Infrastructure and Video Competition Act of 2006 (R. 06-10-005) (“Rulemaking”). Under this Rulemaking, the CPUC has developed rules for implementing DIVCA. This was accomplished in three phases.

### **Phase I - Adopting Rules to Implement the DIVCA**

On March 1, 2007, following the receipt of comments and reply comments on the OIR and subsequent Proposed Decision, the CPUC issued Decision 07-03-014 establishing rules for implementing DIVCA and adopting General Order 169. (“Rules”) These rules set forth application requirements, CPUC procedures for considering applications, build-out, anti-discrimination, annual reporting requirements of both cable and broadband information by census tract, and other requirements as mandated by DIVCA.<sup>44</sup>

### **Phase II - Adopting Non-Discriminatory Build-out Requirements for Small LECs**

On May 7, 2007 the assigned Commissioner issued a Scoping Ruling setting out issues to be addressed in Phase II of the Rulemaking. On October 4, 2007, the CPUC issued a Phase II decision adopting non-discriminatory build-out requirements for smaller companies and additional reporting requirements.<sup>45</sup> In Phase II, the CPUC determined that the “reasonable time” deployment standard applicable to franchise holders who are telephone companies with fewer than one million telephone customers should largely mirror the build-out timetable required of the larger telephone companies. Further, the CPUC determined that, in their annual reports to the CPUC, holders must provide video subscriber data, finding that such data are necessary in order for the CPUC to determine whether state franchise holders are adhering to the requirements of DIVCA.<sup>46</sup>

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<sup>44</sup> On October 5, 2006, the Commission issued an Opinion Modifying Decision 07-03-014, in order to amend the form of the franchise certificate adopted in Phase I to conform to statutory requirements (available at [http://docs.cpuc.ca.gov/published/FINAL\\_DECISION/65225.htm](http://docs.cpuc.ca.gov/published/FINAL_DECISION/65225.htm)).

<sup>45</sup> *Order Instituting Rulemaking to Consider the Adoption of a General Order and Procedures to Implement the Digital Infrastructure and Video Competition Act of 2006*, Decision 07-10-013, *Opinion Resolving Issues in Phase II* (Cal. P.U.C. October 4, 2007).

<sup>46</sup> Previously, the Commission’s Rules required the submission of data related to the number of households offered video services, but not the number of households subscribing to such services.

### **Phase III - Adopting New Rules to Administer DIVCA**

On March 27, 2008, the CPUC issued a Scoping Ruling setting out issues to be addressed in the third, and final, phase of the DIVCA Rulemaking. On July 10, 2008, the CPUC issued the Phase III decision amending the bonding requirements under DIVCA, adopting new rules regarding deadline extensions for build out requirements, and additional reporting requirements.

Under DIVCA, holders of a state video franchise are subject to statutory requirements regarding, among other things, the extent and pace at which state franchise holders must build out facilities and offer video services to households. The statute provides that state franchise holders may apply to the CPUC for an extension of the time for such build out requirements to be satisfied, under certain circumstances. The Phase III added procedural requirements to ensure that holders' extension requests are made and decided in a timely fashion.

Further, Phase III eliminates an unintended and unfair asymmetry in the bond requirement under GO 169 between new entrants in the video marketplace and incumbent cable operators. Local franchises held by incumbent cable operators tend to be held by many separate affiliates of an ultimate parent. Verizon and AT&T, by contrast, have each applied for only one state franchise covering their entire video service areas. The Phase III decision changes the rules under DIVCA to require only one bond to be posted to cover all affiliated holders rather than separate bonds so that "incumbent" applicants for video franchises do not have additional burdens placed on them due to their historic corporate organization under the local franchising scheme.

