11 ILEC SERVICE QUALITY AND COMMUNITY DEMOGRAPHICS

Key findings addressed in this Chapter

- While we have attempted to compile the requested data on the relationships between ILEC service quality and communities' income level and racial makeup, we caution the Commission as to both the precision and usefulness of these results, and recommend that their use at this time be limited solely to considering the need for a more detailed and more granular investigation.
- The incidence of service outages for both AT&T and Frontier appears to be somewhat lower in higher income areas, although the companies' responses to those service outages that do occur exhibit no similar income-related pattern.
- Average gross plant additions investment per access line are similar in all five quintiles for both AT&T and Frontier, but wire centers serving higher income areas tend to have a lower rate of out-of-service incidents and greater broadband availability than their counterparts in lower income communities.
- For both AT&T and Frontier, there is no indication that wire centers that serve relatively higher percentages of Black, Hispanic or Non-White populations exhibit more frequent incidents of service outages; moreover, as with our income analysis, there does not appear to be any observable pattern for either company associated with any of the service restoration metrics.

ILEC SERVICE QUALITY AND COMMUNITY DEMOGRAPHICS

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Tables and Figures

Introduction

There is considerable variation in service quality performance across each ILEC's wire centers. In our Phase 1 study, we undertook to preliminarily examine whether there was any observable relationship between a community's median household income and the treatment that its ILEC was providing customers with respect to service quality. That examination was limited to AT&T California wire centers, and its results were discussed in Chapter 11 of our Phase 1 report, at pp. 518-522.

As addressed in Chapter 4A of our Phase 1 report (at pp. 206-210), we had observed that wire centers with the lowest rates of customer drop-off had experienced the poorest levels of service quality. At first glance, this outcome seems anomalous. All else equal, one would expect that areas with the poorest service quality overall would exhibit the higher rates of customer defection away from the ILEC and over to alternative providers, but in fact the result was precisely the opposite – communities experiencing the highest levels of service quality were also the ones with the highest rates of service disconnections. The likely explanation for this result was that customers in areas with the lowest rates of competitive loss were those where customers had access to the fewest competitive choices. Whether deliberate or coincidental, AT&T appeared to be directing its attention to service quality and making investments in those areas most heavily impacted by competition, paying the least attention to areas where its customers were most captive. Since competitors were likely to focus upon markets at the higher end of the economic spectrum, we wanted to see whether areas with the lowest levels of household income were also those receiving the poorest service quality.

All of the service quality metrics we studied exhibited a degradation in service quality over the 2010-2017 study period. We classified wire center serving areas into one of five median household income quintiles, and found that:

(1) Out-of-service incidents per 100 access lines in service were lowest in the highest income areas, highest in the lowest income areas;

(2) Out-of-service durations were shortest in the highest income areas;

(3) Areas with the highest household incomes also had the highest percentage of outages cleared within 24 hours; and

(4) High income areas generally required the fewest days to clear 90% of out-of-service conditions.

The highest income areas had the lowest incidence of service outages; the shortest out-of-service durations, the highest percentage of outages cleared within 24 hours, and had the fewest number of days required to clear 90% of the service outages that did occur.

We had found that wire centers that had been upgraded with fiber optic distribution facilities tended to exhibit superior service quality overall, and noted that average median annual household incomes were highest in areas that were being served by wire centers that had such upgrades. Although fiber deployment and the availability of broadband were not necessarily critical to the provision of high-quality legacy POTS services, their presence provided an indication that the ILEC had committed investment dollars to such locations, and these plant upgrades had also contributed to fewer POTS service outages overall.

For Phase 2, we have been tasked with extending this examination to include Frontier California as well as AT&T California, and also to examine whether there was any evidence of service quality differences in communities with varying racial characteristics. As we discuss below, we have determined that the incidence of service outages for both AT&T and Frontier appears to be somewhat lower in higher income areas, although the companies' responses to those service outages that do occur do not appears to have a similar relationship with median household income levels. For AT&T, there is some indication that communities with proportionately higher black and Hispanic populations do experience higher incidences of service outages, but this pattern does not seem to be present for Frontier. For both ILECs, there is no discernable pattern that responses to those service outages that do occur is linked to racial demographics.

☞ While we have attempted to compile the requested data on the relationships between ILEC service quality and communities' income level and racial makeup, we caution the Commission as to both the precision and usefulness of these results, and recommend that their use at this time be solely limited to considering the need for a more detailed and more granular investigation.

Median household income, ILEC investment, and service quality

In order to categorize AT&T and Frontier wire centers into income quintiles, we utilized population and household count data from the 2010 Decennial Census[89] as well as Median Household Income ("MHI") data from the 2018 US Census Bureau *American Community Survey* ("ACS") database.[90] The 2010 Census reports demographic data at the Census Block level (15-digit geographic identifier), the most granular geographic area available, while the ACS reports MHI at the Census Tract level (11-digit geographic identifier). To best approximate the average MHI of households located within each AT&T or Frontier wire center footprint, we weight 2018 Census Tract level MHI by 2010 Census Block level household counts. There are roughly 500,000 Census Blocks in AT&T California's operating areas. Since all of the service quality metrics were developed at the individual *wire center* level, we needed to associate each

89. 2010 Decennial Census, https://www.census.gov/data/developers/data-sets/decennial-census.html

90. 2018 American Community Survey, https://www.census.gov/programs-surveys/acs/data.html

Census Block with its serving wire center. This was accomplished for AT&T California utilizing a mapping analysis that was prepared for us by the Communications Division's GIS staff. Frontier provided us with a similar mapping, except that this was done at a Census Tract level.[91] Census Tracts are larger, and include many individual Census Blocks. There are approximately 2,600 Census Tracts in Frontier California operating areas. Because Frontier's data was at the Census Tract level, individual Census Block household data was aggregated to the corresponding Census Tracts in order to develop wire center level MHI statistics.

Each ILEC's wire centers were ranked by their respective MHIs, and were then classified into one of five quintile categories based upon the MHI for the wire center. The MHI brackets for each of the two ILECs are summarized in Table 11.1 below: Tables 11.3 and 11.6 provide the MHI for each AT&T California and Frontier California wire center, respectively, sorted from lowest to highest MHI, each grouped into five quintiles.

Table 11.1

AT&T CALIFORNIA AND FRONTIER CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME CATEGORIES

	AT&T California		Frontier California	
Quintile	MHI Range	No. of Wire Centers	MHI Range	No. of Wire Centers
0%-20%	$0 – $42,500	122	$0 – $45,800	43
20%-40%	$42,500 – $53,550	121	$45,800 – $59,400	44
40%-60%	53,550 – $66,100	121	$59,400 – $72,000	42
60%_80%	$66,100 – $87,400	121	$72,000 – $84,800	41
80%-100%	$87,400 and above	121	$84,800 and above	43

Investment

AT&T California has advised us that, as of the end of 2017, 557 of its 615 wire centers had been upgraded with facilities supporting broadband services,[92] and has further confirmed that no additional wire centers had received such upgrades after 2017.[93] Frontier California has identified three categories of wire centers -- those with *FiOS* availability, those without *FiOS* but where some form of broadband Internet access service is available, and those where no broadband services are offered.

91. Frontier California Response to CD Data Request 11-F-**.

92. AT&T California Responses to CD Data Request 11-A-3, 01-A-3.

93. AT&T California Response to CD Data Request 12-A-10..

During 2018 and 2019, AT&T California made Gross Plant Additions identified to individual wire centers totaling approximately $2-billion. We have calculated the weighted (by POTS access lines in service as of December 31, 2018, the midpoint of the Phase 2 study period) average Median Household Income of the areas served by these wire centers in each of the specified quintiles, together with the average Gross Plant Addition investment per access line, average monthly out-of-service incidents per 100 access lines, and the percentage of wire centers equipped for broadband services, as summarized in Table 11.2 below. As the data indicate, although average gross plant additions per access line are similar in all five quintiles, wire centers serving higher income areas tend to have fewer out-of-service incidents and greater broadband availability than their counterparts in lower income communities.

Table 11.2

AT&T CALIFORNIA
MEDIAN HOUSEHOLD INCOME AND 2018-19 GROSS PLANT ADDITIONS

Quintile	House-holds	Median Household Income	Access Lines Jan 2019	2018-2019 Gross Plant Additions per Access Line	Out-of-Service per 100 ALs per month	Pct Wire Centers with Broadband
0%-20%	1,142,727	$36,673	205,299	$1,099	2.29	83.6%
20%-40%	1,654,443	$48,591	305,857	$1,131	1.77	84.3%
40%-60%	2,611,078	$59,866	434,625	$1,018	1.59	95.0%
60%_80%	2,610,669	$75,927	485,362	$900	1.36	97.5%
80%-100%	2,565,025	$105,167	473,132	$1,268	0.96	98.3%
Total AT&T-CA	10,583,942	$70,540	1,904,275	$1,077	1.59	91.7%

NOTE: Individual Census Blocks may include parts of more than one wire center and more than one ILEC serving area. The total number of households passed by AT&T shown here may well exceed those actually present in AT&T California's service area. However, for our purposes, the relevant calculation is the Median Household Income, which would apply for the entire Census Block irrespective of which ILEC serves a particular household.

☞ The incidence of service outages for both AT&T and Frontier appears to be somewhat lower in higher income areas, although the companies' responses to those service outages that do occur have no similar income-related pattern.

Table 11.3 provides the total Gross Plant Addition investment and the per-access line Gross Plant Additions for each AT&T California wire center, along with the median household income.

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE SUMMARY STATISTICS

Quintile	No. of Wire Centers	No. of Wire Centers with Broadband	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month
1	122	102	3,810,528	1,124,595	84,603	42,045	203,997	249,360,339	1,222	2.29
2	121	102	5,827,285	1,792,444	107,434	55,549	314,063	335,416,269	1,068	1.77
3	121	115	7,434,401	2,486,229	109,482	68,562	425,804	438,700,085	1,030	1.59
4	121	118	7,089,211	2,427,679	100,847	86,647	426,448	393,874,358	924	1.36
5	121	119	7,592,944	2,752,995	97,199	121,639	533,963	633,634,384	1,187	0.96
All AT&T-CA Operating Areas	606	556	31,754,369	10,583,942	499,565	81,495	1,904,275	2,050,985,435	1,077	1.59

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $49,250

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan-18	Total Gross Plant Additions 2018	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
BOMBAY BEACH	NILDCA11	IMPERIAL	1,507	555	189	26,904	83	(42,668)	(514)	2.63	YES
NILAND	NILDCA12	IMPERIAL	1,164	669	174	28,475	98	(6,983)	(71)	1.98	NO
EARLIMART	ERLMCA11	TULARE	10,150	2,283	355	28,595	332	315,214	949	2.22	YES
HURON	HURNCA11	FRESNO	7,652	1,733	496	28,837	294	480,936	1,636	1.70	YES
PIXLEY	PXLYCA11	TULARE	6,891	1,649	343	29,033	273	458,650	1,680	3.45	YES
ORANGE COVE	ORCVCA11	FRESNO	12,493	2,987	367	29,471	399	175,303	439	2.89	YES
MENDOTA	MNDTCA11	MADERA	13,217	2,936	738	31,019	448	390,016	871	1.24	YES
CALIPATRIA	CLPTCA11	IMPERIAL	7,960	1,107	564	31,696	259	115,972	448	1.23	YES
MOJAVE	MOJVCA01	KERN	5,466	1,940	1,969	31,965	581	1,707,432	2,939	1.83	YES
PARLIER	PRLRCA11	FRESNO	17,151	3,933	191	33,065	469	824,796	1,759	2.08	YES
TERRA BELLA	TRBLCA11	TULARE	6,069	1,587	283	33,186	417	774,248	1,857	4.61	YES
TIPTON	TPTNCA11	TULARE	4,052	1,004	225	34,061	199	1,370,916	6,889	3.93	YES
FRESNO-MAIN	FRSNCA01	FRESNO	157,289	42,249	2,985	34,789	7,618	6,779,085	890	2.08	YES
FIVE POINTS	FVPNCA11	FRESNO	1,637	375	323	35,006	151	119,383	791	2.72	NO
WEOTT	WEOTCA11	HUMBOLDT	676	265	163	35,756	63	45,343	720	0.84	YES
LOWERLAKE	LWLKCA11	LAKE	22,507	9,031	1,251	36,019	1,965	901,145	459	2.38	YES
ADAMS	LSANCA14	LOS ANGELES	145,043	31,667	686	36,266	3,816	5,641,139	1,478	1.91	YES
BAKERSFIELD-FAIRVIEW	BKFDCA12	KERN	103,575	31,330	1,972	36,409	6,158	6,209,670	1,008	1.20	YES
LSAN-RICHMOND	LSANCA09	LOS ANGELES	69,766	18,852	762	36,433	6,015	6,347,306	1,055	0.84	YES
DUNSMUIR	DNSMCA11	SISKIYOU	2,631	1,225	832	36,472	413	111,415	270	0.99	YES
PEPPERWOOD	PPWDCA11	HUMBOLDT	487	180	112	37,264	75	259,273	3,457	3.16	NO
RIO DELL	RIDECA11	HUMBOLDT	4,624	1,796	252	37,697	238	319,533	1,343	0.79	YES
DEL REY	DLRYCA11	FRESNO	2,912	739	98	38,286	143	97,567	682	3.51	YES
LAMONT	LAMTCA11	KERN	21,153	4,761	262	38,510	719	318,465	443	2.25	YES
NICE	NICECA11	LAKE	5,913	2,656	364	38,524	465	197,735	425	2.65	YES
WASCO	WASCCA01	KERN	28,322	5,951	657	38,690	774	1,124,899	1,453	2.27	YES
OROVILLE-MAIN	ORVLCA11	BUTTE	45,582	16,356	1,874	38,756	3,496	4,505,492	1,289	2.25	YES
LSAN-PLEASANT	LSANCA05	LOS ANGELES	186,361	51,625	1,368	39,158	6,868	12,848,149	1,871	2.19	YES
LSAN-REPUBLIC	LSANCA38	LOS ANGELES	155,614	46,959	802	39,243	6,084	6,007,211	987	1.73	YES
LSAN-RAMPART	LSANCA11	LOS ANGELES	212,868	77,703	623	39,281	10,841	2,780,021	256	0.80	YES
MIRANDA	MRNDCA11	HUMBOLDT	1,986	973	283	39,750	286	1,186,621	4,149	1.67	YES
BORREGO SPRINGS	BRSPCA11	IMPERIAL	4,088	1,811	399	39,773	698	171,851	246	4.48	YES
FURNACE CREEK	FRCKCA11	INYO	450	279	69	40,150	140	44,782	320	1.28	NO
SHOSHONE	SHSHCA11	INYO	212	129	153	40,150	137	102,838	751	4.14	NO
SAN ANDREAS	SNADCA11	CALAVERAS	6,705	2,900	243	40,209	1,238	715,304	578	2.88	YES
PLANADA	PLNDCA11	MARIPOSA	6,074	1,455	267	40,420	279	154,596	554	2.36	YES
ARCATA	ARCTCA11	HUMBOLDT	23,528	9,788	892	40,549	1,835	777,629	424	1.06	YES
WALKER BASIN	WLBSCA11	KERN	1,331	586	358	40,580	447	492,799	1,102	3.85	NO
MOKELUMNE HILL	MKHLCA12	AMADOR	1,689	731	68	40,609	183	342,132	1,870	3.03	NO
ARVIN	ARVNCA11	KERN	22,803	4,964	554	40,648	736	643,968	875	1.90	YES
HORNBROOK	HRBKCA11	SISKIYOU	1,341	618	533	40,780	260	892,122	3,431	3.14	NO
LAKE LOS ANGELES	LKLACA11	LOS ANGELES	14,077	3,879	1,031	40,831	427	313,212	734	1.42	YES
LEWISTON	LSTNCA11	TRINITY	1,377	638	364	40,988	508	514,098	1,012	2.13	NO
CALEXICO	CLXCCA12	IMPERIAL	41,627	10,227	779	41,039	1,886	1,824,868	968	0.89	YES
STOCKTON-MAIN	SKTNCA01	SAN JOAQUIN	165,808	48,860	3,454	41,115	7,703	5,772,015	749	1.60	YES
AVENAL	AVNLCA12	FRESNO	14,203	2,686	2,001	41,150	434	563,498	1,298	2.50	YES
NATIONAL CITY-HIGHL*	NTCYCA11	SAN DIEGO	35,313	10,247	656	41,167	1,415	4,109,314	2,904	1.15	YES

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $49,250

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
STRATFORD	SRFRCA11	KINGS	1,826	486	309	41,352	85	100,008	1,177	3.13	YES
FRAZIER PARK	FZPKCA11	KERN	6,404	2,516	358	41,449	757	2,285,756	3,019	2.16	YES
OROSI	ORSICA11	TULARE	20,521	4,813	673	41,489	757	480,725	635	3.02	YES
WOODLAKE	WDLKCA11	TULARE	10,142	2,829	332	41,550	533	844,661	1,585	4.10	YES
HUNTINGTON PARK	HNPKCA01	LOS ANGELES	170,245	39,742	1,459	41,704	6,751	8,067,033	1,195	1.43	YES
CLEARLAKE OAKS	CLOKCA11	LAKE	4,498	2,163	434	41,797	536	342,841	640		YES
PORTERVILLE	PTVLCA11	TULARE	85,616	23,951	2,338	42,091	4,993	2,778,066	556	1.70	YES
RED BLUFF	RDBLCA01	SHASTA	32,592	12,614	1,549	42,125	3,745	2,336,647	624	1.71	YES
UPPERLAKE	UPLKCA11	LAKE	3,104	1,215	561	42,200	388	543,323	1,400	3.11	YES
LSAN-MADISON 03	LSANCA03	LOS ANGELES	30,403	11,095	321	42,293	5,572	(2,395,311)	(430)	0.50	YES
IVANHOE	IVNHCA11	TULARE	7,707	2,179	287	42,351	441	309,115	701	2.50	YES
FRESNO-BALDWIN	FRSNCA11	FRESNO	118,435	40,789	1,426	42,412	5,377	4,686,483	872	1.59	YES
BOONVILLE	BNVLCA11	MENDOCINO	2,926	1,039	365	42,572	645	416,928	646	3.16	YES
FARMERSVILLE	FRVLCA11	TULARE	11,526	2,878	223	42,603	401	245,304	612	2.30	YES
FIREBAUGH	FRBHCA11	MADERA	10,146	2,630	693	42,714	604	166,522	276	1.48	YES
WILLITS	WLTSCA12	MENDOCINO	13,189	5,138	751	42,767	2,049	1,844,893	900	2.16	YES
CAMP NELSON	CMNLCA11	TULARE	208	110	111	42,775	680	356,835	525	2.50	NO
BELL	BELLCA11	LOS ANGELES	94,886	22,555	566	42,815	2,449	6,046,768	2,469	1.23	YES
CARUTHERS	CRTHCA11	FRESNO	6,774	1,782	206	43,049	383	225,480	589	3.62	YES
SHAFTER	SHFTCA11	KERN	22,362	5,515	765	43,236	772	917,400	1,188	2.29	YES
WARNER SPRINGS	WNSPCA12	SAN DIEGO	2,455	1,024	479	43,317	373	435,131	1,167	3.41	NO
CHALLENGE	CHLNCA11	BUTTE	3,397	1,504	634	43,383	1,149	203,067	177	2.73	NO
ANGELUS	LSANCA34	LOS ANGELES	207,969	51,643	2,126	43,523	9,593	13,660,688	1,424	1.17	YES
DELANO	DELNCA11	KERN	69,984	13,131	1,011	43,540	1,939	1,975,520	1,019	1.47	YES
SPRINGVILLE	SPVLCA11	TULARE	4,184	1,580	211	43,635	751	1,221,056	1,626	2.85	NO
FRESNO-CLINTON	FRSNCA12	FRESNO	115,022	32,008	1,322	43,696	4,088	2,751,071	673	1.90	YES
SOUTH GATE	SGATCA01	LOS ANGELES	165,383	37,748	1,228	44,173	4,611	6,495,277	1,409	1.93	YES
CORNING	CRNGCA12	TEHAMA	15,479	5,347	1,042	44,196	1,179	800,063	679	2.21	YES
LOS MOLINOS	LSMLCA11	TEHAMA	4,043	1,573	264	44,224	355	324,085	913	2.21	YES
LSAN-PLYMOUTH	LSANCA13	LOS ANGELES	142,683	39,423	1,469	44,261	5,803	8,835,185	1,523	2.86	YES
BURREL	BURLCA11	FRESNO	1,065	275	334	44,314	88	420,915	4,783	4.73	YES
SHASTA LAKE	SHLKCA01	SHASTA	1,122	562	626	45,094	342	598,939	1,751	5.53	YES
GERBER	GRBRCA11	TEHAMA	3,388	1,206	188	45,095	182	156,889	862	2.51	YES
LSAN-MADISON 02	LSANCA02	LOS ANGELES	29,800	15,581	378	45,189	7,967	17,506,897	2,197	0.67	YES
LSAN-UNION	LSANCA06	LOS ANGELES	103,728	35,179	548	45,417	4,504	4,246,068	943	0.81	YES
LATON	LATNCA11	FRESNO	4,302	1,260	194	45,709	182	292,358	1,606	4.69	YES
ELK CREEK	EKCKCA11	GLENN	635	207	235	45,734	100	112,378	1,124	3.66	NO
YREKA	YREKCA11	SISKIYOU	10,505	4,586	618	45,967	1,314	2,859,776	2,176	0.64	YES
OROVILLE-EAST	ORVLCA12	BUTTE	10,358	4,548	753	45,994	1,522	567,717	373	4.61	YES
LAKEPORT	LKPTCA02	LAKE	11,604	4,718	634	46,011	2,039	1,011,963	496	1.58	YES
BRAWLEY	BRWLCA11	IMPERIAL	30,830	8,779	1,450	46,033	1,759	573,725	326	1.14	YES
CAMPTONVILLE	CMPVCA11	SIERRA	1,716	826	295	46,352	216	128,129	593	6.07	YES
ANDERSON	ARSNCA11	SHASTA	22,981	9,113	897	46,406	1,747	20,787,568	11,899	3.09	YES
CROWS LANDING	CWLDCA12	STANISLAUS	1,249	424	84	46,620	91	9,737	107	2.77	YES
HAMILTON CITY	HMCYCA11	GLENN	2,857	828	243	46,623	145	85,390	589	1.67	YES
FORTUNA	FTUNCA11	HUMBOLDT	14,086	5,467	535	46,688	1,102	1,180,510	1,071	0.76	YES
BAKERSFIELD-EMPIRE	BKFDCA11	KERN	39,403	10,179	1,190	46,728	1,142	1,686,358	1,477	1.80	YES
PARADISE-MAIN	PRDSCA11	BUTTE	28,530	12,800	486	46,778	1,089	17,945,604	16,479	1.19	YES
SELMA	SELMCA11	FRESNO	33,753	9,229	704	46,855	1,616	2,163,856	1,339	2.20	YES
WILLOWS	WLWSCA11	BUTTE	10,307	3,747	1,137	46,912	989	500,914	506	2.26	YES
MONTAGUE	MTAGCA11	SISKIYOU	4,288	1,809	794	47,104	534	37,681	71	1.45	YES
COULTERVILLE	CTVLCA11	MARIPOSA	2,539	1,173	484	47,156	663	1,506,064	2,272	4.88	NO
BRIDGEVILLE	BGVLCA11	HUMBOLDT	724	317	265	47,407	173	200,086	1,157	4.37	NO
NSCR-WABASH	NSCRCA11	SACRAMENTO	142,725	49,500	2,305	47,473	7,088	12,724,279	1,795	1.03	YES

