June 2008

Residential Telephone Subscribership and Universal Service

Report to the California Legislature

In Accordance with California Public Utilities Code Section 873

California Public Utilities Commission

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Executive Summary

When the Moore Universal Telephone Service Act (Moore Act)[1] was passed more than twenty years ago, very few people could have foreseen the changes that have since taken place in California's telecommunications landscape. The Act's purpose was to ensure that high quality, basic residential telephone service was available to the public in general - and to low income citizens in particular - at affordable rates. It emphasized the importance of universal service and put in motion the programs and initiatives that furthered that goal over the next two decades.

With the explosive growth of wireless phone service, cable technology, and all things Internet, the service paradigm for phone service has changed from wireline technology provided by local exchange telephone companies (LECs) to multiple technologies provided by a host of different service providers. This new intermodal paradigm has resulted in an environment where many consumers can choose phone service from one of several regulated or unregulated providers using differing technologies. There are now more wireless subscribers in California than wireline subscribers, and the 1 million Voice over Internet Protocol (VoIP) service subscribers are adding to the number of those consumers opting out of traditional wireline phone service provided by licensed local exchange companies. It should come as no surprise that California now finds itself with more phones than people.

Coincident with the growth of new technologies and service providers is the erosion of the wireline base of the traditional telephone companies. These line losses started at the beginning of the millennium and have continued unabated. During this same period, however, the percentage of households with some type of phone service, or the penetration rate, has remained fairly steady – up some years and down in others – underscoring the change in how we communicate.

The current statewide penetration rate exceeds the 95 percent goal set by the California Public Utilities Commission (Commission) and now stands at 96.7 percent of all households in California as compared to 95.5 percent last year. There are variations in the penetration rate in different geographies: higher in urban than rural areas; differences in subscribership among racial and

[1] AB 1348, Ch.1143, Stats. 1983 [Calif. Pub. Util.Code §871 et seq.]. as amended.

ethnic groups; and most notably, differences dependent upon income level. But overall current subscribership levels indicate that the policies and programs designed to foster universal service have had the desired effect on the penetration rate.

The California LifeLine Program, the High Cost Fund A and B Programs, the Deaf and Disabled Telecommunications Program (DDTP) and the Rural Telecommunications Infrastructure Grant Program are long standing initiatives aimed at addressing subscribership by keeping telephone service affordable. LifeLine and the Rural Grant programs address affordability directly, LifeLine by subsidizing basic rates and the Rural Grant program by funding infrastructure projects in rural, low-income communities. The High Cost programs take an indirect approach by subsidizing carrier's cost in rural, high-cost areas. The DDTP program provides equipment to the deaf and disabled community to facilitate telephone communications.

The Commission is confident that the penetration rate will remain high. This confidence is buttressed by the growth in subscribers of competitive alternatives to wireline telephone service, the recent auction of new wireless spectrum by the Federal Communications Commission (FCC), the continuing decrease in the cost to provide communications technologies, and improved service reliability in rural areas.

Overview

As of November 2007, residential telephone subscribership in the U.S. stood at 94.9 percent, an increase of some 1.7 million households[2] since the Commission's last penetration report in August 2007. During this same time, California has seen subscribership rise from 95.5 percent to 96.7 percent of all households, and the state moved up several spots in the national ranking from 15th to 11th place.

State	Nov 1983	Nov 2007	% Change	Rank
North Dakota	95.10	98.50	3.40	1
Minnesota	96.40	97.80	1.40	2
South Dakota	92.70	97.70	5.00	3
Connecticut	95.50	97.60	2.10	4
Pennsylvania	95.10	97.60	2.50	5
New Hampshire	95.00	97.50	2.50	6
Colorado	94.40	97.00	2.60	7
Massachusetts	94.30	97.00	2.70	8
Alaska	83.80	96.90	13.20	9
Iowa	95.40	96.90	1.50	10
California	***91.70***	***96.70***	***4.90***	***11***
Wisconsin	94.80	96.60	1.80	12
Wyoming	89.70	96.60	6.80	13
Missouri	92.10	96.50	4.40	14
Oklahoma	91.50	96.50	5.00	15
Kansas	94.90	96.40	1.50	16
Nevada	89.40	96.40	6.90	17
Vermont	92.70	96.40	3.70	18
New Jersey	94.10	96.30	2.20	19
Washington	92.50	96.30	3.80	20

Table 1 – Telephone Penetration by State (% of Households with Telephone Service)
Source: FCC Report ***Telephone Subscribership in the United States;*** released March 2008

This subscribership level, or penetration rate, is calculated by the Federal Communications Commission and is based upon data supplied by the Census Bureau's monthly Current Population Survey, or CPS[3].

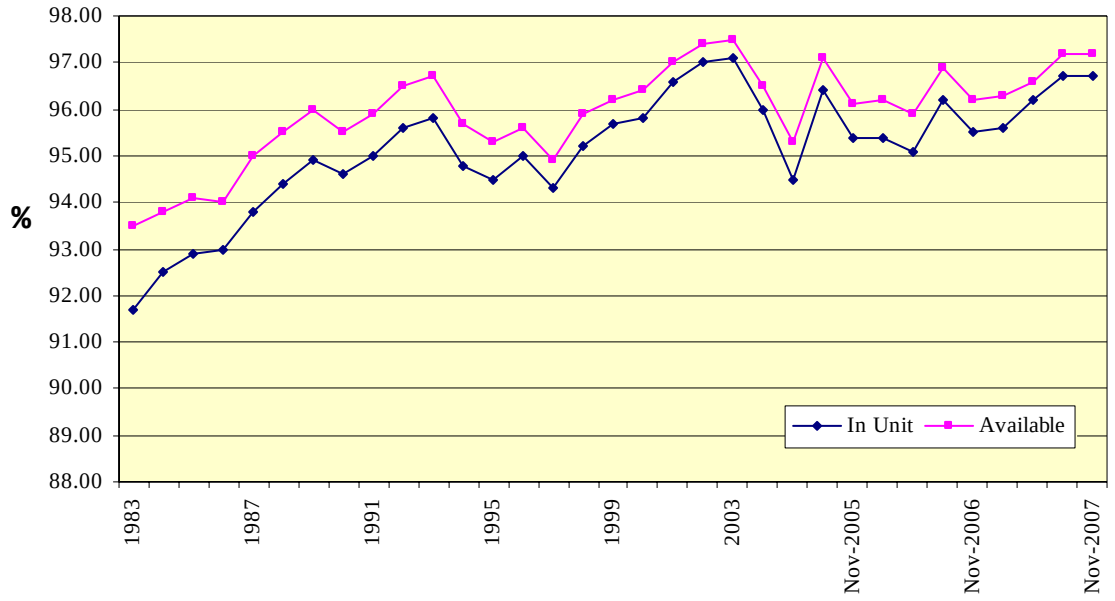
[2] Based upon U.S. Census estimate of 114 million households as of 2006.

[3] The CPS is a monthly survey of about 50,000 households nationwide - about 10% of them in California. The FCC has contracted with the census department to ask questions on telephone availability in order to calculate penetration levels. Unfortunately, these results do not track nicely

In an effort to accurately include all available telephone technologies in the survey, the survey asks "Does this house, apartment, or mobile home have telephone service from which you can both make and receive calls? Please include cell phones, regular phones, and any other type of telephone." Prior to 2004, the question simply asked "is there a telephone in this house or apartment?" With the increasing number of households having only wireless service, the Census Bureau was concerned that some wireless respondents were answering 'no' to this question and changed the survey accordingly.

California's year over year increase of 1.2 percent represents almost 150,000 households.[4] Chart 1 shows the year over year change from 1983 to 2004, and then every four months from 2005 to 2007. There are two values for each time period measured, "In Unit", and "Available", where the value for "available" is always the greater of the two. If a respondent answers 'no' to the survey question, it is followed up with "Is there a telephone elsewhere on which people in this household can be called?"

Chart 1 - Telephone Penetration Rates in California



The general trend has been an increasing penetration rate. Coincident with this is with the increasing widespread use of alternatives to landline telephone service. Also, the availability of the California LifeLine and other

with the penetration figures from the decennial census, primarily due to sampling techniques and survey methodologies. For example, the CPS pegs the penetration rate in CA at 96.7% while the 2000 census – eight years prior – stated that only 1.5% of occupied housing units in CA lacked telephone service, indicating a penetration rate of 98.5%. This is a statistically significant difference. The FCC believes that the CPS value may be on the low side and the 2000 census value on the high side, with the "most probable value lying somewhere in between."

[4] Based upon Census Bureau's 2006 American Community Survey estimate of 12.2M households.

public purpose programs designed to make phone service more affordable for lower income citizens are factors having a positive influence on subscribership.

This report looks at subscribership from various geographic, technological and socio-economic perspectives to see how these factors contribute to or influence the penetration rate for phone service.

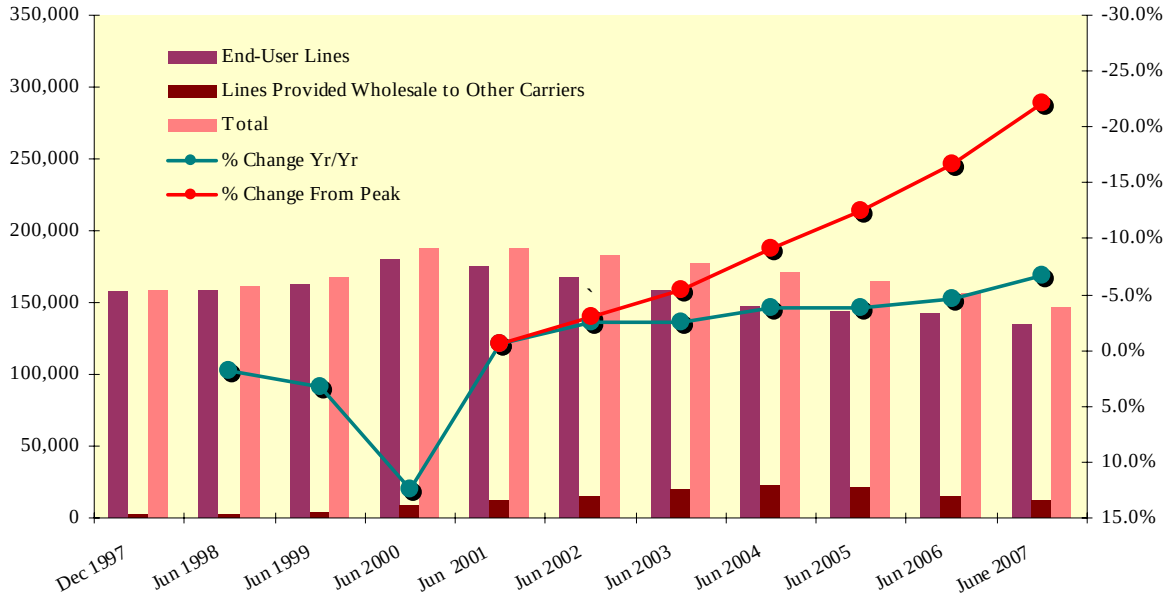
The first section looks at the different technologies being used today to provide phone service. In addition to traditional wireline service, the report examines the growth of wireless and VoIP. Section two explores the extent to which penetration levels differ with geography, from the statewide level down to the community level. The next section discusses how subscribership levels differ among racial and ethnic groups, and section four examines subscribership based upon levels of income. Finally, the report discusses California LifeLine and other state public purpose programs created to address penetration rates among lower income groups and to achieve universal service.

Technologies & Providers

Wireline Telephone Service

Traditional plain old telephone service, or "POTS", has been on the wane in recent years, not only in California but throughout the nation. The line gains seen after the introduction of local exchange competition in the mid-1990's have given way to accelerating line loss, particularly over the past couple of years. The chart below shows lines in service provided by incumbent local exchange companies, and includes both the number of retail lines and those provided wholesale to other carriers[5]. From a peak of 188 million lines in 2000, total incumbent carrier end-user lines have decreased in each successive year and now stand at 78 percent of what they were at the start of the millennium.

