Report to the California Legislature

Universal Telephone Service to Residential Customers

In Accordance with
California Public Utilities Code
Section 873

Respectfully submitted
August 2007

This document is intended to be viewed in color. In order for all information to be fully presented, it should be printed in color.

This report was prepared by the Communications Division, Policy Branch of the California Public Utilities Commission. For inquires of, or color copies of the report please contact Valerie Kao at (415) 703-2618 or email VUK@cpuc.ca.gov

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Executive Summary

The latest statistics show that California is continuing to meet its stated universal service goals for provision of residential telephone service and that the California LifeLine Program, which provides discounted basic residential wireline service to low income households, continues to improve service to low income consumers. The 2006 penetration rate for residential service in California is 95.5 percent, just slightly above the 95 percent goal set by the California Public Utilities Commission in 1996. This 2006 penetration rate is an increase from the penetration rate of 94.8 percent in 2005. As of December 2006 the penetration rate for low income households is 92.7 percent. Although the California percentage for low-income households remains 2 percent – 3 percent below that of all households in California, it is now nearly the same as the nationwide rate for all households.

Although California's penetration rate for 2006 is above the 92.6 percent rate of 1984, the year the California LifeLine program was founded, the wireline penetration rate declines from its peak penetration rate of 97.4 percent in 2002. This decrease in wireline penetration reflects the national trend. National penetration rates for wireline residential service rapidly increased from 1940 through 1970 and then began a much slower, but steady, increase finally peaking in 2002 at 95.5 percent.

This slowing of the penetration rate for wireline residential service is partially offset by the increase in the subscriptions to wireless and Voice over Internet Protocol (VoIP) services. The increasing use of wireless and VoIP services has been well documented, and indicates an upward trend at the same time that wireline penetration is falling. Studies indicate that an increasing number of households are substituting wireless service for traditional telephone service. This trend is reflected in the surcharges collected in California for the public purpose programs designed to ensure universal service. Contributions by, wireless carriers' have grown by about 10 percent as the wireline carriers' share has declined by nearly the same amount.

VoIP service is also steadily growing in California. With more than 40 providers now operating in California, and most having only recently started offering service since 2004 when mass-market VoIP services were first introduced. VoIP looks poised to migrate many traditional wireline subscribers.

The growth in the use of these alternative technologies by all users raises the question of whether and how to ensure that low income consumers in California continue to have access to affordable communications services.

Furthermore, despite the fact that California has met its goal of 95 percent penetration for residential telephone service, there are still areas within the state that are unserved, with approximately 100,000 households having no telephone service available, and many other areas of the state having subscribership levels lower than 95 percent. California needs to continue its efforts in order to reach these areas of the state. We offer recommendations to achieve this goal at the end of this Report.

I. INTRODUCTION

The California Public Utilities Commission (CPUC) has prepared this report on the degree of achievement of universal telephone service in California in accordance with Section 873 (a)(4) of the Moore Universal Telephone Service Act (Moore Act).[1] The goal of universal service is an important cornerstone of California telecommunications policy. As Public Utilities Code Section 871.5 affirms, universal telephone service is a concept that high quality, basic telephone service be affordable and ubiquitously available to all members of society and "[t]he Moore Universal Telephone Service Act has been, and continues to be, an important means for achieving universal service by making basic residential telephone service affordable to low-income citizens through the creation of a lifeline class of service."

In response to this policy commitment and in compliance with the Moore Act, the CPUC in 1984 created the Universal LifeLine Telephone Service (ULTS) Program, more commonly known as California LifeLine, requiring all local exchange carriers to offer discounted basic residential service to low income customers.[2] In D. 96-10-066, the Commission reaffirmed a goal that at least 95 percent of the households in California have telephone service irrespective of income-level, ethnicity, or language spoken in the households.[3] See Appendix A for a complete description of the California LifeLine Program.

In this report, the CPUC's Communications Division (CD) staff utilizes four types of data to assess the degree of achievement of this goal, including telephone penetration rates by income, ethnicity, and geography pursuant to the requirements of the Moore Act. The CPUC has produced this report annually since calendar year 2002. See Appendix B for a complete description of the four data types.

[1] California Public Utilities Code Chapter 4, Article 8, Sections 871- 884.5. Section 873 (a) (4) states: "The commission shall annually…assess the degree of achievement of universal service, including telephone penetration rates by income, ethnicity and geography. This information shall be annually reported to the Legislature by the commission in a document which can be made public."
[2] CPUC Decision D. 84-11-028.
[3] This goal was originally adopted in CPUC Decision 94-09-065, p.6.

II. TELEPHONE SUBSCRIBERSHIP

A. CALIFORNIA'S TELEPHONE PENETRATION RATE MEETS THE 95% GOAL BUT IS FIFTEENTH IN THE NATION

The most widely used measure of residential telephone subscribership is the number of households with telephone service as a percentage of all households, or the telephone penetration rate. The Federal Communications Commission (FCC), using data from the Census Bureau's Current Population Survey (CPS) and other information, maintains data and produces five reports on telephone penetration rates.[4] It should be noted that until December 2004, the CPS question regarding telephone service asked, "Is there a telephone in this house or apartment?" The question is now asked in this manner: "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." The data collected by the CPS has traditionally been understood to exclusively represent wireline data, but as reporting requirements have changed may include other communications services.

The reports discussed above are utilized here to compare wireline penetration rates over time, judge the effectiveness of our LifeLine Program, and determine how California is progressing relative to other states. This report utilizes the FCC's most current publicly available data.[5]

As of November 2006, the national penetration rate for telephone subscribership was 93.4 percent, a slight increase from 92.5 percent in 2005.[6] State penetration rates ranged from 88.5 percent (Indiana) to 98 percent (Minnesota). California ranked fifteenth among all states with a penetration rate of 95.5 percent, a slight increase from 94.8 percent in 2005.[7] The following table lists the fifteen states with the highest penetration rates.

[4] See FCC report "Telephone Penetration by Income by State, Data Through March 2005", page 2.
[5] For certain data this does not yet include year-end figures for 2006
[6] FCC, *Telephone Subscribership in the United States (Data through November 2006)*.
[7] CPUC, *Report to the Legislature on Universal Telephone Service to Residential Customers* (July 2005)

Table 1

Top Fifteen States with Highest Penetration Rates for 2006[8]

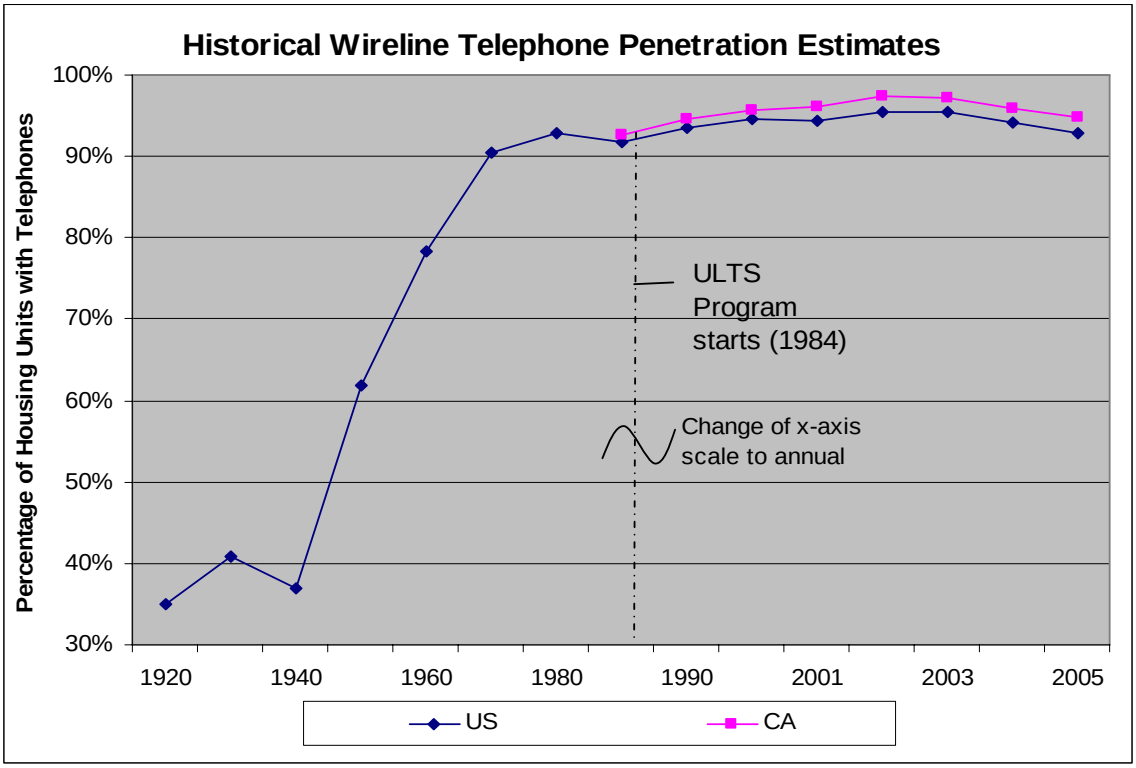
STATE	PENETRATION RATE FOR ALL HOUSEHOLDS
1. Minnesota	98%
2. Washington	97.2%
3. North Dakota	96.9%
4. Wyoming	96.8%
5. Iowa	96.7%
6. New Hampshire	96.7%
7. Pennsylvania	96.6%
8. South Dakota	96.3%
9. Oregon	96.3%
10. Alaska	96.1%
11. Utah	96%
12. Maine	95.8%
13. Wisconsin	95.8%
14. New Jersey	95.7%
15. California	**95.5%**

[8] FCC, *Telephone Penetration by Income by State* (May 2007)

B. WIRELINE PENETRATION RATES PEAKED IN 2002 AND ARE TRENDING DOWNWARD

As a point of reference, Chart 1 shows national wireline telephone penetration rates since 1920. National penetration rates rapidly increased from 1940 through 1970, and then began a much slower, but steady increase finally peaking in 2002 at 95.5 percent. The decreasing national trend since 2002 is also evident in the California statistics.

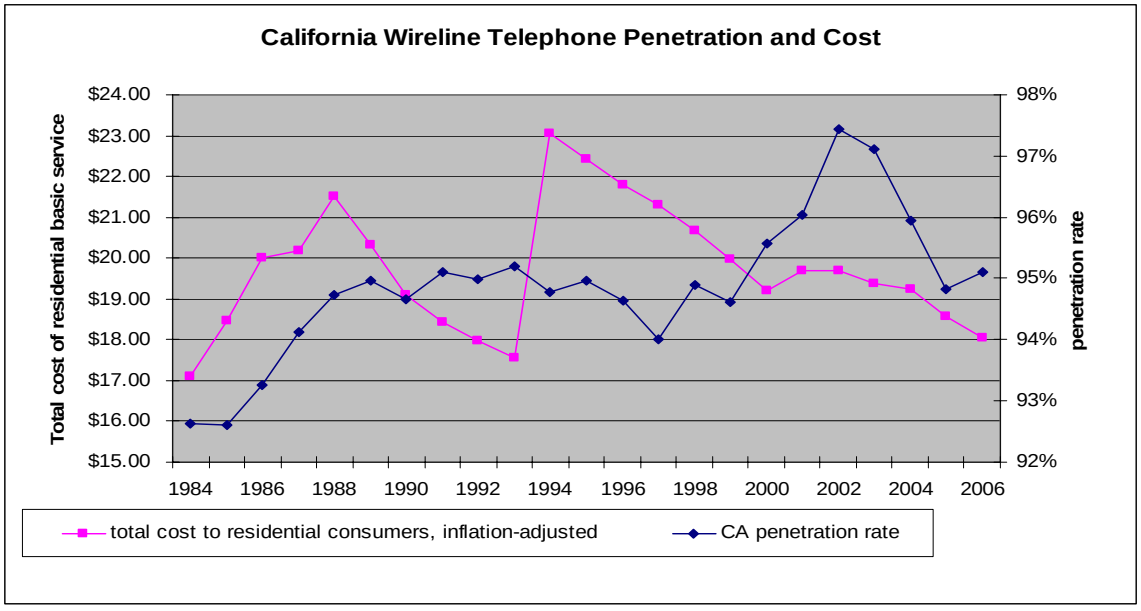
Chart 1



Source: FCC, Monitoring Report, Data through May 2006. Table 6.2

As Chart 2 illustrates, the wireline telephone penetration rate for all households in California has increased since the inception of the LifeLine Program in 1984; California's penetration rate reflects the national historical trend of increasing and recent declining subscribership since the inception of telephone service. Although the 2006 California penetration rate is still above the 92.6 percent rate of 1984, the trend is now downward from the 2002 peak penetration rate of 97.4 recent for California. Chart 2 also shows the cost of basic residential telephone service over time in California. Adjusted for inflation, the cost of service in real dollars has been steadily declining since about 1995.