Finally, Phase III requires holders to include in their annual data submitted to the CPUC broadband speed "tiers" that state video franchise holders make available. Numerous commenters urged the CPUC to wait until the FCC released its order requiring broadband reporting by census tract, broken down by speed tier and technology, and, thereafter, to adopt the FCC's speed reporting regime. The FCC released its Report and Order and Further Notice of Proposed Rulemaking adopting new requirements for reporting broadband service by speed tier on June 12, 2008.<sup>47</sup> The CPUC issued this decision to reflect the FCC's speed tier reporting requirements. Holders are now required to report the same broadband speed information that it reports to the FCC to the CPUC.

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<sup>47</sup> Form 477 Order, fn 21, *Supra*.

## Resolutions

After gaining experience in processing applications, CPUC staff has made several recommendations for revisions to the application forms through two resolutions, T-17107 and T-17141, which were subsequently adopted by the CPUC. In addition, DIVCA provides for video franchise holders to pay fees to the CPUC calculated to equal the amount authorized in the CPUC budget for DIVCA implementation. Resolution T-17137 set the user fee due per household in a video franchise holders' service area for the 2007-2008 fiscal year. Subsequent to this Resolution, the user fee will be determined annually based on the pro-rata percentage of all state video franchise holders' gross state video franchise revenues that is attributable to an individual state video franchise holder.

## DIVCA Application Process

The application process was designed to be simple and straight forward. It requires applicants to file the following: a completed application form; a \$2,000 application fee; confirmation of technical, managerial, and financial qualifications demonstrated through the posting of a bond (\$100,000 to \$500,000); an affidavit attesting to the lawful operation of the franchise; a definition of the video service area sought; demographic information by census block group; the expected date for the deployment of video service in the video service area; and, a list of affected local entities.

The CPUC must determine within 30 days if an application is complete and issue the franchise within 14 days of such determination.<sup>48</sup> If the application is not complete, CPUC staff is required to notify the applicant, and the 30-day clock restarts. If the CPUC does not issue the franchise within the required 14 days, it is deemed issued. The new franchise holder and Commission staff then notify the affected local entities.<sup>49</sup>

The CPUC's Phase I Decision allowed applicants, except for incumbent cable operators, to begin filing applications for state-issued video franchises as of March 1, 2007.<sup>50</sup> The first such application was filed by Verizon California Inc. on March 2, 2007. AT&T California filed its application on March 7, 2007. These franchise applications were reviewed for completeness, and video franchises Nos. 0001 and 0002 were issued to Verizon and AT&T on March 8 and March 30, 2007, respectively. All franchise applications and grants may be viewed on the Commission's web site.

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<sup>48</sup> P.U. Code §5840 (h).

<sup>49</sup> See P.U. Code §5840 (n).

<sup>50</sup> <sup>50</sup> DIVCA required the CPUC to begin accepting applications no later than April 1, 2007; P.U. Code §5847(g)

## **Appendix D: Collecting Data Mandated by DIVCA**



## A. DIVCA's Data Reporting Requirements

Holders of state video franchises are required to submit data relating to their provision of video and broadband services annually by April 1.<sup>51</sup> Pursuant to DIVCA, all video franchise holders must report, by census tract, the following:<sup>52</sup>

### 1. Broadband Information:

- a. The number of households to which the franchise holder makes broadband available in California. If the holder does not maintain this information on a census tract basis, in its normal course of business, the holder may reasonably approximate the number of households based on information it keeps in the normal course of business.
- b. The number of households that subscribe to broadband that the holder makes available in this state.
- c. Whether the broadband provided by the franchise holder utilizes wireline-based facilities or another technology.
- d. Number of subscribers to each download and upload broadband speed tier
  - a. Types of technology used to deploy broadband services

### 2. Video Information:

- a. If the franchise holder is a telephone corporation:
  - i) The number of households in the holder's telephone service area.
  - ii) The number of households in the holder's telephone service area that are offered video service by the holder.
- b. If the holder is not a telephone corporation:
  - i) The number of households in the holder's video service area.
  - ii) The number of households in the holder's video service area that are offered video service by the holder.

### 3. Low-Income Household Information:

- a. The number of low-income households in the holder's video service area.
- b. The number of low-income households in the holder's video service area that are offered video service by the holder.