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $49,250

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
INGLEWOOD	IGWDCA01	LOS ANGELES	127,657	38,542	1,059	47,594	5,028	4,112,744	818	1.36	YES
ORLAND	ORLDCA11	BUTTE	16,638	5,891	1,172	47,635	1,400	855,588	611	2.14	YES
DINUBA	DINBCA01	FRESNO	34,131	8,718	904	47,728	1,352	811,849	600	2.21	YES
LE GRAND	LGRDCA11	MADERA	2,705	792	214	47,866	178	83,790	471	2.31	YES
VINA	VINACA12	TEHAMA	752	274	106	47,907	69	50,297	729	2.48	YES
LITTLEROCK	LTRKCA11	LOS ANGELES	16,735	4,813	1,302	47,997	969	1,355,734	1,399	3.30	YES
MT SHASTA	MTSHCA12	SISKIYOU	7,346	3,441	662	48,063	1,180	337,222	286	0.83	YES
ALLEGHANY	ALGHCA11	SIERRA	126	54	170	48,068	47	62,324	1,326	4.34	NO
SIERRA CITY	SRCYCA11	SIERRA	261	132	221	48,125	430	178,374	415	1.58	YES
DOWNIEVILLE MAIN	DWNVCA11	SIERRA	424	226	196	48,125	239	104,302	436	1.72	YES
SIERRAVILLE	SRVLCA11	PLUMAS	559	263	219	48,125	162	89,367	552	0.83	NO
PARADISE-PINES	PRDSCA12	TEHAMA	11,678	4,908	486	48,315	1,026	667,791	651	2.62	YES
LOLETA	LOLTCA11	HUMBOLDT	2,024	786	195	48,362	123	61,592	501	1.89	YES
JACUMBA	JCMBCA11	IMPERIAL	2,741	1,059	520	48,616	371	193,318	521	2.69	YES
MURPHYS	MRPHCA11	CALAVERAS	5,700	2,571	448	48,692	818	333,166	407	2.74	YES
COTTONWOOD	CTWDCA11	SHASTA	18,728	6,967	671	48,826	2,138	491,600	230	4.17	YES
BEALE-MSVL STERLING	BEALCA11	NEVADA	2,099	520	369	48,920	78	285,020	3,654	0.11	YES
EUREKA	EURKCA01	HUMBOLDT	51,472	21,138	2,316	48,950	4,799	2,260,381	471	0.82	YES
TRINIDAD	TRNDCA11	HUMBOLDT	2,770	1,292	322	49,089	296	1,284,865	4,341	1.77	NO
CAMPO	CAMPCA11	SAN DIEGO	5,541	1,827	640	49,231	474	1,300,100	2,743	2.10	YES
PASKENTA	PSKNCA11	TEHAMA	494	171	137	49,241	101	38,185	378	2.46	NO

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 2: MEDIAN HOUSEHOLD INCOME $49,250 - $61,300

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
QUINCY	QNCYCA12	PLUMAS	6,592	2,859	878	49,272	1,838	520,911	283	1.77	YES
SCRM-FRUITRIDGE	SCRMCA13	SACRAMENTO	47,776	15,606	585	49,364	2,983	3,094,602	1,037	1.27	YES
THORNTON	THTNCA11	SACRAMENTO	1,988	625	106	49,368	100	82,079	821	2.82	YES
FORT BRAGG	FTBRCA02	MENDOCINO	16,573	6,771	1,007	49,609	3,227	778,230	241	1.68	YES
LSAN-AXMINSTER	LSANCA15	LOS ANGELES	130,365	45,443	1,157	49,918	7,990	4,583,013	574	1.85	YES
LOYALTON	LLTNCA11	LASSEN	2,548	1,048	615	50,029	546	41,373	76	0.85	YES
COYOTE WELLS	CYWLCA11	IMPERIAL	419	207	99	50,208	46	52,187	1,135	2.05	YES
NORTH SAN JUAN	NSJNCA11	NEVADA	3,525	1,487	193	50,469	490	287,208	586	3.28	YES
UKIAH-MAIN	UKIHCA01	MENDOCINO	30,164	10,823	1,279	50,518	3,947	1,763,438	447	1.34	YES
BLUE LAKE	BLLKCA11	HUMBOLDT	2,356	1,013	497	50,524	236	2,054,949	8,707	2.80	NO
KING CITY	KGCYCA11	SAN BENITO	19,893	4,851	1,701	50,699	1,327	381,092	287	1.59	YES
RIVERDALE	RVDLCA11	FRESNO	6,541	1,816	287	50,904	336	203,857	607	3.53	YES
CHOWCHILLA	CHWCCA11	MADERA	24,528	5,576	995	51,163	963	722,807	751	2.35	YES
DUNNIGAN	DNGNCA12	YOLO	2,341	631	179	51,200	113	199,801	1,768	2.40	YES
FRUITVALE	OKLDCA04	ALAMEDA	103,798	31,705	1,285	51,203	5,109	4,032,206	789	1.27	YES
BANGOR	BNGRCA11	BUTTE	3,503	1,399	129	51,318	335	116,615	348	3.78	NO
MERCED	MRCDCA01	MADERA	113,417	33,885	2,255	51,387	5,298	13,354,795	2,521	1.29	YES
MADERA	MADRCA11	FRESNO	94,334	24,282	2,496	51,558	3,987	4,221,757	1,059	1.89	YES
WEED	WEEDCA01	SISKIYOU	6,800	2,792	950	51,647	847	59,972	71	1.23	YES
HYDESVILLE	HYVLCA11	HUMBOLDT	2,506	964	180	51,669	265	283,872	1,071	2.23	NO
MCKINLEYVILLE	MKVLCA11	HUMBOLDT	16,900	6,920	476	51,700	1,103	733,971	665	0.71	YES
REDDING-MAIN	RDNGCA02	SHASTA	62,882	25,872	2,087	51,745	4,862	8,834,710	1,817	1.73	YES
GUSTINE	GUSTCA11	MERCED	8,183	2,690	544	52,010	604	271,135	449	2.58	YES
ANGELS CAMP	ANCMCA01	CALAVERAS	7,091	2,988	338	52,060	809	477,510	590	2.25	YES
CENTRAL VALLEY	CNVYCA11	SHASTA	17,097	6,639	743	52,215	1,528	750,848	491	3.06	YES
KELSEYVILLE	KLVLCA12	LAKE	8,979	3,512	486	52,245	1,095	885,059	808	2.49	YES
GOSHEN	GSHNCA11	TULARE	7,163	2,005	336	52,249	730	1,445,021	1,979	2.03	YES
STONYFORD	STFRCA11	COLUSA	671	299	212	52,273	138	35,973	261	2.30	NO
JAMESTOWN	JMTWCA11	CALAVERAS	9,307	2,449	586	52,324	800	825,161	1,031	2.37	YES
HOLTVILLE	HLVLCA11	IMPERIAL	8,875	2,602	1,092	52,396	458	(7,840)	(17)	1.52	YES
EL MONTE	ELMNCA01	LOS ANGELES	162,062	40,106	1,325	52,532	9,210	10,477,458	1,138	1.35	YES
LEMOORE-WYMAN	LEMRCA12	FRESNO	7,282	1,588	309	52,537	87	16,154	186	0.19	YES
SNDG-MARKET	SNDGCA12	SAN DIEGO	123,396	32,192	1,052	52,716	2,184	4,636,474	2,123	1.59	YES
CAMP PENDLETON	CMPDCA01	ORANGE	26,239	4,114	590	52,799	107	33,239	311	0.73	YES
NORTH YUBA	NYUBCA11	YUBA	3,222	1,395	226	52,969	515	560,614	1,089	2.96	NO
VAN NUYS	VNNYCA02	LOS ANGELES	196,357	63,004	1,031	53,100	10,196	7,245,027	711	1.10	YES
HAWTHORNE	HWTHCA01	LOS ANGELES	116,874	37,277	966	53,183	5,016	4,526,332	902	1.40	YES
BAKERSFIELD-TEMPLE	BKFDCA14	KERN	192,727	57,324	2,472	53,255	6,693	8,181,079	1,222	1.63	YES
ROSEMEAD	ROSMCA11	LOS ANGELES	101,181	28,381	812	53,276	6,423	4,851,281	755	1.22	YES
EL CENTRO	ELCNCA01	IMPERIAL	72,383	18,853	1,503	53,390	3,848	3,113,992	809	1.03	YES
LEBEC-PINE MTN	LEBCCA12	KERN	3,175	1,399	170	53,491	678	455,184	671	1.53	NO
NORTH HIGHLANDS-ED(	NHLDCA11	PLACER	116,991	39,703	1,147	53,602	4,053	2,160,029	533	1.42	YES
SAN LUCAS	SNLCCA11	MONTEREY	760	215	303	53,697	43	35,489	825	1.81	NO
GREENFIELD	GNFDCA11	MONTEREY	19,112	3,976	428	53,702	940	576,291	613	1.43	YES
HOPLAND	HPLDCA12	LAKE	1,686	586	294	53,855	201	(58,498)	(291)	2.22	YES
POINT ARENA	PNARCA11	MENDOCINO	1,794	763	258	53,958	597	542,695	909	1.98	NO
BAKER	BAKRCA11	SAN BERNARDINO	892	280	285	54,040	114	18,206	160	2.08	NO

ECONOMICS AND TECHNOLOGY, INC.

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $49,250

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
SOUTH TAHOE-SUSSEX	STAHCA01	EL DORADO	24,018	9,881	762	54,126	2,731	1,633,641	598	0.73	YES
MOUNTAIN PASS	MTPSCA11	SAN BERNARDINO	76	28	89	54,174	19	2,247	118	1.71	NO
CAPITOL	LSANCA23	LOS ANGELES	145,840	40,393	1,319	54,249	7,035	8,719,587	1,239	1.48	YES
GROVELAND	GVLDCA11	TUOLUMNE	4,245	2,012	665	54,357	1,863	1,363,315	732	2.39	YES
LA GRANGE	LGRNCA12	MARIPOSA	3,956	1,634	529	54,379	859	648,116	755	2.99	YES
GRIDLEY	GRDLCA11	BUTTE	12,186	4,064	583	54,381	797	600,369	753	2.19	YES
N TAHOE BROCKWAY	BCWYCA11	PLACER	6,048	2,303	226	54,440	924	288,747	312	0.47	YES
ATWATER	ATWRCA12	MERCED	49,592	14,790	815	54,471	1,837	1,359,551	740	1.76	YES
PORTOLA	PTOLCA01	PLUMAS	4,255	1,774	674	54,502	982	55,150	56	0.60	YES
TULARE	TULRCA11	TULARE	77,641	22,526	2,254	54,557	3,875	5,979,865	1,543	1.94	YES
FRENCH GULCH	FRGLCA11	SHASTA	557	246	342	54,612	82	1,153,948	14,073	4.74	NO
COMPTON	CMTNCA01	LOS ANGELES	238,700	55,784	2,742	54,683	9,969	26,495,957	2,658	1.78	YES
EXPORT	OLDLCA11	KERN	57,656	19,731	2,640	54,712	2,977	6,248,705	2,099	1.55	YES
LANKERSHIM	NHWDCA01	LOS ANGELES	137,038	36,696	922	54,719	6,119	6,465,682	1,057	1.38	YES
LEBEC-MAIN	LEBCCA11	KERN	2,262	792	498	54,722	386	(619,835)	(1,606)	3.13	YES
SONORA	SNRACA13	CALAVERAS	31,047	13,449	1,368	54,784	4,857	2,099,720	432	2.27	YES
CHULA VISTA-THIRD A*	CHVSCA11	SAN DIEGO	134,073	42,596	1,053	54,795	3,894	3,016,260	775	1.31	YES
MODESTO-MAIN	MDSTCA02	SAN JOAQUIN	223,675	72,781	3,127	54,812	11,017	12,213,904	1,109	1.13	YES
GONZALES	GNZLCA11	MONTEREY	9,599	2,189	395	54,900	542	110,885	205	1.26	YES
COLTON	COTNCA11	SAN BERNARDINO	72,284	21,446	1,053	54,907	3,205	7,270,721	2,269	2.32	YES
MODESTO-KELLOG	MDSTCA03	STANISLAUS	71,902	19,026	938	55,041	2,635	2,090,028	793	1.92	YES
JULIAN	JULNCA12	SAN DIEGO	4,876	2,081	959	55,043	879	335,607	382	2.36	YES
REDDING-ENTERPRISE	RDNGCA11	SHASTA	48,773	18,351	948	55,206	3,279	2,668,125	814	1.33	YES
SAN ARDO	SNARCA11	MONTEREY	773	203	401	55,262	119	51,985	437	1.66	YES
MERIDIAN	MRDNCA11	COLUSA	1,045	412	453	55,892	150	26,836	179	2.09	NO
MONTEBELLO	LSANCA35	LOS ANGELES	112,249	32,496	1,675	55,948	7,620	10,617,110	1,393	1.24	YES
BIG SUR	BGSRCA11	MONTEREY	1,338	544	135	55,980	389	297,840	766	3.74	NO
SCRM-GARDEN	SCRMCA03	SACRAMENTO	191,294	61,734	1,902	56,089	8,642	5,412,654	626	1.45	YES
SAN YSIDRO	SNYSCA12	SAN DIEGO	61,413	15,589	389	56,103	1,283	3,318,587	2,587	1.31	YES
ARNOLD	ARNLCA11	CALAVERAS	5,471	2,536	651	56,140	1,936	656,030	339	2.38	YES
LIVE OAK	LVOKCA11	BUTTE	11,182	3,325	359	56,150	672	172,071	256	1.87	YES
MARYSVILLE	MYVICA01	BUTTE	63,943	21,806	1,772	56,230	3,543	2,278,252	643	1.91	YES
MENDOCINO	MNDCCA11	MENDOCINO	4,601	2,196	483	56,328	1,560	447,042	287	1.89	YES
LOS BANOS	LSBNCA12	MERCED	45,156	12,870	1,315	56,419	2,068	2,427,236	1,174	1.57	YES
UKIAH-CALPELLA	UKIHCA12	LAKE	9,482	3,422	668	56,478	995	896,754	901		YES
PIRU	PIRUCA11	VENTURA	3,168	786	445	56,617	145	201,206	1,388	1.78	YES
CHICO	CHICCA01	BUTTE	120,433	47,793	2,317	56,830	10,221	13,431,753	1,314	1.39	YES
BEAR VALLEY	BVLYCA11	ALPINE	237	122	174	57,015	436	77,407	178	1.51	YES
HOLLYWOOD	HLWDCA01	LOS ANGELES	116,046	52,903	714	57,133	9,481	9,235,038	974	0.92	YES
GRASS VALLEY	GRVYCA01	NEVADA	45,912	19,623	1,397	57,291	7,879	4,440,596	564		YES
RICHVALE	RCVACA11	BUTTE	470	178	140	57,423	107	99,396	929	1.14	NO
RIALTO	RILTCA11	SAN BERNARDINO	134,844	32,659	1,167	57,575	3,898	4,509,123	1,157	1.83	YES
LAKE BERRYESSA	LKBRCA11	LAKE	2,411	908	337	57,851	188	236,403	1,257	3.24	NO
GAZELLE	GZLLCA11	SISKIYOU	379	153	174	57,863	44	(9,598)	(218)	1.60	NO
GUALALA	GULLCA11	MENDOCINO	2,913	1,281	213	57,871	1,066	411,310	386	2.49	NO
MONTE RIO	MNRICA11	SONOMA	2,658	1,315	229	57,943	518	178,453	345	2.51	YES
SALINAS-MAIN	SLNSCA01	MONTEREY	114,773	28,407	1,122	57,973	5,792	6,594,941	1,139	0.89	YES
YUBA CITY-MARYSVILLE	YBCYCA01	SUTTER	83,293	27,454	1,595	58,015	4,625	3,070,239	664	1.04	YES
JACKSON	JCSNCA01	AMADOR	9,405	3,987	292	58,241	1,451	1,489,460	1,027	1.35	YES
IMPERIAL BEACH	IMBHCA11	SAN DIEGO	84,532	25,195	952	58,312	2,049	1,187,697	580	1.20	YES
MODESTO-DAVIS	MDSTCA52	STANISLAUS	1,754	266	7	58,493	18	10,770	598		NO
TURLOCK	TRLCCA11	STANISLAUS	121,579	37,208	2,361	58,579	6,746	3,215,044	477	1.48	YES
BUTTE CITY	BTCYCA11	GLENN	781	295	185	58,767	109	34,211	314	2.44	NO
FRESNO-WEST	FRSNCA14	FRESNO	87,905	26,963	1,075	58,828	3,283	1,634,671	498	1.70	YES

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $49,250

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
BUSH	SNANCA01	ORANGE	194,307	43,683	1,561	58,854	8,268	10,049,734	1,215	1.12	YES
BAKERSFIELD-COLUMBI	BKFDCA13	KERN	55,662	18,242	984	59,117	2,365	1,531,355	648	1.41	YES
SUTTER CREEK	STCKCA11	AMADOR	4,986	2,142	175	59,155	697	774,087	1,111	2.46	YES
TEHACHAPI	THCHCA01	KERN	28,935	9,261	1,322	59,178	1,787	3,214,001	1,799	1.69	YES
LEMOORE-MAIN	LEMRCA11	KINGS	31,227	10,462	756	59,286	1,200	1,995,215	1,663	2.23	YES
MIDDLETOWN	MDTWCA11	LAKE	9,211	3,635	553	59,454	874	1,259,822	1,441	1.98	YES
COALINGA	CLNGCA01	FRESNO	22,804	4,329	2,315	59,494	817	809,659	991	2.04	YES
NEWMAN	NWMNCA12	MERCED	13,453	3,865	465	59,620	549	299,283	545	2.24	YES
WATERFORD	WTFRCA11	MERCED	13,235	3,828	432	59,642	758	202,143	267	2.74	YES
SAN LUIS OBISPO	SNLOCA01	SAN LUIS OBISPO	66,978	22,131	1,912	59,884	4,352	8,093,235	1,860	0.87	YES
PARAMOUNT	PRMTCA01	LOS ANGELES	111,048	30,227	1,162	59,940	4,428	6,483,525	1,464	1.67	YES
BIGGS	BGGSCA11	BUTTE	3,406	1,155	271	59,976	249	55,457	223	2.20	YES
NEVADA CITY	NVCYCA11	NEVADA	15,273	6,488	976	59,978	3,415	1,190,145	349	2.25	YES
VISALIA	VISLCA11	TULARE	142,250	45,576	2,167	60,121	6,971	7,145,650	1,025	1.26	YES
GUERNEVILLE	GUVLCA11	SONOMA	6,716	3,303	240	60,142	691	229,536	332	2.05	YES
PALMDALE	PLDLCA01	LOS ANGELES	116,761	33,309	1,719	60,161	4,380	3,902,474	891	0.81	YES
GRENADA	GRNDCA13	SISKIYOU	1,429	599	191	60,534	81	35,113	433	1.52	YES
SNDG-C STREET	SNDGCA01	SAN DIEGO	111,737	40,003	1,600	60,568	5,627	17,514,442	3,113	0.62	YES
SNDG-37TH STREET	SNDGCA06	SAN DIEGO	141,675	54,436	1,452	61,040	3,952	581,861	147	1.20	YES
LA PALMA	ANHMCA12	ORANGE	21,207	5,659	237	61,117	1,791	4,741,364	2,647	0.87	YES

ECONOMICS AND TECHNOLOGY, INC.

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 3: MEDIAN HOUSEHOLD INCOME $61,300 - $75,600

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
SCRM-EMPIRE	SCRMCA12	SACRAMENTO	81,716	29,032	890	61,559	4,226	2,829,680	670	1.16	YES
POTTER VALLEY	PTVYCA11	LAKE	1,956	746	362	61,652	528	303,825	575	3.68	NO
BURBANK-THORNTON	BRBNCA13	LOS ANGELES	5,061	1,725	122	61,736	755	441,684	585	0.93	YES
KINGSBURG	KGBGCA11	FRESNO	19,828	6,371	750	62,199	1,028	397,213	386	2.49	YES
47TH STREET	PLDLCA11	LOS ANGELES	47,890	11,953	511	62,279	902	295,814	328	1.00	YES
PINECREST	PNCRCA11	TUOLUMNE	396	206	328	62,355	921	347,886	378	0.98	NO
LODI	LODICA01	SACRAMENTO	89,845	30,962	2,422	62,415	5,596	3,188,912	570	1.87	YES
WILDWOOD	GRVYCA12	NEVADA	11,942	4,945	245	62,485	1,442	561,127	389	2.15	YES
BAKERSFIELD-METTLER	BKFDCA15	KERN	1,036	276	1,246	62,537	299	587,513	1,965	1.49	NO
RIVERSIDE	RVSDCA01	RIVERSIDE	176,534	52,070	2,159	62,576	7,926	12,325,791	1,555	1.17	YES
HANFORD	HNFRCA01	FRESNO	72,397	23,330	2,177	62,602	3,748	3,012,915	804	1.75	YES
ROSAMOND	RSMDCA11	KERN	19,694	6,557	1,845	62,746	1,123	1,126,378	1,003	1.77	YES
SODA SPRINGS	SDSPCA11	NEVADA	679	312	503	62,950	527	163,528	310	1.67	YES
WILMINGTON	WLMGCA01	LOS ANGELES	122,253	31,576	1,442	63,045	5,429	5,621,254	1,035	1.36	YES
SOLEDAD	SLDDCA11	MONTEREY	27,371	4,113	598	63,119	947	438,771	463	1.17	YES
COBB MOUNTAIN	CBMTCA11	LAKE	3,637	1,598	509	63,237	317	469,998	1,483	1.54	YES
TWAIN HARTE	TWHRCA11	TUOLUMNE	9,297	4,084	494	63,243	1,607	433,859	270	1.78	YES
KYBURZ	KYBRCA11	EL DORADO	182	87	338	63,288	60	118,689	1,978	2.26	YES
EUCLID	GRGVCA01	ORANGE	175,127	44,005	1,350	63,351	6,721	6,651,533	990	0.98	YES
SNFC-BUSH ST	SNFCCA01	SAN FRANCISCO	47,068	23,852	433	63,576	14,854	16,928,638	1,140	0.51	YES
STOCKTON-GRANITE	SKTNCA11	SAN JOAQUIN	190,582	60,065	1,940	63,593	7,644	7,457,367	976	1.27	YES
RICHMOND	RCMDCA11	CONTRA COSTA	133,899	43,755	2,249	63,678	7,128	17,866,249	2,506	1.72	YES
SCRM-IVANHOE	SCRMCA02	SACRAMENTO	122,539	51,820	1,424	63,764	7,391	10,337,152	1,399	1.28	YES
PLYMOUTH	PLMOCA11	EL DORADO	11,454	4,659	412	63,828	1,528	734,675	481	2.76	YES
ARLINGTON	ARTNCA11	RIVERSIDE	178,857	48,959	1,286	63,912	5,896	5,091,039	863	1.08	YES
SEASIDE	SESDCA11	MONTEREY	36,270	11,357	566	64,187	1,845	1,736,174	941	0.83	YES
ALHAMBRA	ALHBCA01	LOS ANGELES	121,918	41,765	1,191	64,489	8,889	1,422,125	160	1.02	YES
EL PORTAL	YSMTCA12	MARIPOSA	789	382	324	64,617	299	167,977	562	2.17	YES
GLENDALE	GLDLCA11	LOS ANGELES	172,715	64,320	1,462	64,635	14,660	6,905,488	471	0.83	YES
LEMON	ANHMCA01	ORANGE	209,955	54,936	1,712	64,732	7,849	10,219,169	1,302	0.95	YES
DUTCH FLAT ALTA	DTFLCA11	NEVADA	2,740	1,113	883	64,771	538	318,947	593	4.11	YES
LOCKEFORD	LCFRCA11	SAN JOAQUIN	5,468	1,811	149	64,859	241	268,712	1,115	2.44	YES
SCRM-MAIN	SCRMCA01	SACRAMENTO	51,582	25,739	1,485	64,915	6,182	9,474,455	1,533	0.75	YES
ESPARTO	ESPRCA11	YOLO	5,153	1,282	193	65,044	266	1,154,513	4,340	2.70	YES
CHUALAR	CHLRCA11	MONTEREY	2,000	435	134	65,332	136	65,635	483	1.25	YES
OCEANSIDE-MISSION	OCSDCA11	SAN DIEGO	144,865	46,863	1,603	65,478	4,352	3,464,376	796	0.96	YES
EL CAJON	ELCJCA11	SAN DIEGO	143,151	48,138	1,411	65,748	4,004	3,776,321	943	1.30	YES
HOLLY	OKLDCA12	ALAMEDA	135,774	42,578	1,983	65,758	7,805	8,617,743	1,104	1.23	YES
CAYUCOS	CYCSCA11	SAN LUIS OBISPO	3,153	1,542	228	65,815	526	130,443	248	1.38	YES
ORANGE - WEST	ORNGCA14	ORANGE	70,178	18,495	562	65,847	3,181	5,082,482	1,598	0.59	YES
ANNAPOLIS	ANNPCA11	MENDOCINO	774	338	138	66,117	71	18,536	261	2.79	NO
HIGHLAND	HGLDCA11	SAN BERNARDINO	66,802	19,749	726	66,145	2,208	1,166,364	528	1.91	YES
GARDENA	GRDNCA01	LOS ANGELES	141,789	46,236	2,025	66,238	11,967	14,080,398	1,177	1.56	YES
LSAN-NORMANDY	LSANCA12	LOS ANGELES	152,685	61,825	1,140	66,459	9,451	4,303,031	455	1.37	YES
RIO LINDA	RILNCA12	PLACER	28,770	8,700	417	66,465	1,163	4,437,409	3,815	2.24	YES
OAKDALE	OKDLCA11	CALAVERAS	34,608	11,736	713	66,487	2,070	722,523	349	1.90	YES

ECONOMICS AND TECHNOLOGY, INC.