Chart 2

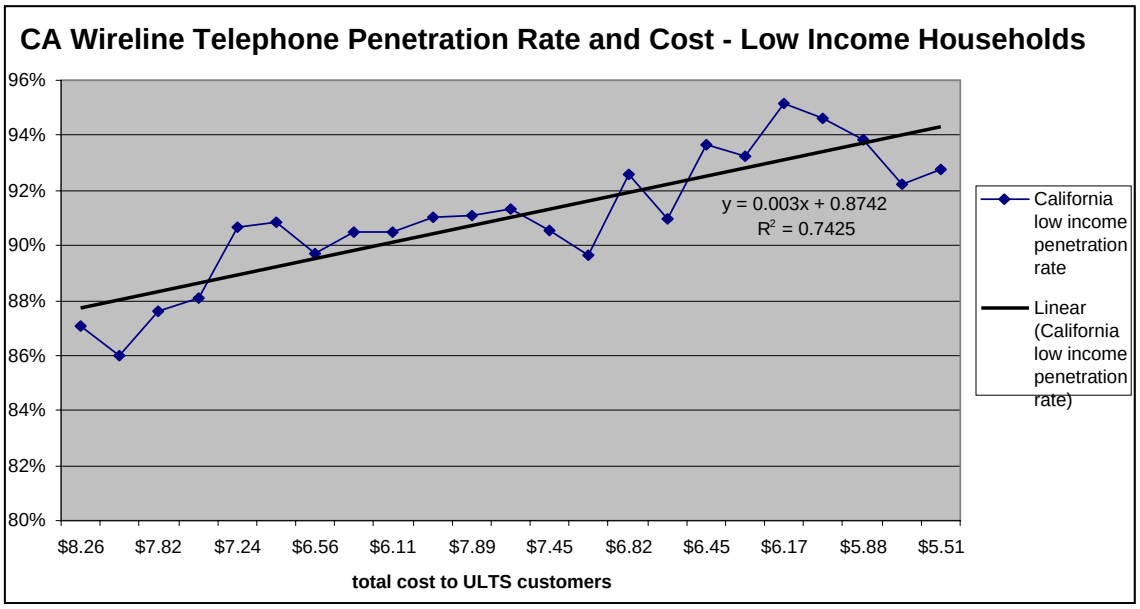


Sources for Charts 2 and 3: CPUC D.84-06-111, D.88-07-022, D.94-09-065,D.98-06-075 for AT&T Residence 1-FR history (total cost estimates); CPUC D.84-07-108, D.94-09-65 for Verizon (not including Contel) Residence 1-FR history (total cost estimates); FCC Forms 477 for AT&T and Verizon access lines since 2000 (assumed weight of 80 percent for AT&T prior to 2000); correspondence with AT&T and Verizon for EUCL charges; CPUC for history of ULTS surcharge rates from inception of programs <http://www.cpuc.ca.gov/static/telco/consumer+information/surhistory_3-9-07.xls> (Accessed June 30, 2007); FCC Monitoring Report (data through March 2006) for telephone penetration rates; U.S. Department of Labor Bureau of Labor Statistics for inflation adjustment of costs to 2007 equivalent, Consumer Price Index – All Urban Consumers (CPI-U), data through June 15, 2007.

C. LOW-INCOME WIRELINE SUBSCRIBERSHIP TREND AND PRICE OF SERVICE

Chart 3 illustrates low income household *wireline* penetration and inflation-adjusted price of service in California. Regression analysis demonstrates a statistically significant, negative relationship between the cost of residential basic service to LifeLine customers and telephone penetration among low income households.[9] In this case, for example, this means that a one dollar ($1.00) higher monthly cost of telephone service corresponds to a two percent lower telephone service penetration rate. However, the relationship between cost of service and telephone penetration among all California households is not statistically significant.[10] These results support the common-sense conclusion that low income households in California are more sensitive to the cost of telephone service, relative to all California households.[11]

Chart 3



See sources listed under Chart 2

[9] The regression coefficient is -0.021, $p < 0.0001$.
[10] $p > 0.10$ ($p = 0.77$).
[11] The purpose of these two regressions is to distinguish low income households from the average household in California, with respect to cost of service when considering whether to subscribe to telephone service. Our purpose is not to prove that changes in the penetration rate can be attributed exclusively to the cost of service; it may be the case that cost simply serves as a proxy for some as yet unidentified factor for which data is not available. While an exhaustive investigation into the factors affecting telephone penetration is warranted, it is beyond the scope of this Report.

III. SUBSTITUTION OF COMMUNICATIONS SERVICES AFFECTS DEMAND FOR WIRELINE TELEPHONE SERVICE

Rapid technological change in the telecommunications industry significantly impacts the options available to consumers, challenging the concept of subsidizing a single communications service to be universally available. Wireless and VoIP services, which are currently outside the scope of basic telephone service, are growing considerably and becoming an increasingly practical option in the telecommunications marketplace.

The increasing use of wireless and VoIP services has been well documented, and indicates an upward trend at the same time that wireline penetration is falling. Studies indicate that an increasing number of households are substituting wireless service for traditional wireline telephone service.[12] For example, the Centers for Disease Control determined that one out of every eight adults lived in wireless-only households at the end of 2006, compared to one out of twenty-eight in 2003. The trend is especially marked for young adults: 22.6 percent of adults aged 18 - 24 live in households with only wireless telephones, compared with 12.5 percent for the 25 - 44 age group and 5.3 percent for the 45 - 64 age group. The decision to substitute wireless service for basic residential telephone service is also greater among adults living in poverty at (15.8 percent).[13] An online Harris Poll survey conducted between October and December 2006 shows similar trends and provides further insight into telecommunications services use by consumers. The Harris Poll found that, while 81 percent of respondents used wireline service, 77 percent used wireless and 16 percent used VoIP.[14] This survey indicates that, although consumers are continuing to use wireline services, their use of alternative telecommunications services is increasing.

Chart 4 depicts the overall loss in residential wireline access lines since 2001, compared with the total number of wireless subscribers over the same time period. Wireless subscriptions are defined by billing address and include all uses, business and residential. The number of wireless devices is likely to exceed the number of subscribers. In absolute terms, wireless

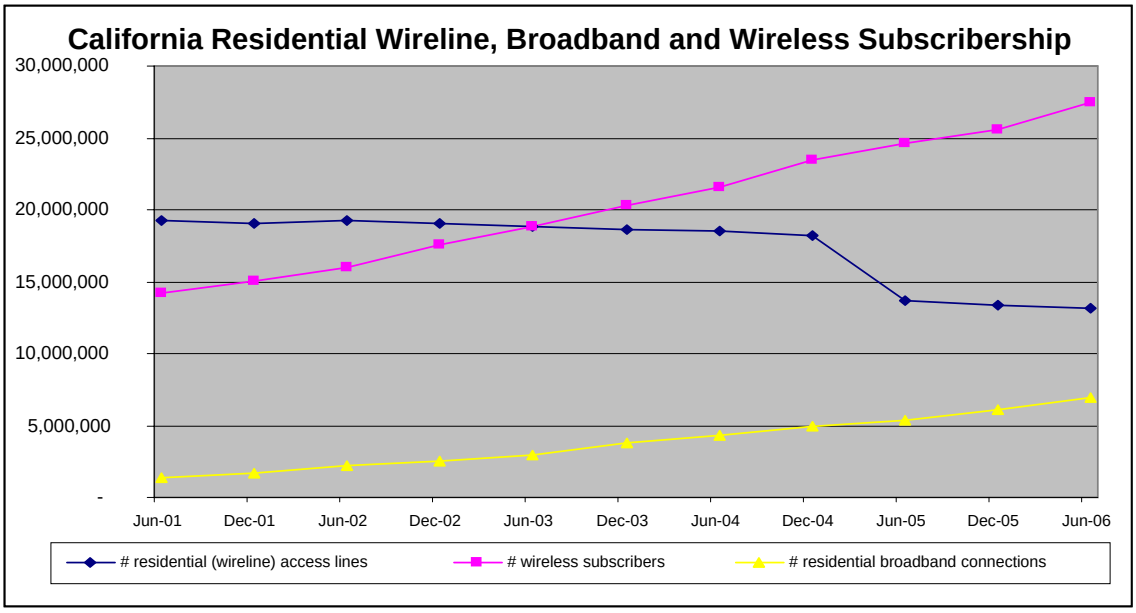
[12] Janis Mara. "Dumping landline for cell a good call." San Mateo County Times. March 23, 2007. http://www.insidebayarea.com/sanmateocountytimes/ci_5503440. (Accessed April 18, 2007). Also: http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2007/05/15/MNGMOPR2HE1.DTL

[13] Stephen J. Blumberg, Ph.D., and Julian V. Luke, Division of Health Interview Statistics. National Center for Health Statistics. Wireless Substitution: Preliminary Data from the January-June 2006 National Health Interview Survey. http://www.cdc.gov/nchs/products/pubs/pubd/hestats/wireless2006/wireless2006.htm (Accessed June 19, 2007)

[14] Harris Interactive. *The Harris Poll #51*. "Cell Phones Widely Used by Those Under 30." June 7, 2007. http://www.harrisinteractive.com/harris_poll/index.asp?PID=767. Accessed June 19, 2007.

subscribership has surpassed wireline and continues to grow. The decline in residential wireline service may be partially attributed to the increase in broadband Internet access subscriptions and wireless service replacing second and third wireline facilities that were dedicated to dial-up Internet access modems, facsimile machines, or voice service.

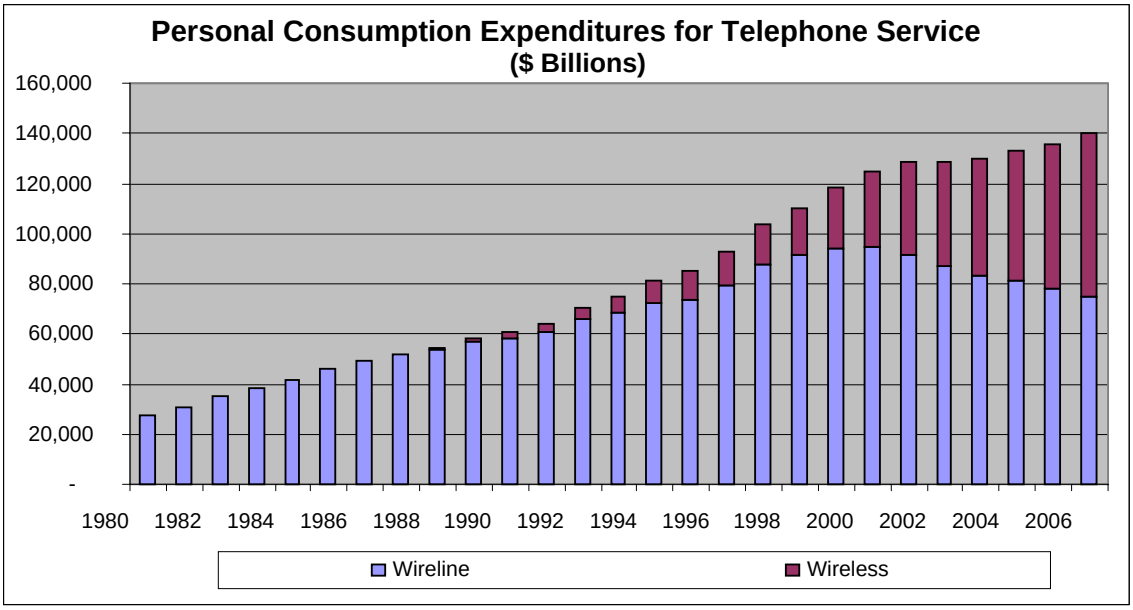
Chart 4



Sources: FCC Forms 477 for California carriers providing residential telephone service since June 2001; FCC, *11th Annual CMRS Competition Report* for number of wireless subscribers, September 2006; FCC, *Monitoring Report*, May 2006

Chart 5 shows national consumer expenditure trends for wireline and wireless telephone services, with the amount progressively increasing for wireless and, since 2000, decreasing for wireline.

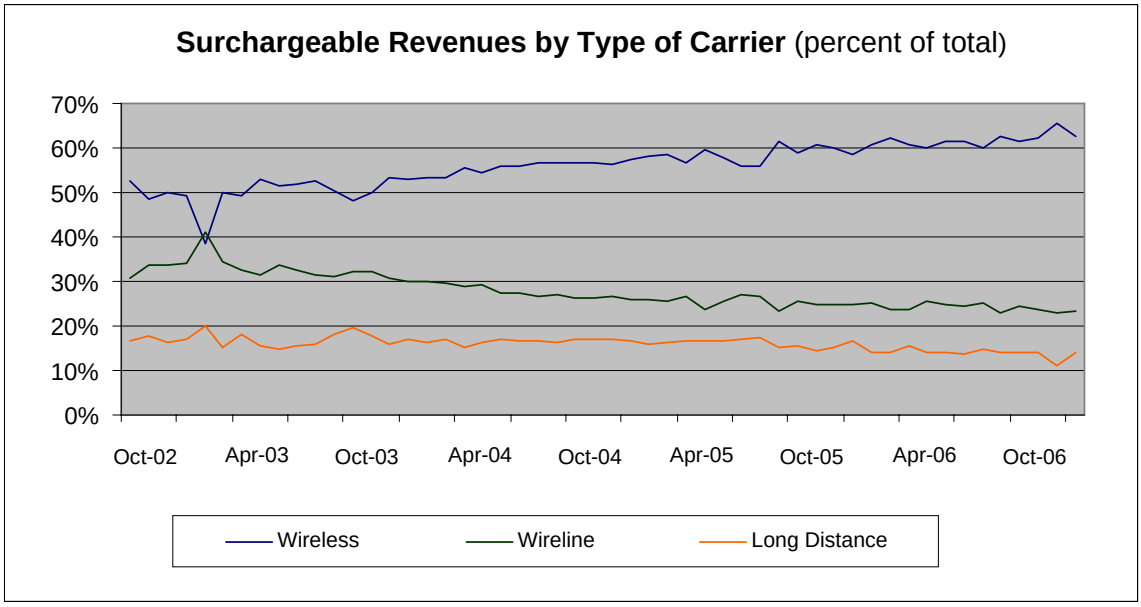
Chart 5



Source: Bureau of Economic Analysis, National Economic Accounts, Table 2.4.5U. Personal Consumption Expenditures by Type of Product. See http://www.bea.gov/national/nipaweb/SelectTable.asp?Selected=3, visited March 20, 2007.