Chart 2 - Nationwide End User ILEC lines and % Change

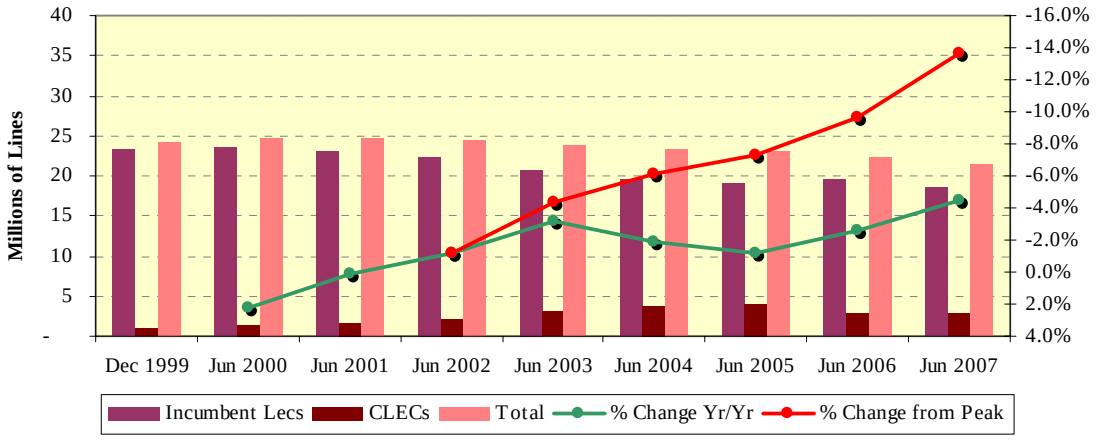


This trend is also true in California. Since they peaked in 2001, the total number of end-user lines has been steadily dropping, despite the millions of lines added from competitive local exchange companies (CLECs). The following chart shows a very similar picture to the nationwide picture except that in addition to the incumbent LEC (ILEC) retail and wholesale lines, it also includes CLEC-owned lines, including cable and other technologies. It

[5] Source: ***Local Telephone Competition: Status as of December 31, 2006,*** FCC's Industry Analysis Technology Division. Released December 2007.

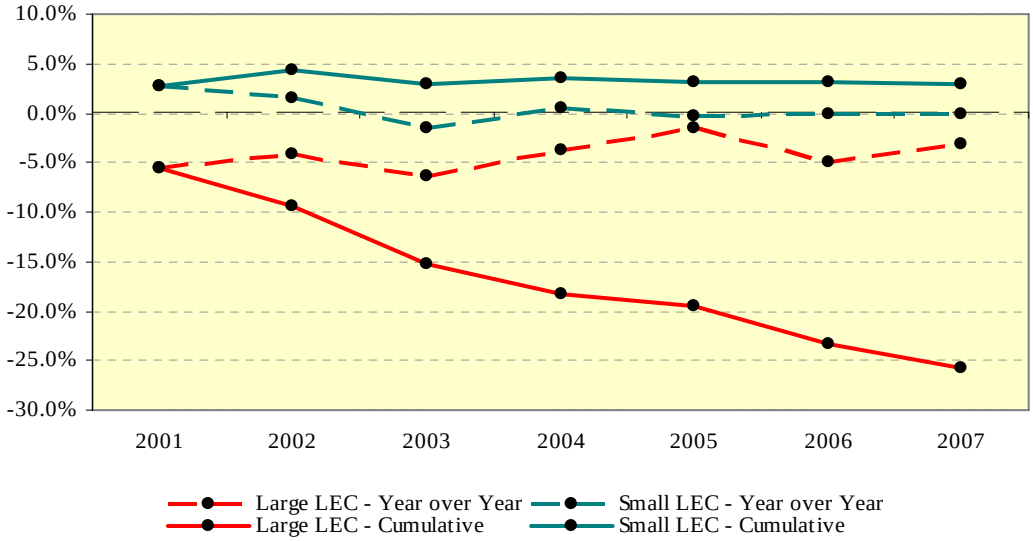
is striking that even with CLEC adds of almost 3 million lines, the total is nearly 15 percent *less* than it was at the start of the decade.

Chart 3 - California LEC Line Loss



While overall the trend is clear, rural areas have had the opposite experience – they have managed to eke out small line gains over the past eight years. Chart 4 below compares end user lines in service for the large incumbent LECs to those of the small incumbent LECs and their growth rates[6]. While large ILECs have lost 25 percent of their embedded wireline base[7], the small ILECs have seen a 3 percent increase.

Chart 4 - Comparison: Large ILEC/ Small ILEC Line Losses in California



[6] Large ILECs include AT&T, Verizon, Surewest, and Frontier. Small ILECs operate in rural areas and are listed in the following section on the California High Cost Fund - A

[7] CLEC line additions are not included in the line count and percentage changes.

There are a couple of likely reasons for the ILEC line losses in California. First, some line loss is due to the introduction of broadband in the late 1990's. Digital Subscriber Line (DSL) and cable Internet access service eliminated the need for a second telephone line to connect to the Internet -- consequently lines that were dedicated to Internet and fax applications were disconnected in favor of these new technologies. A second reason for the decline is the substitution of wireless and VoIP service for wireline service. As the next section discusses, there are now more wireless than wireline subscribers in California, a number that has increased over three-fold since 1999[8].

Wireless

At the end of 2006, the FCC had calculated that there were 241.8 million mobile telephone subscribers in the U.S., an increase of 13 percent over the previous year, equating to approximately 80 percent of the population[9]. This is approximately 80 million more 'lines' than traditional wireline service and convincing evidence that wireless is becoming as important – in some cases more so - than traditional wireline service. In our August 2007 penetration report, we mentioned that one of every eight adults now lives in a wireless-only household. A recent study by Telephia[10] found that recent movers -- those people who have moved residences in the past year -- are more likely to subscribe to a home phone service from a "non-traditional" telephone service provider. It found that 25 percent of recent movers have opted for wireless only[11].

As one would expect, wireless subscribership is particularly strong in California, where by June of 2007, wireless subscribership was 30.2 million[12], or 82.7 percent of the state's population[13]. Like most states, this is more than double where it stood at the beginning of the decade.

[8] In December of 1999 the FCC had calculated 8.54 million wireless subscribers in California. Today there are over 30 million.
[9] See ***Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services – Twelfth Report;*** Released Feb. 4, 2008. CTIA (the wireless industry's association) estimates 255 million subscribers at the end of 2007.
[10] Telephia (now Nielsen mobile, part of the Nielsen company) provides syndicated consumer research to the telecom and mobile media markets.
[11] Telephia, Inc. press release April 17, 2007. It also found that 13% of recent movers have chosen a cable phone option; and 6% have switched to a VoIP phone service.
[12] See FCC's ***Local Telephone Competition: Status as of June 30, 2007*** – March 2008
[13] Based on US Census Bureau's 2007 California population estimate of 36.5 million.

Table 2 shows the state rankings for mobile telephone subscribership for the years 2001 through 2007. California tops the list by a large margin, with almost 12 million more subscribers than second ranked Texas.

State	Mobile Telephone Subscribers (in Millions)						
	2001	2002	2003	2004	2005	2006	2007
	June	June	June	June	June	June	June
California	***14.2***	***16.0***	***18.9***	***21.6***	***24.6***	***27.5***	***30.2***
Texas	8.3	9.7	10.8	12.1	14.4	16.9	18.8
New York	6.7	7.9	8.8	9.9	13.0	14.6	15.9
Florida	7.5	8.6	10.3	11.9	12.6	14.2	15.3
Illinois	5.6	5.4	6.8	7.5	8.2	9.1	9.9
Pennsylvania	4.4	5.0	5.7	6.4	7.4	8.3	9.2
Ohio	4.3	4.9	5.7	6.2	7.0	7.9	8.7
Georgia	4.1	4.3	4.7	5.3	6.0	6.9	7.6
New Jersey	3.9	4.5	5.4	6.3	6.2	7.0	7.4
Michigan	4.1	4.8	4.9	5.4	6.2	6.9	7.3
North Carolina	3.4	4.6	4.3	4.9	5.5	6.2	7.0
Virginia	3.1	3.4	3.9	4.4	4.9	5.3	6.1
Massachusetts	2.8	3.3	3.5	3.9	4.5	4.9	5.3
Tennessee	2.5	2.8	3.1	3.6	4.1	4.5	5.0
Washington	2.3	2.7	2.8	3.2	4.1	4.7	5.0

Table 2

Once focused primarily on dense urban areas and high traffic corridors, wireless has now penetrated into rural America. According to the FCC, wireless service from at least one wireless provider is now available to over 99 percent of the total population in rural counties, and though there are some areas in California where wireless is not available, there is at least one operator in each of its fifty eight counties[14].

Auctions 73 & 66

In March of this year the FCC concluded its auction 73 of the 700 MHz wireless spectrum, selling 1091 licenses at an aggregate price of $19 billion[15].

[14] ***Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services – Twelfth Report*** ¶ 106.

[15] Licenses included in the auction were of five different Blocks - Block A: 176 Economic Area (EA) licenses, Block B: 734 for Cellular Market Area (CMA's), Block E: 176 for Economic Areas (EA), Block C: 12 Regional Economic Area Grouping (REAG) licenses, and Block D: 1 nationwide license. See FCC's fact sheet for Auction 73 at http://wireless.fcc.gov/auctions/

This bandwidth, formerly assigned to broadcast TV, was made available as a result of the digital television (DTV) transition. The FCC anticipates many uses for this spectrum, but considering the number of winning bids by established wireless companies, fixed and mobile wireless applications are certainly the majority planned for deployment.

The winning bidders obtained licenses for enough bandwidth to blanket the state twice over, including all of California's rural areas with a population of nearly two million[16]. Because of the 'use it or lose it' provision in the FCC's requirements[17], winning bidders will be disinclined to sit on the licenses and will need to provide coverage and offer service if they want to keep them.

Similarly, in 2006, the FCC concluded Auction 66 for Advanced Wireless Services, selling 1087 licenses at an aggregate of $13 billion. This auction of the 1710-1755 MHz and 2110-2155 MHz bands was for fixed and mobile terrestrial wireless applications using bandwidth that is sufficient for the provision of a variety of applications including those using voice and data. Plenty of bandwidth planned for California deployment was acquired by both large (Cingular, T-Mobile) and small (Volcano Internet) providers.

Mobility Fund

In its recommended decision last November, the Federal-State Joint Board on Universal Service proposed the adoption of the Mobility Fund that would be charged with (1) bringing wireless service to unserved areas throughout the country, and (2) providing for carrier subsidies in areas where usage is so low that it is uneconomic to build and operate without them. The Joint Board considers it a legitimate goal that "all consumers should have access to at least one carrier that provides a reliable signal[18]."

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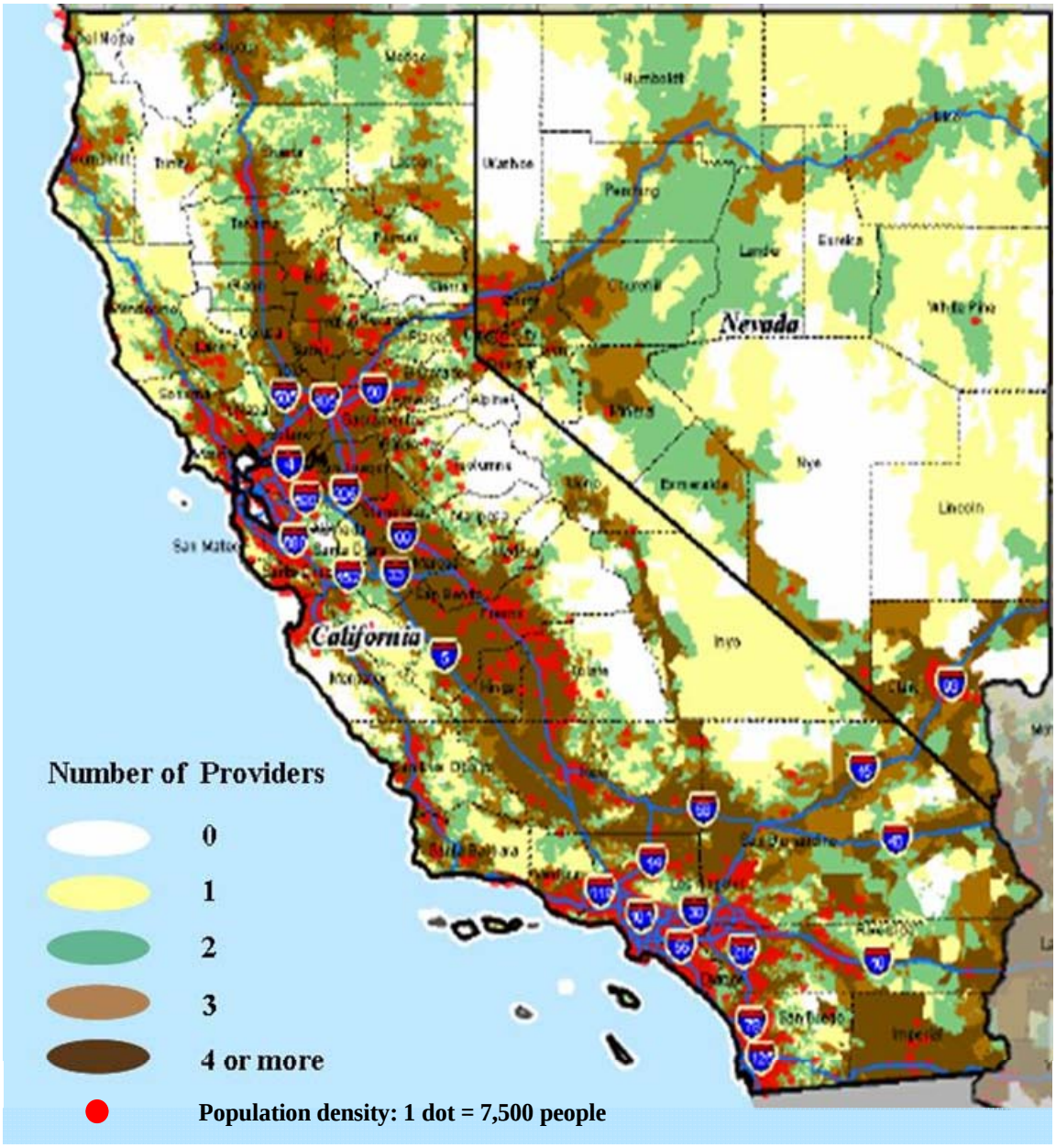
[16] Rural areas in wireless terminology are as defined by Rural Service Areas (RSA's). In California they include the Mono, Del Norte, Modoc, Tehama, Mendocino, Imperial, Alpine, Sierra, Madera, Kings, San Luis Obispo, and El Dorado RSA's. Some are synonymous with county boundaries, others include areas comprising multiple counties.