QUINTILE 3: MEDIAN HOUSEHOLD INCOME $61,300 - $75,600

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
SOUTH TAHOE-TAMARA	STAHCA12	EL DORADO	260	123	117	66,519	128	34,220	267	1.56	YES
SMARTVILLE	SMAVCA11	NEVADA	3,668	1,438	285	66,571	318	162,430	511	2.46	YES
GEORGETOWN	GRTWCA11	PLACER	7,602	2,969	472	67,004	1,339	672,652	502	3.63	YES
BOLSA	SNANCA12	ORANGE	72,643	18,575	766	67,272	2,806	1,828,004	651		YES
YOSEMITE-MAIN	YSMTCA11	MARIPOSA	1,103	315	205	67,356	529	1,264,378	2,390	0.98	YES
WAWONA	WANACA11	MADERA	172	74	58	67,376	267	228,872	857	1.20	YES
FORESTVILLE	FSVLCA11	SONOMA	6,561	2,861	164	67,380	737	244,001	331	2.68	YES
MORRO BAY	MRBACA11	SAN LUIS OBISPO	12,111	5,598	588	67,530	993	325,064	327	1.05	YES
FONTANA	FNTACA11	SAN BERNARDINO	256,549	60,595	1,704	67,557	5,840	14,245,157	2,439	2.11	YES
FIR - VENTURA	VNTRCA02	VENTURA	35,813	13,847	728	67,579	2,365	3,920,211	1,658	0.96	YES
MARINA	MARNCA11	MONTEREY	25,628	7,932	403	67,591	1,358	738,497	544	0.87	YES
WATSONVILLE	WTVLCA01	SANTA CRUZ	100,135	26,222	1,237	67,710	7,582	4,268,636	563	1.18	YES
FILLMORE	FLMRCA11	VENTURA	17,395	4,821	802	68,011	791	1,047,589	1,324	1.02	YES
WOODLAND	WDLDCA11	SUTTER	67,742	21,786	1,311	68,195	4,358	4,730,372	1,085	1.24	YES
FRONTIER	WSCRCA11	YOLO	53,732	18,673	847	68,235	3,690	6,643,318	1,800	1.05	YES
SNDG-COLLEGE	SNDGCA11	SAN DIEGO	104,496	37,577	873	68,334	2,566	5,236,796	2,041	1.21	YES
PLACERVILLE-NIAGARA	PLVLCA12	EL DORADO	18,298	7,360	576	68,457	2,240	1,278,357	571	3.60	YES
SCRM-GLADSTONE	SCRMCA11	SACRAMENTO	93,421	37,373	1,907	68,544	6,152	9,041,791	1,470	1.05	YES
IONE	IONECA11	AMADOR	11,022	2,835	265	68,636	874	655,688	750	2.42	YES
RIVERBANK	RVRBCA11	SAN JOAQUIN	27,223	7,718	388	68,679	992	1,024,049	1,032	1.00	YES
PLACERVILLE-MAIN	PLVLCA11	EL DORADO	49,776	19,863	1,421	68,749	7,102	4,257,672	600	3.30	YES
SALINAS-HICKORY	SLNSCA11	MONTEREY	67,464	17,778	550	68,767	2,176	1,701,896	782	1.01	YES
STOCKTON-REDWOOD	SKTNCA14	SAN JOAQUIN	49,053	11,918	838	68,906	1,471	4,733,841	3,218	1.08	YES
CASTROVILLE	CSVLCA11	MONTEREY	14,812	3,788	330	69,026	1,012	3,249,595	3,211	1.63	YES
ROHNERT PARK	RTPKCA11	SONOMA	31,806	12,218	457	69,184	2,121	946,594	446	0.64	YES
PITTSBURG-MAIN	PSBGCA01	CONTRA COSTA	60,819	18,350	841	69,193	2,490	1,779,231	715	1.22	YES
LINCOLN	LNCLCA11	PLACER	20,018	6,839	340	69,212	840	950,823	1,132	1.17	YES
DAVIS	DAVSCA11	YOLO	82,280	28,516	1,042	69,309	4,191	3,652,262	871	0.78	YES
LA MESA	LAMSCA01	SAN DIEGO	195,998	70,548	2,095	69,368	5,791	8,672,064	1,498	1.12	YES
ESCALON	ESCLCA11	SAN JOAQUIN	14,381	4,845	482	69,472	929	550,066	592	2.11	YES
TAHOE CITY	THCYCA01	PLACER	5,485	2,452	372	69,916	2,438	973,650	399	0.52	YES
PASO ROBLES	PSRBCA01	KERN	51,069	18,607	3,305	69,994	4,945	3,563,889	721	1.33	YES
CAMBRIA	CMBACA11	MONTEREY	7,407	3,372	575	70,088	1,435	3,816,092	2,659	1.17	YES
FRESNO-SIERRA	FRSNCA13	FRESNO	89,820	36,429	1,372	70,254	6,388	3,375,526	528	1.25	YES
AUBURN-MAIN	AUBNCA01	PLACER	45,381	17,863	1,304	70,386	5,789	5,542,931	957	1.62	YES
FRANKLIN	OKLDCA03	ALAMEDA	99,808	46,638	1,647	70,491	12,884	11,414,938	886	0.63	YES
SAN GABRIEL	SNGBCA01	LOS ANGELES	77,513	24,878	711	70,567	4,610	1,055,746	229	1.07	YES
CLOVERDALE	CODLCA11	MENDOCINO	11,886	4,445	748	70,682	832	518,399	623	2.94	YES
WHEATLAND	WTLDCA12	NEVADA	7,558	2,660	677	70,721	497	328,701	661	1.96	YES
MAGNOLIA	NHWDCA02	LOS ANGELES	168,450	71,120	1,378	70,736	12,672	11,783,334	930	1.28	YES
LSAN-WEBSTER	LSANCA10	LOS ANGELES	148,028	59,363	1,219	70,814	9,845	7,396,199	751	1.49	YES
BLAIRSDEN	BLRSCA12	PLUMAS	2,228	1,110	609	70,981	901	81,402	90	0.99	NO
LSAN-SUNSET	LSANCA29	LOS ANGELES	48,494	27,938	334	71,051	5,382	4,083,315	759	1.34	YES
PITTSBURG - WILLOW *	PSBGCA11	CONTRA COSTA	36,707	10,402	666	71,095	1,095	1,799,017	1,643	0.65	YES
HUGHSON	HGSNCA11	STANISLAUS	10,582	3,258	209	71,276	531	398,144	750	2.00	YES
BODEGA BAY	BDBACA11	SONOMA	1,489	733	132	71,608	336	123,765	368	1.89	YES
SNDG-SAIPAN	SNDGCA05	SAN DIEGO	112,549	31,609	1,013	71,624	2,182	3,086,282	1,414	1.52	YES
PEDLEY	PDLYCA11	RIVERSIDE	88,528	22,990	861	71,701	2,466	4,096,354	1,661	1.19	YES
SEQUOIA	ASMTCA11	FRESNO	299	133	159	71,789	82	224,901	2,743	2.79	NO
THREE RIVERS	THRRCA11	TULARE	2,333	1,061	169	71,823	609	623,097	1,023	4.80	YES
STOCKTON-ASHLEY	SKTNCA12	SAN JOAQUIN	16,322	5,564	355	71,972	1,196	915,543	766	3.10	YES
ESCONDIDO	ESCNCA01	SAN DIEGO	186,773	58,434	2,363	72,080	7,483	5,910,509	790	1.16	YES
VISTA	VISTCA12	SAN DIEGO	169,567	53,375	1,625	72,454	5,720	1,857,335	325	1.29	YES
OJAI	OJAICA11	SANTA BARBARA	20,419	7,981	650	72,518	1,639	4,449,347	2,715	2.01	YES

QUINTILE 3: MEDIAN HOUSEHOLD INCOME $61,300 - $75,600

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
HOMEWOOD	HMWDCA11	PLACER	2,109	979	341	72,823	1,117	204,783	183	0.71	YES
FAIR OAKS	FROKCA11	SACRAMENTO	118,277	46,099	1,305	72,890	7,463	3,919,940	525	1.06	YES
RESEDA	RESDCA01	LOS ANGELES	152,800	52,831	1,062	73,165	10,038	4,659,446	464	1.29	YES
COTATI	CTTICA12	SONOMA	42,090	15,195	633	73,219	1,983	1,200,804	606	0.93	YES
TORRANCE	TRNCCA11	LOS ANGELES	70,259	22,856	922	73,434	4,260	4,088,914	960	1.34	YES
NICOLAUS	NCLSCA12	SUTTER	1,085	409	151	73,509	98	37,473	382	3.57	YES
VALLEJO	VLLJCA01	NAPA	147,798	49,450	2,658	73,843	6,162	6,255,389	1,015	1.29	YES
MODESTO-KINGSWOOD	MDSTCA04	SAN JOAQUIN	26,331	7,907	380	74,042	1,201	630,027	525	1.03	YES
MADERA-BONADELLE	MADRCA12	FRESNO	10,636	3,423	279	74,279	369	297,096	805	3.38	YES
OAKVIEW	OKVWCA11	VENTURA	12,112	4,435	506	74,296	620	921,306	1,486	2.40	YES
BAYWOOD PARK	BYPKCA11	SAN LUIS OBISPO	14,651	6,106	507	74,318	920	(115,774)	(126)	1.05	YES
CYPRESS	ANHMCA11	ORANGE	175,912	52,370	1,473	74,329	7,686	9,771,921	1,271	1.26	YES
EDWARDS	EDWRCA01	KERN	2,334	646	654	74,476	137	113,082	825	0.36	YES
VALLEY SPRINGS	VYSPCA11	AMADOR	11,872	4,479	284	74,672	1,100	719,316	654	2.86	YES
WALLACE	WLLCCA11	AMADOR	3,428	1,327	101	74,737	400	257,210	643	2.24	YES
FALLBROOK	FLBKCA12	RIVERSIDE	55,164	18,688	1,363	74,811	3,475	2,279,117	656	2.55	YES
SNDG-UNIVERSITY	SNDGCA02	SAN DIEGO	86,010	42,547	1,424	75,064	5,448	10,403,799	1,910	0.71	YES
NORTHRIDGE	NORGCA11	LOS ANGELES	177,886	58,759	1,232	75,227	10,424	10,587,580	1,016	1.14	YES
YOUNTVILLE	YNVLCA11	NAPA	4,729	1,830	145	75,235	819	651,011	795	1.77	YES
SANTA ROSA-MAIN	SNRSCA01	SONOMA	187,650	67,536	2,595	75,473	11,549	31,738,254	2,748	0.90	YES
HESPERIAN	SNLNCA11	ALAMEDA	138,210	46,197	1,842	75,591	8,284	9,312,541	1,124	1.11	YES

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 4: MEDIAN HOUSEHOLD INCOME $75,600 - $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
INVERNESS	INVRCA11	MARIN	1,031	491	73	75,625	447	52,463	117	2.76	YES
BETHEL ISLAND	BTISCA11	CONTRA COSTA	4,034	1,687	356	75,679	265	535,396	2,020	3.08	YES
HAYWARD-DEPOT	HYWRCA11	ALAMEDA	97,158	27,778	1,047	76,026	5,286	(1,906,648)	(361)	0.82	YES
ANTIOCH	ANTCCA11	SACRAMENTO	117,060	35,823	1,576	76,501	5,049	4,352,923	862	1.13	YES
CLOVIS	CLVSCA11	FRESNO	186,828	63,971	2,208	76,515	8,311	7,609,163	916	1.56	YES
LOMITA	LOMTCA11	LOS ANGELES	82,104	29,431	805	76,566	5,732	2,170,860	379	1.27	YES
CLINTON	LSANCA56	LOS ANGELES	141,236	46,405	1,233	77,064	6,516	3,712,225	570	1.26	YES
LAKE OF THE PINE	GRVYCA11	NEVADA	17,218	6,591	367	77,082	1,863	1,697,480	911		YES
FAIRFIELD	FRFDCA01	NAPA	118,996	39,220	2,054	77,118	5,082	3,260,691	642	1.08	YES
BURBANK	BRBNCA11	LOS ANGELES	115,480	45,570	1,726	77,187	9,868	8,274,319	839	0.30	YES
3RD STREET	SNFCCA17	SAN FRANCISCO	59,530	16,548	757	77,231	4,510	3,953,088	877		YES
OCCIDENTAL	OCDNCA11	SONOMA	4,340	1,971	136	77,603	599	170,217	284	1.77	NO
GALT	GALTCA11	SACRAMENTO	30,898	9,222	532	77,906	1,448	521,639	360	1.35	YES
MAIN - VENTURA (MON*	VNTRCA11	VENTURA	48,169	18,379	774	77,971	4,798	5,341,917	1,113	0.89	YES
LAKESIDE	LKSDCA12	SAN DIEGO	63,621	22,242	882	78,385	1,795	1,464,090	816	1.54	YES
SNDG-LINDA VISTA	SNDGCA03	SAN DIEGO	138,705	50,118	1,300	78,538	8,083	8,797,595	1,088	0.79	YES
ATASCADERO	ATSCCA11	SAN LUIS OBISPO	34,887	12,991	661	78,588	2,312	1,797,682	778	1.04	YES
NIPOMO	NIPMCA11	SAN LUIS OBISPO	18,064	5,999	397	78,775	999	1,398,477	1,400	1.08	YES
BEAR VALLEY SPRINGS	BVSPCA11	KERN	5,676	2,266	191	78,822	334	799,381	2,393	2.93	YES
ARROYO GRANDE	ARGRCA12	SAN LUIS OBISPO	51,493	20,061	1,229	79,267	3,827	1,042,407	272	1.33	YES
MODESTO-TALLY	MDSTCA05	STANISLAUS	31,567	10,122	276	79,588	634	1,121,590	1,769	0.78	YES
FULLERTON	FUTNCA01	ORANGE	136,967	43,247	1,523	80,500	8,005	7,942,738	992	1.15	YES
IMPERIAL	IMPRCA11	IMPERIAL	17,048	4,870	691	80,745	559	646,741	1,157	0.93	YES
MORO	SLNSCA14	MONTEREY	13,992	4,418	143	80,786	1,095	456,387	417	1.70	YES
BRISTOL	SNANCA11	ORANGE	168,547	46,689	1,755	80,826	9,617	15,462,517	1,608	0.96	YES
SANTA CRUZ-MAIN	SNCZCA01	SANTA CRUZ	78,334	27,497	1,448	80,875	6,297	7,899,249	1,254	1.14	YES
SAN JOSE MAIN	SNJSCA02	SANTA CLARA	215,446	69,967	1,833	81,068	12,910	20,535,390	1,591	0.89	YES
GARNET	PCBHCA01	SAN DIEGO	95,563	41,612	1,378	81,309	4,157	8,382,196	2,016	1.25	YES
SOUTH TAHOE-MEYERS	STAHCA13	EL DORADO	7,290	3,027	292	81,393	785	416,787	531	0.72	YES
RANCHO SAN DIEGO	RNSDCA11	SAN DIEGO	31,216	11,097	383	81,720	814	499,622	614	0.59	YES
SONOMA	SONMCA12	SONOMA	43,200	17,563	936	81,962	3,961	2,827,112	714	1.29	YES
SANTEE	SANTCA01	SAN DIEGO	78,258	27,520	907	82,218	2,186	2,168,540	992	0.81	YES
DIXON	DIXNCA11	SOLANO	23,298	7,420	1,206	82,353	1,345	2,201,524	1,637	1.65	YES
SAN PEDRO	SNPDCA01	LOS ANGELES	104,002	38,541	1,159	82,390	7,437	7,483,490	1,006	1.42	YES
SANTA CRUZ-CAPITOLA	SNCZCA11	SANTA CRUZ	54,613	22,502	978	82,469	4,979	5,194,553	1,043	1.04	YES
RED HILL	TUSTCA70	ORANGE	4,532	1,460	167	82,548	658	794,041	1,207	0.53	YES
EL SOBRANTE	ELSBCA11	CONTRA COSTA	64,794	22,312	768	82,713	3,219	4,927,176	1,531	1.73	YES
KNIGHTS FERRY	KNFYCA11	CALAVERAS	2,244	920	161	82,725	141	38,369	272	1.31	NO
BUENA PARK	BNPKCA11	LOS ANGELES	94,358	27,768	1,111	82,878	4,388	5,548,070	1,264	1.21	YES
VALLEY FORD	VYFRCA11	SONOMA	2,434	1,065	105	83,042	184	42,096	229	1.63	NO
BERKELEY	BKLYCA01	ALAMEDA	100,762	39,372	1,332	83,151	8,600	8,323,430	968	0.91	YES
VACAVILLE	VCVLCA12	NAPA	107,253	36,352	2,121	83,406	5,328	3,836,945	720	1.42	YES
CALISTOGA	CLSTCA11	LAKE	8,721	3,513	279	83,853	1,111	711,818	641	1.98	YES
SEBASTOPOL	SBSTCA11	SONOMA	31,675	13,171	584	83,996	2,794	1,064,033	381	2.09	YES
AUBURN-PLACER HILL	AUBNCA11	NEVADA	13,034	4,948	527	84,004	1,530	843,134	551	1.93	YES
CULVER CITY	CLCYCA11	LOS ANGELES	100,325	42,625	979	84,012	7,964	7,156,276	899	1.17	YES
STINSON BEACH	STBHCA11	MARIN	2,393	1,077	117	84,114	1,202	101,473	84	2.36	YES

QUINTILE 4: MEDIAN HOUSEHOLD INCOME $75,600 - $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
TRES PINOS	TRPSCA11	SAN BENITO	1,007	385	294	84,430	214	194,387	908	2.04	YES
POINT REYES	PRSNCA11	MARIN	2,397	1,116	159	84,915	825	626,533	759	1.86	YES
HOLLISTER	HLSTCA11	MERCED	51,356	15,494	1,499	85,036	2,923	3,955,078	1,353	1.16	YES
ORANGEVALE	ORVACA11	PLACER	43,846	16,959	564	85,293	2,287	857,658	375	1.43	YES
PISMO BEACH	PSBHCA11	SAN LUIS OBISPO	8,693	4,244	365	85,348	736	506,922	689	0.71	YES
SANTA ROSA-LOS ALAM	SNRSCA11	SONOMA	39,504	16,823	692	85,432	2,537	748,600	295	1.35	YES
ARCADIA	ARCDCA11	LOS ANGELES	71,871	24,466	590	86,338	4,800	2,927,302	610	1.25	YES
CROCKETT	CRCTCA02	CONTRA COSTA	3,620	1,645	276	86,430	289	1,112,236	3,849	1.15	YES
WINTERS	WNTRCA11	NAPA	11,146	3,496	555	86,663	734	1,003,707	1,367	2.44	YES
SAN MARCOS	SNMCCA11	SAN DIEGO	130,035	42,914	1,392	86,699	4,889	5,953,202	1,218	0.85	YES
ROCKLIN	RCKLCA11	PLACER	26,211	10,030	384	87,298	1,244	2,533,261	2,036		YES
GREEN - PASADENA	PSDNCA11	LOS ANGELES	109,005	45,267	1,572	87,482	12,284	2,992,795	244	0.69	YES
PAUMA VALLEY	PALACA11	SAN DIEGO	7,553	2,552	675	87,495	812	438,811	540	3.53	YES
ST HELENA	STHNCA11	NAPA	11,303	4,668	306	87,563	2,372	1,632,751	688	1.27	YES
SATICOY	SATCCA12	VENTURA	39,139	13,563	595	87,640	1,946	1,340,189	689	1.00	YES
SNDG-TENNYSON	SNDGCA14	SAN DIEGO	62,496	26,652	1,188	87,821	2,848	5,169,737	1,815	0.93	YES
SOLAMINT	SLMNCA11	LOS ANGELES	97,782	31,065	1,045	87,850	3,415	4,062,815	1,190	1.23	YES
DULZURA	DLZRCA11	SAN DIEGO	4,157	1,388	250	87,995	504	388,073	770	2.67	YES
HEALDSBURG	HLBGCA11	SONOMA	19,151	7,394	863	88,182	2,672	1,507,176	564	2.15	YES
LAKE PASADENA	PSDNCA12	LOS ANGELES	97,170	32,485	1,047	88,477	5,609	3,825,112	682	1.09	YES
CONCORD	CNCRCA01	CONTRA COSTA	155,917	56,273	2,266	88,533	8,980	8,627,874	961	1.00	YES
MONTEREY	MTRYCA01	MONTEREY	53,452	22,846	1,427	88,548	5,760	4,044,369	702	0.88	YES
NSCR-NORTH NATOMAS	NSCRCA12	SACRAMENTO	57,116	19,878	886	88,703	2,047	4,505,348	2,201	0.44	YES
SAN GERONIMO	SNGNCA11	MARIN	3,894	1,681	146	88,868	461	79,818	173	2.34	YES
PETALUMA	PTLMCA01	SONOMA	73,522	27,283	1,494	88,947	4,990	1,764,591	354	0.83	YES
CARLSBAD-HARDING	CRLSCA11	SAN DIEGO	41,566	16,449	433	89,387	2,206	1,442,785	654	0.89	YES
CANOGA PARK	CNPKCA01	LOS ANGELES	199,229	69,208	1,752	89,778	13,344	7,082,067	531	1.30	YES
ANGWIN	ANGWCA11	LAKE	5,055	1,579	163	89,903	591	180,147	305	2.83	YES
NAPA	NAPACA01	NAPA	100,464	36,247	1,685	89,935	7,620	8,631,474	1,133	1.32	YES
SNDG-REGENTS	SNDGCA15	SAN DIEGO	85,017	32,527	509	90,269	6,954	5,442,898	783	0.50	YES
BEN LOMOND	BNLMCA11	SANTA CRUZ	7,578	2,962	174	90,352	579	217,996	377	1.56	YES
PINE VALLEY	PNVYCA11	SAN DIEGO	2,531	1,033	355	90,364	247	421,706	1,707	2.23	YES
LEONA VALLEY	LNVYCA11	LOS ANGELES	2,817	1,091	232	90,490	322	440,257	1,367	3.58	YES
VALLEY CENTER	VLCTCA11	SAN DIEGO	28,762	9,760	1,034	90,583	2,286	1,869,300	818	2.15	YES
LSAN-MELROSE	LSANCA08	LOS ANGELES	89,469	49,060	770	90,663	11,621	3,769,116	324	1.45	YES
S WHITE ROAD	SNJSCA11	SANTA CLARA	223,959	55,164	1,424	90,912	8,051	9,930,714	1,233	1.35	YES
CORONA	CORNCA11	RIVERSIDE	300,683	82,146	2,796	91,046	10,738	16,827,719	1,567	0.97	YES
PLEASANT GROVE	PLGVCA12	PLACER	2,136	757	222	91,110	160	135,317	846	3.94	YES
OTAY MESA	OTMSCA11	SAN DIEGO	24,189	4,153	215	91,141	986	3,453,787	3,503	0.69	YES
COSTA MESA	CSMSCA11	ORANGE	90,910	33,950	1,067	91,262	5,737	7,267,513	1,267	0.98	YES
TOMALES	TMLSCA12	MARIN	941	410	77	91,380	287	125,136	436	0.83	YES
ALPINE	ALPICA12	SAN DIEGO	24,769	8,981	815	91,389	1,624	735,294	453	2.65	YES
TRACY	TRACCA11	CONTRA COSTA	116,895	32,948	2,333	91,436	4,319	6,539,928	1,514	1.77	YES
CHAPMAN	ORNGCA11	ORANGE	116,586	37,014	1,433	91,762	6,854	6,179,314	902	0.96	YES
NEWCASTLE	NWCSCA11	EL DORADO	9,429	3,498	340	92,004	924	513,384	556	2.28	YES
TEMPLETON	TMTNCA11	SAN LUIS OBISPO	10,067	3,696	253	92,072	643	376,711	586	0.79	YES
BREA	BREACA12	LOS ANGELES	56,620	20,172	799	92,573	2,998	4,673,693	1,559	1.02	YES
AGUA DULCE	AGDLCA11	LOS ANGELES	4,386	1,535	387	92,763	456	612,024	1,342	2.04	YES
GEYSERVILLE	GYVLCA11	SONOMA	2,148	773	175	93,148	295	71,152	241	2.20	YES
OAKLEY	OKLYCA11	CONTRA COSTA	44,507	13,025	662	93,444	1,105	1,455,731	1,317	1.11	YES
HERALD	HERLCA11	AMADOR	4,683	1,468	150	93,662	273	353,388	1,294	3.11	YES
SHINGLE SPRINGS	SGSPCA11	EL DORADO	41,875	15,327	715	93,924	3,431	2,199,897	641	2.46	YES
AROMAS	ARMSCA11	MONTEREY	8,220	2,609	147	94,079	446	384,485	862	1.74	YES
AIRPORT	IRVNCA11	ORANGE	28,785	12,336	471	94,317	5,656	(2,392,931)	(423)		YES