Chart 6 shows the percentage of contributions to the CPUC's Public Purpose Programs provided by three types of carriers. While the long distance carriers' share of contributions has remained relatively stable, the wireless carriers' share has grown by about 10 percent and the wireline carriers' share has declined by nearly the same amount. The apparent mirror image between these last two carrier types suggests substitution of wireless for wireline telephone services.[15]

Chart 6



Source: Actual Combined CPUC Telephone Surcharge Transmittal forms through September 2006

Although a more recent development, VoIP service is steadily growing and, excluding the cost of broadband access, is offered at rates comparable to those of wireline telephone service, with most service offerings ranging from $10 to $30 per month for unlimited local and long distance calls.[16] More than 40 VoIP providers operate in California, most having started since 2004 when mass-market VoIP services were first introduced. Nationwide subscribership rates have increased from 1.2 million in 2004 to 4.2 million at the end of 2005, to more than 8 million subscribers as of September 2006.[17] Additionally, new technological innovations in this growing sector include mobile VoIP, which could have implications for both wireline and wireless revenues.

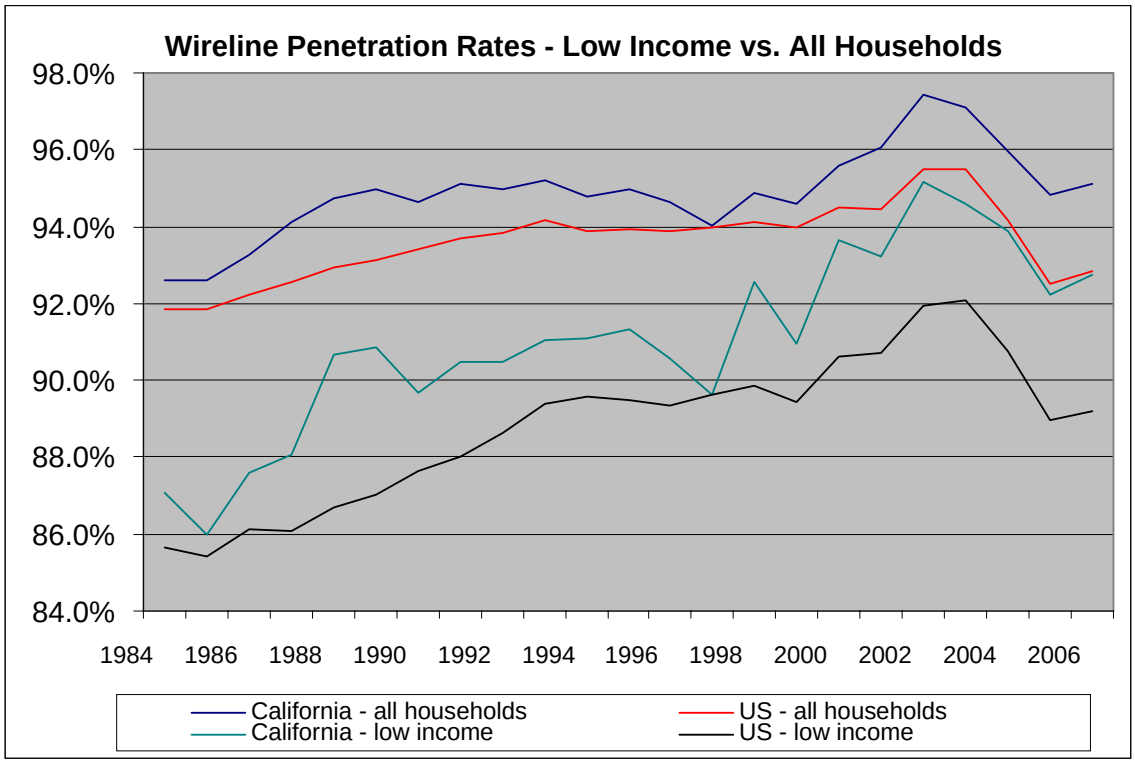
[15] The correlation coefficient for these two variables is -0.97.
[16] CPUC informal survey of advertised prices of Skype, Verizon VoiceWing, Vonage, BroadVoice and SunRocket, as of May 18, 2007.
[17] FCC, "In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership." WC Docket No. 07-38, adopted Feb. 26, 2007. Accessed May 10, 2007. http://www.fcc.gov/Daily_Releases/Daily_Business/2007/db0417/FCC-07-17A1.doc

IV. TRENDS IN LIFELINE SUBSCRIBERSHIP

A. WIRELINE PENETRATION RATE FOR LOW INCOME HOUSEHOLDS EXCEEDS NATIONAL LOW INCOME RATE AND IS NEARING ALL US HOUSEHOLDS' PENETRATION RATE

Chart 7 shows that, prior to the implementation of LifeLine assistance in 1984, California's Low-Income Household wireline penetration rate was 87.1 percent. After LifeLine implementation, the low-income household penetration rate grew to 91.1 percent by March 1994, and as of December 2006 is 92.7 percent. For comparison, the national figures for all low-income households were 89.4 percent in March 1994, and 89.2 percent in December 2006.[18] While the California percentage for low-income households remains 2 percent to 3 percent below that of all households in California, it is now nearly the same as the nationwide percentage for all households.

Chart 7



Low Income data consists of a weighted average of $0-9,999 households and $10,000-19,999 households. Source: FCC, *Telephone Penetration by Income by State*, May 2007

Penetration rates for low-income households have grown more rapidly than for all households: over the time period shown, telephone penetration among low- income households in California grew by more than 5 percent, while for all California households this increase was

[18] FCC, *Telephone Penetration by Income by State*, March 2006

about 2.1 percent. These factors indicate that the California LifeLine Program is having an impact on income disparities. The more dramatic year-to-year percentage change evident in Chart 7 suggests that although the LifeLine program has had a substantial impact, income remains a significant factor in a household's decision to subscribe to telephone service.

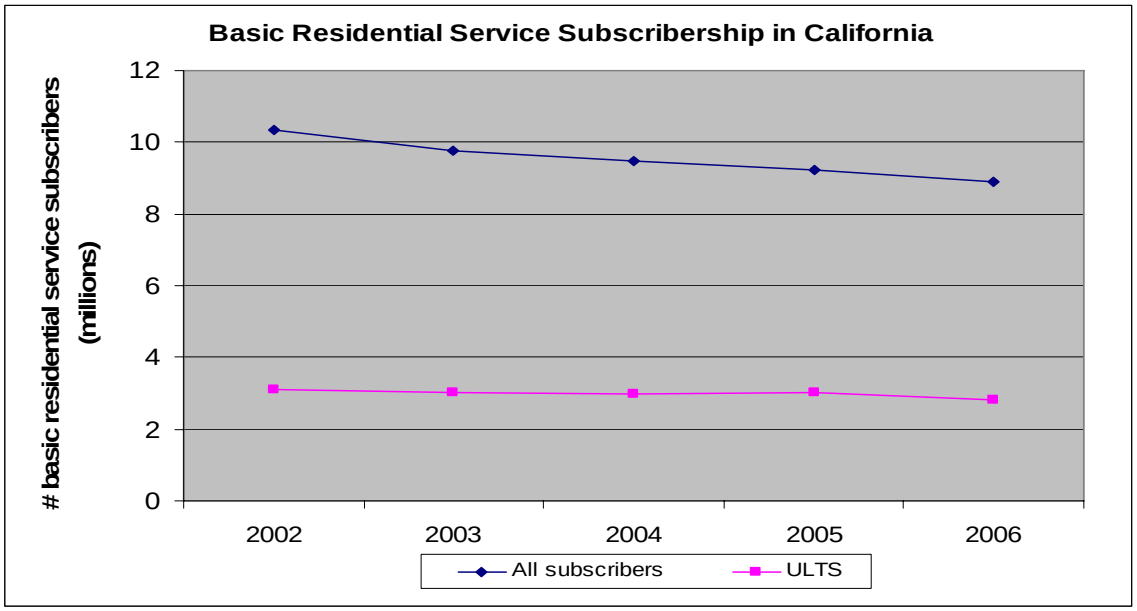
Although the increase in statewide penetration rates shows that California LifeLine is having a positive impact, several community-based organizations have emphasized the need for continued and enhanced outreach efforts in order to make the program more accessible to non-English speaking, disabled and other disadvantaged groups.

B. PERCENTAGE OF LOW INCOME WIRELINE SUBSCRIBERS PEAKED IN 2005 AND DECLINED TO 31% OF ALL SUBSCRIBERS IN 2006

CPUC Communications Division Staff sent data requests to 30 local telephone companies requesting the total number of basic residential service subscribers and the number of California LifeLine subscribers they serve. Due to incomplete responses, as we discuss further in Appendix B, we limit our analysis to incumbent local telephone companies' (ILECs) responses to the first two questions of the data request.[19] Chart 8 shows these aggregated numbers for analysis of the 18 ILECs that responded for the years 2002 through 2006. Although the total number of subscribers among all ILECs has decreased by nearly 1.5 million, or 14 percent, between 2002 and 2006, California LifeLine subscribership has declined by only 9.5 percent. This is another indication that California LifeLine is having a positive impact: households that can not afford substitute communication services are still able to take advantage of California LifeLine support for basic residential telephone service. However, it is likely that declines in LifeLine subscribership will continue for all income groups as consumers switch to other forms of service, such as wireless.

[19] AT&T; Calaveras Telephone Company; Cal-Ore Telephone Company; Frontier Communications; Ducor Telephone Company; Foresthill Telephone Company; Global Valley Networks; Kerman Telephone Company; Pinnacles Telephone Company; Ponderosa Telephone Company; Sierra Telephone; Surewest; Siskiyou Telephone Company; TDS Telecom; Verizon; Verizon West Coast, Inc.; and Volcano Telephone Company.

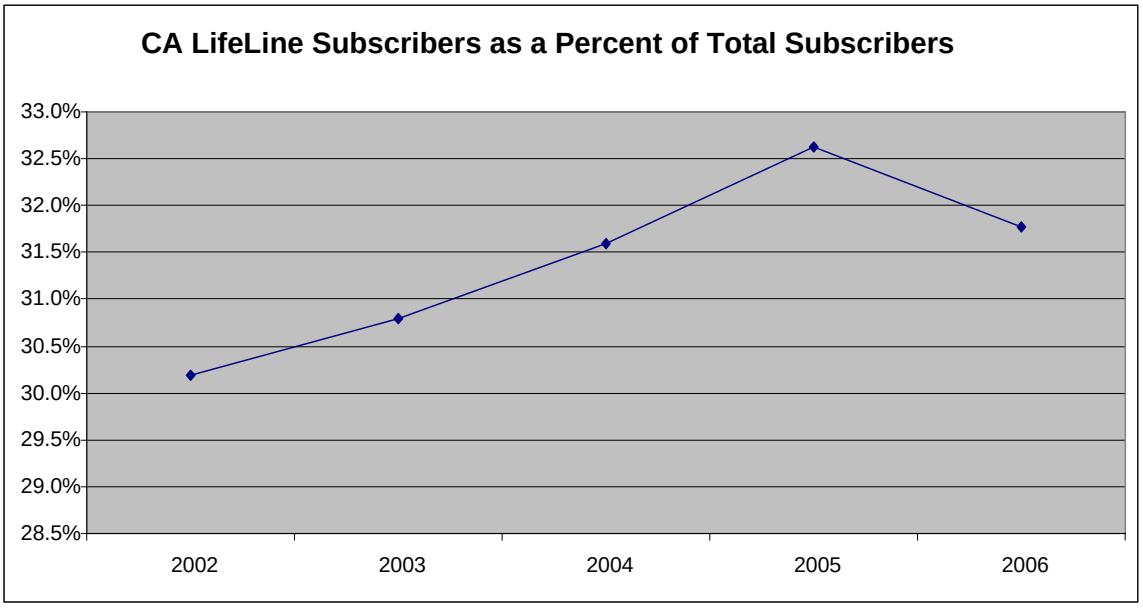
Chart 8



Source: Aggregate numbers of ILECs' responses to CPUC staff data request sent April 23, 2007. See Appendix C for a copy of this data request. We expect that these numbers would be higher if we had received full responses from all companies to which we sent the data request.