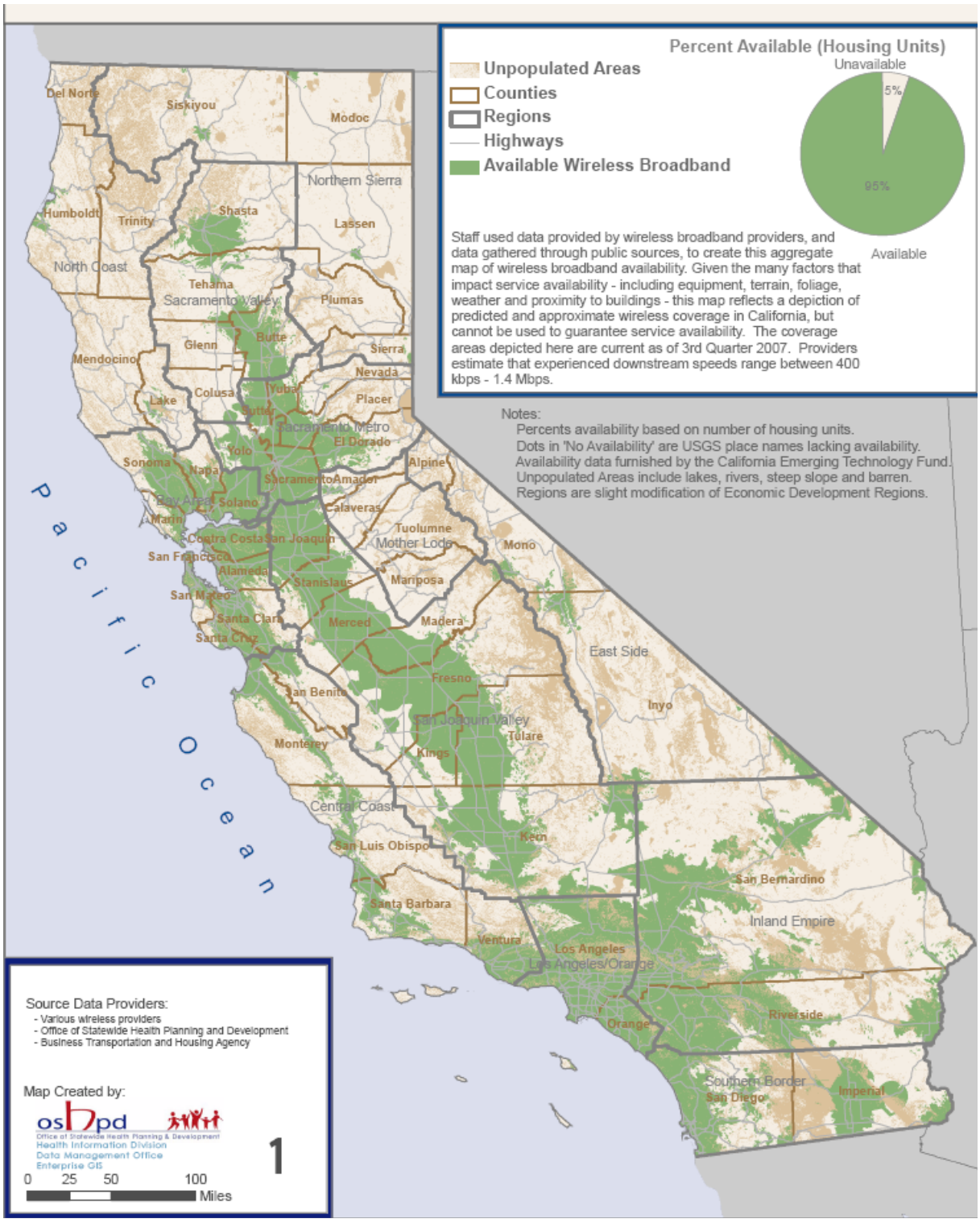
[17] The licenses are for a term of ten years. For CMA and EA licenses, the licensees must provide signal coverage and offer service to (1) at least 35 percent of the geographic areas of their licenses within four years of the end of the DTV transition, and (2) at least 70 percent of the geographic areas of their licenses at the end of the license term. For Regional licenses, the licensees must provide signal coverage and offer service on an EA basis, specifically to (1) at least 40 percent of the population in each EA in its license area within four years, and (2) at least 75 percent of the population in each EA by the end of the license term. If these terms are not met, the unused portion of the license will terminate automatically and will become available for reassignment.

[18] *See* **In the Matter of High-Cost Universal Service Support Federal-State Joint Board on Universal Service**, *Recommended Decision*, WC Docket No. 05-337; CC Docket No. 96-45, released Nov. 20, 2007

Though it may take a few years for the effects of these new wireless build-outs to be felt, these developments are certain to increase both wireless subscriptions and the penetration rate in California.



Map 1 – Wireless Availability in California
Source: Commercial Mobile Services – Twelfth Report



Map 2 – Wireless Broadband Availability in California
Source: Broadband Task Force Final Report

Voice over Internet Protocol (VoIP)

Phone service provided via Voice over Internet Protocol, or VoIP, has quickly been gaining popularity with consumers, especially cable provided VoIP. We estimate there are approximately 1 million current VoIP users in California alone. VoIP is a technology for communicating using Internet protocol instead of traditional telephone technology, and works by converting the voice signal from your telephone into a digital signal that can travel over the Internet. If a VoIP customer calls a traditional landline telephone, the signal is then converted back into analog signals at the terminating end. Depending on the type of VoIP service, you can make a VoIP call from a special VoIP phone, from a traditional phone with or without an adapter, or from a computer. There are essentially three different type of VoIP providers: Pure-Play providers, Cable VoIP, and computer-based. Table 3 on page fifteen summarizes the major differences in VoIP service offerings.

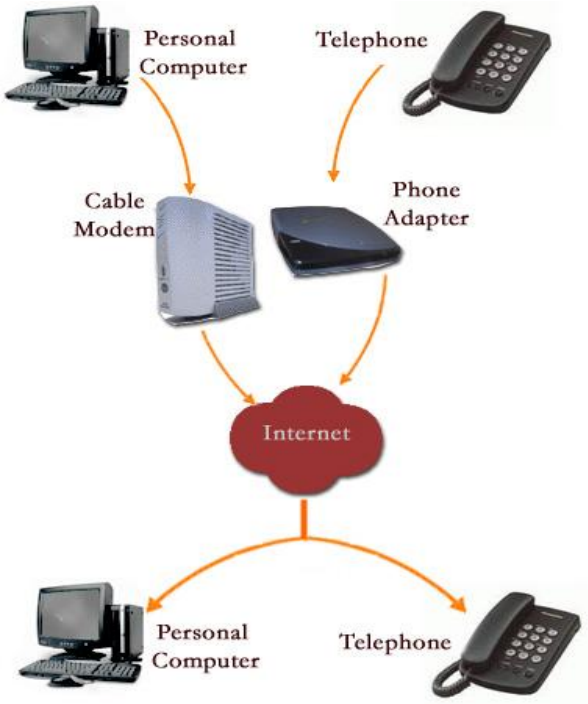


Figure 1: Typical VoIP serving arrangements

Pure Play VoIP Providers

Vonage, with 2.6 million subscribers,[19] and Packet8 are just a few of the many that are pure-play VoIP service providers. These companies provide service that uses a subscriber's current broadband connection and generally require a company-provided telephone adapter to enable the service.

Cable VoIP

Cable providers, particularly Comcast, Time Warner, Cox Communications, Cablevision and Charter Communications, have captured the lion's share of the VoIP market with over 10 million subscribers[20]. In contrast to the Pure Play and Computer-based (below) providers, most cable providers route calls over their own backbone and distribution facilities instead of the public Internet.

Computer-based VoIP

Computer-to-Computer, or, "Peer-to-Peer" providers like Skype (276 million registered users worldwide[21]) and Gizmo5, account for the majority of the balance of the market. Computer-based VoIP is 'unplugged' from the traditional telephone set -- their free software, a microphone plugged into your computer, and a pair of computer speakers are all that are needed. Calls that both originate and terminate on the Internet are free while those that terminate to or originate from the Public Switched Telephone Network are not.

[19] Vonage Holdings Corp. form 8-K; February 12, 2008.

[20] Comcast – 4.4 million subscribers; Time Warner - 2.9 million; Cablevision – 1.6 million; and Charter - .9 million. Data was obtained from each of their 2007 annual reports. Comcast's subscriber figures include some small number that are circuit switched, a service they are due to completely phase out in 2008. Cox has 2.4 million telephone subscribers (Cox press release Feb. 13, 2008) served by both circuit switched and VoIP technologies – but they do not break out how many subs are served by each.

[21] eBay 2007 Annual Report. Skype is an eBay subsidiary. "Registered users" does not correlate neatly with subscribers, or households, as there are users who have registered and downloaded Skype software but rarely, if ever, use the service. Especially informative is calculating the monthly usage per user. Skype states total 2007 SkypeOut (outgoing calls placed "off-net") minutes of 5.6B. Dividing this by total registered users of 276M yields only 20 minutes per year, or less than 2 minutes per month, as compared to the average residential wireline monthly toll minutes/month of 51 that the FCC calculated in 2005 (*Trends in Telephone Service – Released Feb. 2007*). One study calculates what it calls Skype "real users", or those who regularly use the service, at approximately 30 million worldwide. http://www.glimfeather.com/borderless/.

Provider	Hardware	Network	Distribution Plant	Voicemail & Features Included Free	Monthly Charge
Vonage	Phone Adapter	Internet	Subscriber's Internet Provider	Yes	$24.99
Packet8	Phone Adapter	Internet	Subscriber's Internet Provider	Yes	$24.99
Skype	Computer Microphone & Speakers	Internet	Subscriber's Internet Provider	Voicemail Only	Free for on-net; $3.00 for off-net
Comcast	Standard Telephone	Comcast Backbone	Comcast Distribution Facilities	Yes	$39.95[22]

Table 3 – VoIP Service Comparison

The number of VoIP subscribers in California is not precisely known. Many providers, particularly the cable companies, are required to provide the FCC with data such as phone subscribers by state, but they are not required to declare how many of them are served via VoIP, even though many are. The pure play and computer based providers are not required to provide any subscriber data to the State or FCC, but those that are publicly traded do give aggregated numbers in their annual reports. Using that information, press releases and other news sources, and information provided to the FCC, we conservatively estimate that there are currently between 900,00 and 1.2 million VoIP subscribers in California[23].

[22] Reflects standalone price. Often offered bundled with Cable television and High-speed Internet (aka *Triple Play*) at a discount.

[23] The Cable VoIP subscriber estimate is based on the FCC's form 477, discussions with cable company representatives, and annual report data. Estimates for the Pure Play and Computer based VoIP providers is based on our estimates of California subscribers as a percentage of the VoIP total base, as reported in their annual reports (e.g. *Vonage & eBay.*), and in various news sources.

Adding it Up

At the end of 2006, California had 36 million people, 12.2 million residential wireline household subscribers[24], approximately one million VoIP users (almost entirely residential customers), and over 30 million wireless subscribers – all together many more subscribers than there are California residents. When it seems that everyone of school age or beyond carries their own phone in purse or pocket, it's not surprising that the penetration rate in California is 96.7 percent and climbing. Though we have exceeded the 95 percent goal of the Moore Act, there is still some work to be done. The statewide penetration rate is an average, and by definition, it is comprised of areas with penetration rates both higher and lower than 96.7 percent. The next sections take a more detailed look at some of the numbers to see if there is more to the picture than the averages and totals indicate. The following sections examine penetration rates by geography, race and ethnic classifications, and income ranges.