QUINTILE 4: MEDIAN HOUSEHOLD INCOME $75,600 - $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
IGNACIO	IGNCCA12	MARIN	23,792	9,128	279	94,523	1,539	210,854	137	0.64	YES
PLACENTIA	PLCNCA11	SAN BERNARDINO	95,755	32,185	1,225	94,835	5,397	3,386,858	628	1.05	YES
BAKERSFIELD-NOMAD	BKFDCA19	KERN	54,172	17,242	564	95,051	1,972	1,914,820	971	0.66	YES
HAYWARD-MAIN	HYWRCA01	ALAMEDA	149,809	50,830	1,867	95,158	7,870	8,626,786	1,096	0.92	YES
WINDSOR	WNDSCA11	SONOMA	30,990	10,379	433	95,286	1,693	381,950	226	1.04	YES
RAMONA	RAMNCA11	SAN DIEGO	39,010	12,805	997	95,357	1,878	2,398,809	1,277	1.61	YES
BAKERSFIELD-WEST	BKFDCA17	KERN	88,680	28,272	1,443	95,614	3,311	3,220,205	973	0.99	YES
TRUCKEE-NORTH STAR	TRUCCA12	NEVADA	709	334	111	95,619	606	45,622	75	0.14	YES
WASHINGTON	COLACA01	SAN FRANCISCO	122,571	37,195	844	95,828	5,878	10,047,752	1,709	1.00	YES
FELTON	FETNCA11	SANTA CRUZ	14,205	5,783	412	96,103	976	380,839	390	1.58	YES
NEWHALL	NHLLCA01	LOS ANGELES	108,112	36,592	1,099	96,295	5,371	4,536,981	845	0.82	YES
BOULDER CREEK	BLCKCA11	SAN MATEO	10,591	4,487	371	96,710	1,051	440,508	419	2.19	YES
TRUCKEE-MAIN	TRUCCA11	NEVADA	18,628	7,182	1,495	96,772	3,351	2,647,101	790	0.53	YES
AVILA BEACH	AVBHCA11	SAN LUIS OBISPO	2,331	1,140	195	97,351	337	62,519	186	1.16	YES
SNFC-ONONDAGA	SNFCCA06	SAN FRANCISCO	185,326	55,278	1,592	97,410	11,364	11,083,972	975	1.11	YES
HERCULES	HRCLCA11	CONTRA COSTA	54,153	18,032	791	97,636	2,622	2,637,314	1,006	1.44	YES
ROCKLIN-MAIN	RCKLCA01	NEVADA	86,396	31,111	1,127	97,687	3,201	6,904,429	2,157	0.64	YES
SIMI VALLEY	SIMICA11	VENTURA	135,767	44,632	1,590	97,824	7,815	3,172,841	406	0.96	YES
LOOMIS	LOMSCA11	PLACER	16,608	5,849	375	98,524	1,397	1,082,077	775	1.17	YES
APTOS	APTSCA12	SANTA CRUZ	27,595	11,341	456	98,693	2,864	9,283,117	3,241	1.15	YES

ECONOMICS AND TECHNOLOGY, INC.

Table 11.3

AT&T CALIFORNIA
WIRE CENTER SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 5: MEDIAN HOUSEHOLD INCOME Above $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
ALAMEDA	ALMDCA11	ALAMEDA	80,481	31,409	1,307	98,953	6,355	9,566,143	1,505	0.81	YES
EL TORO	ELTRCA11	ORANGE	212,802	77,669	2,476	99,910	10,967	5,036,520	459	0.99	YES
LSAN-AIRPORT	LSANCA07	LOS ANGELES	58,988	23,470	820	99,965	7,220	10,004,662	1,386	0.68	YES
FRESNO-WOODWARD	FRSNCA15	FRESNO	28,077	10,635	303	99,983	1,076	826,842	768	0.86	YES
CARMEL VALLEY	CRVYCA11	MONTEREY	8,347	3,337	269	100,129	1,039	642,360	618	2.31	YES
BENICIA	BNCICA11	SOLANO	27,821	10,862	549	100,447	1,943	1,084,881	558	1.01	YES
MISSION - PASADENA	SPSDCA11	LOS ANGELES	34,914	14,280	470	100,757	2,834	133,011	47	0.83	YES
CHULA VISTA-EAST	CHVSCA12	SAN DIEGO	142,192	40,934	1,023	100,804	2,258	4,764,628	2,110	0.57	YES
SUISON CITY	SUISCA11	SOLANO	9,421	2,362	409	101,183	345	450,262	1,305	0.41	YES
CORONADO	CRNDCA11		22,727	6,788	511	101,561	1,724	1,673,150	971	0.63	YES
CARMEL	CRMLCA11	MONTEREY	20,997	9,493	769	101,721	4,592	4,427,175	964	1.34	YES
HORNBLEND	PCBHCA11	SAN DIEGO	11,871	5,626	413	102,065	548	1,419,259	2,590	1.34	YES
SAN BRUNO	SNBUCA02	SAN MATEO	114,941	37,622	1,243	102,413	9,822	11,668,741	1,188	0.91	YES
SAN JUAN	SNJNCA11	SAN BENITO	98,383	37,119	1,842	102,572	384	299,991	781	1.71	YES
IRVINE	IRVNCA01	ORANGE	150,655	51,685	1,385	102,710	4,684	4,904,884	1,047	0.89	YES
SAN RAFAEL-PARKWAY	SNRFCA11	MARIN	33,988	13,538	464	102,759	2,956	152,686,789	51,653	0.83	YES
CENTURY CITY	WLANCA01	LOS ANGELES	24,855	11,761	323	103,013	5,791	6,639,585	1,147	1.13	YES
MARTINEZ	MRTZCA11	CONTRA COSTA	47,073	17,942	1,260	103,060	3,554	3,009,808	847	0.99	YES
ACTON	ACTNCA11	LOS ANGELES	7,989	2,704	525	103,642	743	683,022	919	1.51	YES
EL SEGUNDO-DOUGLAS	ELSGCA12	LOS ANGELES	25,239	10,319	501	103,955	4,029	4,074,223	1,011	0.64	YES
SNFC-STEINER ST	SNFCCA12	SAN FRANCISCO	176,797	93,909	1,049	104,425	22,366	904,052	40	0.53	YES
W CHYNOWETH	SNJSCA13	SANTA CLARA	204,409	59,453	1,314	104,886	7,594	4,776,788	629	1.71	YES
WOODCREST	RVSDCA11	RIVERSIDE	60,937	18,048	892	105,168	2,640	1,928,655	731	1.39	YES
BRENTWOOD	BRWDCA12	CONTRA COSTA	82,545	26,145	1,541	105,289	3,696	3,239,220	876	1.03	YES
RANCHO MURIETA	RNMRCA11	SACRAMENTO	7,066	2,788	132	106,151	523	248,081	474	0.90	YES
POWAY	POWYCA11	SAN DIEGO	60,281	20,144	492	106,289	2,729	1,097,309	402	0.72	YES
SAUSALITO	SSLTCA11	MARIN	11,035	5,763	255	106,500	1,737	1,096,261	631	0.93	YES
FLSM-NIMBUS	FLSMCA12	EL DORADO	44,564	13,310	843	107,313	1,844	2,159,373	1,171	0.47	YES
SAN CLEMENTE	SNCLCA12	ORANGE	71,819	25,189	946	107,575	2,602	3,667,867	1,410	1.03	YES
BELLOMY	SNTCCA11	SANTA CLARA	177,523	64,811	1,835	107,745	8,974	7,283,695	812	1.08	YES
LAGUNA NIGUEL	LGNGCA12	ORANGE	107,583	39,844	1,006	108,034	3,371	3,865,311	1,147	0.62	YES
SNFC-9TH AVENUE	SNFCCA13	SAN FRANCISCO	93,657	38,623	684	108,086	9,186	5,466,598	595	0.78	YES
SNDG-MIRA MESA	SNDGCA16	SAN DIEGO	122,178	38,552	932	108,375	5,310	3,983,021	750	0.69	YES
SHERMAN OAKS / KEST*	SHOKCA01	LOS ANGELES	102,517	46,233	787	108,561	13,316	6,736,978	506		YES
TUSTIN	TUSTCA11	ORANGE	139,853	47,250	1,368	108,703	6,962	3,501,977	503	1.08	YES
NICASIO	NICSCA11	MARIN	2,110	767	112	109,146	250	76,975	308	1.81	NO
45TH STREET	OKLDCA11	ALAMEDA	105,768	46,951	1,740	109,396	9,172	9,826,233	1,071	0.94	YES
UNION CITY GREENLEAF	UNCYCA11	ALAMEDA	92,992	26,303	1,120	109,708	4,821	4,258,157	883	1.12	YES
MOSS BEACH	MSBHCA11	SAN MATEO	9,169	3,188	234	109,940	830	63,600	77	1.01	YES
SILVERADO	SLVRCA11	ORANGE	4,131	1,492	206	110,186	191	470,590	2,464	2.15	YES
RANCHO BERNARDO	RBRNCA11	SAN DIEGO	99,114	36,774	698	110,720	4,178	2,682,988	642	0.70	YES
SPECTRUM	IRVNCA12	ORANGE	15,346	6,500	235	112,272	1,708	1,979,294	1,159	0.34	YES
ALBANY-SOLANO	ALBYCA11	CONTRA COSTA	76,943	30,713	1,337	112,451	6,236	7,853,330	1,259	1.20	YES
CASTAIC	CSTCCA11	LOS ANGELES	40,327	10,235	803	113,961	3,431	2,334,069	680	0.81	YES
SAN MARTIN	SNMACA11	SANTA CLARA	8,144	2,385	173	114,000	632	1,025,798	1,623	1.87	YES
CORONA DEL MAR	CRDMCA11	ORANGE	95,930	35,282	1,087	114,253	6,350	2,353,378	371	0.92	YES
CALABASAS	CLBSCA50	LOS ANGELES	15,769	5,904	256	114,397	1,058	(74,561)	(70)	0.83	YES

ECONOMICS AND TECHNOLOGY, INC.

QUINTILE 5: MEDIAN HOUSEHOLD INCOME Above $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
SAN RAFAEL-MAIN	SNRFCA01	MARIN	80,365	28,286	1,076	115,514	6,998	9,203,117	1,315	1.07	YES
BEVERLY HILLS	BVHLCA01	LOS ANGELES	66,527	30,355	972	115,547	16,372	4,088,565	250	1.28	YES
CARLSBAD-SOUTH	CRLSCA12	SAN DIEGO	52,850	20,554	615	115,551	3,662	2,550,026	696	0.50	YES
ENCINITAS	ENCTCA12	SAN DIEGO	85,371	32,964	1,022	115,936	4,571	3,258,969	713	0.78	YES
PACIFICA	PCFCCA11	SAN MATEO	43,341	15,206	437	116,150	3,023	3,277,901	1,084	1.19	YES
MATHILDA	SNVACA11	SANTA CLARA	20,740	7,606	470	116,831	1,662	(441,239)	(265)	0.57	YES
PESCADERO	PSCDCA11	SAN MATEO	2,146	724	200	117,049	565	100,557	178	1.44	YES
SNFC-MCCOPPIN	SNFCCA04	SAN FRANCISCO	109,382	52,344	912	117,315	10,962	4,844,311	442	0.65	YES
CORDELIA	CORDCA12	NAPA	21,947	7,138	732	117,995	1,340	1,545,454	1,153	0.83	YES
ORANGE OLIVE	ORNGCA13	ORANGE	78,868	26,350	1,101	118,325	5,138	4,483,644	873	1.08	YES
SAUGUS	SAGSCA11	LOS ANGELES	78,716	24,842	715	118,736	2,528	1,961,372	776	1.17	YES
LA CRESENTA	LACRCA11	LOS ANGELES	74,268	26,053	1,137	118,946	6,224	2,800,708	450	1.15	YES
WALNUT CREEK	WNCKCA11	CONTRA COSTA	128,406	55,631	1,858	120,558	11,153	7,837,971	703	0.83	YES
MILPITAS-ABEL	MLPSCA11	ALAMEDA	97,917	27,306	838	120,821	5,636	7,405,015	1,314	1.01	YES
SCOTTS VALLEY	SCVYCA01	SANTA CRUZ	18,140	6,839	291	120,884	1,367	1,176,326	861	0.89	YES
FREMONT MAIN	FRMTCA11	ALAMEDA	169,572	54,208	1,929	120,952	7,958	5,695,101	716	0.92	YES
FLSM-BLUE REVINE	FLSMCA14	EL DORADO	47,162	17,059	422	121,140	1,768	2,062,911	1,167	0.52	YES
REDWOOD CITY	RDCYCA01	SAN MATEO	107,072	35,079	1,430	121,337	7,949	16,594,291	2,088	1.09	YES
HALF MOON BAY	HMBACA12	SAN MATEO	20,757	7,149	400	121,350	2,349	3,126,514	1,331	1.02	YES
SNFC-19TH AVENUE	SNFCCA14	SAN FRANCISCO	143,029	53,344	1,242	121,435	11,765	6,627,746	563		YES
LIVERMORE	LVMRCA11	ALAMEDA	93,633	32,382	2,382	122,110	6,279	4,679,182	745	0.81	YES
LA HONDA	LAHNCA11	SAN MATEO	2,029	839	117	122,172	389	253,360	651	1.65	YES
SAN JOSE-FOXWORTHY	SNJSCA14	SANTA CLARA	169,192	61,576	1,631	122,768	9,411	9,980,955	1,061	1.06	YES
MOORPARK	MRPKCA12	VENTURA	51,423	15,945	886	123,010	2,457	3,054,595	1,243	0.88	YES
PARK SORRENTO	CLBSCA11	LOS ANGELES	31,041	10,872	404	124,565	3,840	1,280,904	334	0.99	YES
BALBOA	BALBCA01	ORANGE	18,203	9,328	793	124,706	2,703	3,424,577	1,267	0.92	YES
JAMUL	JAMLCA60	SAN DIEGO	9,828	2,988	177	124,913	322	8,381	26	1.64	YES
YORBA LINDA	YRLNCA11	ORANGE	54,653	18,083	720	126,969	3,299	1,607,686	487	0.96	YES
SAN JOSE-JUNCTION A*	SNJSCA21	SANTA CLARA	45,648	17,077	450	126,991	6,140	34,386,605	5,600	0.42	YES
AGOURA	AGORCA11	LOS ANGELES	60,946	22,214	943	127,462	4,858	10,049,583	2,069	1.07	YES
OAKLAND MOUNTAIN	OKLDCA13	ALAMEDA	57,718	23,177	760	128,247	4,550	3,576,851	786	0.78	YES
GYPSUM CANYON	YRLNCA12	ORANGE	15,030	4,816	250	128,570	562	957,082	1,703	0.39	YES
LA JOLLA-GIRARD	LAJLCA11	SAN DIEGO	27,789	12,175	499	129,045	3,647	1,537,373	422	0.85	YES
MILLBRAE	MLBRCA11	SAN MATEO	22,613	8,102	262	129,782	2,613	3,271,708	1,252	0.75	YES
RANCHO PENASQUITOS	RNPSCA11	SAN DIEGO	50,615	15,971	350	130,458	1,446	537,524	372	0.43	YES
SALINAS-HUNTER	SLNSCA13	MONTEREY	10,367	3,595	149	130,578	680	577,496	849	2.12	YES
SNFC-25TH STREET	SNFCCA05	SAN FRANCISCO	134,441	53,511	1,285	130,602	10,082	9,974,690	989	0.70	YES
SANTA MARGARITA	RSMGCA11	RIVERSIDE	86,991	29,271	1,698	132,223	2,003	1,254,728	626	0.62	YES
SNFC-FOLSOM ST	SNFCCA21	SAN FRANCISCO	32,526	18,377	270	132,795	7,656	5,694,544	744	0.35	YES
ANAHEIM HILLS	ANHMCA17	ORANGE	21,024	7,196	130	132,867	848	1,011,324	1,193	0.82	YES
CLAYTON	CYTNCA11	CONTRA COSTA	21,851	7,880	540	132,954	1,502	1,312,215	874	1.14	YES
BURLINGAME	BRLNCA01	SAN MATEO	84,746	31,735	1,029	133,715	7,936	6,323,893	797	0.81	YES
FLSM-EL DORADO	FLSMCA13	EL DORADO	43,531	14,824	677	134,168	2,631	3,408,552	1,296	0.99	YES
SAN FELIPE RD - EVE*	SNJSCA15	SANTA CLARA	121,657	31,893	936	134,185	5,113	2,897,241	567	1.24	YES
LARKSPUR	LRKSCA11	MARIN	29,490	12,505	557	134,574	3,120	3,510,860	1,125	0.95	YES
MISSION VIEJO	MSVJCAAT	ORANGE	54,909	17,861	722	135,071	1,889	3,507,829	1,857	0.68	YES
FREMONT ADAMS AVE	FRMTCA12	ALAMEDA	119,089	37,183	1,471	135,586	6,839	6,418,649	939	1.01	YES
PLEASANTON-13	PLTNCA13	ALAMEDA	8,488	3,385	271	137,212	1,621	(234,029)	(144)	0.31	YES
SALINAS-GLENVIEW	SLNSCA12	MONTEREY	6,661	2,124	148	137,227	556	116,034	209	0.88	YES
SAN MATEO	SNMTCA11	SAN MATEO	100,050	37,429	1,020	138,367	7,900	10,169,676	1,287	1.04	YES
PALO ALTO MAIN	PLALCA02	SAN MATEO	123,366	40,995	1,579	139,713	10,518	11,684,256	1,111	0.94	YES
CARROLL	SNVACA01	SANTA CLARA	131,767	48,002	1,502	140,016	7,759	10,790,803	1,391	0.90	YES
SPACE PARK	SNTCCA01	SANTA CLARA	28,713	9,829	649	141,377	4,768	4,173,155	875	0.52	YES
MOUNTAIN VIEW	MTVWCA11	SANTA CLARA	103,984	41,412	1,599	143,151	7,929	12,856,583	1,621	0.77	YES

QUINTILE 5: MEDIAN HOUSEHOLD INCOME Above $98,800

Wire Center	CLLI	County	Population	Households	No. of Census Blocks	Median Household Income	Jan 2019 Access Lines	Total Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band offered
DEL MAR	DLMRCA12	SAN DIEGO	81,468	30,616	861	144,337	5,494	3,276,496	596	0.65	YES
SAN JOSE-DIAL WAY	SNJSCA12	SAN MATEO	199,389	69,922	2,398	147,178	13,069	9,254,154	708	1.21	YES
BISHOP RANCH	BSRNCA70	CONTRA COSTA	16,034	6,020	150	149,491	1,443	827,784	574	0.25	YES
RANCHO SANTA FE	RSFECA12	SAN DIEGO	27,690	9,341	668	150,702	3,255	2,357,706	724	1.17	YES
PALO ALTO SOUTH	PLALCA12	SAN MATEO	51,075	19,179	731	151,964	4,001	3,579,219	895	0.94	YES
SAN RAMON	SNRMCA11	CONTRA COSTA	111,466	36,601	1,263	151,973	4,197	5,382,123	1,282	0.50	YES
MILL VALLEY	MLVYCA01	MARIN	37,705	15,572	632	152,491	3,821	6,620,040	1,733	1.12	YES
SAN CARLOS	SNCRCA11	SAN MATEO	72,826	28,501	943	154,470	6,590	9,597,491	1,456	0.79	YES
PLEASANTON-12	PLTNCA12	ALAMEDA	71,445	24,307	1,108	154,587	4,045	1,897,995	469	0.50	YES
LAFAYETTE	LFYTCA11	CONTRA COSTA	27,595	11,041	429	154,973	2,283	2,727,957	1,195	0.97	YES
MORAGA	MORGCA12	CONTRA COSTA	22,580	7,940	320	155,624	1,735	1,067,878	615	1.34	YES
DANVILLE-12	DAVLCA12	CONTRA COSTA	62,904	22,849	755	160,596	5,110	1,509,885	295	0.78	YES
DANVILLE-13	DAVLCA13	CONTRA COSTA	51,977	18,004	565	164,977	2,391	1,342,445	561	0.50	YES
ALMADEN VALLEY	SNJSCA18	SANTA CLARA	48,254	15,984	647	171,250	2,877	3,254,697	1,131	1.84	YES
TIBURON	TBRNCA11	MARIN	11,918	4,730	170	171,832	1,686	407,837	242	0.55	YES
SUNOL	SUNLCA11	ALAMEDA	2,343	798	165	183,964	191	377,414	1,976	1.89	YES
LA CANADA-OAK GROVE	LACNCA11	LOS ANGELES	1,012	347	10	184,562	14	(124,546)	(8,896)		NO
MENLO PARK	MNPKCA11	SAN MATEO	24,971	9,458	605	188,114	4,016	2,495,102	621	2.32	YES
LOS ALTOS	LSATCA11	SAN MATEO	40,929	15,425	851	193,505	4,386	4,747,321	1,082	1.79	YES
ORINDA	ORNDCA11	CONTRA COSTA	18,508	6,662	334	213,330	1,932	3,980,284	2,060	1.57	YES

ECONOMICS AND TECHNOLOGY, INC.