The California LifeLine subscribers are a significant portion of the customer base for ILECs, and remain an important revenue source as LifeLine customers can be offered bundled service packages that reflect the discounted basic telephone service portion. Chart 9 indicates that the number of California LifeLine subscribers as a percent of all ILEC subscribers peaked in 2005 at over 32.5 percent and declined in 2006 following the new certification/verification requirements instituted in July 2006.

Chart 9



Source: Aggregate numbers of ILECs' responses to CPUC staff data request sent April 23, 2007. See Appendix C for a copy of this data request.

V. CENSUS DATA ON TELEPHONE SERVICE SUBSCRIBERSHIP

A. MAPS INDICATING PENETRATION RATES WITH REGARD TO INCOME, ETHNICITY AND GEOGRAPHY

The following maps represent decennial Census data on residential telephone service subscribership in California, overlaid by data on population density/geography, income, and race/ethnicity. Overall, 342 out of 1752 Zip Code Tabulation Areas (ZCTAs)[20] had less than 95 percent telephone service subscription. These ZCTAs ranged in population density from zero to 44,408 people per square mile, with the majority – 195 or roughly 57 percent – having 500 or fewer people per square mile. Altogether those ZCTAs with less than 95 percent telephone service subscribership represented about 14 percent of California's population.

For Maps 1 through 3: the category "X% telephone service subscribership" represents the percentage of households in each ZCTA that reported having telephone service, according to 2000 decennial Census data.[21] Two ZCTAs have zero percent telephone service subscribership; both have a population density of less than two people per square mile. Appendix D contains a list of ZCTAs having a penetration rate of less than 95 percent, along with the percent of households that are rural, low income, racial/ethnic minorities; population density; and the percent growth in the number of carriers for each ZCTA.

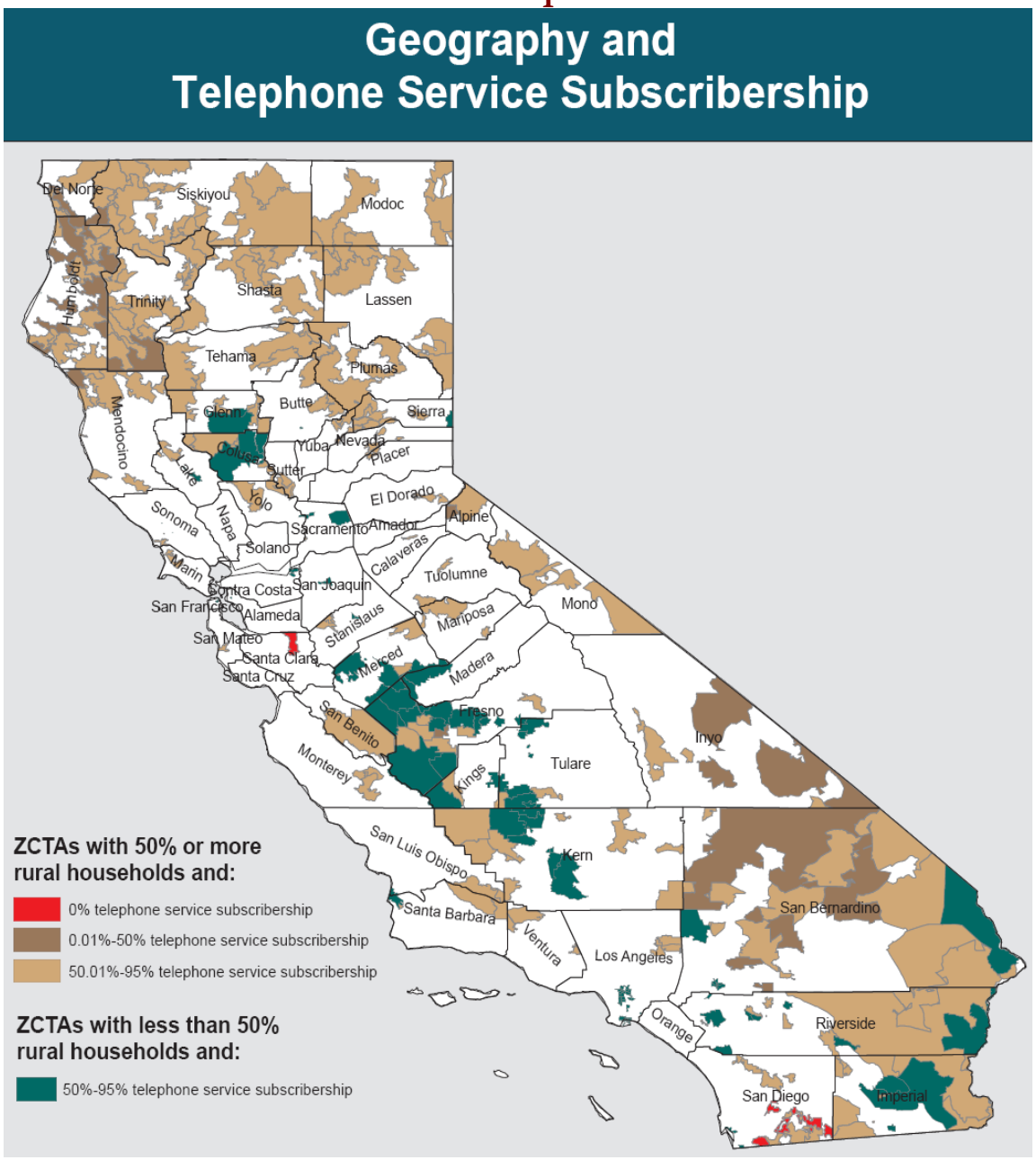
Of important note is that the percentage of telephone service subscribers in each ZCTA is based on a sampling methodology. Inherent in sampling is an error rate. Thus, the maps may reflect "false positives", where the identified ZCTA should actually be excluded from the map, or "false negatives", where an actual ZCTA below 95 percent has not been identified. The range of inaccuracy has not been established in this report.

[20] Zip Code Tabulation Areas (ZCTAs) are the Census Bureau's geographic approximation to USPS Zip Code mail distribution routes. See: *Census 2000 ZCTAs™ Zip Code Tabulation Areas Technical Documentation.* U.S. Census Bureau. 2000.

[21] Sources: American FactFinder Selected Social Statistics (Census 2000); Census Cartographic Boundary and ESRI census shapefiles.

For Map 1, 'rural' is defined by the Census Bureau as "all territory, population, and housing units located outside of 'urbanized areas' and 'urban clusters'." Urban clusters and urbanized areas generally have 1,000 or more people per square mile.[22] Forty-one percent (49% of the population) of predominantly rural ZCTAs had less than 95 percent telephone service subscribership.

Map 1

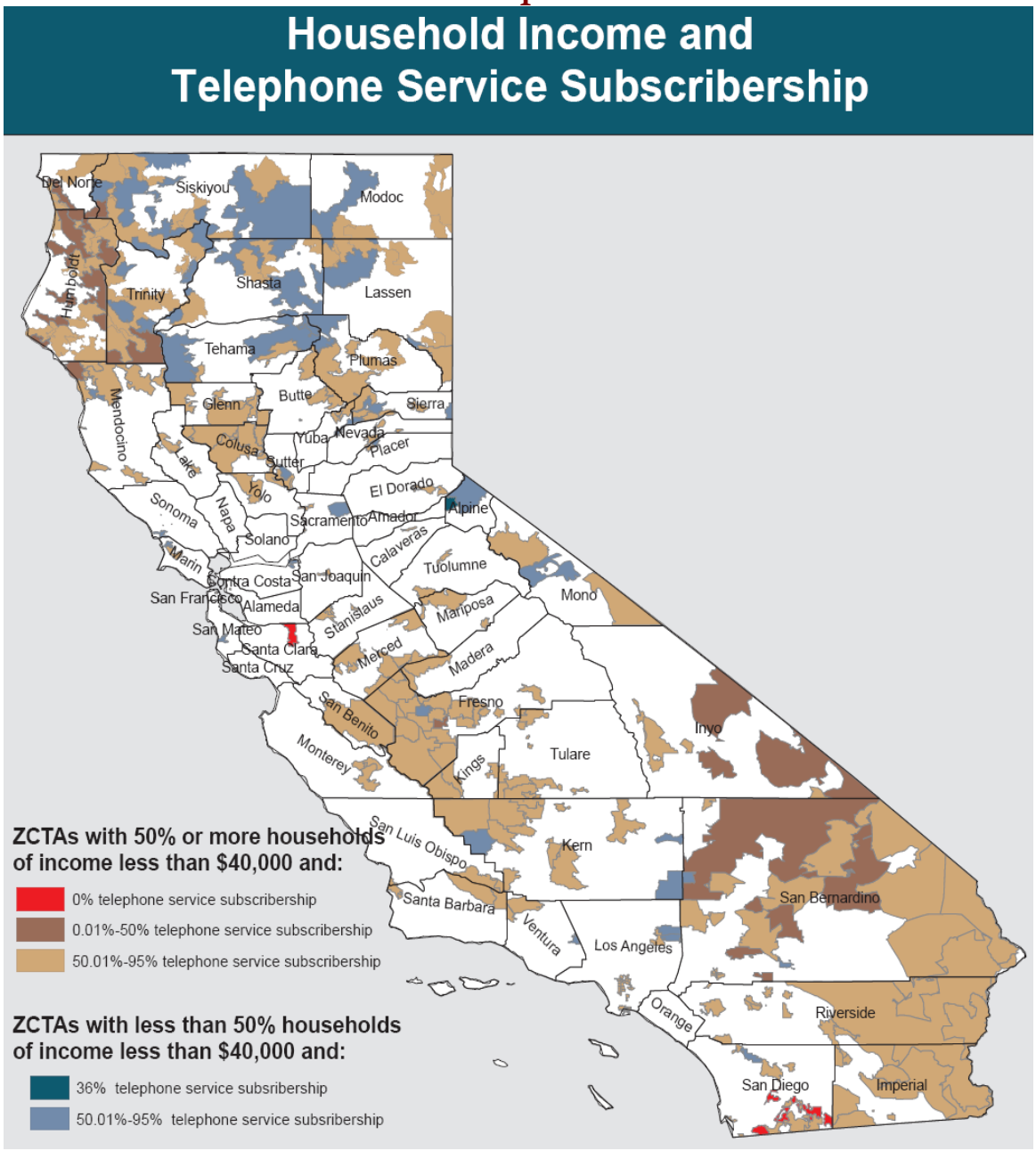


Source: Census Bureau, 2000 Census statistics on telephone subscribership (Table HCT132) and geography (Table H5) by Zip Code Tabulation Area (ZCTA).

[22] Census Bureau, "Urban'Rural" definition, as used in 2000 decennial Census. http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=subject&id=URSF3&dsspName=DEC_2000_SF3&back=update&_lang=en. Accessed May 18, 2007.

For Map 2, ZCTAs are categorized according to whether a majority of their households had annual incomes of less than $40,000. Less than one-third (about 31%) of ZCTAs in which the majority of households had an income of less than $40,000 also had less than 95 percent telephone service subscribership. About 66 percent of those people living in ZCTAs with less than 95 percent telephone service subscribership also lived in a ZCTA in which the majority of households had annual incomes of less than $40,000.

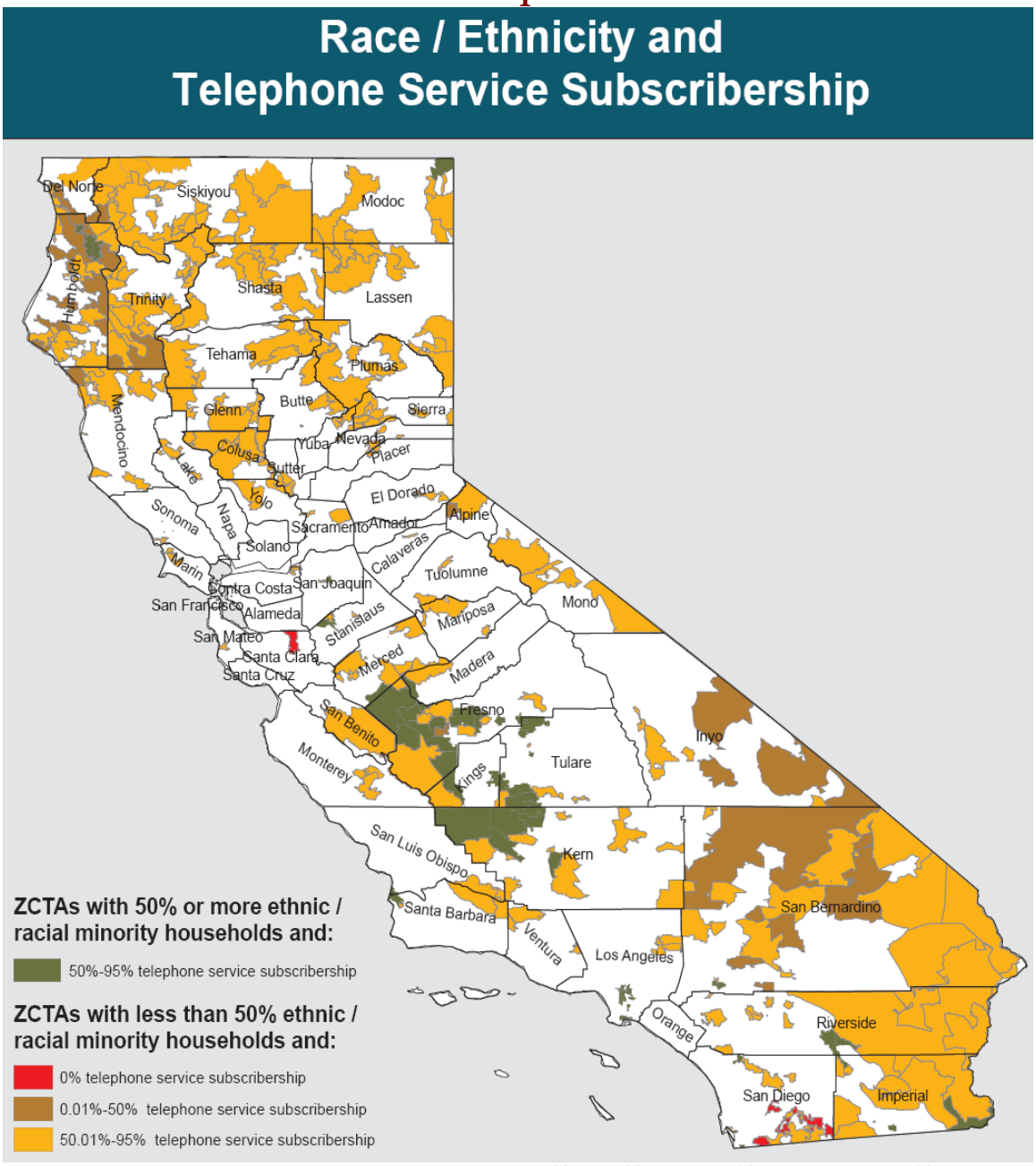
Map 2



Source: Census Bureau, 2000 Census statistics on telephone subscribership (Table HCT32) and household income (Table P151) by Zip Code Tabulation Area (ZCTA).