[24] Twenty one million wireline access lines (LEC and CLEC) multiplied by the 58% that are residence customers. See FCC report ***Local Telephone Competition: Status as of June 30, 2007***

Geographic Differences

Penetration rates are generally higher in denser, more urban areas than in rural areas and rural areas are also more costly to serve. Table 4 shows the telephone penetration rate by county and compares it to housing density. Of the ten counties with the lowest penetration rates, all but one rank within the lowest quartile in terms of housing density, including the bottom ranked six counties. Seemingly, this would lend weight to a density/penetration rate relationship. However what the table also reveals is that the influence of income level on penetration rate appears to be just as significant, if not more so.

Drilling down another level, we look at geographic penetration from the city/town/CDP[25] (collectively *places*) level. Map 3 displays all places in California that have a penetration rate less than the 95 percent benchmark. Table 5 in the appendix lists each place with its respective penetration rate.

The observation that none of the places identified have more than 6,000 households may lead to the conclusion that only small communities have penetration rates less than 95 percent. That is not necessarily the case. There are certain pockets in the state that have similar, low penetration rates, but that granularity is lost in the averages.

[25] CDP stands for Census Designated Place - a geographic entity that serves as the statistical counterpart of an incorporated place for the purpose of presenting census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name, but is not within an incorporated place. CDPs do not need to meet a minimum population threshold to qualify for the tabulation of census data.

Map 3 – Cities, Towns, and CDP's with Penetration Rates < 95%

Source: US Census Bureau, Census Designated Places, 2000.
Projection: Lambert Conformal Conic. Coordinate System: California State Plane, Zone 3; North American Datum 1983
Prepared by the California Public Utilities Commission, Communications Division, Video Franchising and Broadband Deployment Group

County	Occupied Housing Units	Penetration Rate	Penetration Rank	Median Household Income (1)	Income Rank	Housing Density/ Sq Mile	Housing Density Rank
Marin	100,650	99.6%	1	71,306	2	202.00	11
San Mateo	254,103	99.4%	2	70,819	3	580.30	5
Santa Clara	565,863	99.4%	3	74,335	1	448.90	8
El Dorado	58,939	99.3%	4	51,484	15	41.70	26
Nevada	36,894	99.3%	5	45,864	19	46.20	24
Orange	935,287	99.3%	6	58,820	6	1,228.10	2
Placer	93,382	99.3%	7	57,535	7	76.40	18
Sonoma	172,403	99.3%	8	53,076	13	116.20	15
Contra Costa	344,129	99.2%	9	63,675	4	492.50	6
Napa	45,402	99.1%	10	51,738	14	64.40	19
Ventura	243,234	99.1%	11	59,666	5	136.40	13
Monterey	121,236	99.0%	12	48,305	16	39.60	27
San Diego	994,677	99.0%	13	47,067	17	247.70	9
San Luis Obispo	92,739	99.0%	14	42,428	23	31.00	30
Alameda	523,366	98.9%	15	55,946	9	732.40	4
Santa Barbara	136,622	98.9%	16	46,677	18	52.20	22
Santa Cruz	91,139	98.9%	17	53,998	12	222.10	10
Solano	130,403	98.8%	18	54,099	11	162.20	12
Yolo	59,375	98.7%	19	40,769	30	60.80	20
Amador	12,759	98.6%	20	42,280	24	25.40	35
Sacramento	453,602	98.6%	21	43,816	21	491.70	7
Tuolumne	21,004	98.6%	22	38,725	32	12.70	41
San Benito	15,885	98.5%	23	57,469	8	11.90	42
Los Angeles	3,133,774	98.3%	24	42,189	25	805.50	3
San Francisco	329,700	98.3%	25	55,221	10	7,421.20	1
Shasta	63,426	98.3%	26	34,335	46	18.20	39
Butte	79,566	98.2%	27	31,924	49	52.20	21
Riverside	506,218	98.2%	28	42,887	22	81.10	17
Stanislaus	145,146	98.1%	29	40,101	31	101.00	16
Sutter	27,033	98.1%	30	38,375	33	47.00	23
Glenn	9,172	98.0%	31	32,107	48	7.60	47
San Joaquin	181,629	98.0%	32	41,282	28	135.20	14
Calaveras	16,469	97.9%	33	41,022	29	22.50	37
San Bernardino	528,594	97.8%	34	42,066	26	30.00	31
Madera	36,155	97.7%	35	36,286	36	18.90	38
Tehama	21,013	97.7%	36	31,206	52	8.00	46
Mono	5,137	97.6%	37	44,992	20	3.90	51
Fresno	252,940	97.5%	38	34,725	44	45.40	25
Kern	208,652	97.4%	39	35,446	41	28.40	32
Kings	34,418	97.3%	40	35,749	39	26.30	33
Mendocino	33,266	97.3%	41	35,996	37	10.50	44
Plumas	9,000	97.3%	42	36,351	34	5.20	50
Siskiyou	18,556	97.3%	43	29,530	56	3.50	52
Tulare	110,385	97.3%	44	33,983	47	24.80	36
Merced	63,815	97.1%	45	35,532	40	35.50	29
Yuba	20,535	97.1%	46	30,460	53	35.90	28
Mariposa	6,613	96.9%	47	34,626	45	6.10	48
Lake	23,974	96.8%	48	29,627	55	25.90	34
Humboldt	51,238	96.6%	49	31,226	51	15.70	40
Modoc	3,784	96.3%	50	27,522	58	1.20	57
Del Norte	9,170	96.2%	51	29,642	54	10.40	45
Lassen	9,625	95.8%	52	36,310	35	2.60	53
Colusa	6,097	95.4%	53	35,062	42	5.90	49
Inyo	7,703	95.4%	54	35,006	43	0.90	58
Sierra	1,520	95.4%	55	35,827	38	2.30	55
Imperial	39,384	95.2%	56	31,870	50	10.50	43
Trinity	5,587	91.7%	57	27,711	57	2.50	54
Alpine	483	89.2%	58	41,875	27	2.00	56

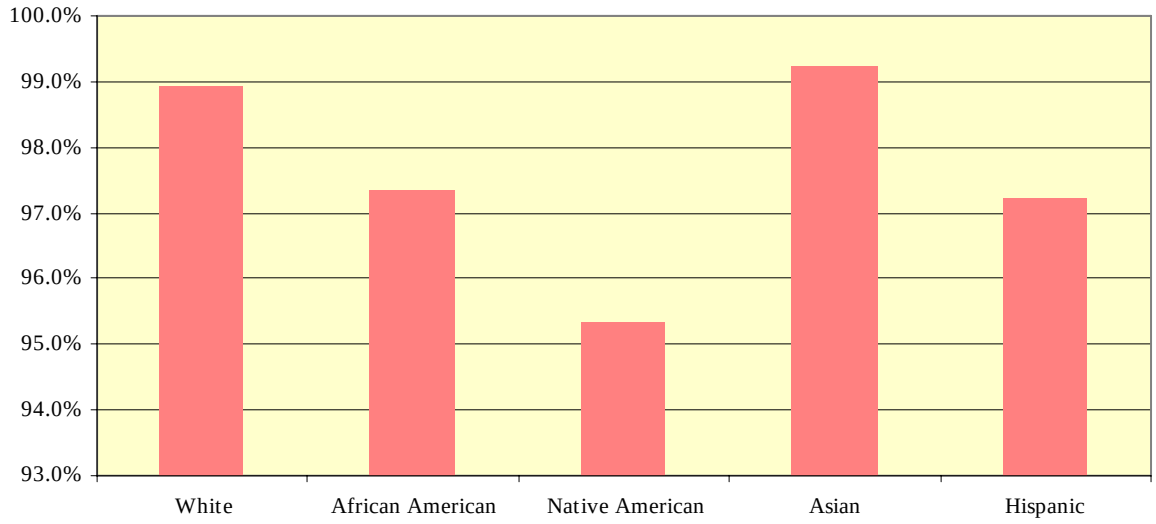
(1) 1999 dollars

Table 4 – Penetration Rate by County; Income and Housing Density Rankings

Racial & Ethnic Differences

Telephone subscribership varies along racial and ethnic lines sufficiently that it needs to be examined in some detail.

Chart 5 - Subscribership by Racial & Ethnic Classifications - California



The chart above summarizes 2000 census data showing subscribership levels along racial and ethnic divisions[26]. The penetration rates for all racial and ethnic classifications exceeds the 95 percent objective at the statewide level, though some areas at county level and below fall short.

Table 6 shows, by county, the respective penetration rates for selected racial and ethnic classifications[27]. The data are sorted by the overall penetration

[26] The difference in penetration rates between the 2000 census data and the CPS shows up clearly in this chart. Simply eyeballing it one would estimate *(correctly if using census data)* that the overall penetration rate was well over 97%.

[27] Some explanation is needed here concerning the Census Bureau's racial and ethnic classifications. On the census questionnaire, the fifth question asked "Is this person Spanish/Hispanic/Latino?" That is *followed* by the question "What is this person's race?" Both questions are answered by all participants in the survey. The choices to the first is either "*No, Not Hispanic*", or, "*Yes*", with four additional checkboxes where one identifies their ethnic origin (*Mexican, Cuban*, etc.). The choices to the second are: *White, Black or African American, American Indian or Alaskan native, Asian Indian, Chinese, Japanese, Filipino, Korean, Vietnamese, Other Asian, Native Hawawaiian, Samoan, Guamanian or Chamorro, Other Pacific Islander, or Some Other Race.* The census bureau does not view Hispanic/ Latino as a race classification, but an ethnic distinction. All those who identify themselves as Hispanic/Latino in question five also need to self identify with one of the race classifications. The point being this: that identification of oneself as Hispanic or non-Hispanic is independent of racial classification. It is informative to note that 43% of Hispanics or Latinos classified themselves as "Some Other Race", while 97% of people who reported as "Some Other Race" were Hispanic or Latino. See US Census Bureau presentation ***An Overview: Census 2000 and Its Data Products***.

rate by county in ascending order. Data highlighted in **bold** with white background indicate a penetration level that is lower than the 95 percent goal. Based upon census data, only two counties fail to meet the objective, although eleven of the lowest-ranking twelve have minority[28] penetration rates below 95 percent. Among minority penetration rates by county, we observe that the penetration rate is lowest among Native Americans. Also noteworthy is that these counties are sparsely populated with large rural areas; eight of them having the lowest housing density in the state.

Map 4 looks at the data in the next level of detail, depicting places (cities, towns, and CDP's) that have penetration rates both below the benchmark, and where 50 percent or more of the households are members of a minority racial or ethnic classification. Table 7 in the appendix lists each community.

[28] "Minority" for these purposes, is defined as non-white race and ethnic groups.

Map 4 – Cities, Towns, and CDP's with Penetration Rates < 95%, and where 50% of the Households are of a Racial or Ethnic Minority

Source: US Census Bureau, Census Designated Places, 2000.
Projection: Lambert Conformal Conic. Coordinate System: California State Plane, Zone 3; North American Datum 1983
Prepared by the California Public Utilities Commission, Communications Division, Video Franchising and Broadband Deployment Group