A substantial focus of AT&T and Frontier plant investment in recent years has been directed at upgrading its feeder and distribution outside plant to fiber optics aimed at upgrading the companies' ability to offer high-speed broadband Internet access and video services to customers. It appears that, to some extent, both companies have directed these upgrades toward higher income communities, as shown in Table 11.4.

Table 11.4

AT&T CALIFORNIA AND FRONTIER CALIFORNIA WEIGHTED AVERAGE MEDIAN HOUSEHOLD INCOME IN WIRE CENTER SERVING AREAS WITH AND WITHOUT BROADBAND SERVICE UPGRADES BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

	AT&T California		Frontier California	
Category	Wtd Avg MHI	No. of Wire Centers	Wtd Avg MHI	No. of Wire Centers
No broadband	$ 50,322	50	51,385	35
FTTP / FiOS				66
Other broadband	$ 70,616	555	75,252	178

NOTE: AT&T California has deployed FTTP in certain areas, but we do not have the breakdown of such deployment at the individual wire center level. Hence, for AT&T, "Other broadband" should be interpreted as "All broadband," including both FTTN and FTTP locations.

During 2018 and 2019, Frontier California made Gross Plant Additions identified to individual wire centers totaling approximately $562-million. As we did for AT&T California, we calculated the similar weighted average Median Household Income of the areas served by these wire centers in each of the five quintile groups, together with the average Gross Plant Addition investment per access line, as summarized in Table 11.5 below. The results are similar to what we found for AT&T. Average gross plant additions per access line were actually higher in the lower income quintiles. However, as with AT&T, Frontier wire centers serving higher income areas tended to have fewer out-of-service incidents and greater broadband availability than their counterparts in lower income communities.

☞ Average gross plant additions investment per access line are similar in all five quintiles for both AT&T and Frontier, but wire centers serving higher income areas tend to have a lower rate of out-of-service incidents and greater broadband availability than their counterparts in lower income communities.

Table 11.5

FRONTIER CALIFORNIA
MEDIAN HOUSEHOLD INCOME AND 2018-19 GROSS PLANT ADDITIONS

Quintile	House-holds	Median Household Income	Access Lines Jan 2019	2018-2019 Gross Plant Additions per Access Line	Out-of-Service per 100 ALs per month	Pct Wire Centers with Broadband
0%-20%	294,942	40,438	71,907	$ 1,249	1.85	51.2%
20%-40%	759,127	53,421	136,170	$ 2,261	1.21	84.1%
40%-60%	734,943	65,579	109,751	$ 694	1.24	88.1%
60%_80%	989,671	77,088	260,326	$ 599	0.93	95.1%
80%-100%	1,284,373	97,266	319,981	$ 1,170	0.61	100.0%
Total Frontier-CA	4,063,056	74,302	898,135	5,973	1.17	83.6%

NOTE: Individual Census Tracts may include parts of more than one wire center and more than one ILEC serving area. The total number of households passed by Frontier shown here may thus exceed those actually present in Frontier California's service area. However, for our purposes, the relevant calculation is the Median Household Income, which would apply for the entire Census Tract irrespective of which ILEC serves a particular household.

Table 11.6 provides the total Gross Plant Addition investment and the per-access line Gross Plant Additions for each AT&T California wire center, along with the median household income.

Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE SUMMARY STATISTICS

Quintile	Total Reporting Units	Reporting Units with Broadband	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month
Quintile 1: $0 - $45,800	43	22	951,007	294,942	206	40,438	71,907	89,818,513	1,249	1.85
Quintile 2: $45,800 - $59,400	44	37	2,308,845	759,127	481	53,421	136,170	307,867,961	2,261	1.21
Quintile 3: $59,400 - $72,000	42	37	2,451,506	734,943	530	65,579	109,751	76,203,294	694	1.24
Quintile 4: $72,000 - $84,800	41	39	3,130,389	989,671	652	77,088	260,326	155,998,170	599	0.93
Quintile 5: $84,800 and above	43	43	3,556,532	1,284,373	764	97,266	319,981	374,244,802	1,170	0.61
ALL FRONTIER CALIFORNIA OPE	213	178	12,398,279	4,063,056	2,633	74,302	898,135	1,004,132,740	5,973	1.17

Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 1: MEDIAN HOUSEHOLD INCOME $0 - $45,800

Reporting Unit CLLIs	Reporting Unit Name	County	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band Offered
ALPGCAXF	ALPAUGH	TULARE	14,211	3,348	2	29,418	67	81,969	1,223	2.39	YES
JSTRCAXF	JOSHUA TREE	SAN BERNARDINO	19,348	8,199	5	34,379	616	357,445	580	0.90	YES
DSSHCAXF	DESERT SHORES	IMPERIAL	10,389	2,025	2	34,395	69	100,775	1,461	3.63	NO
HYFKCAXF	HAYFORK	TRINITY	6,947	3,162	3	34,478	526	370,538	704	0.94	NO
ELMGCAXF	EL MIRAGE	SAN BERNARDINO	8,267	1,796	1	34,637	89	248,537	2,793	1.44	YES
LKISCAXF	LAKE ISABELLA	KERN	16,234	7,611	3	35,223	1,112	1,479,504	1,330	1.20	YES
SLCYCAXF	SALTON CITY	IMPERIAL	13,029	2,778	3	35,307	144	554,144	3,848	6.97	YES
KRVLCAXF	KERNVILLE	KERN	10,076	4,796	2	35,341	830	832,307	1,003	1.39	NO
DSCTCAXG	DESERT CENTER	RIVERSIDE	2,043	732	1	36,810	16	53,810	3,363	10.87	NO
HOPACAXF	HOOPA	HUMBOLDT	3,041	960	1	36,830	501	379,305	757	0.64	NO
SNBRCAXK	SAN BERNARDINO	SAN BERNARDINO	125,971	32,093	24	37,254	7,045	47,793,287	6,784	1.03	YES
CRCRCAXF	CORCORAN	KINGS	49,473	10,176	10	37,405	726	418,516	576	1.74	YES
CVELCAXF	COVELO	MENDOCINO	7,717	3,301	3	38,042	491	420,020	855	2.33	NO
CHSPCAXF	CALIFORNIA HOT SPRI	TULARE	12,243	3,922	2	38,376	285	70,120	246	2.18	NO
WVVLCAXG	WEAVERVILLE	TRINITY	12,811	5,623	4	38,526	1,488	2,933,321	1,971	0.65	YES
CNCKCAXF	CANTUA CREEK	FRESNO	16,282	3,945	3	38,698	64	39,907	624	1.99	NO
LGGTCAXF	LEGGETT	MENDOCINO	6,742	2,841	2	38,703	62	85,764	1,383	2.62	NO
YCVYCAXG	YUCCA VALLEY	SAN BERNARDINO	37,979	15,608	8	39,268	1,783	1,828,339	1,025	0.97	YES
BORNCAXF/NEDWCAXF	BORON	KERN	12,557	2,984	3	39,743	306	564,701	1,845	1.18	YES
LNBHCAXL	LONG BEACH	LOS ANGELES	55,462	14,425	12	40,061	17,031	11,624,434	683	0.55	YES
LNPNCAXF	LONE PINE	INYO	3,378	1,565	1	40,150	455	566,047	1,244	1.01	YES
LSHLCAXF	LOST HILLS	KERN	21,548	5,337	4	40,334	224	207,446	926	1.10	NO
WWCKCAXF	WILLOW CREEK	HUMBOLDT	8,206	3,273	3	40,335	787	4,911,000	6,240	1.16	NO
LNDSCAXF/STMRCAXF	LINDSAY	TULARE	53,481	15,659	10	40,475	1,606	2,066,369	1,287	1.53	YES
SNJQCAXF/TRNQCAXF	SAN JOAQUIN	FRESNO	33,414	8,416	6	40,855	418	180,378	432	1.26	NO
ALPNCAXF	ALDERPOINT	HUMBOLDT	8,276	3,548	2	40,988	89	178,738	2,008	2.21	YES
WLANCAXJ	WEST LOS ANGELES	LOS ANGELES	17,037	4,065	3	41,512	26,346	2,946,834	112	0.55	YES
BTNWCAXF	BUTTONWILLOW	KERN	5,273	1,399	2	41,545	308	72,422	235	1.52	NO
MDRVCAXF	MAD RIVER	TRINITY	12,909	5,442	4	41,890	167	115,378	691	2.04	NO
HMVYCAXF	HOMESTEAD VALLEY	SAN BERNARDINO	22,881	7,687	6	41,910	498	1,351,816	2,714	1.82	YES
ORLNCAXF	ORLEANS	HUMBOLDT	2,884	1,310	1	41,938	161	30,051	187	0.83	NO
DHSPCAXF	DESERT HOT SPRINGS	RIVERSIDE	54,813	19,755	15	42,273	1,770	1,564,312	884	2.38	YES
MCFACAXF	MCFARLAND	KERN	32,701	5,939	4	42,514	606	225,455	372	1.39	NO
FRVLCAXF	FARMERSVILLE	TULARE	24,329	6,736	4	42,857	422	38,422	91	1.66	YES
TWPLCAXF/TWPLCAXG/DSHGCA	DESERT HEIGHTS	SAN BERNARDINO	49,124	16,149	11	43,707	1,039	1,431,870	1,378	1.58	YES
DSPLCAXF/ORMACAXF	DOS PALOS	MERCED	56,352	15,598	13	43,835	770	514,611	668	1.51	YES
PIRCCAXF	PIERCY	MENDOCINO	12,697	5,797	3	44,220	48	46,973	979	1.69	NO
LYVLCAXF	LAYTONVILLE	MENDOCINO	15,344	6,541	3	45,177	672	935,526	1,392	1.70	NO
OLNCCAXF	OLANCHA	INYO	5,946	2,690	2	45,296	89	288,560	3,242	0.89	YES
GRVLCAXF	GARBERVILLE	HUMBOLDT	9,517	4,426	3	45,302	848	1,034,181	1,220	1.63	NO
GLVLCAXF	GLENNVILLE	KERN	20,423	9,038	4	45,481	338	143,973	426	1.90	NO
CFCYCAXF	CALIFORNIA CITY	KERN	16,548	5,102	3	45,636	947	422,332	446	0.98	YES
WLDNCAXF	WELDON	KERN	23,104	9,145	5	45,672	48	309,077	6,439	1.81	NO

Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 2: MEDIAN HOUSEHOLD INCOME $45,800 - $59,400

Reporting Unit CLLIs	Reporting Unit Name	County	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band Offered
MRVYCAXF	MORONGO VALLEY	SAN BERNARDINO	11,196	4,855	3	45,964	332	505,732	1,523	2.41	YES
ADLNCAXF	ADELANTO	SAN BERNARDINO	45,903	11,453	6	46,932	1,521	10,092,536	6,635	0.59	YES
LCVYCAXF	LUCERNE VALLEY	SAN BERNARDINO	17,533	6,898	5	47,482	500	1,815,148	3,630	2.24	YES
CCHLCAXF	COACHELLA	RIVERSIDE	54,047	13,594	11	47,773	16	498,408	31,150	#N/A	YES
RDLYCAXF	REEDLEY	FRESNO	60,192	16,997	11	47,865	2,029	1,487,428	733	1.31	YES
BRSWCAXH/BRSWCAXJ	BARSTOW	SAN BERNARDINO	57,743	20,392	12	47,878	1,836	4,877,360	2,657	0.94	YES
SNBRCAXL	SAN BERNARDINO	SAN BERNARDINO	10,415	2,722	2	47,932	7,045	95,586,573	13,568	1.03	YES
LNBHCAXF	LONG BEACH	LOS ANGELES	67,613	27,920	19	48,201	17,031	11,624,434	683	0.55	YES
BRMSCAXF	BERRENDA MESA	KERN	9,185	1,661	2	48,599	18	0	0	4.61	NO
INYKCAXF	INYOKERN	KERN	15,050	6,854	3	48,668	460	898,391	1,953	1.60	YES
KNLDCAXF	KNIGHTS LANDING	YOLO	5,754	2,034	2	49,534	128	51,705	404	1.46	NO
ANZACAXF	ANZA	RIVERSIDE	10,620	4,179	2	49,797	352	52,653,317	149,583	2.77	YES
LMPCCAXF/SURFCAXF	LOMPOC	SANTA BARBARA	84,169	26,107	24	49,944	3,815	3,844,102	1,008	0.60	YES
FTIRCAXF	FORT IRWIN	SAN BERNARDINO	14,870	4,703	3	49,985	292	317,793	1,088	0.05	YES
EXTRCAXF	EXETER	TULARE	44,453	14,382	8	50,096	1,525	856,172	561	1.04	YES
WHTNCAXF	WHITETHORN	HUMBOLDT	8,564	3,894	2	50,325	547	460,565	842	1.61	NO
FWLRCAXF	FOWLER	FRESNO	32,840	9,334	6	50,724	1,222	1,506,135	1,233	1.54	YES
HEMTCASF/VLVSCAXF	HEMET	RIVERSIDE	173,599	63,410	38	51,262	0	4,238,801	#DIV/0!	0.64	YES
BBCYCAXF	BIG BEAR CITY	SAN BERNARDINO	16,005	6,609	6	51,497	1,513	1,501,957	993	0.73	YES
LNWDCAXF	LENWOOD	SAN BERNARDINO	22,761	8,314	5	51,754	359	934,640	2,603	1.40	YES
INDPCAXF	INDEPENDENCE	INYO	7,664	3,389	3	51,984	119	250,361	2,104	0.92	YES
XF/NSHRCAXF/OASSCAXF/THRMCAXF	INDIO	RIVERSIDE	246,517	72,837	42	52,451	9,523	5,747,088	603	1.57	YES
SNBRCAXN	SAN BERNARDINO	SAN BERNARDINO	11,710	3,908	3	52,840	7,045	47,793,287	6,784	1.03	YES
RBNSCAXG	ROBBINS	SUTTER	4,022	1,372	2	52,930	76	26,990	355	1.46	NO
PHLNCAXF	PHELAN	SAN BERNARDINO	34,163	10,249	5	53,210	1,847	2,099,878	1,137	0.97	YES
PLSPCAXG/RNMGCAXF	PALM SPRINGS	RIVERSIDE	137,309	58,120	43	53,297	9,917	7,102,939	716	1.29	YES
SNJCCAXG	SAN JACINTO	RIVERSIDE	93,561	31,338	18	53,761	1,850	1,292,510	699	0.75	YES
SNNGCAXG	SNELLING	MERCED	5,620	1,356	2	53,920	127	643,021	5,063	3.02	NO
TRONCAXF	TRONA	SAN BERNARDINO	16,842	6,831	4	53,935	441	416,075	943	#N/A	YES
SNBRCAXH/MSCYCAXF	MUSCOY	SAN BERNARDINO	166,326	49,195	31	54,075	4,375	1,283,863	293	1.07	YES
RDGCCAXG	RIDGECREST	KERN	45,961	17,855	9	54,315	3,518	962,671	274	1.20	YES
BRPTCAXF	BRIDGEPORT	MONO	2,502	1,039	1	54,559	431	1,004,643	2,331	0.73	NO
IDYLCAXF	IDYLLWILD	RIVERSIDE	14,846	6,000	4	55,286	1,126	900,395	800	0.98	YES
CRLNCAXF	CRESTLINE	SAN BERNARDINO	14,050	5,540	4	55,350	1,183	1,321,757	1,117	1.39	NO
BBLKCAXF	BIG BEAR LAKE	SAN BERNARDINO	10,427	4,454	7	55,431	1,302	4,380,012	3,364	0.62	YES
LNBHCAXH	LONG BEACH	LOS ANGELES	90,596	26,561	18	56,967	17,031	11,624,434	683	0.55	YES
VTVLCAXA/HNDLCAXF	HELENDALE-SILVER LA	SAN BERNARDINO	157,514	48,296	20	56,994	5,700	0	0	0.48	YES
WRWDCAXF	WRIGHTWOOD	SAN BERNARDINO	25,191	9,228	5	57,445	778	494,609	636	0.89	YES
APVYCAXF/DSKNCAXF	APPLE VALLEY	SAN BERNARDINO	213,222	76,264	46	57,709	4,129	9,392,984	2,275	0.76	YES
CZDRCAXG	CAZADERO	SONOMA	5,890	2,882	2	58,416	365	338,581	928	1.76	YES
HSPRCAXF	HESPERIA	SAN BERNARDINO	134,807	40,119	19	58,742	5,327	5,546,481	1,041	0.80	YES
LVNGCAXF	LEE VINING	MONO	9,919	4,383	3	58,779	135	328,045	2,430	0.78	YES
OXNRCAXF	OXNARD	VENTURA	87,489	18,916	18	59,268	6,801	2,244,779	330	0.44	YES
ONTRCAXM	ONTARIO	SAN BERNARDINO	10,185	2,683	2	59,268	12,483	8,921,361	715	0.36	YES

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Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 3: MEDIAN HOUSEHOLD INCOME $59,400 - $72,000

Reporting Unit CLLIs	Reporting Unit Name	County	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band Offered
BGPICAXF	BIG PINE	INYO	7,043	3,033	3	59,572	163	280,007	1,718	0.80	YES
RNBGCAXF	RANDSBURG	KERN	11,427	3,650	2	60,153	42	211,524	5,036	0.69	YES
YERMCAXF	YERMO	SAN BERNARDINO	19,967	7,524	4	60,365	247	513,081	2,077	1.85	YES
TAFTCAXF/FLWSCAXF/MRCPCA)	FELLOWS	KERN	64,720	18,725	15	60,914	1,068	600,967	563	0.82	NO
BSHPCAXG	BISHOP	INYO	16,063	6,858	5	61,621	1,804	939,399	521	0.63	YES
JNLKCAXF	JUNE LAKE	MONO	5,965	2,538	2	61,781	275	321,230	1,168	0.44	YES
POMNCAXF	POMONA	LOS ANGELES	139,848	35,938	28	62,056	5,570	3,009,499	540	0.53	YES
PNYNCAXF	PINYON PINES	RIVERSIDE	16,423	7,215	5	62,135	138	134,336	973	1.99	YES
ONTRCAXF	ONTARIO	SAN BERNARDINO	140,375	37,997	28	63,421	12,483	8,921,361	715	0.36	YES
CHLKCAXF	CHINA LAKE	KERN	14,513	5,840	3	63,473	10	171,121	17,112	#N/A	YES
PERSCAXF	PERRIS	RIVERSIDE	170,650	44,750	26	63,910	2,834	3,791,804	1,338	0.81	YES
LNCSCAXF/EDMTCAXF/SNYMCA)	EDGEMONT	RIVERSIDE	382,968	110,800	82	64,063	7,632	8,298,291	1,087	0.34	YES
PLDSCAXF/THPLCAXF	PALM DESERT	RIVERSIDE	65,635	30,669	21	64,337	11,235	2,150,963	191	0.99	YES
WEMRCAXF	WEIMAR	PLACER	9,541	3,861	2	64,344	360	257,275	715	1.10	NO
PCRVCAXF	PICO RIVERA	LOS ANGELES	55,487	14,776	10	64,406	7,276	1,727,179	237	0.79	YES
CRLKCAXF	CROWLEY LAKE	MONO	11,700	4,729	2	64,599	226	232,392	1,028	0.54	YES
MMLKCAXF	MAMMOTH LAKES	MONO	11,700	4,729	2	64,599	1,893	289,274	153	0.47	YES
SNFNCAXG	SAN FERNANDO	LOS ANGELES	65,577	16,052	15	65,044	3,294	2,019,712	613	0.63	YES
SERNCAXG	SEA RANCH	SONOMA	4,120	1,973	2	65,088	555	454,904	820	1.14	YES
TMCVCAXH	TIMBER COVE	SONOMA	4,120	1,973	2	65,088	412	192,403	467	1.38	YES
PACMCAXF	PACOIMA	LOS ANGELES	131,034	30,181	35	65,343	3,583	2,077,214	580	0.57	YES
DWNYCAXF/DWNYCAXG/BLGRC/	BELL GARDENS	LOS ANGELES	203,129	59,076	40	65,790	9,204	7,620,203	828	0.90	YES
LMCVCAXF	LEMON COVE	TULARE	10,723	3,840	2	66,139	82	197,903	2,413	0.99	YES
SNTMCAXF	SANTA MARIA	SANTA BARBARA	122,553	34,389	21	66,301	9,401	3,090,196	329	0.35	YES
SNPLCAXF	SANTA PAULA	VENTURA	54,418	16,174	12	66,639	2,185	1,369,991	627	1.21	YES
BNTNCAXF	BENTON	MONO	3,463	1,499	1	66,786	93	84,421	908	1.82	NO
ARHDCAXF	ARROWHEAD FARMS	SAN BERNARDINO	18,900	7,238	6	66,869	1,938	1,626,913	839	0.91	YES
BRDNCAXF	BERMUDA DUNES	RIVERSIDE	65,532	29,239	16	67,305	#N/A	649,431	#N/A	#N/A	YES
DNLPCAXF	DUNLAP	FRESNO	6,304	2,383	1	67,417	222	1,055,035	4,752	6.26	YES
SVYFCAXF	SQUAW VALLEY	FRESNO	6,304	2,383	1	67,417	127	576,469	4,539	3.21	YES
BLPKCAXF	BALDWIN PARK	LOS ANGELES	140,968	34,584	30	67,579	18	2,789,418	154,968	#N/A	YES
MCKTCAXF	MCKITTRICK	KERN	11,798	3,350	2	67,823	151	81,203	538	1.47	NO
CUYMCAXF	CUYAMA	SANTA BARBARA	7,795	2,975	2	68,124	156	23,095	148	1.23	NO
SNGRCAXF	SANGER	FRESNO	50,228	15,087	9	68,217	1,944	682,722	351	1.47	YES
YUCPCAXF	YUCAIPA	SAN BERNARDINO	61,118	21,985	11	68,585	#N/A	1,347,191	#N/A	0.92	YES
SPLVCAXF	SEPULVEDA	LOS ANGELES	105,941	28,950	26	68,880	4,804	4,073,543	848	0.60	YES
BDGRCAXF	BADGER	TULARE	11,446	4,465	2	69,471	66	103,341	1,566	6.01	YES
GGVGCAXF	GRANT GROVE VILLAG	FRESNO	11,446	4,465	2	69,471	247	565,602	2,290	1.08	YES
BLFLCAXF	BELLFLOWER	LOS ANGELES	97,920	31,195	22	69,504	16	1,427,814	89,238	#N/A	YES
GDLPCAXG	GUADALUPE	SANTA BARBARA	19,643	6,284	3	69,715	854	440,862	516	0.34	YES
PNCKCAXF	PINE CREEK	INYO	5,181	2,198	2	70,264	112	179,572	1,603	0.86	YES
LNBHCAXG	LONG BEACH	LOS ANGELES	87,820	29,373	25	71,389	17,031	11,624,434	683	0.55	YES

ECONOMICS AND TECHNOLOGY, INC.

Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 4: MEDIAN HOUSEHOLD INCOME $72,000 - $84,800

Reporting Unit CLLIs	Reporting Unit Name	County	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band Offered
SNLDCAXF	SUNLAND	LOS ANGELES	54,838	19,557	18	72,020	3,042	1,343,006	441	0.77	YES
LNBHCAXT	LONG BEACH	LOS ANGELES	71,103	32,518	15	72,153	17,031	11,624,434	683	0.55	YES
MUGUCAXF	POINT MUGU NAWC	VENTURA	71,376	19,523	15	72,501	1,789	399,470	223	0.71	YES
LAPNCAXF	LA PUENTE	LOS ANGELES	113,929	31,426	26	72,615	13,617	18,317,209	1,345	0.72	YES
SNMGCAXF	SAN MIGUEL	MONTEREY	21,715	7,839	4	72,686	482	347,236	720	0.54	YES
CLFXCAXF	COLFAX	PLACER	41,535	16,930	7	72,766	722	481,153	666	1.29	NO
ELSNCAXG/ELSNCAXF	ELSINORE MAIN	RIVERSIDE	196,693	58,922	35	72,855	3,599	0	0	0.51	YES
LNCSCAXG/QZHLCAXF	LANCASTER	LOS ANGELES	124,323	36,903	25	72,887	9,847	6,088,224	618	0.63	YES
NRWLCAXF/NRWLCAXG	NORWALK	LOS ANGELES	152,591	40,883	33	72,906	17,632	0	0	0.56	YES
WHTRCAXH	WHITTIER	LOS ANGELES	79,517	21,213	17	73,417	10,409	8,824,810	848	0.47	YES
MNTCCAXG/LTHPCAXF	LATHROP	SAN JOAQUIN	114,605	34,835	24	73,430	5,181	737,284	142	0.67	YES
RDLDCAXF/LMLNCAXF	LOMA LINDA	SAN BERNARDINO	147,707	52,318	24	73,502	8,765	5,037,680	575	0.50	YES
WMNSCAXF	WESTMINSTER	ORANGE	150,471	45,308	31	74,060	10,713	6,858,353	640	0.71	YES
WHTRCAXJ	WHITTIER	LOS ANGELES	86,512	24,182	19	74,475	7,276	8,824,810	1,213	0.47	YES
SNCYCAXF/QUVYCAXF	QUAIL VALLEY	RIVERSIDE	155,441	52,127	31	74,913	4,334	3,106,005	717	0.55	YES
SYLMCAXF	SYLMAR	LOS ANGELES	67,163	17,048	16	75,169	2,994	1,354,387	452	0.58	YES
PRFDCAXF	PARKFIELD	MONTEREY	13,821	4,840	2	75,419	32	1,577,595	49,300	0.96	YES
TVVYCAXF	TIVY VALLEY	FRESNO	20,707	7,286	4	78,071	454	2,978,139	6,560	3.45	YES
LNDNCAXF	LINDEN	SAN JOAQUIN	10,317	3,471	2	78,188	591	525,178	889	1.16	YES
COVNCAXF	COVINA	LOS ANGELES	130,327	40,975	27	78,190	17,683	4,310,449	244	0.57	YES
UPLDCAXF	UPLAND	SAN BERNARDINO	110,358	36,789	27	78,291	21,518	2,924,099	136	0.49	YES
LAPNCAXG	LA PUENTE	LOS ANGELES	124,931	32,501	28	79,073	13,617	9,158,605	673	0.72	YES
CLEMCAXF	CLEMENTS	SAN JOAQUIN	10,993	3,677	3	79,087	260	211,495	813	1.72	YES
FRTNCAXF	FARMINGTON	STANISLAUS	16,457	5,649	3	79,121	149	110,340	741	1.40	YES
ELWDCAXF	ELLWOOD	SANTA BARBARA	48,686	13,865	12	79,123	177	1,676,191	9,470	1.12	YES
LNBHCAXM	LONG BEACH	LOS ANGELES	60,449	24,534	15	79,164	17,031	11,624,434	683	0.55	YES
KNWDCAXF	KENWOOD	SONOMA	11,508	5,711	3	79,911	313	162,676	520	1.20	NO
WHTRCAXF	WHITTIER	LOS ANGELES	103,904	32,336	23	80,177	10,409	8,824,810	848	0.47	YES
MNRVCAXG	MONROVIA	LOS ANGELES	83,169	28,564	18	80,293	6,568	2,391,431	364	0.83	YES
RIPNCAXF	RIPON	SAN JOAQUIN	39,798	13,046	7	80,674	1,636	918,939	562	0.82	YES
CLCYCAXG	LOS ANGELES	LOS ANGELES	73,752	30,704	20	81,227	5,125	1,380,026	269	0.71	YES
CRPRCAXF	CARPINTERIA	SANTA BARBARA	18,963	7,112	5	81,518	1,843	2,356,540	1,279	1.18	YES
ONTRCAXG	ONTARIO	SAN BERNARDINO	72,354	19,652	13	82,442	12,483	8,921,361	715	0.36	YES
HMLDCAXF	HOMELAND	RIVERSIDE	87,195	26,265	13	82,994	1,080	1,871,200	1,733	1.55	YES
OXNRCAXG	OXNARD	VENTURA	40,635	14,404	7	83,066	6,801	2,244,779	330	0.44	YES
CCMNCAXF	CUCAMONGA	SAN BERNARDINO	162,674	54,643	29	84,011	501	5,536,668	11,051	3.76	YES
ELRICAXF	EL RIO	VENTURA	86,499	24,021	16	84,079	5,487	851,267	155	0.28	YES
CLMSCAXF	CALIMESA	RIVERSIDE	57,768	20,298	11	84,111	4,385	1,327,034	303	#N/A	YES
LKHGCAXF	LAKE HUGHES	LOS ANGELES	12,445	4,348	4	84,360	557	919,798	1,651	1.32	YES
RNSPCAXF	RUNNING SPRINGS	SAN BERNARDINO	17,008	6,274	5	84,463	576	692,451	1,202	1.23	YES
LAPNCAXL	LA PUENTE	LOS ANGELES	66,152	17,174	15	84,740	13,617	9,158,605	673	0.72	YES

Table 11.6

FRONTIER CALIFORNIA
WIRE CENTER REPORTING UNIT SERVING AREA MEDIAN HOUSEHOLD INCOME
BASED ON 2018 AMERICAN COMMUNITY SURVEY DATA

QUINTILE 5: MEDIAN HOUSEHOLD INCOME $84,800 and above

Reporting Unit CLLIs	Reporting Unit Name	County	Population	Households	No. of Census Tracts	Median Household Income	Access Lines as of Jan 2019	Gross Plant Additions 2018-2019	Avg Gross Plant Addition per Access Line	OOS per 100 ALs per month	Broad-band Offered
SLVNCAXG	SOLVANG	SANTA BARBARA	29,720	11,175	7	84,811	3,971	2,064,205	520	0.89	YES
ARTSCAXF	ARTESIA	LOS ANGELES	87,105	26,431	18	84,811	#N/A	1,774,273	#N/A	#N/A	YES
CLMTCAXF/LVRNCAXF/SNDMCA)	CLAREMONT	LOS ANGELES	205,887	66,467	43	84,879	13,837	47,848,465	3,458	0.50	YES
MENTCAXF	MENTONE	SAN BERNARDINO	65,234	22,141	10	86,577	1,874	515,667	275	0.80	YES
LSALCAXF	LOS ALAMOS	SANTA BARBARA	15,080	5,256	3	86,944	418	263,508	630	0.51	YES
SNMNCAXJ	SANTA MONICA	LOS ANGELES	49,527	25,144	12	86,959	19,269	4,600,613	239	0.60	YES
MURTCAXF	MURRIETA	RIVERSIDE	138,806	43,903	20	87,529	6,918	2,091,434	302	0.29	YES
WLANCAXH	WEST LOS ANGELES	LOS ANGELES	47,359	23,619	12	88,615	26,346	5,893,669	224	0.55	YES
LAHBCAXF	LA HABRA	LOS ANGELES	84,736	26,989	17	89,381	7,362	2,105,781	286	0.82	YES
AZUSCAXF/GLNDCAXF	GLENDORA	LOS ANGELES	72,815	23,997	19	89,516	6,967	1,795,702	258	0.75	YES
CHNOCAXF/LSSRCAXF	CHINO	SAN BERNARDINO	247,025	68,399	41	91,496	12,261	4,258,148	347	0.34	YES
WLNTCAXF	WALNUT	LOS ANGELES	84,519	23,934	23	92,341	11	1,500,298	136,391	0.80	YES
TMCLCAXG/RNCACAXF	RANCHO CALIFORNIA	RIVERSIDE	137,653	43,904	23	92,348	10,100	3,787,900	375	0.46	YES
HNBHCAXF	HUNTINGTON BEACH	ORANGE	263,025	101,820	60	92,466	13,391	28,678,477	2,142	0.71	YES
SLBHCAXF	SEAL BEACH	ORANGE	79,676	33,599	25	92,734	12,899	2,482,731	192	0.53	YES
SNBBCAXF/SNBBCAXG/GOLTCA XF/MNTTCAXF	GOLETA	SANTA BARBARA	209,072	79,142	47	92,962	17,535	11,562,408	659	0.91	YES
WHTRCAXG	WHITTIER	LOS ANGELES	64,176	21,578	12	94,932	10,409	8,824,810	848	0.47	YES
DMBRCAXF	DIAMOND BAR	LOS ANGELES	48,964	15,807	10	95,314	8,088	610,249	75	0.31	YES
WLANCAXF	WEST LOS ANGELES	LOS ANGELES	91,233	42,852	25	96,345	26,346	19,029,646	722	0.55	YES
LNBHCAXS	LONG BEACH	LOS ANGELES	80,970	28,222	18	101,262	17,031	11,624,434	683	0.54	YES
TMCLCAXH	TEMECULA	RIVERSIDE	60,004	18,298	10	101,569	#N/A	1,848,191	#N/A	0.46	YES
GRHLCAXF	GRANADA HILLS	LOS ANGELES	98,395	33,273	26	102,895	5,064	1,186,040	234	0.64	YES
GLRYCAXF	GILROY	SANTA CLARA	68,271	20,130	14	103,035	5,825	2,898,508	498	0.72	YES
CMRLCAXF	CAMARILLO	VENTURA	95,910	34,623	19	104,661	7,544	2,411,594	320	0.28	YES
THOKCAXF	THOUSAND OAKS	VENTURA	62,872	24,201	15	105,306	8,389	4,669,964	557	0.30	YES
NOVTCAXF	NOVATO	MARIN	52,361	20,468	11	106,310	3,274	3,926,776	1,199	0.63	YES
ETWNCAXF	ETIWANDA	SAN BERNARDINO	78,165	21,310	8	109,927	1,840	726,253	395	0.52	YES
PDRYCAXF	PLAYA DEL REY	SAN DIEGO	68,864	36,028	17	110,118	6,323	1,532,993	242	0.78	YES
SNMNCAXG	SANTA MONICA	LOS ANGELES	50,936	26,689	11	114,244	19,269	4,600,613	239	0.00	YES
SRMDCAXF/PSDNCAXF	PASADENA	LOS ANGELES	26,925	10,517	6	114,251	2,831	980,394	346	0.83	YES
MRHLCAXF	MORGAN HILL	SANTA CLARA	58,878	18,958	14	120,798	4,867	2,810,743	578	0.62	YES
NWPKCAXF	NEWBURY PARK	VENTURA	66,599	23,158	13	121,138	168	767,743	4,570	0.18	YES
AXF/RLHLCAXF/TRNCCAXF/TRN CCAXG	HERMOSA BEACH	LOS ANGELES	328,073	129,798	72	122,014	1,022	105,018,958	102,758	0.36	YES
THOKCAXH	THOUSAND OAKS	VENTURA	48,287	16,239	10	125,420	1,653	2,334,982	1,413	0.31	YES
LGBHCAXF/SLGBCAXF	LAGUNA BEACH	ORANGE	68,337	29,336	13	139,341	2,539	3,143,827	1,238	0.75	YES
MALBCAXG	MALIBU	LOS ANGELES	17,218	6,332	5	143,695	4,240	29,632,161	6,989	0.47	YES
TPNGCAXF	TOPANGA	LOS ANGELES	10,325	4,323	3	144,583	599	1,093,056	1,825	0.81	YES
LSGTCAXG	LOS GATOS	SANTA CLARA	15,919	6,417	4	148,035	6,214	2,815,697	453	1.05	YES
MALBCAXF	MALIBU	LOS ANGELES	21,237	7,439	6	149,077	4,240	29,632,161	6,989	0.47	YES
LSGTCAXF	LOS GATOS	SANTA CLARA	53,716	21,990	13	149,797	6,214	5,631,395	906	1.05	YES
LSGTCAXA	LOS GATOS	SANTA CLARA	40,992	15,652	8	156,576	6,214	2,815,697	453	1.05	YES
PCPLCAXF	PACIFIC PALISADES	LOS ANGELES	30,783	12,536	9	193,824	6,181	1,170,774	189	0.75	YES
BELRCAXF	BEL AIR	LOS ANGELES	30,883	12,279	12	194,009	438	1,283,863	2,931	1.05	YES

Frequency and restoration of service outages

AT&T California. The frequency with which service outages occur in any given wire center is driven, in large measure, by the physical condition of the ILEC's central office and outside plant in the wire center's serving area. The rapidity with which a service outage is restored is also affected by the condition of the plant, but may be more directly related to the available resources that the ILEC is able to deploy to correct the problem. For this reason, we have examined these two aspects of service quality separately.

Figures 11.1 through 11.4 are bar graphs showing the values of the four service quality metrics in each of the five MHI quintiles. Figure 11.1 presents the number of service outages per 100 access lines separately for each of the five MHI quintiles, for AT&T California during the 2018-2019 Phase 2 study period. As the chart shows, there appears to be a clear relationship between the frequency of service outages and the median household income of the communities in each of the five MHI quintiles, with the lowest rates of service outages occurring in the highest income communities. Figures 11.2 through 11.4 present three service restoration metrics, also separately for each of the five MHI quintiles. Figure 11.2 shows the percentage of service outages that are restored within the first 24 hours; Figure 11.3 shows the average duration of service outages; and Figure 11.4 shows the average number of days required for AT&T to clear 90% of service outages. Although these metrics all vary across the five MHI quintiles, there is no obvious relationship between these metrics and the MHI for each quintile. Thus, while the overall condition of AT&T California's plant may be better in higher income communities, the company's response to addressing and resolving service outages appears to be more uniform in all income areas.

Figures 11.5 through 11.8 provide long-term trend lines for each of these four metrics over the full 2010-2019 Phase 1/Phase 2study period. The clear relationship between the outage rate and MHI has persisted throughout the ten years, with the higher income communities consistently experiencing the lowest outage rates. However, no such pattern is discernable for the three restoration metrics.

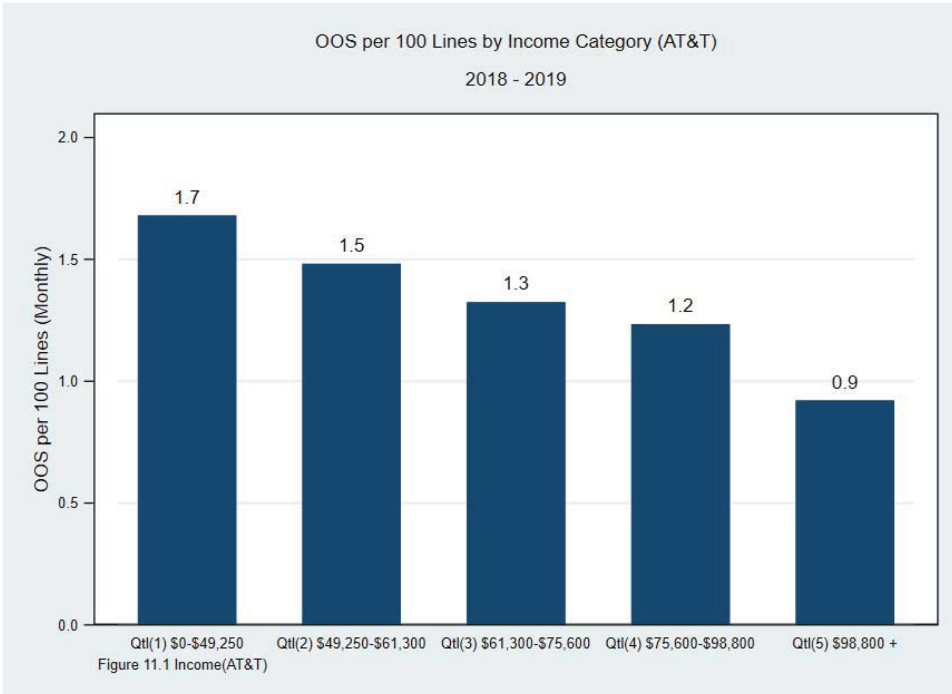


Figure 11.1. AT&T California Service Outages per 100 Access Lines per Month for the Five Median Household Income Quintiles, 2018-2019.

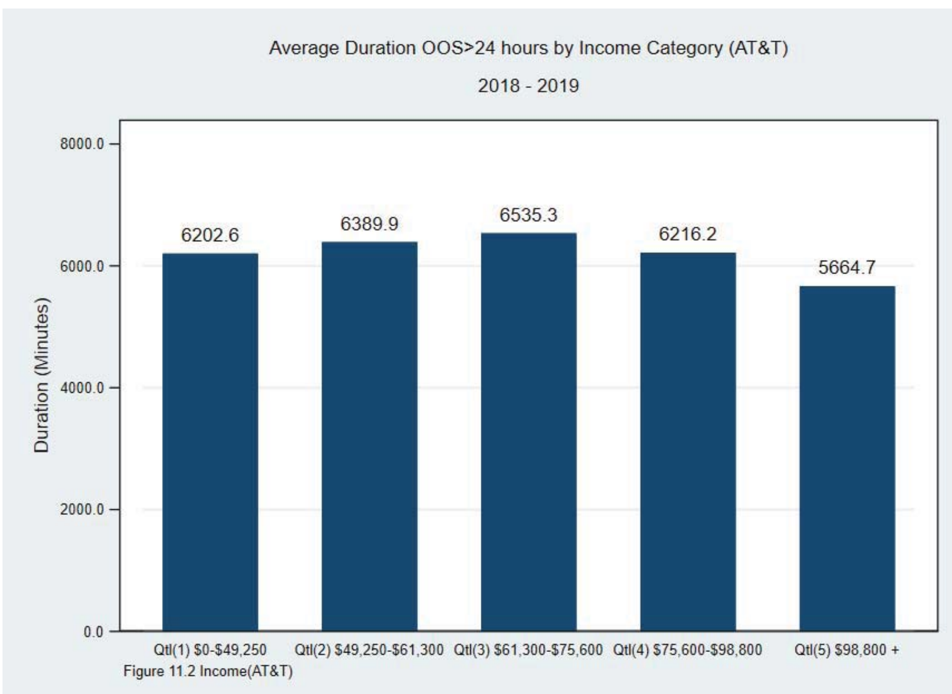


Figure 11.2. AT&T California Average Duration of Service Outages for the Five Median Household Income Quintiles, 2018-2019.

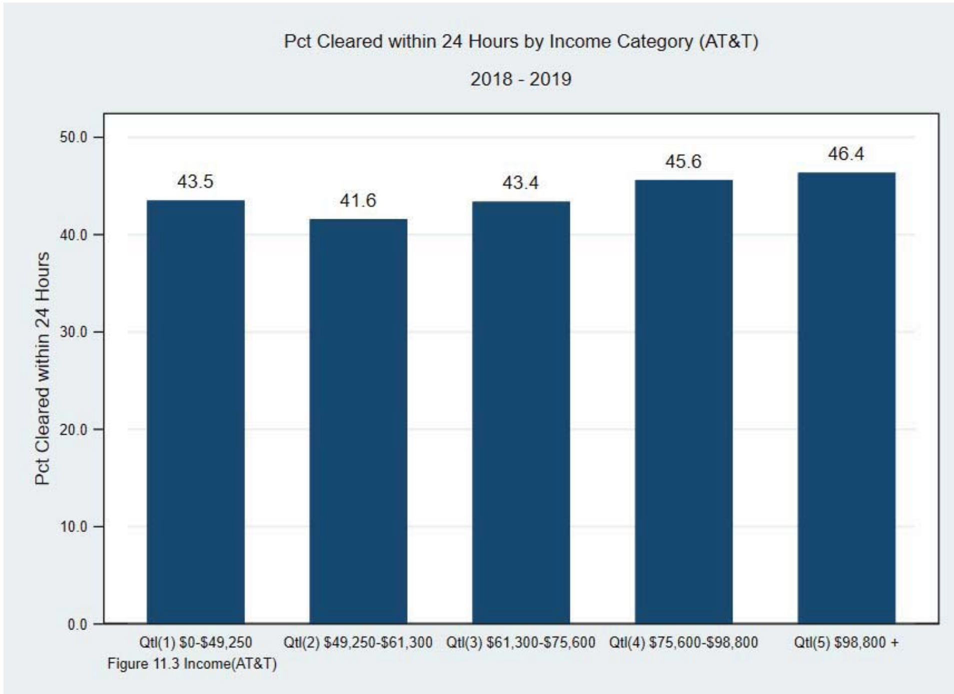


Figure 11.3. AT&T California Percent of Service Outages Restored Within 24 Hours for the Five Median Household Income Quintiles, 2018-2019.

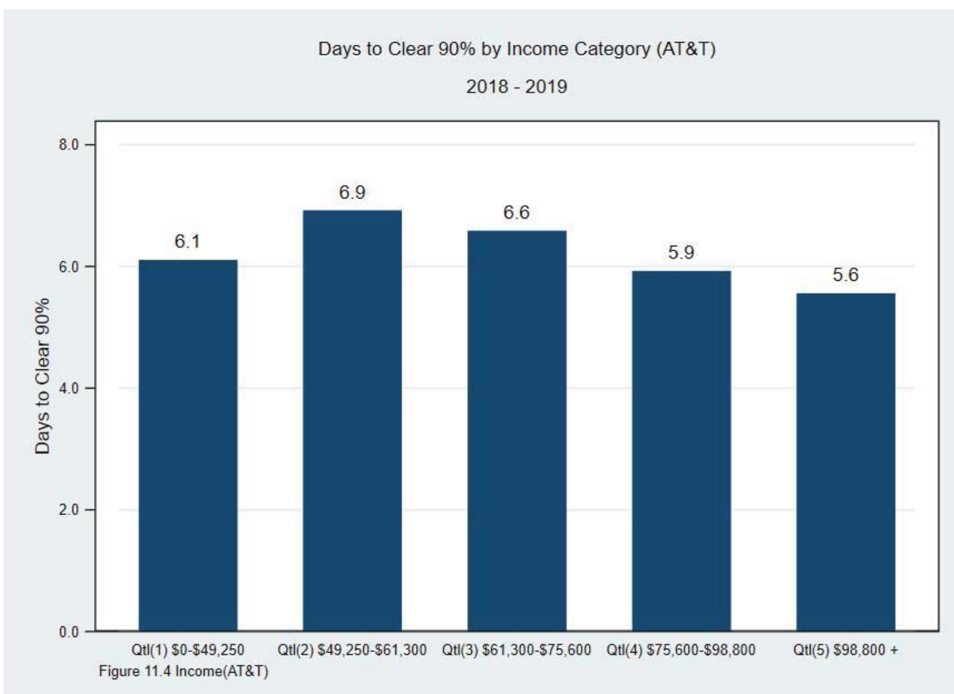
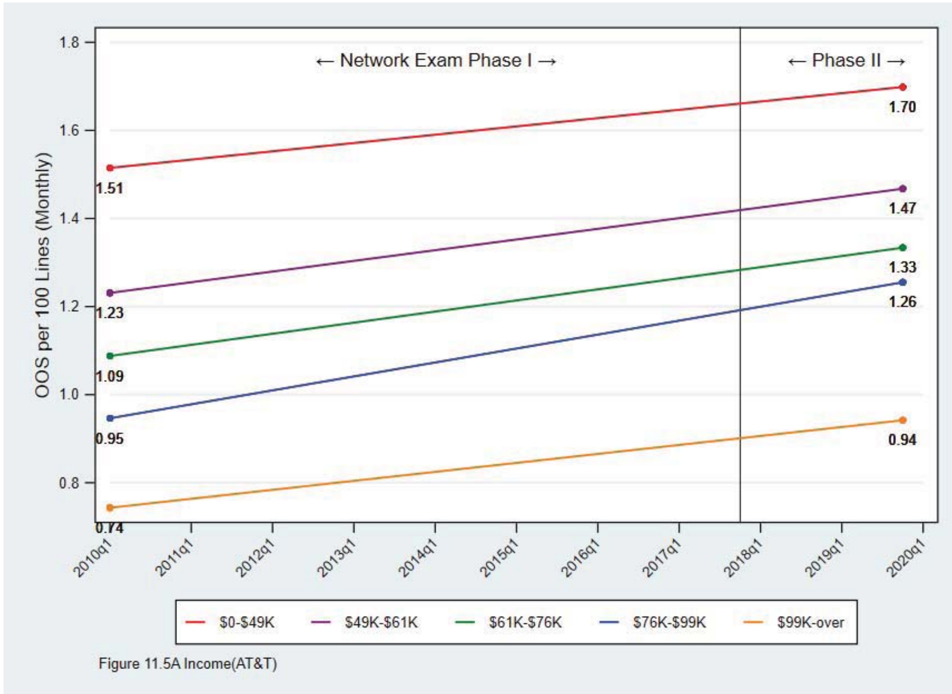


Figure 11.4. AT&T California Average Number of Days Required to Restore 90% of Service Outages for the Five Median Household Income Quintiles, 2018-2019.