For Map 3, ZCTAs are categorized according to whether the majority of their households were of a racial/ethnic classification other than "White." About 30 percent of ZCTAs with a majority racial/ethnic minority population also have less than 95 percent telephone service subscribership. Nearly 31 percent of those people living in ZCTAs with less than 95 percent telephone service subscribership also lived in a ZCTA that had a majority of racial/ethnic minority households.

Map 3



Source: Census Bureau, 2000 Census statistics on telephone subscribership (Table HCT32) and race (Table H9) by Zip Code Tabulation Area (ZCTA).

B. INCOME IS MOST INFLUENTIAL FACTOR IMPACTING TELEPHONE SUBSCRIBER RATE PER AREA

Table 2 summarizes the average percent of households that have no telephone service, are rural, low income, or racial/ethnic minority households for (1) all ZCTAs, (2) those ZCTAs for which telephone service subscribership was above the 95 percent target rate, and (3) those ZCTAs for which service subscribership was at or below target. The prevalence of rural households, racial/ethnic minority households, and low-income households was greatest among ZCTAs at or below 95 percent telephone service subscribership.

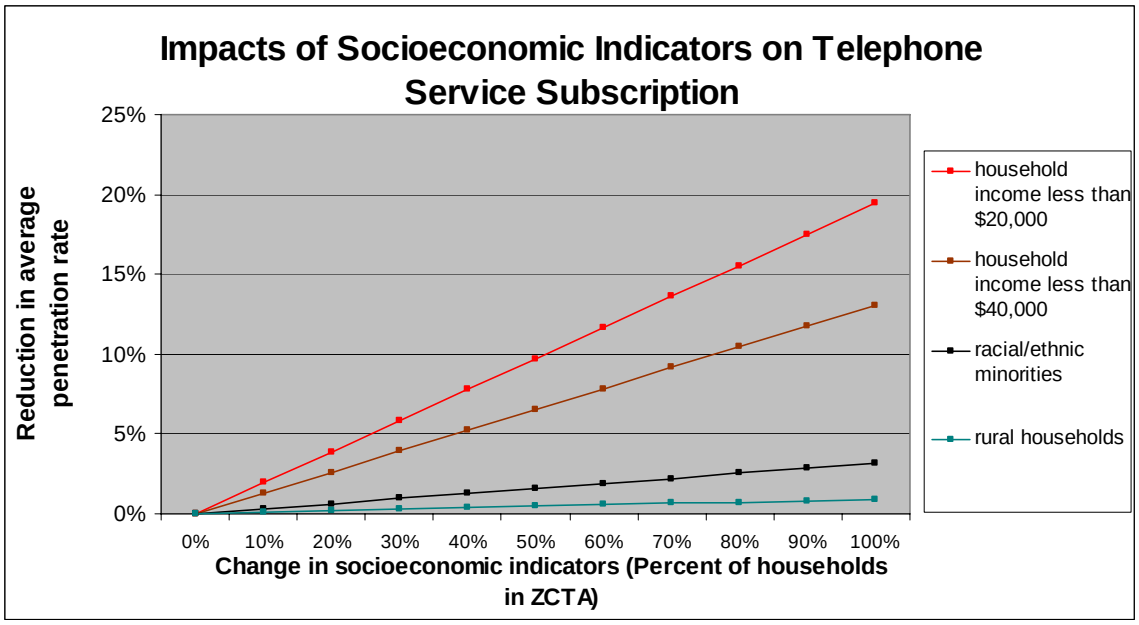
Table 2

Percentage of Households Having Socioeconomic Factor

Factor	All ZCTAs (state average)	ZCTAs with more than 95% subscribership	ZCTAs with less than 95% subscribership
No Telephone Service Subscription	3.12%	1.42%	12.22%
Rural households (approx. <1000 people per square mile)	38.26%	37.07%	66.86%
Household Income < $40,000	45.95%	42.17%	66.17%
Household Income < $20,000	21.77%	19.12%	35.95%
Racial/ethnic minorities	23.37%	22.01%	30.66%

Chart 10, on the next page, shows the estimated relationship between each individual factor and the percent of households with no telephone service subscription. Household income of less than $40,000 and $20,000 appears to have the strongest relationship with local penetration rates, while race/ethnicity and population density/geography have much smaller degrees of influence. Though this chart indicates that income is most influential, the other factors, though small, are statistically significant.

Chart 10

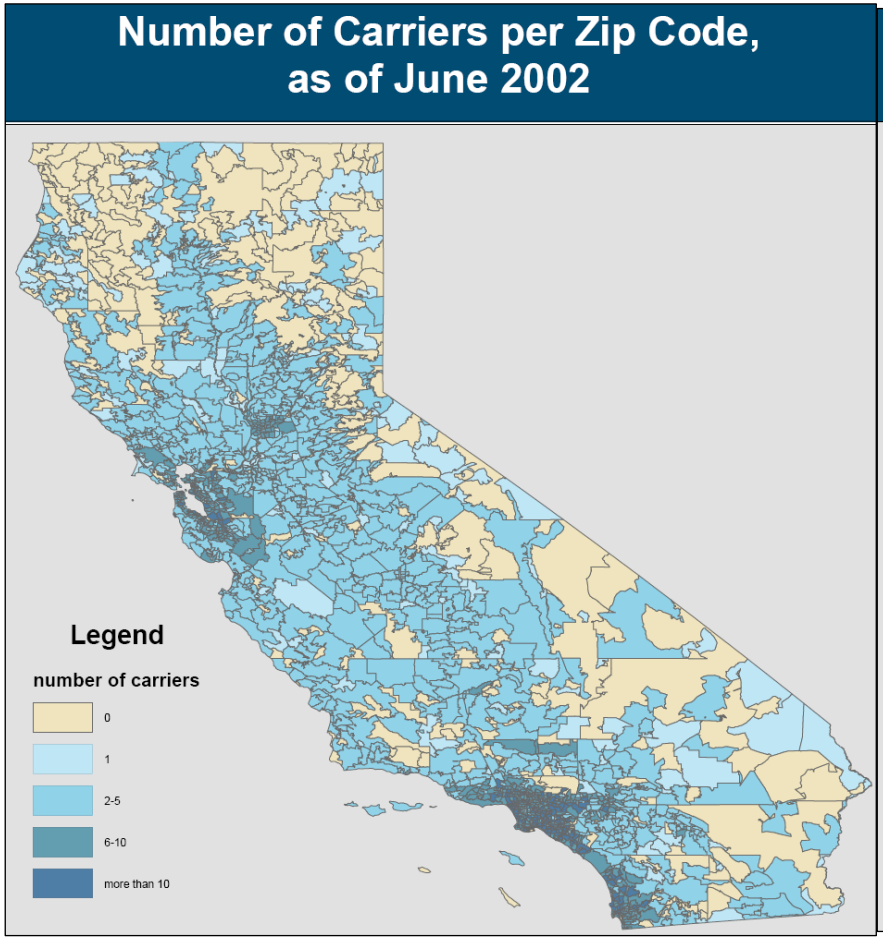


"Impacts of socioeconomic indicators" are linear estimates based on the hypothesis that each indicator has a linear relationship with telephone service availability, such that a unit increase in (the prevalence of) a given indicator corresponds with a lower rate of telephone service subscription by a calculated number of units, as determined by ordinary least squares regression. For the above socioeconomic indicators, these figures are: 0.009 (rural households), 0.032 (racial/ethnic minorities), 0.131 (household income < $40,000), and 0.194 (household income < $20,000). For example, the best estimate for a 100% greater prevalence in rural households from a given ZCTA to another is a 0.9% lower proportion of households with telephone service subscription. All these linear estimates are statistically significant, with p-values less than 0.01. These regressions are based on the same 2000 Census data used in Maps 1 – 3; for each socioeconomic indicator, 2170 data points (ZCTAs) were used.

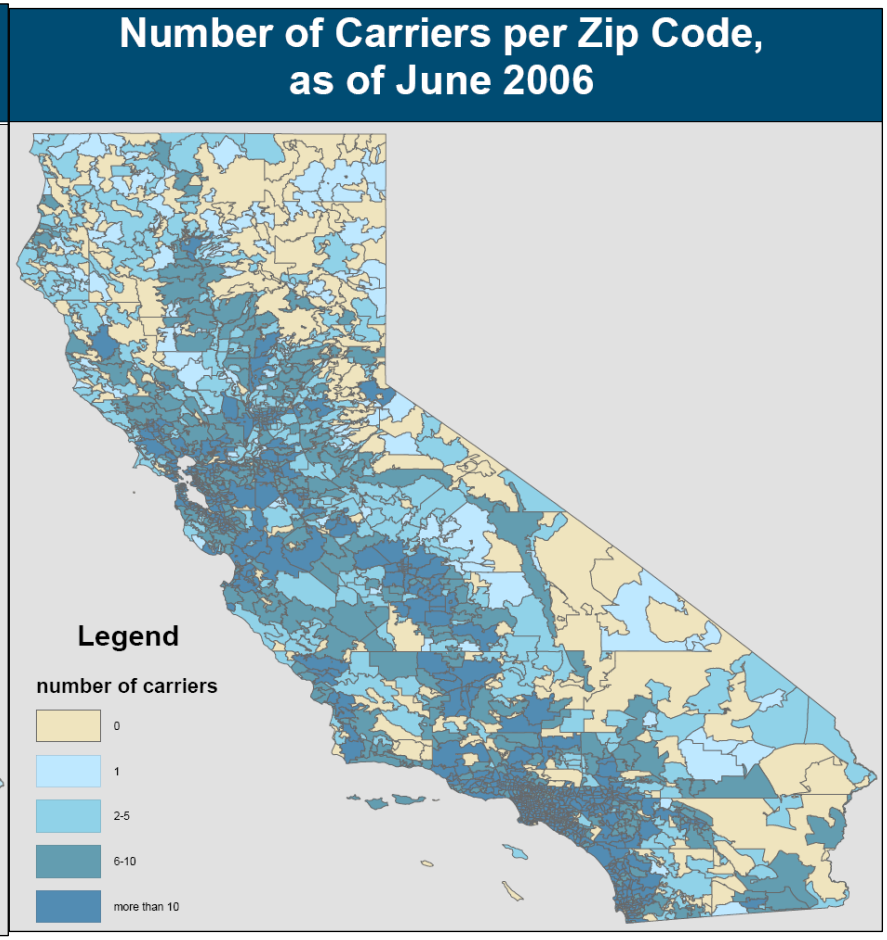
C. DESPITE INCREASE IN NUMBER OF CARRIERS PROVIDING SERVICE IN MOST AREAS, SOME AREAS EXPERIENCED A DECLINE IN NUMBER OF SERVICE PROVIDERS

Maps 4 through 6 are based on wireline carrier data from FCC Form 477, which requires that all local telephone carriers provide a list of zip codes in which carriers have end user customers for basic telephone service. All local exchange carriers are required to complete and submit the information semi-annually; the most recent data is current as of June 2006. Generally, the data from FCC Form 477 provides a similar picture to that portrayed by the 2000 Census data: areas with little growth and/or negative growth in the number of carriers, and a relatively lower number of carriers, also have lower rates of wireline telephone service subscription.