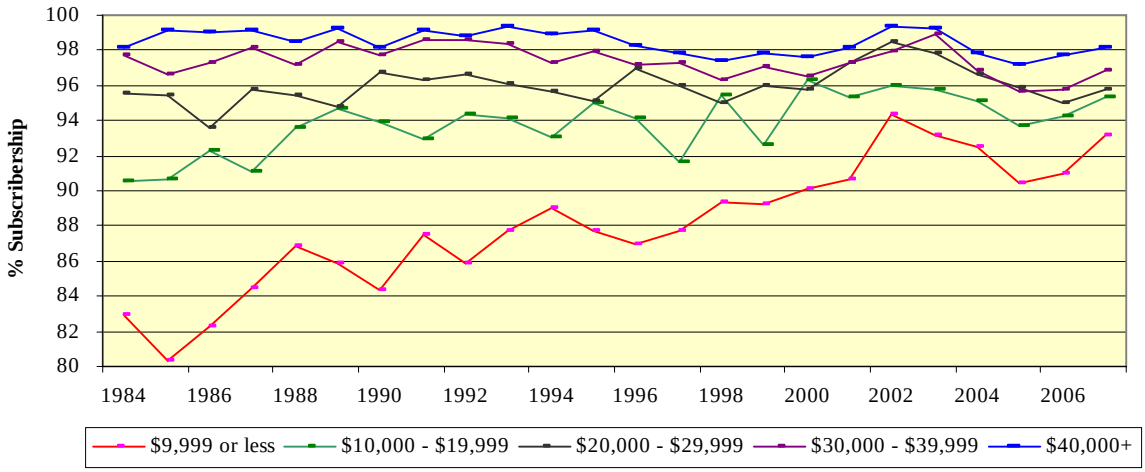
County	Total Households	White	African American	Native American	Asian	Hispanic / Latino	All Minority	Total
Alpine	483	**91.2%**	-	**85.1%**	-	**82.4%**	**82.4%**	**89.2%**
Trinity	5,587	**92.0%**	**90.0%**	**87.7%**	100.0%	**94.5%**	**88.4%**	**91.7%**
Imperial	39,384	**94.9%**	**93.1%**	**85.9%**	100.0%	95.7%	95.7%	95.2%
Colusa	6,097	97.1%	100.0%	**89.0%**	**86.2%**	**92.8%**	**90.7%**	95.4%
Inyo	7,703	96.8%	100.0%	**85.1%**	95.7%	**90.4%**	**87.7%**	95.4%
Sierra	1,520	95.6%	-	100.0%	100.0%	100.0%	**90.8%**	95.4%
Lassen	9,625	96.2%	**89.0%**	95.2%	100.0%	95.5%	**92.8%**	95.8%
Del Norte	9,170	97.0%	**73.9%**	**87.0%**	**87.6%**	97.2%	**91.9%**	96.2%
Modoc	3,784	97.2%	100.0%	**81.8%**	100.0%	**91.2%**	**89.7%**	96.3%
Humboldt	51,238	97.2%	**92.3%**	**88.1%**	100.0%	97.7%	**91.8%**	96.6%
Lake	23,974	97.2%	**91.1%**	**89.6%**	97.6%	**94.6%**	**93.2%**	96.8%
Mariposa	6,613	97.3%	100.0%	**88.2%**	100.0%	**91.0%**	**92.0%**	96.9%
Merced	63,815	97.7%	95.2%	95.5%	96.7%	96.0%	96.0%	97.1%
Yuba	20,535	97.5%	**93.5%**	**92.7%**	99.1%	96.6%	95.7%	97.1%
Tulare	110,385	98.2%	**92.0%**	**91.6%**	96.6%	95.7%	95.4%	97.3%
Mendocino	33,266	97.8%	95.8%	**87.0%**	96.0%	97.1%	**93.8%**	97.3%
Siskiyou	18,556	97.5%	98.3%	**91.9%**	96.8%	96.8%	**94.9%**	97.3%
Kings	34,418	98.2%	97.1%	96.6%	97.7%	95.0%	95.6%	97.3%
Plumas	9,000	97.6%	100.0%	**94.9%**	100.0%	95.4%	**93.7%**	97.3%
Kern	208,652	98.0%	95.7%	95.1%	98.9%	95.7%	95.8%	97.4%
Fresno	252,940	98.5%	95.5%	**94.8%**	98.1%	95.6%	95.8%	97.5%
Mono	5,137	97.6%	100.0%	**85.5%**	100.0%	**94.9%**	97.6%	97.6%
Madera	36,155	98.4%	96.4%	96.8%	100.0%	95.9%	95.7%	97.7%
Tehama	21,013	98.0%	100.0%	96.3%	**93.4%**	**94.1%**	95.3%	97.7%
San Bernardino	528,594	98.3%	97.1%	95.7%	99.0%	96.8%	96.9%	97.8%
Calaveras	16,469	98.0%	100.0%	**91.8%**	100.0%	95.9%	96.7%	97.9%
San Joaquin	181,629	98.4%	96.1%	96.4%	98.5%	96.5%	97.0%	98.0%
Glenn	9,172	98.5%	100.0%	98.2%	100.0%	95.3%	96.1%	98.0%
Sutter	27,033	98.2%	98.7%	97.6%	99.1%	96.4%	97.7%	98.1%
Stanislaus	145,146	98.5%	95.2%	97.4%	98.2%	97.1%	97.1%	98.1%
Riverside	506,218	98.6%	97.4%	**93.8%**	99.2%	96.7%	97.0%	98.2%
Butte	79,566	98.5%	**93.6%**	**95.0%**	98.1%	97.8%	96.6%	98.2%
Los Angeles	3,133,774	98.8%	97.3%	96.2%	99.3%	97.0%	97.6%	98.3%
San Francisco	329,700	98.7%	95.5%	**92.9%**	98.5%	97.5%	97.6%	98.3%
Shasta	63,426	98.6%	97.4%	**88.2%**	100.0%	97.1%	**94.8%**	98.3%
San Benito	15,885	98.7%	**93.7%**	99.0%	100.0%	98.2%	97.8%	98.5%
Amador	12,759	98.7%	100.0%	98.8%	100.0%	95.5%	96.0%	98.6%
Tuolumne	21,004	98.8%	100.0%	**88.6%**	**91.6%**	99.5%	95.5%	98.6%
Sacramento	453,602	98.9%	97.2%	96.0%	99.3%	97.4%	97.9%	98.6%
Yolo	59,375	98.9%	98.3%	97.2%	99.1%	97.4%	98.1%	98.7%
Solano	130,403	99.1%	98.0%	96.6%	99.4%	97.9%	98.4%	98.8%
Santa Barbara	136,622	99.2%	97.9%	97.8%	99.2%	97.2%	97.5%	98.9%
Santa Cruz	91,139	99.1%	97.8%	96.8%	99.1%	97.5%	98.0%	98.9%
Alameda	523,366	99.4%	97.5%	97.4%	99.4%	98.4%	98.4%	98.9%
San Diego	994,677	99.2%	98.1%	95.6%	99.4%	97.9%	98.2%	99.0%
San Luis Obispo	92,739	99.1%	98.8%	**94.3%**	98.0%	98.1%	97.9%	99.0%
Monterey	121,236	99.3%	99.1%	99.2%	99.5%	97.9%	98.4%	99.0%
Napa	45,402	99.2%	100.0%	**91.3%**	100.0%	98.1%	98.0%	99.1%
Ventura	243,234	99.3%	99.5%	97.7%	99.6%	97.8%	98.2%	99.1%
Contra Costa	344,129	99.4%	98.1%	97.8%	99.5%	98.4%	98.5%	99.2%
Placer	93,382	99.3%	97.2%	98.4%	98.9%	98.7%	98.6%	99.3%
Nevada	36,894	99.4%	100.0%	100.0%	100.0%	98.9%	97.4%	99.3%
Sonoma	172,403	99.4%	98.9%	98.9%	99.4%	98.4%	98.6%	99.3%
El Dorado	58,939	99.3%	100.0%	99.0%	97.4%	98.7%	99.1%	99.3%
Orange	935,287	99.5%	99.0%	98.5%	99.4%	98.5%	98.9%	99.3%
Santa Clara	565,863	99.5%	99.2%	97.1%	99.6%	98.6%	99.2%	99.4%
San Mateo	254,103	99.6%	98.4%	98.5%	99.5%	98.9%	99.2%	99.4%
Marin	100,650	99.6%	98.3%	100.0%	99.7%	99.2%	99.2%	99.6%

Table 6 – Penetration Rates by County and Racial/Ethnic Classification

Telephone Penetration by Income

Chart 6 below traces the history of the telephone penetration rate in California stratified by differing levels of income[29]. Penetration rates at the higher income levels have remained fairly flat over this period while those at the two lowest income levels have increased markedly, particularly the rate for those in the lowest income range. At the time of this report, only the penetration rate (93.2 percent) for the lowest income bracket fails to meet the stated 95 percent goal.

Chart 6 - Percent Subscribership by Annual Income

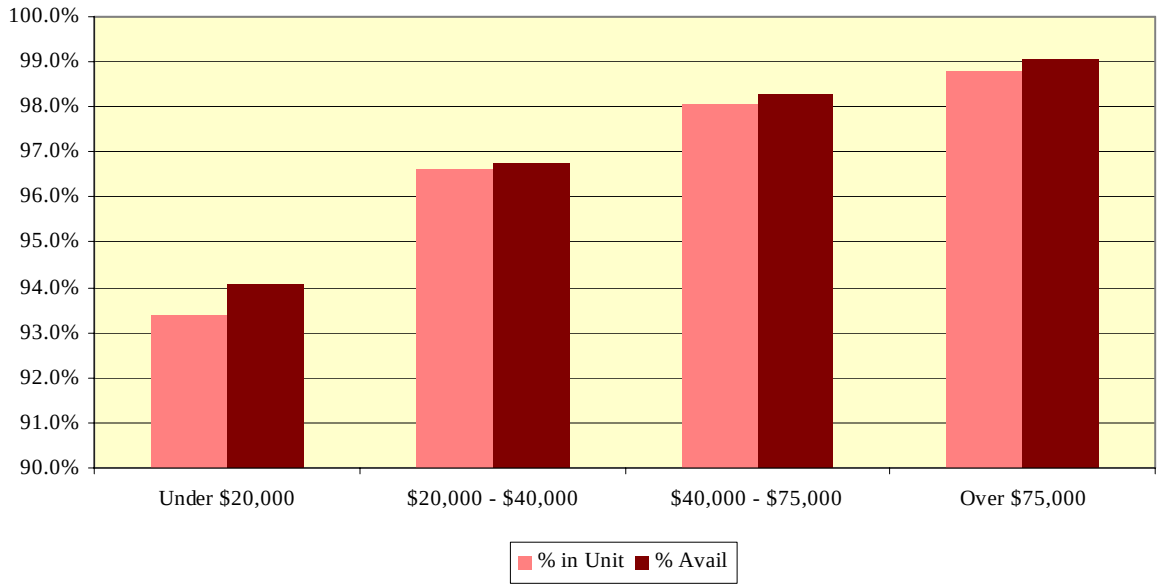


Source: FCC Report – Telephone Penetration by Income by State (Data Through March 2007)

[29] Income levels are in constant 1984 dollars – today's dollars are approximately double.

Chart 7 compares contemporary income and subscribership data[30] from the Current Population Survey. Consistent with the historical view above, the penetration rate for households with annual incomes below $20,000 fails to meet the 95 percent goal.

Chart 7 - Penetration Rate by Income at Current Dollars



Viewing the data at a finer level of detail, Charts 8 and 9 examine penetration rates by county and compare them to the median household income[31]. Chart 8 plots income and penetration rates for each county and shows a loose, but unmistakable correlation between the two: the higher the income, the higher the penetration rate. The rapid fall off of the penetration rate at the far right of the chart represents counties with outlier[32] values, those that have penetration rates significantly below the rest - Trinity at 91.7 percent and Alpine at 89.2 percent.

[30] Survey data from January 2008
[31] Household Incomes in 1999; from the 2000 Decennial Census
[32] Outlier data are defined as unusual observations that are far removed from the mass of data.

Chart 8 - Penetration Rate & Income by County

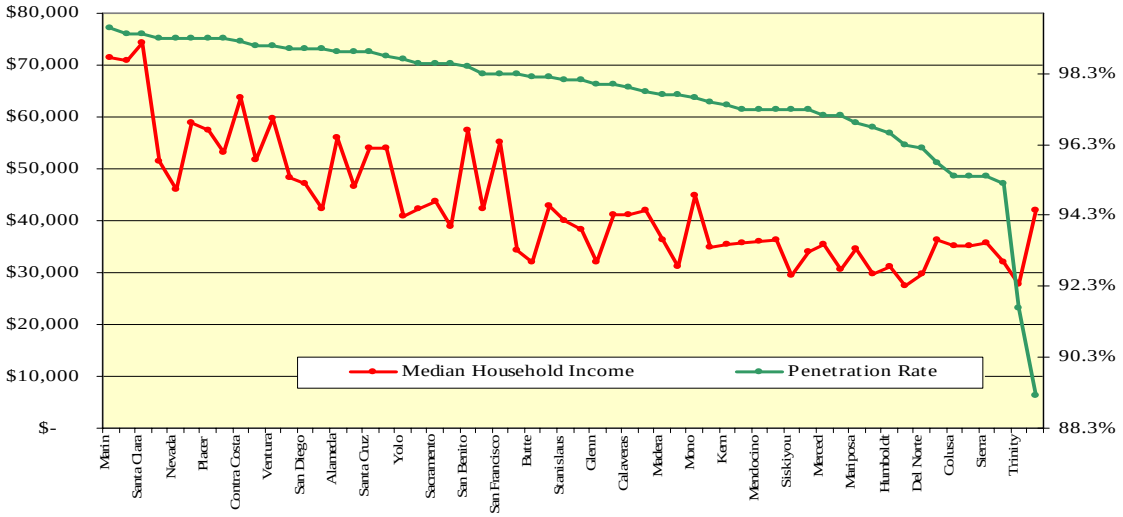
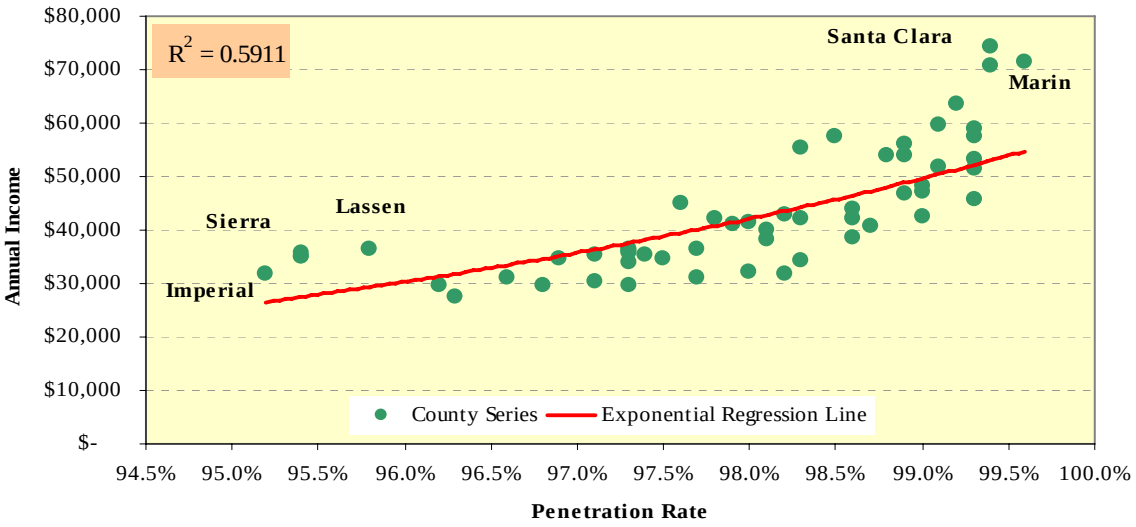


Chart 9 looks at the same data slightly differently, plotting the two values (income and penetration rate) against each other, resulting in a single data point representing each of the fifty-eight counties[33]. Here the correlation between the two variables becomes apparent[34].