DIVCA directs the CPUC to aggregate the data described above and to report the aggregated totals to the Governor and the Legislature annually no later than July 1.<sup>53</sup> In the following sections, we will discuss the broadband and video data submitted by the Video Franchise holders as of April 1, 2008.

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<sup>51</sup> P.U. Code §5960.

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* The issuance of this first Report has been delayed due to start-up issues regarding data formatting and the delayed hiring of staff.

## B. Census Tract Data Limitations

CPUC staff created methodologies to obtain, quantify and analyze data describing where video franchise holders offer broadband and video services in California and to what extent households are purchasing those services.

As specified in DIVCA and the CPUC's DIVCA Decisions, video franchise holders provided the CPUC with data identifying the number of households to which they offer broadband and video services in each of the state's census tracts. In addition, they reported by census tract the number of households that subscribe to their broadband and video services.

This census-tract level granularity is one of the key limitations of the data submitted under DIVCA.<sup>54</sup> All mapping and analysis had to be done at the level at which the data was submitted. Census tracts are too large a minimum mapping unit to accurately map broadband and video services throughout the state of California. There are 7,049 census tracts in California, ranging in size from 0.021 square miles to 8,007 square miles, averaging 22 square miles. The number of households in each tract ranges from 0 to 8,530, averaging 1,628 households per census tract. These variations made it difficult to determine the actual distribution of broadband and video availability in certain locations within the state.

At this time, DIVCA does not require franchise holders to provide the street-level, census block-level, or household-level data that would be needed to determine precisely where households are actually offered broadband and video services.

As a result, we found it to be impossible to determine where, within each census tract, service is being provided. Therefore, we assumed that if any household in a census tract was offered broadband by any video franchise holder, all households within that census tract are offered broadband and the entire tract was mapped as 'served' by broadband. We used the same methodology for video. This assumption results in some over counting of the number of households to which service is made available within some census tracts. For example, in some rural census tracts, it appears as if a census tract is completely served when in reality only a small geographic area within a rural tract is offered broadband or video service. Fortunately, because relatively few households in California are located in predominately rural census tracts, relatively few households are in the overstated category. Unfortunately, the areas where results may be somewhat overstated are exactly the areas where high accuracy would be important to identify unserved areas.

For census tracts in which there were multiple providers, it was impossible to know how many providers offered service to any given household. Adding the "households offered" figures from two or more providers could result in double or triple counting and create significant inaccuracies in estimates of service availability.

The methodology we used attempted to overcome these limitations. In most census tracts, we believe this methodology yielded accurate data. However, without census-block, street-level or household-level data, the precision of our estimates of the availability of service within a census

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<sup>54</sup> The granularity of data refers to size of the geographic areas by which data are reported.

tract is uncertain. As a result, in some census tracts, this methodology resulted in an overstatement of the estimated level of broadband or video availability.

Our ability to analyze where competition exists was also limited. When multiple service providers report that they offer service in the same census tract, there was no way of knowing where within the tract each operates, and we were faced with the double-counting issue again. For example, consider an average sized census tract with 1,600 households. If two franchise holders each report that they offer broadband service to 800 households, it is not possible to know which of the households are served broadband by one, both, or neither of the service providers. It is possible that both service providers might be competing by offering services to the same 800 households, while the other 800 households are offered no service by either provider. Or, it is possible that all 1,600 households might be offered service by one provider and there is no real competition taking place within the census tract.

Finally, it is important to keep in mind that throughout this Report, only services offered by state-issued video franchise holders and their affiliates are reflected in DIVCA data. Broadband and video services are likely offered in many areas by other entities, unrelated to state video franchise holders. Examples of this would be small local exchange carriers, which provide broadband service, but are not yet providing video services, wireless and satellite ISPs, which provide broadband but are not affiliated with state franchise holders. These providers did not report data so we did not include them in the analysis contained in this Report.

## **Appendix E: Video Franchise Area Maps**