Map 4



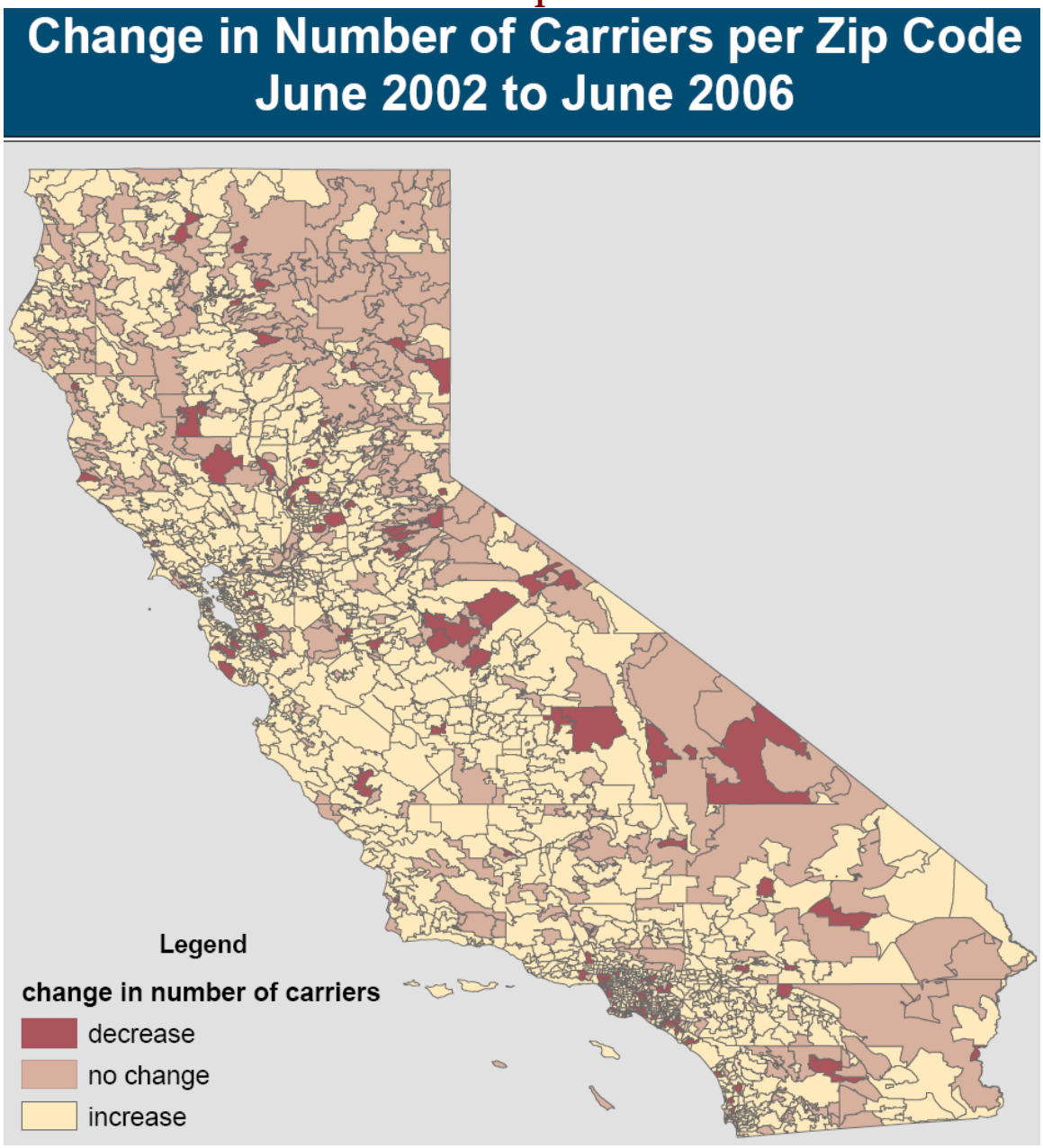
Map 5



For Maps 4 – 6: Companies' information regarding the zip codes in which they have end-user customers is aggregated to portray the total number of carriers that provide residential service for each zip code. For June 2002 data, these numbers also include carriers that provided service to small businesses.
Sources: FCC Form 477, data as of June 2002 and FCC Form 477, data as of June 2006.

Between June 2002 and June 2006, a large number of ZCTAs saw a significant growth in the number of carriers serving their areas. There is an observable correlation between the number of carriers and rates of telephone subscribership. ZCTAs with the lowest numbers of carriers and/or a decrease in the number of carriers from 2002 to 2006 also have the lowest penetration rates among all ZCTAs in the state.

Map 6



See sources listed under Maps 4 and 5

VI. TELECOMMUNICATIONS INFRASTRUCTURE GRANT PROGRAM

In 2001, California Assembly Bill 140 created the Rural Telecommunications Infrastructure Grants Program, which affords individual grants of up to $2.5 million (with an overall annual limit of $10 million) to construct telecommunications infrastructure for low income, rural communities currently without basic residential telephone service.[23] In 2001 a state auditor's report established that 112,000 people live in areas without telephone service.[24]

To date, five projects in predominantly low-income, rural areas have received funding through this program. These projects represent more than 14,000 residences and public facilities (schools, post offices, fire stations, etc.) gaining access to telephone service.[25]

Below is a GIS map showing the location of each of the five projects followed by a brief summary of each project.

[23] CPUC. Decision 05-03-005, Order Instituting Rulemaking Into Implementation of Assembly Bill 140, Establishing the Rural Telecommunications Infrastructure Grant Program. March 17, 2005.
[24] California State Auditors Biennial Report, Fiscal years ending June 30th 2001 and 2002, pg37.
[25] CPUC Communications Division Roadmap May 2007. http://www.cpuc.ca.gov/PUBLISHED/REPORT/68095.htm

Summary of Project Areas

Name and location:	**Yurok Reservation, Humboldt County, California**
Grant Date/Resolution approval date:	June 9, 2004, resolution T-16846
Grant Amount::	$2,500,000
Number of customers served:	Telephone branch lines and individual service drops to approximately 100 homes will be installed. Two schools, including a Head Start school, a BLM field office, a fire station, two churches and three community water stations also will be served with telephone service.

Name and location:	**Trinity County**
Grant Date/Resolution approval date:	June 9, 2004, resolution T-16846
Grant Amount::	$2,500,000
Number of customers served:	Residents of Trinity County – 13,000. *from the resolution*…"Although the entire county will benefit from the proposed project, communities that will benefit the most will be Hayfork, located in central Trinity County, the communities of Southern Trinity (Ruth, Mad River, Zenia and Kettenpom), and the communities downriver along the Trinity River (Big Bar, Burnt Ranch and Salyer). Because of the unique geography of Trinity County, 25% of the residents are without basic phone infrastructure and service."

Name and location:	**Iowa Hill, Placer County**
Grant Date/Resolution approval date:	June 9, 2004, resolution T-16846
Grant Amount::	Total: $2,079,900 but request has been submitted to bring project up to $2,500,000; Initial $1,834,900; Resolution T-17012 added $245,000 on April 13, 2006
Number of customers served:	The community of Iowa Hill is located in rural Placer County; the area is east of Colfax and north of Foresthill. It is a low-income community of about fifty families struggling without phone service and holds the distinction of having the only U.S. Post Office in the state of California without telephone service. In addition to the fifty residences, there is a volunteer fire department, the Iowa Hill School, and a small general store.

Name and location:	**Indian Springs School District, Shasta County**
Grant Date/Resolution approval date:	June 16, 2005, resolution T-16943
Grant Amount::	$2,500,000
Number of customers served:	Northeastern Shasta county had, in the 2000 Census 1.9 persons per square mile. This area represents 444 families. The lack of phone service is also a public safety issue not only for the school district but also for police and fire services.

Name and location:	**Tule River Indian Reservation, Tulare County**
Grant Date/Resolution approval date:	June 16, 2005, resolution T-16944
Grant Amount::	$860,000
Number of customers served:	The Tule River Indian Housing Authority estimates there are presently some 250 residential dwellings located on the Reservation. There are 176 unique telephone numbers assigned to Reservation residents. Three housing areas within the Reservation are currently not served by SBC telephone facilities. They are the Apple Valley, Cow Mountain, Upper Cemetery and Vera Ranch Areas. Wireline penetration at the Tule River Indian Reservation is 75.5%, significantly below the 94% penetration rate for California.

VII. CONCLUSION

The telecommunications industry continues to rank among today's most dynamic markets, posing new and ever-changing challenges to the state's goal of basic residential telephone service for all Californians. According to FCC data, California has realized its goal of 95 percent of all households having wireline telephone service.

California is among the fifteen states with the highest wireline telephone penetration rates. Wireline telephone penetration in California consistently increased from the inception of the LifeLine program in 1984 until its peak in 2002 and is since trending downward. California LifeLine subscribers, as a percent of all ILEC subscribers, have increased since 2002 and are becoming an increasingly important customer base for local telephone companies.

Low-income household wireline penetration rates in California are nearly the same as the national rate for all households, indicating that the LifeLine program is having a positive impact on income disparities. However, there are still many areas within the state that are unserved, with approximately 100,000 households having no telephone service available and many other areas of the state having subscribership levels lower than 95%.

While the use of other communications services is increasing, wireless seems to be having the greatest effect on wireline penetration as an increasing number of households are substituting wireless for wireline service. Although VoIP service does not have nearly the customer base of wireless, it is steadily growing its customer base and is offered at comparable rates to wireline service.

There is an observable correlation between the number of carriers and telephone penetration rates, with most areas with limited providers also having the lowest penetration rates. The prevalence of rural, racial/ethnic minority, and low-income households was greatest among areas below the LifeLine target penetration rate. Among the above factors Income remains the most significant factor in a household's decision to subscribe to telephone service.

Finally, because wireless subscribership has grown and outpaces wireline subscribership, collection of wireless subscribership data becomes crucial to properly assess telephone penetration. Furthermore, most ILECs provided data on basic residential and LifeLine customers, but few companies provided information regarding the households that do not subscribe to telephone service.

VIII. RECOMMENDATIONS

Based on the trends reviewed in this report, we highlight options for more targeted outreach efforts to those areas in California that have low rates of telephone service subscribership.

A. DATA IMPROVEMENTS

In order to fully assess areas where telephone service subscribership is below the target 95 percent rate, the following questions should be addressed:

- Whether households are using alternative means of communication in these areas and if so, to what extent;
- If households are using alternative means of communication, which components of "basic residential service" are provided;
- Whether households have access to telephone service of any type but can not afford it; and
- Whether households have no telephone service because they live outside of designated franchise territories.

In our continuing effort to make this report more accurate and of greater value for assessing the California LifeLine program, it is apparent that we need to collect more comprehensive, relevant, and accurate data regarding the types of services that residential consumers subscribe to. Such information would greatly enhance the Commission's ability to assess and report on California LifeLine and telephone penetration rates.

B. IMPROVING TELEPHONE PENETRATION

The CPUC supports programs that advance the goal of universal service. With respect to this goal, the CPUC is currently re-evaluating the California High Cost Fund-B (CHCF-B) program in rulemaking R.06-06-028, which is a critical program to ensure affordable universal service. Being considered in this rulemaking are new mechanisms such as reverse auctions for the provision of service to high cost areas and the possible redirection of some CHCF-B funds to promote deployment of broadband and advanced services in unserved and underserved territories. This proceeding may provide an auction model that could at a later date be adopted to address unserved areas.

The Rural Telecommunications Infrastructure Grants Program is currently scheduled to terminate in 2009. This currently is the only program specifically designed to address those areas that are unserved and for which no telecommunications facilities are available.

The tables in Appendix D highlight those areas of the state, by Zip Code, with telephone penetration rates of less than 95 percent, which may be useful for determining the areas with the greatest need. The CPUC staff is attempting to access improved data that will enable it to better identify high priority "low subscribership areas," for which programs may be developed, or modified, and/or to which greater resources can be directed. Such data will improve future versions of the penetration report to the legislature.

Appendix A: CALIFORNIA LIFELINE PROGRAM

The California LifeLine Program provides discounted basic residential telephone services to low-income households and operates a competitively neutral marketing program. Low-income households are defined as the members of the customer's household collectively earning no more than the following amount of annual income in fiscal year 2007-08:

Household Size	ULTS Annual Income Limits (6/1/07 - 5/31/08)[26]
1-2 members	$22,000
3 members	$25,900
4 members	$31,200
Each additional member	$5,300

Discounted residential telephone services available to California LifeLine customers include but are not limited to the following:

Service	Description	Rate
Flat-Rate Local Telephone Service	Unlimited local calls and same free access to directory assistance calls as provided to non-ULTS flat-rate residential customers.	Monthly recurring: the lower of $5.34 or 1/2 of utility's residential flat-rate local telephone service.
Measured Local Telephone Service	60 local calls per month and $0.08 per call after 60, and same free access to directory assistance calls as provided to non-ULTS measured-rate residential customers.	Monthly recurring: the lower of $2.85 or 1/2 of the utility's residential measured local telephone service.
Service Connection and Service Conversion	For initiation of telephone service, or change of class/type/grade of service.	Non-recurring: the lower of $10 or 1/2 of utility's connection/ conversion charge for residential telephone service.