Chart 9 - Penetration Rate vs. Income Scatter Chart



[33] Data for the outlier values in Trinity and Alpine counties was excluded in order to facilitate clarity and comprehension.

[34] An important statistic in determining to what degree one factor correlates with another is called the coefficient of determination, or R^2, and is labeled as '$R^2 = 0.5911$" inside the upper left area of the chart. The coefficient of determination is a measure of how well the regression line (in red) represents the data. If the regression line passed exactly through every point on the scatter plot, it would represent that *all* the variations in penetration rates can be explained by the differences in income, and would have an R^2 value equal to 1. In the case above, an R^2 of .5911 means that 59.11% of the variability in the penetration rate can be explained by the difference in level of income. A R^2 value of zero would suggest that there is no correlation between the two factors.

Charts 10 and 11 below plot similar data, comparing penetration rates against both housing density and the percent of minority households residing in each county. Neither reflects the strength of correlation seen in the penetration rate to income comparison - with virtually no correlation seen when plotting a county's penetration rate against its percentage of ethnic/minority households.

Chart 10 - Penetration Rate vs. Housing Density Scatter Chart

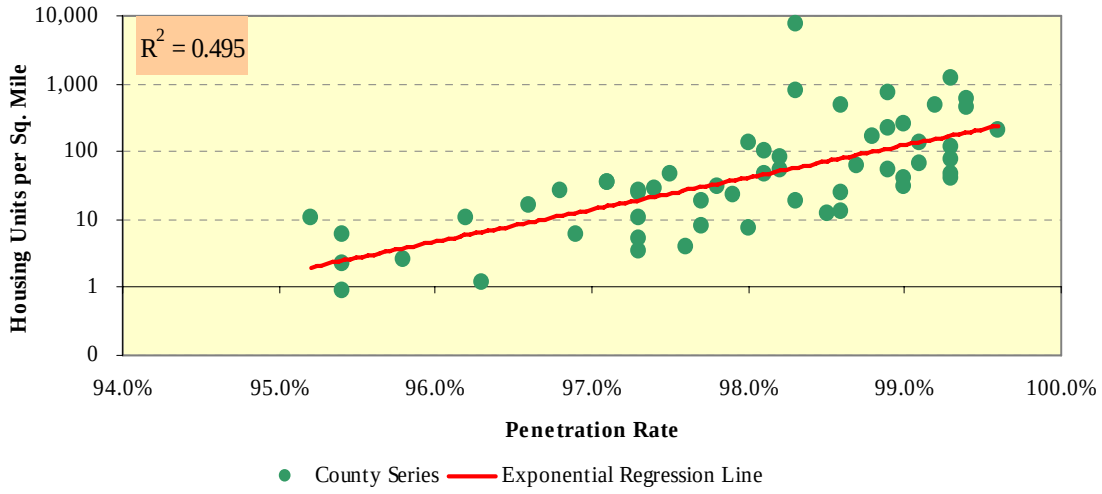
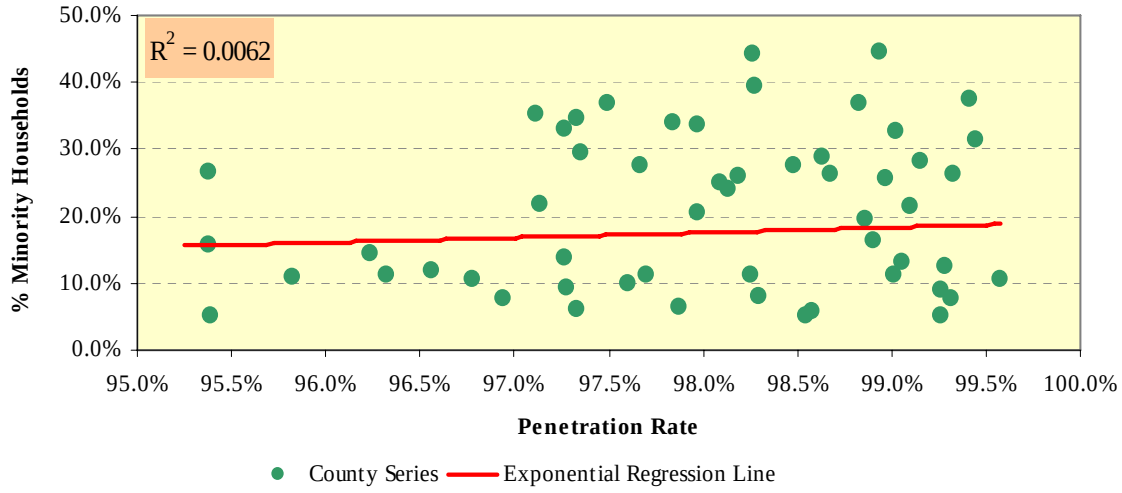


Chart 11 - Penetration Rate vs Race/Ethnicity Scatter Chart



Referring back to table 4, at page 23, those counties with the highest penetration rates have the highest median household income. Of the ten counties with the highest penetration rate, nine are in the top income quartile including the top seven ranked counties. Similarly, five of the bottom-ranked counties have household incomes in the bottom quartile and all but one rank in the bottom half.

Map 5 displays all places that have penetration rates below 95 percent, with annual household incomes below $40,000[35]. It is instructive to compare this map with Map 2 – they appear almost identical. In fact, there are only a handful of places not appearing on Map 4 that appear on Map 2. Of the 103 total communities with less than 95 percent subscribership, 92 have household incomes under $40,000, lending further weight to the correlation between the two factors.

Finally, Map 6 combines both socio-economic factors, showing locations that have penetration rates less than the benchmark, comprised of households that are both 50 percent or more minority, and that have annual incomes of less than $40,000. Tables 8 and 9 in the appendix list all the places identified on Maps 4 and 5.

[35] In 1999 dollars. In 1999 the median annual income for all California households was $47,493.

Map 5 – Cities, Towns, and CDP's with Penetration Rates < 95%, and: where 50% of the Households have less than $40,000 in Annual Income

Source: US Census Bureau, Census Designated Places, 2000.
Projection: Lambert Conformal Conic, Coordinate System: California State Plane, Zone 3; North American Datum 1983
Prepared by the California Public Utilities Commission, Communications Division, Video Franchising and Broadband Deployment Group

Map 6 – Cities, Towns, and CDP's with Penetration Rates < 95%, and where 50% of the Households are of a Racial or Ethnic Minority and have less than $40,000 in Annual Income

Source: US Census Bureau, Census Designated Places, 2000.
Projection: Lambert Conformal Conic. Coordinate System: California State Plane, Zone 3; North American Datum 1983
Prepared by the California Public Utilities Commission, Communications Division, Video Franchising and Broadband Deployment Group

Public Purpose Programs

Though population and housing density are factors that have some correlation with telephone subscribership (with racial/ethnic factors presenting almost none), the most determinate factor is income, confirming the traditional wisdom that created the public purpose programs. California has instituted several programs over the years to promote the goal of affordable, universal telephone service. Some like the California LifeLine program are targeted directly at end-users, while others take an indirect approach by subsidizing carrier costs serving high-cost, generally rural areas. But all are aimed at increasing telephone subscribership, particularly among the lower income populations identified in the previous sections, many of whom live in rural California.

California LifeLine

To address telephone subscribership for low income households, the California LifeLine program, formerly Universal Lifeline Telephone Service, was established in 1984 pursuant to the Moore Act.

LifeLine subsidizes basic landline service for low-income households and provides a means to achieve universal service by offering affordable residential telephone service. It provides for discounted residential telephone services, including reduced rates for basic, flat-rate and measured local service and discounts for certain nonrecurring charges, such as service connection. Surcharges on the billed intrastate services of non LifeLine telephone customers fund the program.

LifeLine subscribership in California has experienced some slight erosion over the past several years and now stands just under three million customers. As Chart 12 indicates, this attrition is in near lockstep with the loss in overall residential subscribership and reflects the continuing loss in wireline end user lines that began in 2000[36]. Lifeline enrollment continues to account for a little over 20 percent of all residential subscribers as it has relatively consistently since the start of the decade – a number the Commission has found to be unrepresentative of the total number eligible[37].

[36] Some loss in LifeLine subscribership may be due to the new certification process that requires customers to present proof of eligibility.
[37] ***Report on Strategies to Improve the California LifeLine Certification and Verification Processes***, April 2, 2007.

The Commission staff issued a report in April 2007 that identified a number of factors contributing to the low response rate and have proposed multiple initiatives to address that response rate, including better data reconciliation, greater emphasis on outreach and increased customer education efforts, plus measures to address customer billing issues and expedite customer appeal and complaint handling[38].

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Chart 12 - Li feLine Growth

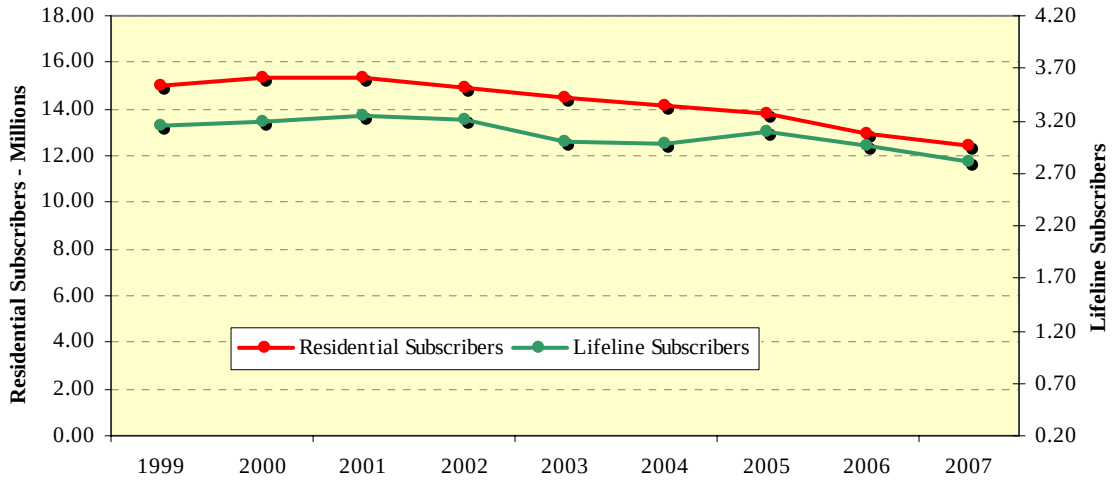
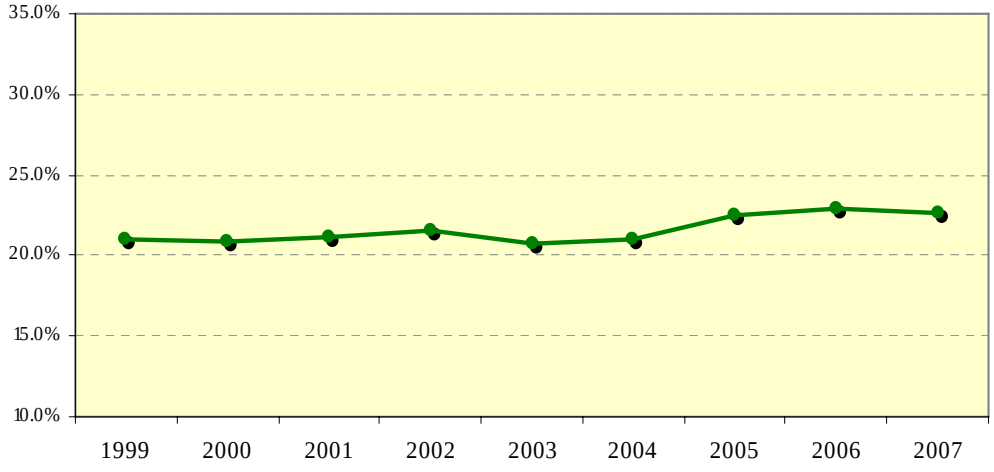


Chart 13 - LifeLine subs as % of Residence customers



[38] ibid

California High Cost Fund-B

The California High Cost Fund-B (CHCF-B) program was implemented in accordance with Public Utilities Code § 739.3. It provides subsidies to AT&T, Verizon, Frontier, SureWest, and, in some areas, by Cox Communications, for provision of basic local telephone service to residential customers in high-cost areas. The purpose of the subsidies is to keep basic telephone service affordable and to meet the Commission's universal service goals.