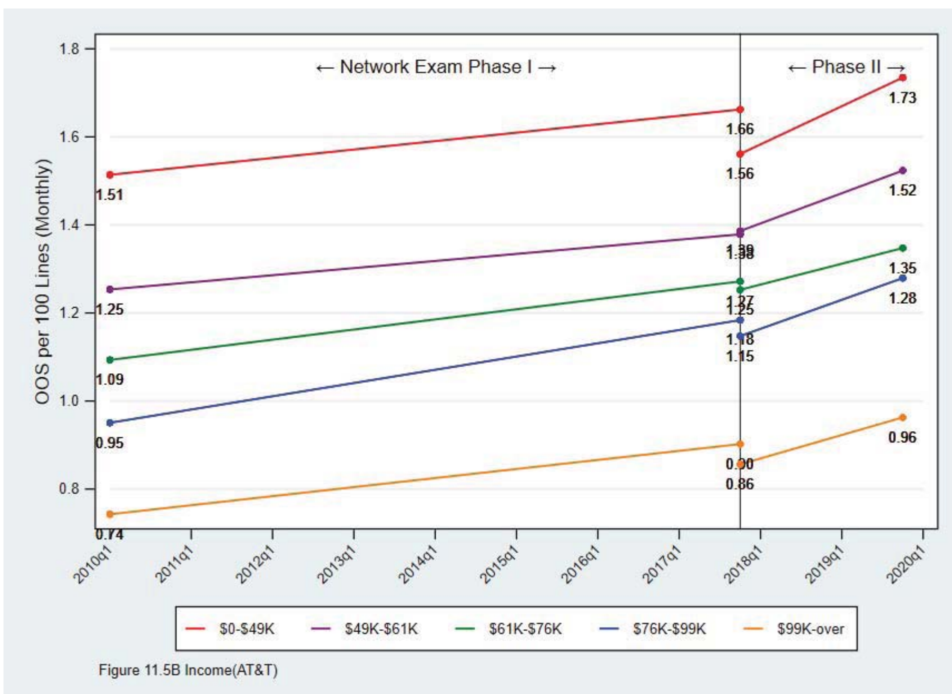
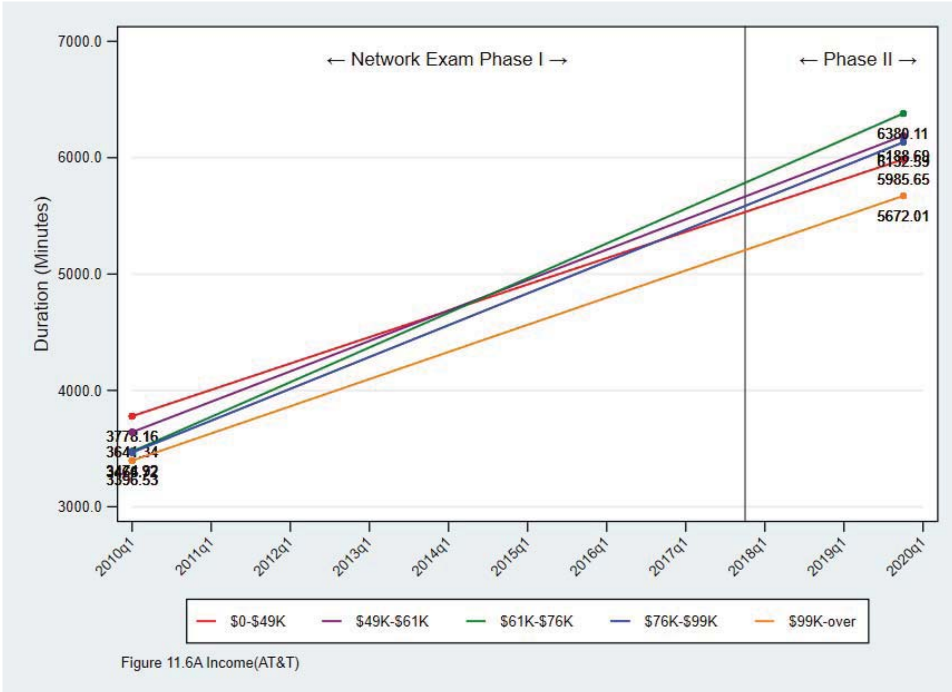


Figure 11.5. AT&T California Service Outages per 100 Access Lines per Month, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.



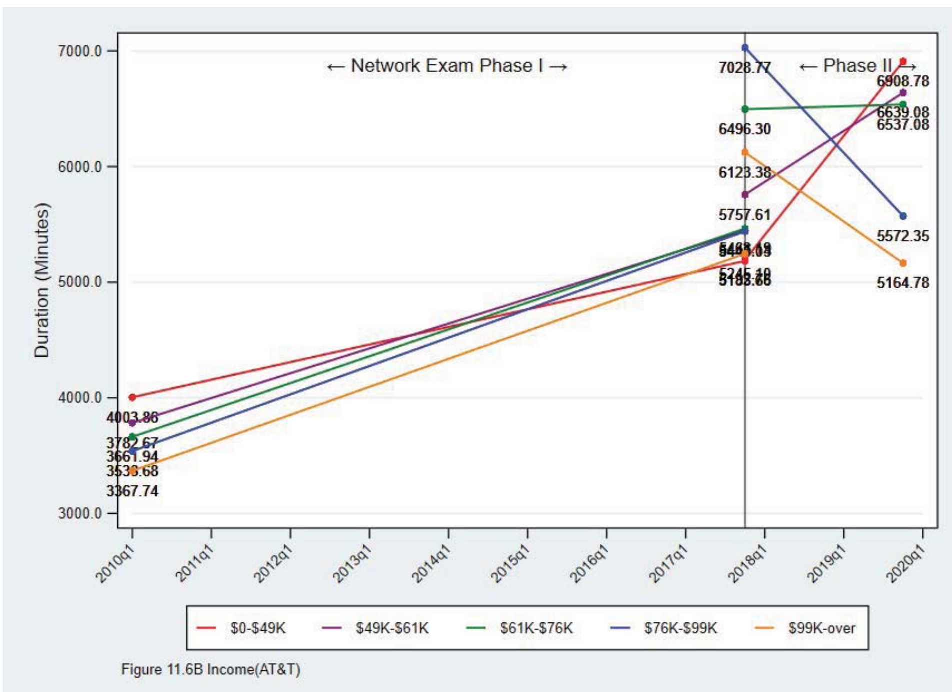


Figure 11.6. AT&T California Average Duration of Service Outages, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

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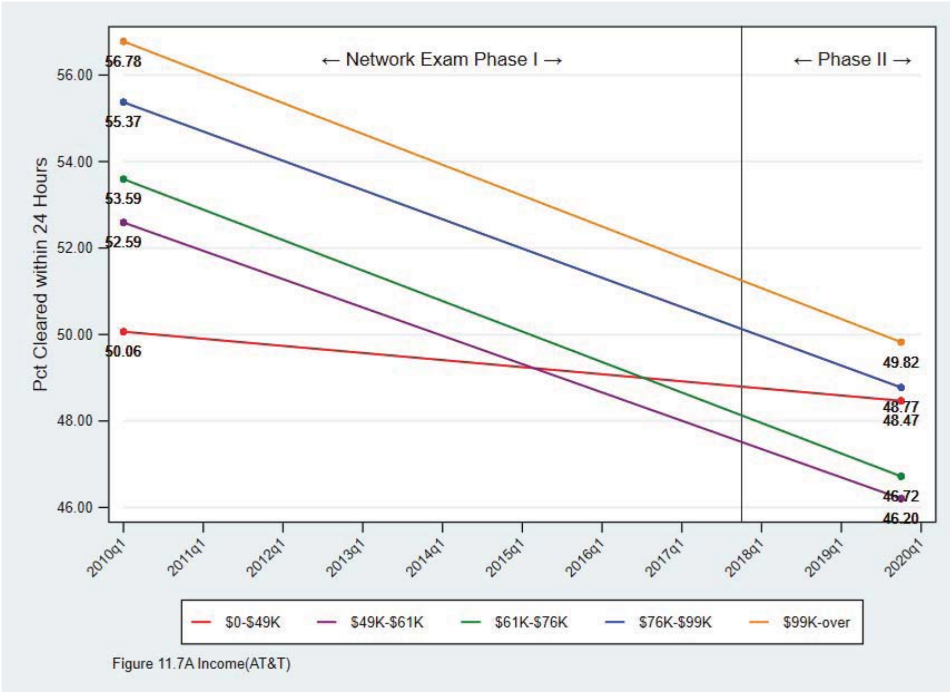


Figure 11.7A Income(AT&T)

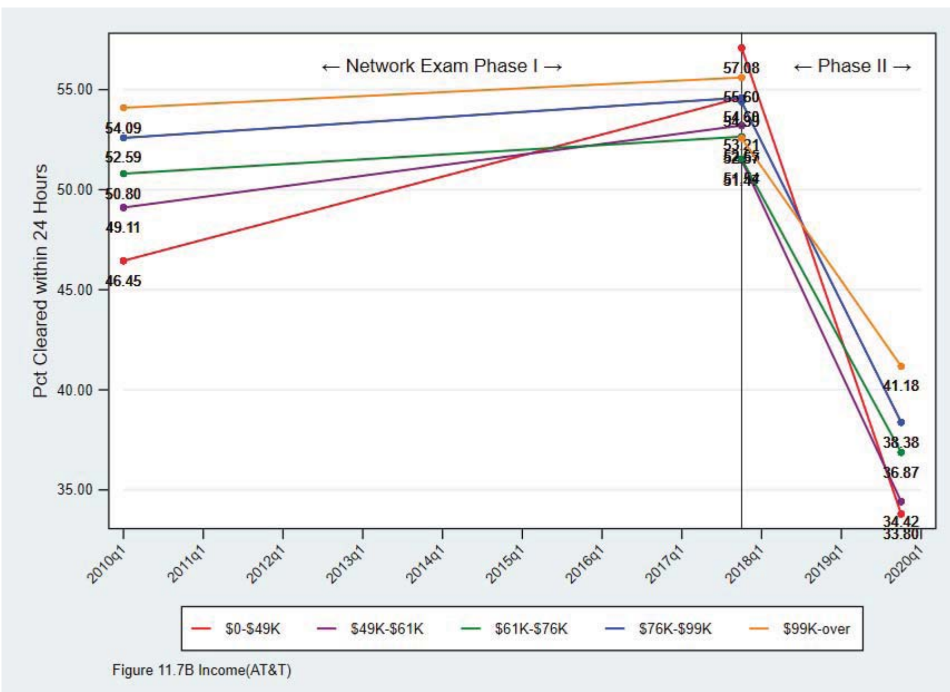


Figure 11.7B Income(AT&T)

Figure 11.7. AT&T California Percent of Service Outages Restored Within 24 Hours, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

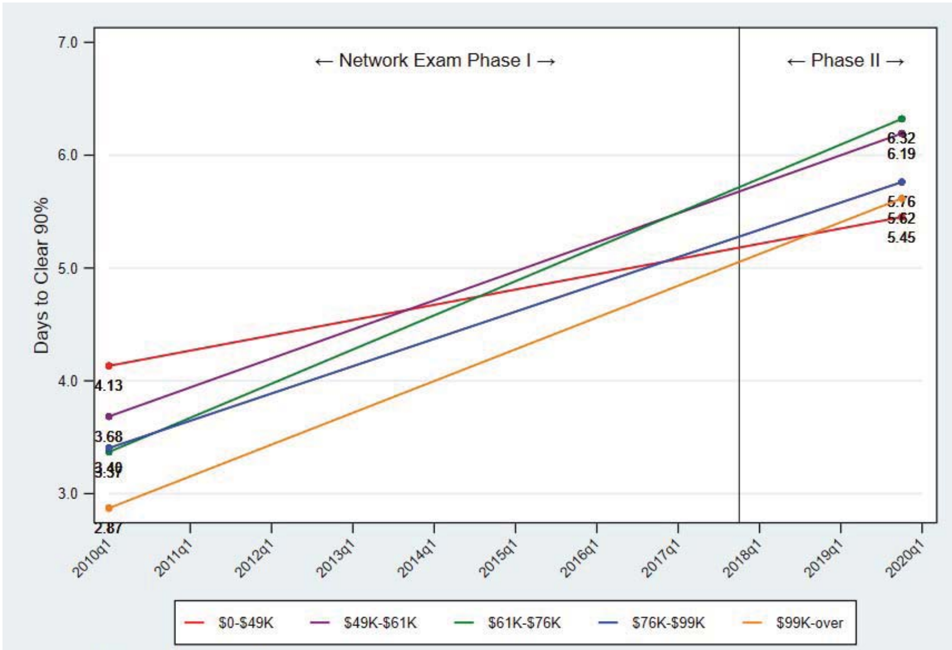


Figure 11.8A Income(AT&T)

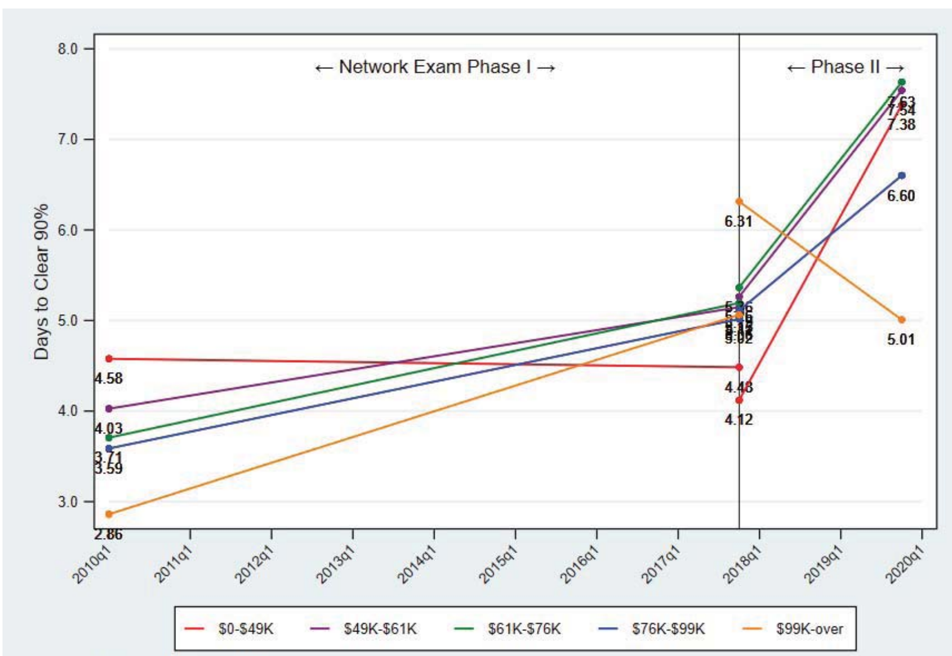


Figure 11.8B Income(AT&T)

Figure 11.8. AT&T California Average Number of Days Required to Restore 90% of Service Outages, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

Frontier California. Figures 11.9 through 11.12 present the corresponding bar graphs for Frontier California wire centers. The results for Frontier are quite similar to those for AT&T: The Frontier data also shows a clear relationship between income levels and the frequency of service outages, with the highest income communities experiencing the lowest outage rates (Figure 11.9). And as with AT&T, the three restoration metrics show no discernable household income-related pattern (Figures 11.10 through 11.12).

Figures 11.13 through 11.16 provide long-term trend lines covering the period under Frontier ownership, April 2016 through December 2019. And, as with AT&T, there is no discernable income-driven pattern with respect to any of the restoration metrics.

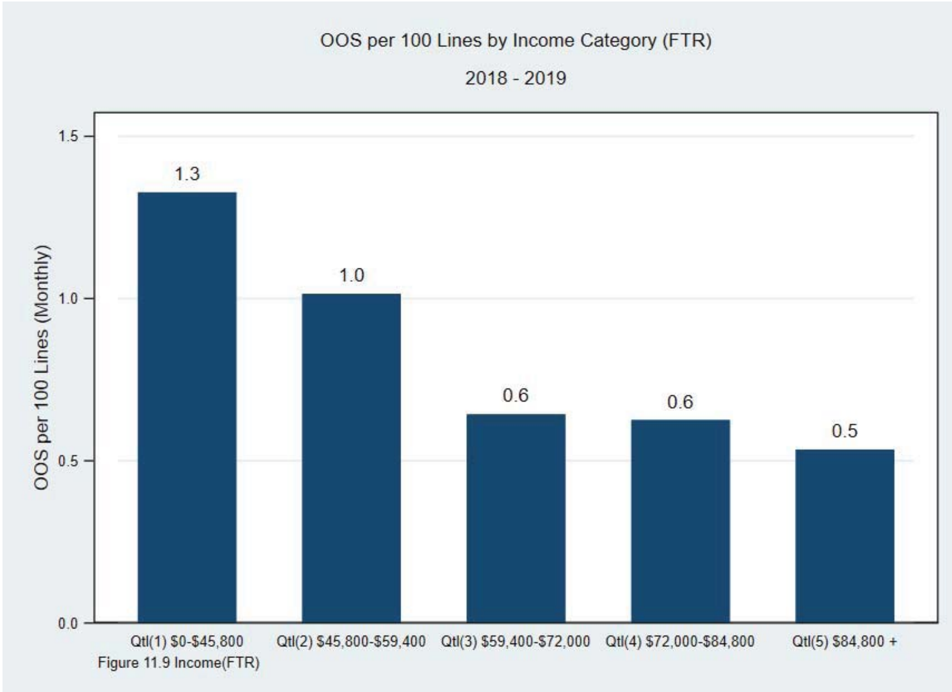


Figure 11.9. Frontier California Service Outages per 100 Access Lines per Month for the Five Median Household Income Quintiles, 2018-2019.

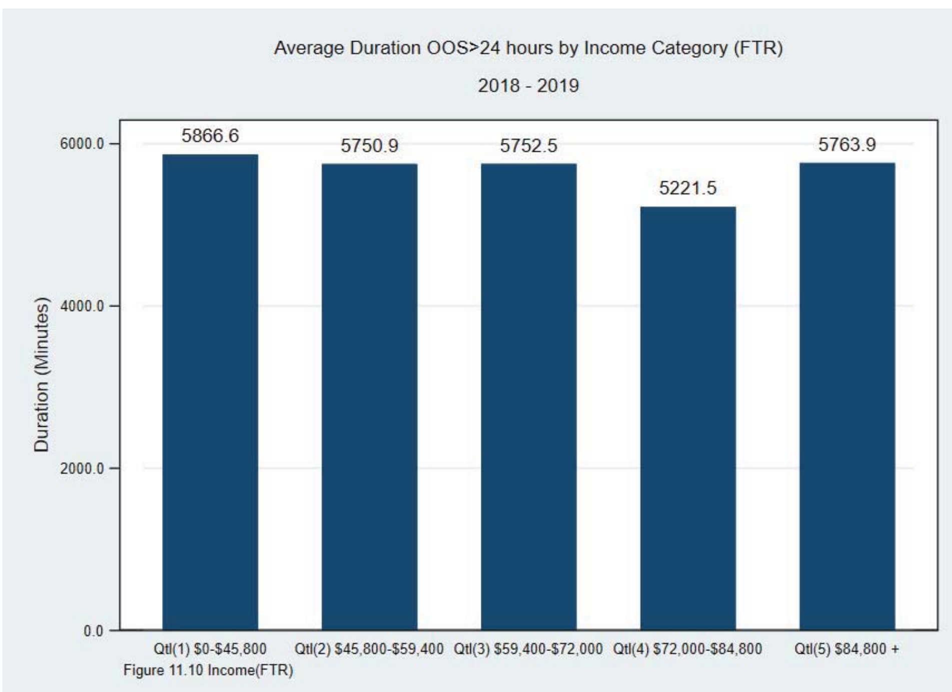


Figure 11.10. Frontier California Percent of Service Outages Restored Within 24 Hours for the Five Median Household Income Quintiles, 2018-2019.

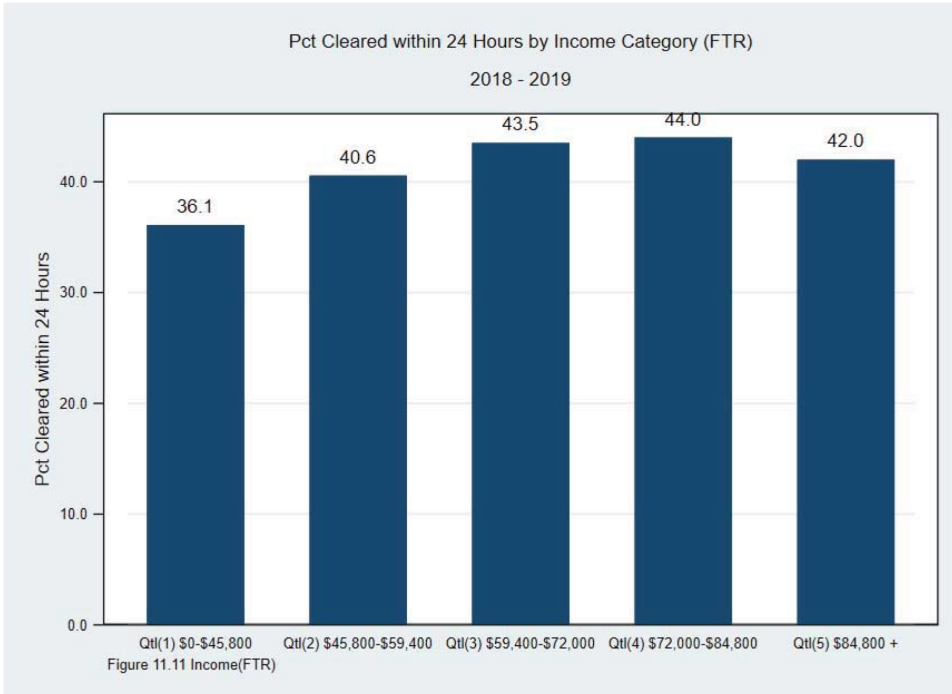


Figure 11.11. Frontier California Average Duration of Service Outages for the Five Median Household Income Quintiles, 2018-2019.