An all-end-user surcharge assessed on consumers' bills for intrastate telecommunications services provides state funding for California LifeLine. For the calendar year 2006, the collected surcharge revenues totaled approximately $316 million.[27] The number of

[26] CPUC, ULTS Annual Income Limits (6/1/07 through 5/31/08). April 16, 2007. Household income limits are calculated each year as: the prior period income limit, multiplied by a factor of one plus the inflation factor derived from the most current issue of the "U.S. Economic Outlook." The inflation factor used is the "final" Federal Consumer Price Index - Urban Area (CPI-U) for the prior year. All income limit amounts are rounded to the nearest $100. The amount for "Each additional member" is either rounded to, or set at, the difference between 3 and 4 household members.
Source: CPUC "Notice to all carriers who provide Universal LifeLine Telephone Service (ULTS)," letter dated March 8, 2007.
[27] CPUC Resolution T-17071, Approval of Universal Lifeline Telephone Service Surcharge Rate and Revised Fiscal Years 2006-07 and 2007-08 Budgets. March 8, 2007. Appendix A.

participating residential customers decreased marginally from 3.62 million in 2005 to 3.4 million in 2006.[28] For this same time period the number of carriers providing LifeLine service in California decreased from 33 in 2005 to 32 in 2006.

The average state program subsidy per LifeLine customer is about $7.75 per month, or $93 annually. These figures include subsidies to the customer and compensation payments to the utility for providing LifeLine disclosures to consumers and other administrative costs. Although all LifeLine customers are served at a subsidized rate of one-half of, AT&T California basic service flat or measured service rate, (currently $5.34 per month for flat rate ($64.08 annually), many Californians are served by local telephone companies having a higher basic service rates than AT&T California. For those customers to be provided the LifeLine rates, the subsidy amount per customer is necessarily higher. The current all end-user Lifeline surcharge to fund the state program is 1.15 percent of intrastate charges. The ten-year trend for ULTS surcharges is indicated in the following table.

Surcharges Since 1997

Date effective	LifeLine Surcharge	Total Public Purpose Programs Surcharge[29]
2/1/1997	3.20%	6.84%
1/1/1998	2.40%	5.93%
1/1/1999	0.00%	4.04%
1/1/2000	0.50%	3.34%
1/1/2001	0.80%	3.59%
1/1/2002	1.45%	4.00%
1/1/2003	0.00%	2.08%
1/1/2004	1.10%	3.52%
1/1/2005	1.10%	4.16%
1/1/2006	1.29%	3.90%
4/1/2007	1.15%	3.16%

Source: CPUC, Surcharge Rates from Inception of the Telecommunications Programs.
http://www.cpuc.ca.gov/static/telco/consumer+information/surhistory_3-9-07.xls

The California LifeLine Program receives support from both state and federal sources. In addition to state support, Lifeline subscribers receive a federal subsidy equal to the eligible telecommunications carriers federally tariffed subscriber line charge (SLC). For example the SLC for AT&T California is $4.65. The SLC amount is varies by carrier but support is capped at $6.50 per customer for all carriers. For 2006, federal Lifeline/Link-Up support provided

[28] This decline is in part due to the changeover to the new certification/verification system and the resulting confusion regarding recertification.
[29] Total Public Purpose Program surcharge includes California LifeLine, California Relay Serve and Communications Device Fund, California High Cost Funds A and B, and California Teleconnect Fund.

$304.5 million to California,[30] while California LifeLine support provided $238 million,[31] for a total of $542.5 million.

LIFELINE PROGRAM CERTIFICATION REVISIONS

In April 2004, the Federal Communications Commission (FCC) issued an order[32] that required states to document customers' income qualifications in order to continue receiving federal income-based Lifeline/Link-Up support. To preserve the $300 million that California receives from federal support, effective in July 2006 California LifeLine transitioned from the existing income-based self-certification qualification system to a system where qualification is based upon prior enrollment in a public assistance program, or by documented proof of income.[33] Solix, Inc., the Certifying Agent, maintains a customer database for the approximately three million California LifeLine subscribers, evaluates new and existing customers' eligibility, and implements an online system to help resolve consumers' complaints.

According to the new program-based eligibility criteria, enrollees of any of the following public-assistance programs qualify for California LifeLine assistance:

- Bureau of Indian Affairs General Assistance
- Federal Public Housing Assistance or Section 8
- Food Stamps
- Head Start Income Eligible (Tribal Only)
- Healthy Families Category A
- Low Income Home Energy Assistance Program (LIHEAP)
- Medicaid/Medi-Cal
- National School Lunch's FREE Lunch Program (NSL)
- Supplemental Security Income (SSI)
- Temporary Assistance for Needy Families (TANF)
- Tribal TANF
- Women, Infant and Children (WIC)

[30] FCC, *Universal Service Monitoring Report*, December 2006, Table 2.4
[31] CPUC Resolution T-17071, Approval of Universal Lifeline Telephone Service Surcharge Rate and Revised Fiscal Years 2006-07 and 2007-08 Budgets. March 8, 2007. Appendix A.
[32] *Lifeline and Link-Up Report and Order and Further Notice of Proposed Rulemaking*, WC Docket No. 03-109, FCC 04-87 (released April 29, 2004).
[33] CPUC Decision 05-04-026, of December 2, 2004, recognized the benefit of federal support and the necessity to adopt the strict federal program guidelines. To not have adopted the strict federal guideline, California receipt of federal monies would have been lost, yet California consumers would have continued to be subject to federal surcharges.

New program-based customers may enroll in LifeLine through self-certification; income-based customers are required to provide documentation demonstrating that household income is at or below the aforementioned income guidelines.

In November 2006, the CPUC temporarily suspended the new verification requirements (D.06-11-017), due to low response rates to the verification notice and the subsequent removal of thousands of LifeLine customers. The Commission has since taken steps to address the low response rate through improved outreach and education efforts.

Appendix B: COMPARISON OF DATA SOURCES

This report utilizes varying sources of information regarding telephone service; below we discuss certain noteworthy differences among them.

1. FCC REPORTS AND 2000 CENSUS DATA

This report utilizes both FCC telephone penetration rates collected through the Current Population Survey (CPS) and 2000 Census data regarding telephone service availability. Two main differences between Census data and the CPS data used in the FCC reports (*Telephone Subscribership, Penetration by Income by State, Monitoring Report, and Trends in Telephony*) are worth noting: differences in the penetration rates calculated by these two surveys indicate that the CPS value may understate telephone penetration and the decennial Census value may overstate it.[34] Secondly, the decennial Census information on telephone service availability is available at the five-digit Zip Code Tabulation Area (ZCTA) level, which provides a more detailed view of specific areas in California where telephone service subscription is limited.[35] Although the data is not as current as the CPS data, it provides a reference point for comparing with and analyzing more recent data. What is significant is that neither of these two sources focuses solely on wireline telephone service: the "no telephone service available" category from the Census questionnaire does not distinguish among those households that (1) have no telephone service because they are located outside of designated franchise territories, (2) can not afford telephone service, and (3) had (wireline) service but switched to substitute technologies (i.e., mobile). The CPS-based penetration rates reported by the FCC also do not make such distinctions and, as of December 2004, the CPS questions explicitly ask respondents to include wireless and any other type of telephone.[36] Therefore, our ability to accurately determine the wireline telephone penetration rate is limited.

[34] From the FCC's Telephone Subscribership report: "Unfortunately, the results of the CPS cannot be directly compared with the penetration figures contained in the 2000 decennial census. This is due to differences in sampling techniques and survey methodologies and because of differences in the context in which the questions were asked… CPS figures are based on households, while the decennial census figures are based on occupied housing units. The decennial census is in the process of being replaced by the American Community Survey, which is now available on an annual basis."

[35] ZCTAs are a geographic approximation to actual Zip Codes. The data on telephones were obtained from answers to long-form questionnaire Item 41, which was asked on a sample basis at occupied housing units. Households with telephone service have a telephone in working order and are able to make and receive calls. Households whose service has been discontinued for nonpayment or other reasons are counted as not having telephone service available.

[36] Until December 2004, the CPS question regarding telephone service asked, "Is there a telephone in this house or apartment?" The question is now asked in this manner: "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." See FCC report "Telephone Penetration by Income by State, Data Through March 2005", page 2.

Table 3

Comparison of Data Sources for Telephone Penetration Rates

	FCC reports	Census data
Definition of penetration rate	# households with telephone service / total # households	# occupied housing units with telephone service / total # occupied housing units
Definition of telephone service availability	"Does this home, 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."	Households with telephone service have a telephone in working order and are able to make and receive calls. Households whose service has been discontinued for nonpayment or other reasons are not counted as having telephone service available.
Year of most current information; source	2006; Current Population Survey (Census Bureau and Bureau of Labor Statistics) staggered panel survey	2000; Decennial Census (Census Bureau)
Lowest (geographic) unit of analysis	State	Zip code tabulation area (ZCTA)

2. FCC FORM 477

Zip code data from FCC Form 477 includes only wireline service providers and also distinguishes between residential and business access lines. The Form 477 may overstate telephone availability, as a carrier only must provide service to one customer in a zip code to include that zip code in its Form 477. We are unable to calculate penetration rates from this source; however, it does show us those areas in which no carriers provide service.

3. CPUC DATA REQUEST ISSUES

CD staff asked 18 incumbent carriers and 12 competitive carriers to provide LifeLine and non-LifeLine customer data for the areas in California in which they provide service. A copy of the data request is included in an appendix to this report. Twelve carriers (one competitive and 11 incumbent) provided responses to every question in the data request, while 11 more (four competitive and seven incumbent) provided partial responses. Three carriers responded that they only provide business service, and four did not respond. Therefore, the information included in section V of this report is based on incumbent carriers' responses to the first two questions of our data request, as this is only complete sub-set of data from which we can draw conclusions; it is not representative of all carriers and customers of telecommunications

services in California. Although this information is not as geographically comprehensive as the 2000 decennial Census, it does capture the most current LifeLine-specific data available for carriers.

Appendix C: Staff Data Request

This data request was sent to 30 local exchange carriers on April 23, 2007.*

1. a) What is the number of basic residential telephone service subscribers?
   b) What is the number of basic residential telephone service subscribers that are ULTS?

2. a) What is the number of households in your service territory?
   b) What is the number of households receiving basic residential telephone service?
   c) What is the number of households receiving basic residential telephone service that are ULTS?
   d) Are you able to provide service to every household in your territory?
   e) How many households have the option of subscribing to telephone service but do not?
   f) If no to (d) above, to how many households were you unable to provide service?
   g) If actual figures are not available for questions 2(a), 2(e) and 2(f), please provide estimates (and identify them as such).

	1(a) # basic residential telephone service subscribers	1(b) # basic residential telephone service subscribers that were ULTS	2(a) # household s in your service territory	2(b) # households that received basic residential telephone service	2(c) # households that received basic telephone service that are ULTS	2(d) Able to provide service to every household in your territory? (Y/N)	2(e) # households that had option of receiving telephone service but did not	2(f) (If no to question 2(d), # household s to which you were unable to provide service
2001								
2002								
2003								
2004								
2005								
2006								

* This information is not comprehensive, as not all ILECs and CLECs provided the requested information.