The CHCF-B program is funded by an all-end-user surcharge billed and collected by telecommunications carriers.

In September of last year, the Commission proposed interim reforms to Fund-B that may have a measurable effect on landline penetration rates. The cost thresholds at which the carriers are subsidized would change, but more importantly for subscribers, the carriers would be allowed full pricing flexibility, allowing rates for basic service to move up from the current subsidized rate to cost-based rates, as "disciplined by competitive market forces[39]." The change is to be managed during a phase-in period where step increases take place gradually over time to prevent rate shock, and at sunset, will allow for full pricing flexibility including geographically de-averaged prices. How basic rates would change under this new regime is not yet clear, though logic suggests that it will put upward price pressure on those in the high-cost, rural areas.

The funding for this program will sunset on January 1, 2009. However pending legislation would extend the fund to 2013.

The California High Cost Fund-A

The California High Cost Fund-A (CHCF-A) program makes a source of supplemental revenues available to 17 small incumbent local exchange carriers[40] for the purpose of minimizing any rate disparity in basic telephone

[39] D.07-09-020 Interim Opinion Adopting Reforms to the High Cost Fund-B Mechanisms; p. 93

[40] These 17 small local LECs include, Calaveras Telephone Company, California-Oregon Telephone Company, Citizens Telecommunications Company Of The Golden State, Citizens Telecommunications Company Of Tuolumne, Ducor Telephone Company, Evans Telephone Company, Foresthill Telephone Company, Happy Valley Telephone Company, Hornitos Telephone Company, Kerman Telephone Company, Pinnacles Telephone Company, The Ponderosa Telephone Company, Sierra Telephone Company, Siskiyou Telephone Company, Verizon West Coast Incorporated, The Volcano Telephone Company, and Winterhaven Telephone Company

service between rural and metropolitan areas[41]. It limits the rates for basic service to 150 percent of the urban rates charged by the AT&T and Verizon, and subsidizes the difference between the carrier's costs and the revenues it realizes at those rates, plus a 10 percent rate of return. One resulting effect of the program is that current rates in many rural areas are higher than in urban areas. With the large LEC rates in a state of flux due to reforms proposed for Fund-B, the trajectory of rural rates is also unclear, with rural rates 150 percent of a moving target.

Like the B fund, the CHCF-A is funded through a surcharge billed to all end-users by their respective carriers. As mentioned above, current legislation may continue this program until 2013.

Deaf and Disabled Telecommunications Program (DDTP)

DDTP is a public program mandated by the California State legislature and administered by the CPUC. It has two components: the California Relay Service which includes Speech to Speech and the California Telephone Access Program (CTAP) which provides assistive telecommunications equipment. Their purpose is to provide access to basic telephone service for Californians who have difficulty using the telephone. In 2007 the Commission approved a resolution that established a pilot program which offsets the costs of wireless equipment for CTAP-certified participants who are also low income.

Rural Telecommunications Infrastructure Grant Program

California Assembly Bill 140 created the Rural Telecommunications Infrastructure Grant Program. The first of its kind in the nation, the program provides grants of up to $2.5 million per project, with total grant funding of $10 million per year, for construction of telecommunications infrastructure to low-income, rural communities currently without telephone service.

To date, five projects have been approved, with several more under review. Those underway include:

Indian Springs School District; Big Bend, Shasta County

- Installation of up to eight towers for cellular, WiMax, Forest Service and emergency services for Big Bend.
- Grant Amount: $2,500,000

[41] Not all of the small LECs draw from the fund. Certain requirements must be met including the filing and approval of a rate case showing how revenues at 150% of urban rates fall short of the LEC's costs.

- This area represents 444 families. The lack of phone service is also a public safety issue for police and fire services.

Trinity County

- Installation of up to eight cell towers throughout county for cellular, Forest Service and emergency services.
- Grant Amount: $2,500,000
- Trinity County has a population of a little over 13,000 as of the last census.

Iowa Hill; Placer County

- Tower relocation to Iowa Hill using a point-to-point wireless system with a copper cable distribution system to the Iowa Hill community.
- Grant Amount: $2,500,000
- Iowa Hill is a low income area in rural Placer County and the home of the only U.S. Post office without telephone service.

Tule River Indian Tribe; Tulare County

- Location: Tule River Indian Reservation is a 55,356 acre parcel of land. Fiber optic based, passive optical network line architecture.
- Grant Amount: $860,000
- The Tule River Indian Housing Authority estimates there are presently some 250 residential dwellings on the reservation with three housing areas not currently served by AT&T.

Yurok Indian Tribe; Humboldt County

- Construction of approximately 35 miles of telephone lines enabling Verizon to utilize the fiber source/hubs for telephone/data lines to the approximately 124 households not served by the Verizon fiber.
- Grant Amount: $2,500,000

Projects being considered include those to provide cellular, landline and Internet service to the Channel Islands, and multiple projects in Siskiyou County to construct line extensions in the following communities: *Nordheimer Flat, Butler Flat, Eddy Gulch, Sandy Bar Road, Godfrey Ranch, Elk Creek, Swillup Creek, and Dillon Creek.*

Conclusion

The California communications landscape continues to evolve rapidly. When AT&T was broken up some twenty four years ago, the Internet, broadband, VoIP, and ubiquitous mobile telephony were of interest only to those in the lab – literally decades from how commonplace they are today. There are now more telephone subscribers than there are people, with most Californian's subscribing to both wireline and wireless services. Some consumers are foregoing traditional wireline service for cable telephone and other VoIP services while others are completely cutting the cord in favor of wireless exclusively. Where twenty-five years ago consumers were limited to landline telephone service from a single full-service service and equipment provider, they now have the quality problem of choosing from among many options. Customers now choose their service providers - a single provider for all their communications needs, or one for wireline service, another for wireless, another for VoIP, and still another for Internet access. Phones come in all shapes and sizes – even colors – and some service providers do not even require a telephone, only a headset plugged into a computer. As this new dynamic suggests, a look into the future of voice communication signals less reliance upon traditional telephone technology and networks, and more on voice being simply one of many applications, offered by many different providers, over many different types of networks.

This paradigm shift towards giving consumers more choices has also led to greater convenience, better prices, and more consumers having at least some type of phone service. This is borne out by the 96.7 percent (and climbing) statewide penetration rate, although subscribership among some populations is lower.

Penetration rates varies along racial and ethnic lines, and by geography, but the principal driver behind these variations is simply one of economics – the lower the income the lower the penetration rate; the higher the income, the higher the penetration rate. The penetration rate is the lowest for those consumers of modest incomes living in rural areas. These customers generally have fewer choices than those in urban areas, a fact supported by the observation that these areas have seen gains in wireline subscribers while the rest of the state has seen steep line losses. The Commission believes that it is important to continue the policies and programs which ensure that there are adequate choices among providers and services in rural California at affordable prices.

California has wisely recognized the value and need for universal telephone service. The LifeLine and the other public purpose programs designed to promote this goal have a dynamic nature and are undergoing changes to continue meeting this goal even as this report is being written. Initiatives are underway to increase LifeLine enrollment, changes to the Fund-A and Fund-B programs are being considered, DDTP is being expanded to include wireless equipment, and more projects are entering the Rural Infrastructure Grant Program pipeline. Ancillary to these is the California Advanced Services Fund, aimed at promoting the build out and penetration of broadband services throughout California. This fund will be discussed with the other broadband initiatives in the Commission's Broadband Report due to the Legislature in June, 2008.

Appendix

Table 5 – Cities, Towns, CDP's with Penetration Rates < 95%

Table 7 – Cities, Towns, CDP's with Penetration Rates <95% and with > 50% Minority/Ethnic Households

Table 8 – Cities, Towns, CDP's with Penetration Rates <95% and with 50% or more Households with Annual Income under $40,000

Table 9 – Cities, Towns, CDP's with Penetration Rates <95% and with 50% or more Households both of Racial/Ethnic Minority and with Annual Income under $40,000

Table 5

Cities, Towns, CDP's with Penetration Rates > 95%

County	City/Town/Census Designated Place	Total Households	Penetration Rate
Alpine	Kirkwood CDP	22	28.57%
Shasta	Montgomery Creek CDP	41	74.42%
Inyo	Darwin CDP	48	77.27%
Kern	Randsburg CDP	40	78.05%
Fresno	Cantua Creek CDP	105	79.53%
Mendocino	Covelo CDP	425	83.45%
Trinity	Hayfork CDP	983	83.61%
Kings	Home Garden CDP	429	85.06%
Imperial	Winterhaven CDP	211	85.16%
Kern	McKittrick CDP	40	85.42%
Inyo	Tecopa CDP	95	86.14%
Alpine	Alpine Village CDP	61	86.21%
Imperial	Palo Verde CDP	117	86.40%
Imperial	Niland CDP	440	86.98%
Tulare	Alpaugh CDP	207	87.20%
San Bernardino	Bluewater CDP	132	87.22%
Shasta	Big Bend CDP	67	87.50%
Imperial	Ocotillo CDP	151	87.59%
Kern	Tupman CDP	66	88.24%
Stanislaus	Shackelford CDP	1,304	88.31%
Riverside	Mecca CDP	1,049	88.66%
Shasta	Round Mountain CDP	45	89.13%
Monterey	San Ardo CDP	179	89.60%
Del Norte	Klamath CDP	236	89.81%
Imperial	Desert Shores CDP	257	89.96%
Kern	McFarland City	1,977	89.98%
Shasta	McArthur CDP	159	90.71%
Fresno	Mendota City	1,819	90.72%
Imperial	Salton Sea Beach CDP	207	90.73%
Marin	Tomales CDP	77	90.79%
Madera	Parksdale CDP	613	91.07%
Humboldt	Willow Creek CDP	769	91.10%
Siskiyou	Dunsmuir City	865	91.36%
Kern	Fellows CDP	55	91.38%
San Joaquin	Kennedy CDP	817	91.42%
Fresno	Friant CDP	291	91.53%
Siskiyou	Gazelle CDP	55	91.67%
Kern	Lost Hills CDP	350	91.71%
Tulare	Terra Bella CDP	769	91.75%
Riverside	Cabazon CDP	759	91.85%
Tulare	Woodville CDP	351	91.99%
Tulare	East Orosi CDP	82	92.22%
Kings	Kettleman City CDP	318	92.28%
Stanislaus	West Modesto CDP	1,713	92.30%
Tulare	East Porterville CDP	1,740	92.37%
Tulare	Goshen CDP	598	92.49%
Lassen	Westwood CDP	792	92.57%
San Bernardino	Muscoy CDP	2,033	92.63%
Kern	Arvin City	3,010	92.78%