Appendix D: Areas With Telephone Penetration Below 95%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
89439	94.8%	29%	15%	3%	32	0%
90001	93.1%	0%	41%	78%	15688	74%
90002	94.4%	0%	43%	88%	14677	72%
90003	93.3%	0%	43%	85%	16441	73%
90005	94.0%	0%	46%	72%	37518	41%
90006	91.4%	0%	48%	75%	32165	67%
90007	94.7%	0%	51%	71%	16238	47%
90010	94.8%	0%	30%	48%	4611	41%
90011	92.1%	0%	40%	75%	23246	53%
90013	68.9%	0%	78%	65%	12722	40%
90014	75.9%	0%	85%	77%	12160	48%
90015	87.1%	0%	52%	71%	9156	58%
90017	83.2%	0%	61%	70%	27844	52%
90021	52.8%	0%	68%	67%	1509	60%
90023	94.0%	0%	36%	59%	9119	55%
90031	93.5%	0%	40%	68%	9815	40%
90033	88.9%	0%	45%	66%	15831	55%
90037	92.5%	0%	48%	83%	20135	56%
90044	94.9%	0%	44%	88%	16946	67%
90057	87.7%	0%	51%	73%	49830	57%
90061	94.5%	0%	36%	90%	9274	61%
90063	94.5%	0%	33%	61%	15615	58%
90201	94.6%	0%	30%	51%	17253	60%
90221	94.3%	0%	31%	83%	9443	58%
90716	94.6%	0%	25%	56%	15593	69%
90744	93.8%	0%	31%	60%	5331	57%
90802	93.7%	0%	40%	44%	5866	48%
90813	89.3%	0%	49%	72%	16897	42%
91719	92.1%	100%	26%	0%	62	-33%
91905	92.0%	100%	28%	17%	19	73%
91906	93.5%	100%	30%	18%	29	75%
91917	93.2%	100%	24%	12%	16	67%
91931	86.4%	100%	21%	7%	45	50%
91948	84.1%	100%	21%	0%	6	100%
92059	83.9%	100%	31%	64%	96	33%
92061	94.0%	100%	18%	38%	53	73%
92066	80.6%	100%	33%	7%	15	75%
92070	91.0%	100%	29%	32%	11	-100%
92101	92.2%	0%	44%	26%	4772	50%
92113	93.7%	0%	41%	71%	10391	47%
92173	94.7%	2%	38%	51%	5549	58%
92225	92.2%	47%	33%	37%	41	82%
92227	93.3%	7%	34%	41%	21	62%
92230	92.2%	100%	46%	27%	95	57%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
92233	92.3%	18%	30%	44%	49	50%
92239	85.4%	100%	27%	20%	2	50%
92249	90.8%	7%	29%	64%	231	25%
92254	82.2%	34%	40%	65%	177	57%
92257	82.2%	100%	41%	22%	16	25%
92258	93.9%	8%	25%	43%	38	80%
92259	84.3%	100%	41%	0%	2	67%
92266	86.2%	100%	67%	16%	7	0%
92268	92.2%	100%	26%	0%	13	0%
92273	93.8%	100%	28%	46%	1848	33%
92274	83.4%	69%	40%	57%	146	82%
92275	92.8%	100%	43%	18%	35	33%
92280	66.7%	100%	64%	0%	0	100%
92281	93.4%	100%	42%	43%	272	50%
92283	76.9%	70%	50%	53%	18	50%
92301	94.2%	10%	31%	41%	71	83%
92309	83.2%	100%	31%	20%	1	78%
92332	90.4%	100%	12%	15%	0	100%
92333	92.3%	100%	29%	7%	161	50%
92347	87.9%	100%	29%	21%	10	50%
92356	92.3%	100%	39%	15%	11	89%
92363	92.8%	45%	40%	18%	5	67%
92364	71.2%	100%	28%	12%	0	75%
92365	88.9%	100%	31%	12%	5	75%
92368	84.4%	100%	46%	19%	16	80%
92389	86.1%	100%	76%	5%	2	100%
92401	81.6%	0%	64%	53%	2286	69%
92405	92.8%	0%	34%	42%	6068	76%
92408	89.1%	0%	43%	63%	1005	52%
92410	89.7%	1%	42%	58%	5281	71%
92411	88.8%	0%	42%	72%	5407	69%
92501	94.1%	0%	30%	34%	3176	59%
92570	94.6%	24%	30%	45%	396	71%
92583	94.8%	4%	34%	24%	705	69%
92590	94.8%	47%	36%	19%	62	76%
93040	92.4%	100%	24%	49%	74	60%
93201	79.0%	100%	42%	37%	17	100%
93203	91.1%	24%	40%	48%	47	75%
93204	89.2%	1%	30%	50%	64	64%
93206	90.0%	100%	35%	55%	11	67%
93210	93.2%	12%	25%	34%	25	71%
93212	93.6%	6%	35%	56%	242	64%
93215	93.3%	3%	38%	69%	365	76%
93219	88.8%	25%	44%	76%	69	50%
93223	93.6%	2%	34%	51%	1282	50%
93234	88.3%	9%	42%	79%	39	50%
93235	91.8%	2%	33%	45%	1440	70%
93239	89.5%	100%	32%	64%	15	71%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
93241	92.4%	2%	37%	52%	4575	56%
93249	81.9%	100%	28%	81%	4	67%
93250	85.2%	9%	40%	68%	109	73%
93251	92.1%	100%	15%	17%	1	60%
93252	91.8%	100%	30%	15%	11	86%
93254	94.1%	100%	30%	13%	2	33%
93256	90.3%	40%	49%	58%	50	67%
93261	90.7%	9%	41%	80%	287	100%
93263	88.6%	10%	35%	47%	182	85%
93270	91.8%	51%	33%	45%	73	70%
93276	88.6%	100%	37%	14%	17	0%
93280	94.0%	10%	33%	54%	74	81%
93283	93.9%	100%	46%	9%	7	50%
93287	86.7%	100%	25%	30%	3	0%
93301	94.5%	0%	41%	28%	3011	76%
93305	93.2%	0%	42%	47%	5717	69%
93307	94.5%	5%	38%	55%	710	81%
93429	80.4%	100%	24%	18%	32	0%
93434	92.3%	1%	30%	52%	115	71%
93450	88.1%	100%	29%	43%	5	33%
93512	93.5%	100%	31%	21%	1	33%
93516	93.3%	100%	37%	8%	8	67%
93517	92.0%	100%	15%	12%	2	83%
93522	71.1%	100%	71%	7%	2	0%
93541	91.3%	100%	8%	10%	2	0%
93544	87.1%	100%	27%	13%	11	25%
93545	92.6%	100%	39%	20%	46	86%
93549	92.7%	100%	28%	6%	1	0%
93553	87.9%	100%	39%	10%	33	71%
93554	84.5%	100%	46%	9%	2	0%
93562	92.9%	100%	28%	10%	58	75%
93606	93.4%	100%	18%	88%	2044	100%
93608	73.5%	100%	18%	59%	7	33%
93609	93.1%	100%	27%	40%	88	60%
93610	94.7%	37%	33%	23%	75	80%
93615	92.3%	23%	38%	58%	264	50%
93620	92.6%	38%	34%	30%	55	75%
93621	86.6%	100%	52%	19%	7	50%
93622	90.9%	32%	34%	54%	16	67%
93623	57.1%	100%	53%	0%	3	50%
93624	90.6%	100%	17%	73%	16	100%
93625	94.3%	27%	28%	41%	225	67%
93627	41.7%	100%	65%	29%	4	0%
93630	92.8%	42%	35%	45%	98	33%
93640	83.5%	14%	38%	73%	61	50%
93646	92.6%	10%	39%	60%	282	50%
93647	94.4%	18%	32%	60%	93	50%
93648	92.8%	13%	38%	65%	507	67%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
93660	91.3%	19%	40%	60%	61	78%
93666	89.3%	100%	30%	79%	7517	100%
93668	94.8%	100%	19%	29%	22	50%
93701	82.9%	0%	62%	67%	9068	80%
93702	93.5%	0%	46%	62%	9136	77%
93706	93.5%	24%	45%	69%	225	75%
93721	88.0%	0%	66%	57%	3358	75%
93725	94.5%	31%	34%	57%	324	74%
93954	85.1%	100%	23%	45%	7	100%
94074	89.9%	100%	0%	3%	17	67%
94102	88.2%	0%	45%	47%	44408	50%
94103	92.2%	0%	39%	45%	17319	58%
94104	84.2%	0%	70%	65%	4624	7%
94111	94.6%	0%	25%	34%	6601	32%
94511	94.4%	3%	24%	8%	137	67%
94612	93.4%	0%	49%	72%	14583	50%
94922	83.6%	100%	22%	15%	37	0%
94940	94.4%	100%	34%	7%	12	80%
94971	94.5%	100%	8%	5%	31	50%
95041	76.0%	0%	24%	0%	3590	50%
95043	89.7%	100%	28%	13%	1	50%
95140	0.0%	100%	100%	0%	1	0%
95202	83.7%	0%	68%	54%	6593	67%
95203	94.8%	1%	34%	44%	2629	73%
95205	93.6%	0%	37%	56%	3845	67%
95257	93.5%	100%	52%	3%	45	0%
95305	86.9%	100%	41%	26%	187	-100%
95311	93.4%	100%	36%	6%	8	40%
95312	81.3%	0%	67%	31%	6502	100%
95317	93.9%	100%	23%	31%	15	50%
95322	94.1%	42%	27%	24%	38	77%
95335	93.2%	100%	38%	2%	28	40%
95351	94.2%	0%	33%	44%	5738	80%
95369	93.2%	100%	27%	16%	7	40%
95385	89.0%	100%	22%	50%	14	33%
95387	93.8%	100%	42%	59%	21	50%
95417	91.5%	100%	34%	0%	6	100%
95419	94.6%	100%	25%	0%	3280	100%
95420	90.4%	100%	37%	0%	77	67%
95422	94.4%	6%	50%	14%	681	84%
95424	81.5%	0%	58%	33%	1492	100%
95428	82.0%	100%	36%	41%	10	50%
95443	94.2%	46%	30%	21%	62	50%
95444	92.6%	0%	28%	13%	5265	0%
95454	94.0%	100%	35%	14%	9	100%
95459	93.2%	100%	30%	16%	13	0%
95471	92.6%	0%	27%	13%	5001	100%
95485	93.7%	75%	38%	17%	28	75%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
95488	89.5%	100%	35%	0%	4	50%
95494	85.2%	100%	31%	17%	4	0%
95525	94.1%	100%	32%	13%	12	86%
95526	87.5%	100%	37%	14%	3	50%
95527	91.4%	100%	31%	14%	4	100%
95537	92.5%	0%	34%	13%	1392	67%
95542	89.8%	100%	38%	5%	7	80%
95543	93.7%	100%	47%	25%	2	100%
95545	58.1%	100%	52%	9%	2	0%
95546	70.0%	100%	49%	82%	22	100%
95548	90.7%	100%	32%	31%	17	100%
95552	74.3%	100%	44%	4%	3	100%
95553	87.6%	100%	58%	8%	31	50%
95555	82.2%	100%	40%	9%	10	100%
95556	89.5%	100%	36%	31%	3	100%
95558	90.8%	100%	31%	6%	4	50%
95563	92.9%	100%	29%	25%	22	0%
95568	80.0%	100%	56%	33%	2	100%
95569	89.6%	100%	31%	8%	7	50%
95571	83.2%	100%	32%	0%	173	0%
95573	94.1%	100%	33%	14%	27	100%
95587	89.3%	100%	42%	20%	4	100%
95595	69.3%	100%	44%	20%	1	100%
95605	94.9%	0%	35%	35%	3302	53%
95627	92.9%	100%	24%	25%	15	50%
95639	80.6%	100%	40%	78%	86	0%
95645	93.9%	100%	22%	33%	15	60%
95646	35.7%	100%	0%	18%	2	0%
95653	80.8%	100%	29%	57%	656	75%
95675	94.9%	100%	29%	8%	2040	0%
95676	70.4%	100%	13%	48%	10	0%
95701	91.2%	100%	15%	5%	47	60%
95717	85.8%	100%	27%	3%	33	0%
95720	86.3%	100%	22%	10%	3	0%
95742	81.7%	49%	7%	6%	3	29%
95814	93.8%	0%	49%	33%	4553	52%
95815	93.7%	0%	38%	36%	3732	58%
95910	63.6%	100%	40%	11%	3	50%
95916	94.6%	100%	35%	13%	15	40%
95920	91.3%	100%	43%	25%	4	0%
95925	91.9%	100%	16%	14%	13	25%
95932	93.9%	23%	29%	25%	31	50%
95936	93.5%	100%	25%	0%	6	50%
95943	93.5%	100%	24%	22%	19	40%
95950	93.0%	100%	26%	25%	16	0%
95955	92.8%	100%	24%	15%	85	0%
95960	91.8%	100%	27%	6%	14	67%
95968	92.9%	11%	27%	18%	844	50%

Zip Code Tabulation Area	households with telephone service	rural households	households with less than $40,000 income	racial / ethnic minority households	population density	growth in number of carriers
95979	93.8%	100%	38%	8%	3	-100%
95986	91.5%	100%	43%	0%	48	100%
95987	92.4%	33%	24%	35%	14	-100%
95988	94.9%	18%	29%	18%	27	75%
96006	94.6%	100%	30%	5%	2	0%
96009	90.7%	100%	41%	11%	5	0%
96011	83.3%	100%	42%	15%	2	0%
96014	94.6%	100%	22%	8%	4	50%
96024	92.6%	100%	37%	7%	8	50%
96025	92.9%	100%	42%	7%	44	67%
96031	73.1%	100%	56%	25%	1	100%
96034	93.6%	100%	25%	4%	3	-50%
96039	91.6%	100%	45%	30%	5	100%
96041	83.9%	100%	41%	13%	9	75%
96046	66.7%	100%	61%	0%	4	0%
96047	94.2%	100%	33%	10%	4	-100%
96054	94.5%	100%	38%	14%	3	0%
96056	91.3%	100%	40%	7%	7	0%
96058	94.4%	100%	45%	13%	2	100%
96061	85.7%	100%	9%	0%	1	0%
96065	83.0%	100%	38%	19%	8	-200%
96068	88.0%	100%	67%	8%	13	0%
96074	87.8%	100%	36%	14%	6	100%
96084	94.8%	100%	36%	12%	2	0%
96085	86.8%	100%	48%	11%	1	100%
96086	90.2%	100%	45%	10%	2	100%
96091	93.4%	100%	28%	5%	3	0%
96104	94.4%	100%	30%	6%	3	0%
96109	83.9%	100%	43%	8%	5	-100%
96110	88.0%	100%	29%	10%	1	100%
96112	82.4%	100%	48%	53%	2	0%
96113	93.5%	100%	22%	24%	11	0%
96115	93.8%	100%	24%	6%	2	0%
96119	90.9%	100%	70%	0%	1	0%
96120	91.0%	100%	24%	24%	3	0%
96121	93.9%	100%	25%	11%	18	0%
96126	81.0%	100%	8%	0%	5	67%
96132	70.0%	100%	65%	10%	1	0%
96136	80.4%	100%	37%	24%	1	0%
919XX	0.0%	100%	0%	0%	0	0%
922XX	69.8%	100%	56%	13%	0	0%
923XX	43.4%	100%	28%	17%	0	0%
955XX	22.6%	100%	43%	6%	0	0%
959XX	66.0%	100%	85%	26%	0	0%
960XX	71.4%	100%	24%	7%	0	0%