Table 5

Cities, Towns, CDP's with Penetration Rates > 95%

County	City/Town/Census Designated Place	Total Households	Penetration Rate
Kern	Shafter City	3,289	92.78%
Plumas	Delleker CDP	290	92.96%
Kern	Valley Acres CDP	222	92.97%
Yuba	Linda CDP	4,074	92.98%
Santa Clara	Sunol-Midtown CDP	273	93.00%
Kern	Maricopa City	403	93.00%
Fresno	Huron City	1,412	93.04%
Lake	Upper Lake CDP	360	93.26%
Imperial	Bombay Beach CDP	169	93.30%
Siskiyou	Mount Hebron CDP	33	93.33%
Merced	Dos Palos City	1,447	93.42%
Kings	Avenal City	1,927	93.44%
San Luis Obispo	San Miguel CDP	571	93.46%
Siskiyou	Hornbrook CDP	123	93.50%
Butte	South Oroville CDP	2,494	93.72%
Imperial	Salton City CDP	441	93.89%
Kings	Stratford CDP	283	93.96%
Inyo	Olancha CDP	54	94.00%
Stanislaus	Hickman CDP	140	94.03%
Kern	Mojave CDP	1,369	94.04%
Tulare	Earlimart CDP	1,523	94.07%
Stanislaus	Bystrom CDP	1,278	94.09%
Kern	China Lake Acres CDP	679	94.13%
Mariposa	Mariposa CDP	733	94.14%
Inyo	Lone Pine CDP	708	94.31%
Plumas	Iron Horse CDP	132	94.31%
Kern	Ford City CDP	1,236	94.33%
Contra Costa	Bethel Island CDP	1,122	94.33%
Colusa	Arbuckle CDP	690	94.35%
Butte	Oroville City	4,882	94.40%
Imperial	Heber CDP	729	94.40%
Riverside	Quail Valley CDP	481	94.49%
Colusa	Williams City	904	94.50%
Modoc	Alturas City	1,215	94.51%
Lake	Clearlake City	5,546	94.52%
Imperial	Westmorland City	633	94.60%
Calaveras	Rail Road Flat CDP	242	94.62%
Placer	Foresthill CDP	684	94.63%
Tulare	Richgrove CDP	568	94.68%
Tulare	Poplar-Cotton Center CDP	340	94.69%
Imperial	Seeley CDP	422	94.70%
Kern	South Taft CDP	662	94.70%
Kern	Boron CDP	869	94.70%
Stanislaus	Riverdale Park CDP	272	94.72%
Kern	Buttonwillow CDP	332	94.82%
Santa Barbara	Guadalupe City	1,439	94.83%
San Bernardino	Needles City	1,977	94.87%
San Bernardino	Searles Valley CDP	728	94.90%
Plumas	Chilcoot-Vinton CDP	146	94.93%
Plumas	East Quincy CDP	1,006	94.94%
Humboldt	Rio Dell City	1,241	94.98%
Fresno	Tranquillity CDP	236	94.98%
Stanislaus	Grayson CDP	274	94.98%

Table 7

Cities, Towns, CDP's with Penetration Rates > 95% and with Minority/Ethnic Households

County	City/Census Designated Place	Total Households	% Racial/Ethnic Minority Households	Penetration Rate - Racial/Ethnic Minority Households	Total Penetration Rate
Kings	Home Garden CDP	429	**63.2%**	82.5%	85.06%
Riverside	Mecca CDP	1,049	**78.6%**	85.6%	88.66%
Kern	McFarland city	1,977	**70.7%**	90.8%	89.98%
Fresno	Mendota city	1,819	**74.7%**	89.0%	90.72%
Madera	Parksdale CDP	613	**60.3%**	87.7%	91.07%
San Joaquin	Kennedy CDP	817	**63.6%**	92.6%	91.42%
Kern	Lost Hills CDP	350	**86.3%**	90.4%	91.71%
Tulare	Terra Bella CDP	769	**66.0%**	93.1%	91.75%
Tulare	Woodville CDP	351	**69.6%**	90.9%	91.99%
Kings	Kettleman City CDP	318	**67.0%**	90.3%	92.28%
San Bernardino	Muscoy CDP	2,033	**50.1%**	90.6%	92.63%
Kern	Arvin city	3,010	**53.0%**	95.2%	92.78%
Fresno	Huron city	1,412	**80.1%**	92.7%	93.04%
Kings	Stratford CDP	283	**54.7%**	100.0%	93.96%
Tulare	Earlimart CDP	1,523	**79.9%**	94.6%	94.07%
Imperial	Heber CDP	729	**64.8%**	94.3%	94.40%
Tulare	Richgrove CDP	568	**82.1%**	93.5%	94.68%
Tulare	Poplar-Cotton Center CDP	340	**63.7%**	91.7%	94.69%
Kern	Buttonwillow CDP	332	**58.2%**	92.1%	94.82%
Santa Barbara	Guadalupe city	1,439	**52.7%**	96.3%	94.83%

Table 8

Cities, Towns, CDP's with Penetration Rates > 95% and with 50% of more Households with Annual Income under $40,000

County	City/Census Designated Place	Total Households	% Households With Annual Income < $40K	Penetration Rate
Shasta	Montgomery Creek CDP	41	**85.4%**	74.42%
Inyo	Darwin CDP	48	**93.8%**	77.27%
Fresno	Cantua Creek CDP	105	**90.5%**	79.53%
Mendocino	Covelo CDP	425	**66.1%**	83.45%
Trinity	Hayfork CDP	983	**79.3%**	83.61%
Kings	Home Garden CDP	429	**70.4%**	85.06%
Imperial	Winterhaven CDP	211	**85.3%**	85.16%
Inyo	Tecopa CDP	95	**90.5%**	86.14%
Imperial	Palo Verde CDP	117	**96.6%**	86.40%
Imperial	Niland CDP	440	**76.6%**	86.98%
Tulare	Alpaugh CDP	207	**83.1%**	87.20%
San Bernardino	Bluewater CDP	132	**80.3%**	87.22%
Shasta	Big Bend CDP	67	**73.1%**	87.50%
Imperial	Ocotillo CDP	151	**67.5%**	87.59%
Kern	Tupman CDP	66	**59.1%**	88.24%
Stanislaus	Shackelford CDP	1,304	**78.3%**	88.31%
Riverside	Mecca CDP	1,049	**77.2%**	88.66%
Shasta	Round Mountain CDP	45	**73.3%**	89.13%
Monterey	San Ardo CDP	179	**72.1%**	89.60%
Del Norte	Klamath CDP	236	**70.3%**	89.81%
Imperial	Desert Shores CDP	257	**82.5%**	89.96%
Kern	McFarland city	1,977	**74.0%**	89.98%
Shasta	McArthur CDP	159	**84.9%**	90.71%
Fresno	Mendota city	1,819	**76.6%**	90.72%
Imperial	Salton Sea Beach CDP	207	**93.7%**	90.73%
Madera	Parksdale CDP	613	**73.9%**	91.07%
Humboldt	Willow Creek CDP	769	**61.6%**	91.10%
Siskiyou	Dunsmuir city	865	**72.8%**	91.36%
Kern	Fellows CDP	55	**70.9%**	91.38%
San Joaquin	Kennedy CDP	817	**69.6%**	91.42%
Fresno	Friant CDP	291	**70.1%**	91.53%
Siskiyou	Gazelle CDP	55	**74.5%**	91.67%
Kern	Lost Hills CDP	350	**60.9%**	91.71%
Tulare	Terra Bella CDP	769	**76.3%**	91.75%
Kern	Weedpatch CDP	653	**83.6%**	91.83%
Riverside	Cabazon CDP	759	**79.1%**	91.85%
Tulare	Woodville CDP	351	**76.6%**	91.99%
Tulare	East Orosi CDP	82	**85.4%**	92.22%
Kings	Kettleman City CDP	318	**68.6%**	92.28%
Stanislaus	West Modesto CDP	1,713	**66.6%**	92.30%
Tulare	East Porterville CDP	1,740	**77.0%**	92.37%
Tulare	Goshen CDP	598	**69.9%**	92.49%
Lassen	Westwood CDP	792	**72.6%**	92.57%
San Bernardino	Muscoy CDP	2,033	**70.6%**	92.63%
Kern	Arvin city	3,010	**75.6%**	92.78%
Kern	Shafter city	3,289	**66.5%**	92.78%

Table 8

Cities, Towns, CDP's with Penetration Rates > 95% and with 50% of more Households with Annual Income under $40,000

County	City/Census Designated Place	Total Households	% Households With Annual Income < $40K	Penetration Rate
Plumas	Delleker CDP	290	**57.2%**	92.96%
Yuba	Linda CDP	4,074	**75.9%**	92.98%
Kern	Maricopa city	403	**65.5%**	93.00%
Fresno	Huron city	1,412	**77.1%**	93.04%
Lake	Upper Lake CDP	360	**73.3%**	93.26%
Imperial	Bombay Beach CDP	169	**84.0%**	93.30%
Siskiyou	Mount Hebron CDP	33	**69.7%**	93.33%
Merced	Dos Palos city	1,447	**60.5%**	93.42%
Kings	Avenal city	1,927	**65.6%**	93.44%
San Luis Obispo	San Miguel CDP	571	**58.3%**	93.46%
Siskiyou	Hornbrook CDP	123	**66.7%**	93.50%
Butte	South Oroville CDP	2,494	**73.9%**	93.72%
Imperial	Salton City CDP	441	**79.4%**	93.89%
Kings	Stratford CDP	283	**62.2%**	93.96%
Inyo	Olancha CDP	54	**53.7%**	94.00%
Stanislaus	Hickman CDP	140	**59.3%**	94.03%
Kern	Mojave CDP	1,369	**68.7%**	94.04%
Tulare	Earlimart CDP	1,523	**81.3%**	94.07%
Stanislaus	Bystrom CDP	1,278	**65.4%**	94.09%
Kern	China Lake Acres CDP	679	**56.6%**	94.13%
Mariposa	Mariposa CDP	733	**72.7%**	94.14%
Inyo	Lone Pine CDP	708	**66.7%**	94.31%
Plumas	Iron Horse CDP	132	**71.2%**	94.31%
Kern	Ford City CDP	1,236	**72.4%**	94.33%
Colusa	Arbuckle CDP	690	**56.2%**	94.35%
Butte	Oroville city	4,882	**74.1%**	94.40%
Imperial	Heber CDP	729	**68.4%**	94.40%
Riverside	Quail Valley CDP	481	**55.1%**	94.49%
Colusa	Williams city	904	**60.7%**	94.50%
Modoc	Alturas city	1,215	**68.2%**	94.51%
Lake	Clearlake city	5,546	**78.8%**	94.52%
Imperial	Westmorland city	633	**72.4%**	94.60%
Calaveras	Rail Road Flat CDP	242	**58.3%**	94.62%
Placer	Foresthill CDP	684	**56.0%**	94.63%
Tulare	Richgrove CDP	568	**79.2%**	94.68%
Tulare	Poplar-Cotton Center CDP	340	**68.5%**	94.69%
Imperial	Seeley CDP	422	**68.2%**	94.70%
Kern	South Taft CDP	662	**73.6%**	94.70%
Stanislaus	Riverdale Park CDP	272	**65.1%**	94.72%
Kern	Buttonwillow CDP	332	**71.1%**	94.82%
Santa Barbara	Guadalupe city	1,439	**59.0%**	94.83%
San Bernardino	Needles city	1,977	**64.8%**	94.87%
San Bernardino	Searles Valley CDP	728	**52.7%**	94.90%
Plumas	Chilcoot-Vinton CDP	146	**57.5%**	94.93%
Plumas	East Quincy CDP	1,006	**54.2%**	94.94%
Humboldt	Rio Dell city	1,241	**67.4%**	94.98%

Table 9

Cities, Towns, CDP's with Penetration Rates > 95% and with 50% of more Households both of Racial/Ethnic Minority and with Annual Income under $40,000

County	City/Census Designated Place	Total Households	% Households With Annual Income < $40K	% Racial/Ethnic Minority Households	Penetration Rate
Kings	Home Garden CDP	429	**70.4%**	**63.2%**	85.06%
Riverside	Mecca CDP	1,049	**77.2%**	**78.6%**	88.66%
Kern	McFarland city	1,977	**74.0%**	**70.7%**	89.98%
Fresno	Mendota city	1,819	**76.6%**	**74.7%**	90.72%
Madera	Parksdale CDP	613	**73.9%**	**60.3%**	91.07%
San Joaquin	Kennedy CDP	817	**69.6%**	**63.6%**	91.42%
Kern	Lost Hills CDP	350	**60.9%**	**86.3%**	91.71%
Tulare	Terra Bella CDP	769	**76.3%**	**66.0%**	91.75%
Tulare	Woodville CDP	351	**76.6%**	**69.6%**	91.99%
Kings	Kettleman City CDP	318	**68.6%**	**67.0%**	92.28%
San Bernardino	Muscoy CDP	2,033	**70.6%**	**50.1%**	92.63%
Kern	Arvin city	3,010	**75.6%**	**53.0%**	92.78%
Fresno	Huron city	1,412	**77.1%**	**80.1%**	93.04%
Kings	Stratford CDP	283	**62.2%**	**54.7%**	93.96%
Tulare	Earlimart CDP	1,523	**81.3%**	**79.9%**	94.07%
Imperial	Heber CDP	729	**68.4%**	**64.8%**	94.40%
Tulare	Richgrove CDP	568	**79.2%**	**82.1%**	94.68%
Tulare	Poplar-Cotton Center CDP	340	**68.5%**	**63.7%**	94.69%
Kern	Buttonwillow CDP	332	**71.1%**	**58.2%**	94.82%
Santa Barbara	Guadalupe city	1,439	**59.0%**	**52.7%**	94.83%