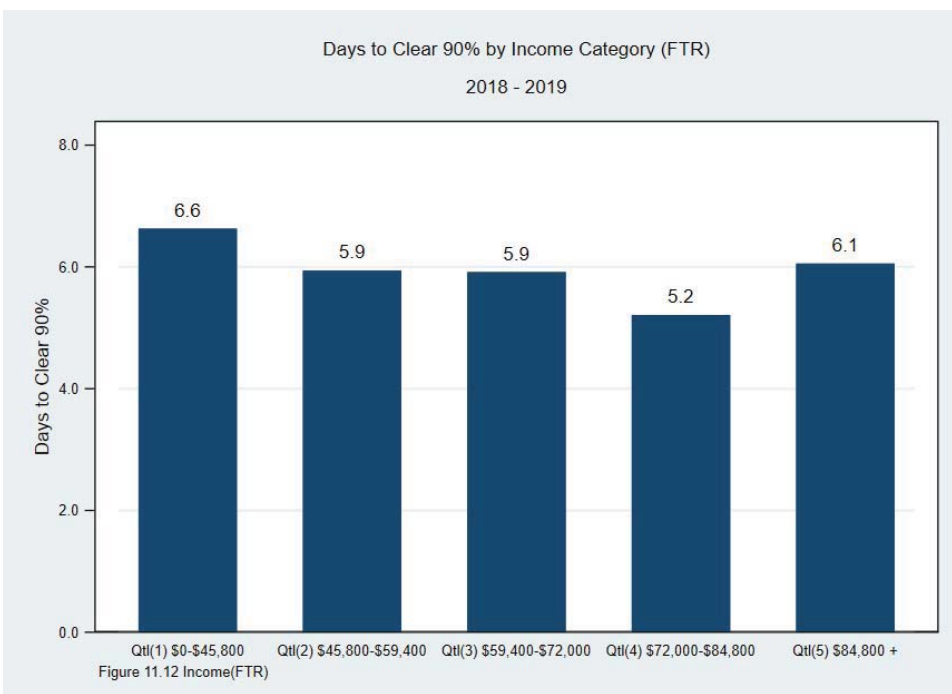
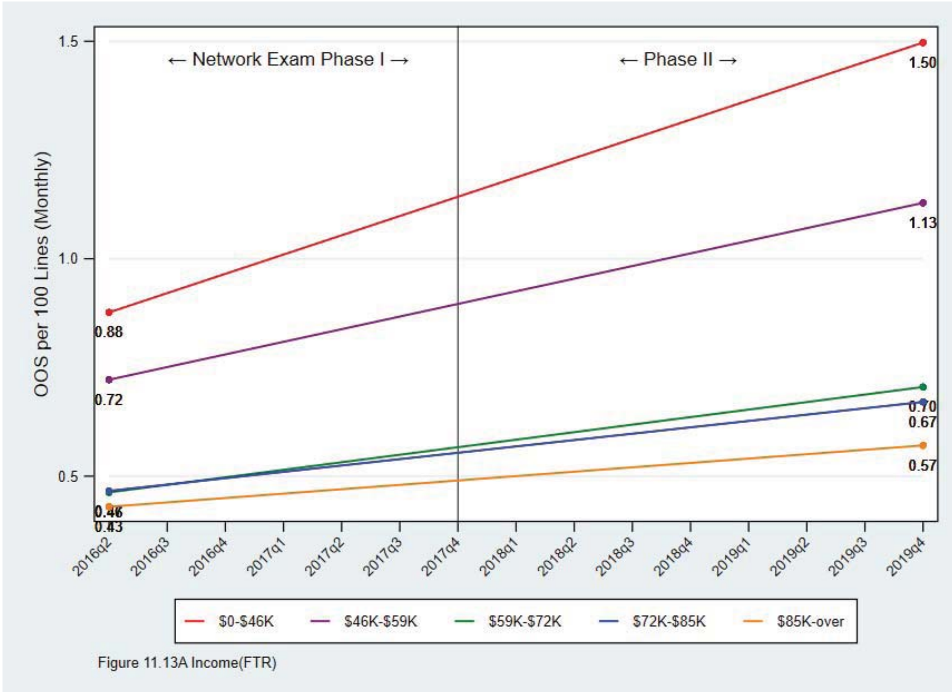


Figure 11.12. Frontier California Average Number of Days Required to Restore 90% of Service Outages for the Five Median Household Income Quintiles, 2018-2019.



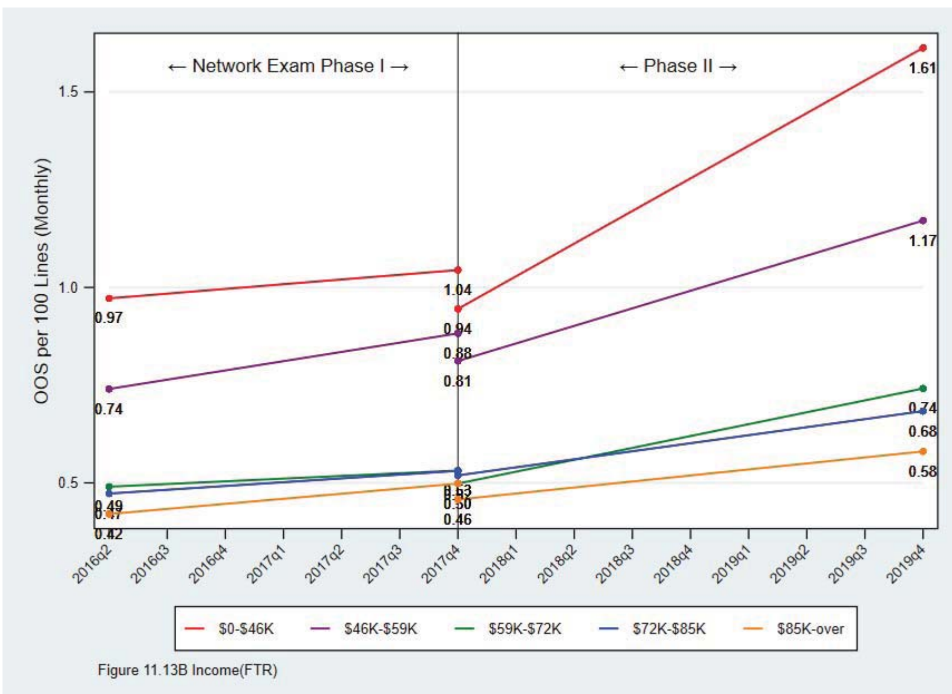
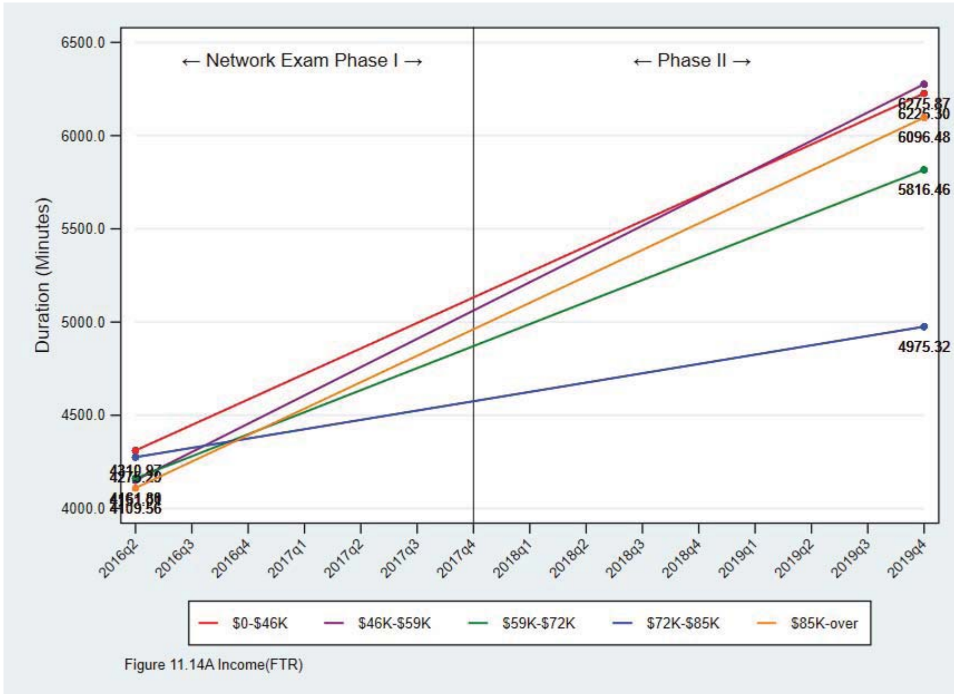


Figure 11.13. Frontier California Service Outages per 100 Access Lines per Month, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.



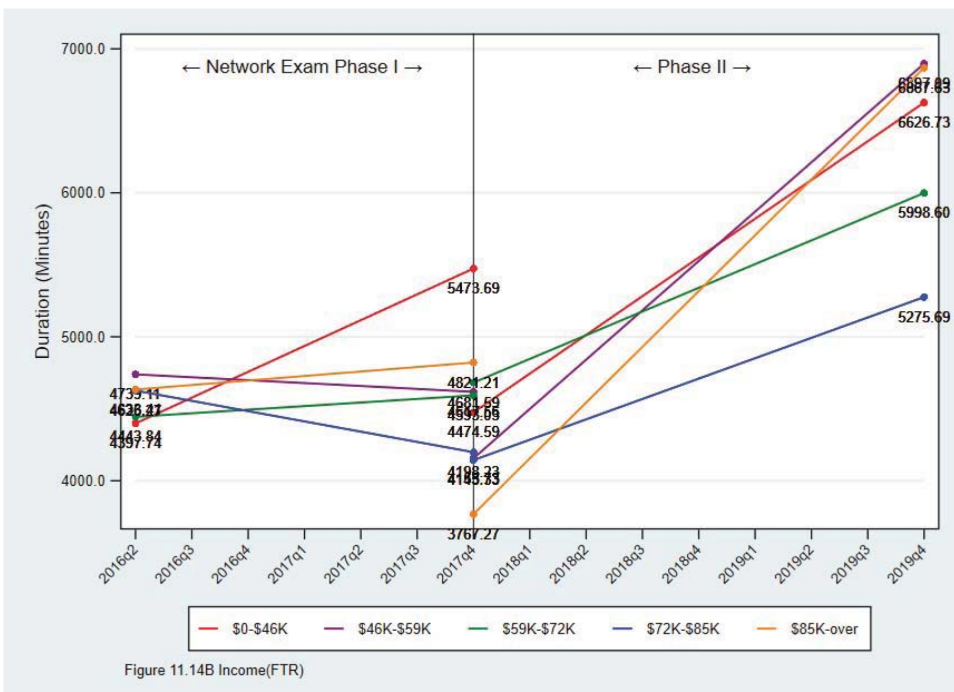


Figure 11.14. Frontier California Average Duration of Service Outages, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

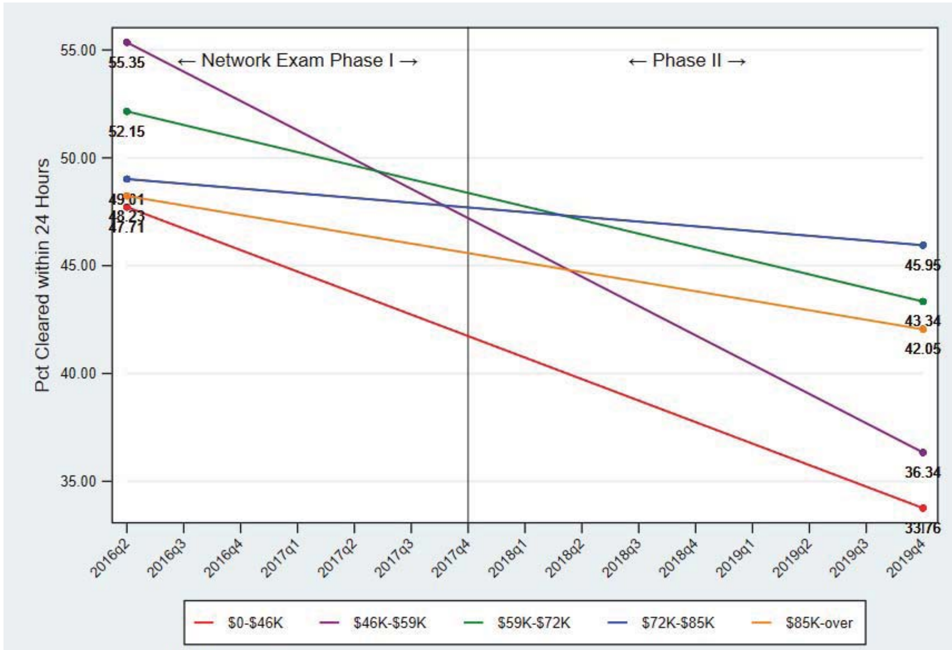


Figure 11.15A Income(FTR)

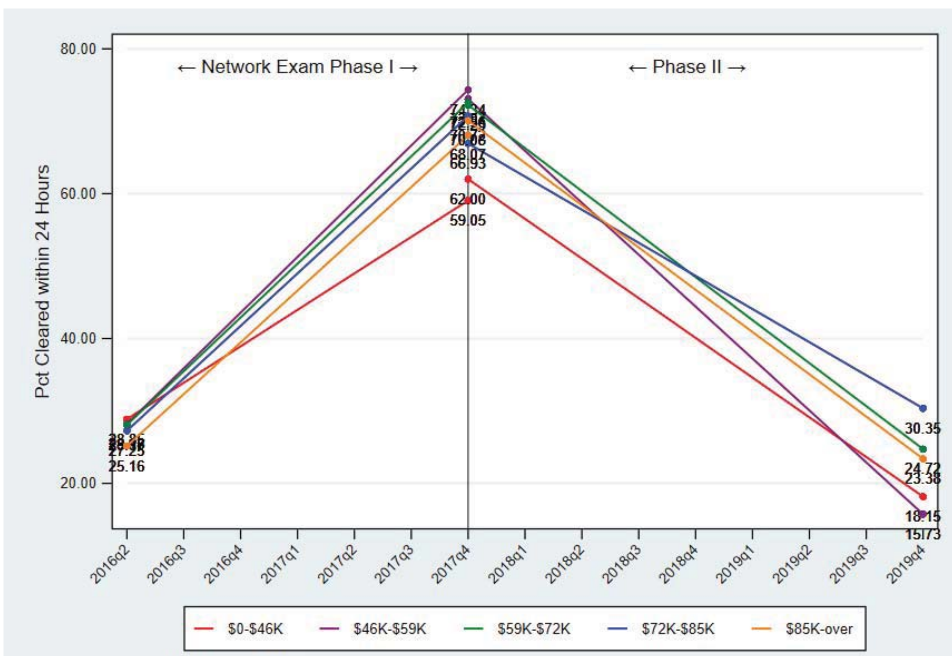


Figure 11.15B Income(FTR)

Figure 11.15. Frontier California Percent of Service Outages Restored Within 24 Hours, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

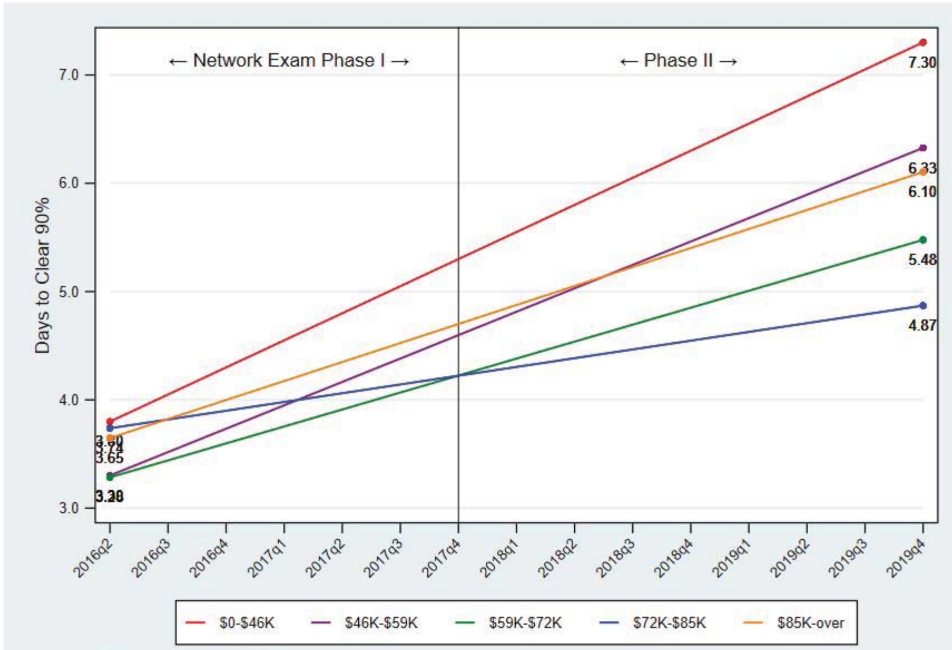


Figure 11.16A Income(FTR)

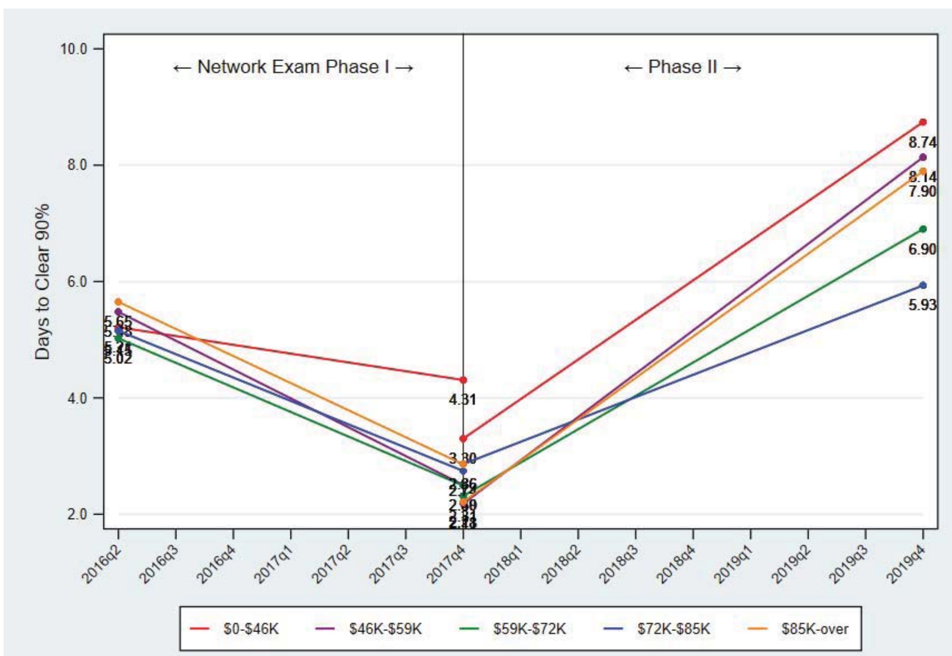


Figure 11.16B Income(FTR)

Figure 11.16. Frontier California Average Number of Days Required to Restore 90% of Service Outages, Long-term trends for the Five Median Household Income Quintiles, 2010-2019.

Racial characteristics of the population being served and service quality

ETI was also tasked with examining whether there is any discernable pattern or relationship between ILEC service quality and the racial characteristics of individual ILEC service areas. To undertake this analysis, we utilized data from the US Census Bureau's 2010 *American Community Survey* ("ACS"), the most current source of this type of information. ACS compiles racial and nationality data at the individual Census Block level, which we aggregated to AT&T and Frontier wire center serving areas as described above. This was necessary because the most granular level of ILEC service quality data that is available is at the wire center level. While we have attempted to compile this information, we caution the Commission as to both its precision and usefulness. Individual wire centers typically serve populations ranging from a few thousand in rural areas to 100,000 or more in urban areas. These serving areas typically embrace a large variety of diverse populations, both residential and nonresidential. Our aggregations necessarily obscure the details of individual communities within a given wire center serving area. In addition, there is likely some correlation between racial and income attributes, which we have not expressly examined or controlled for. Thus, it is possible that the variation in service quality metrics that appear to be linked to race may well be attributable to income differentials.

The ACS utilizes several different demographic population metrics, some of which are based upon race (e.g., "Black" and "Non-White"), whereas others are based upon nationality (e.g., "Hispanic"). Because there may be overlaps as between these two types of population metrics, they cannot be combined. We have prepared several sets of bar graphs corresponding to the ones we prepared for the median household income analysis, which are provided as Figures 11.17 through 11.28 for AT&T, and Figures 11.29 through 11.40 for Frontier.

☞ For both AT&T and Frontier, there is no indication that wire centers that serve relatively higher percentages of Black, Hispanic or Non-White populations exhibit more frequent incidents of service outages; moreover, as with our income analysis, there does not appear to be any observable pattern associated with any of the service restoration metrics for either company.

We have found no consistent relationship between the percentage of minority populations in wire center serving areas and the incidents of service outages or any of the service restoration metrics (see Figures 11.17, 11.21, 11.25, 11.29, 11.33 and 11.37). Also, and as with our income analysis, there does not appear to be any observable pattern associated with any of the service restoration metrics and the extent of minority populations. As these graphs indicate, there is no identifiable or consistent relationship between any of the racial attributes and either the frequency of service outages or the rapidity with which restorations occur, for either of the two ILECs.

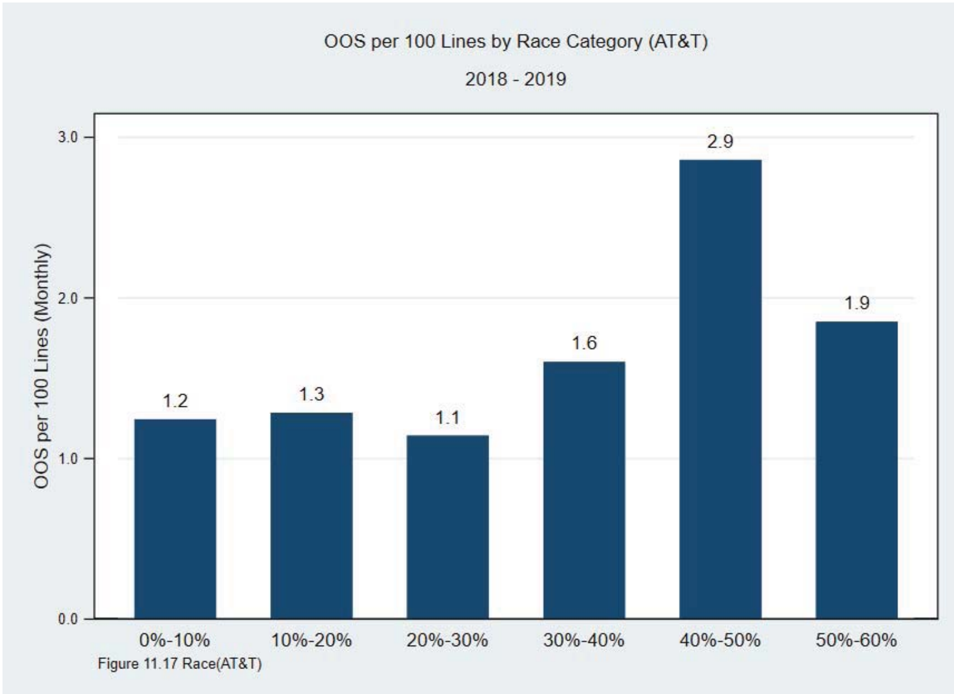


Figure 11.17. AT&T California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Black, 2018-2019.

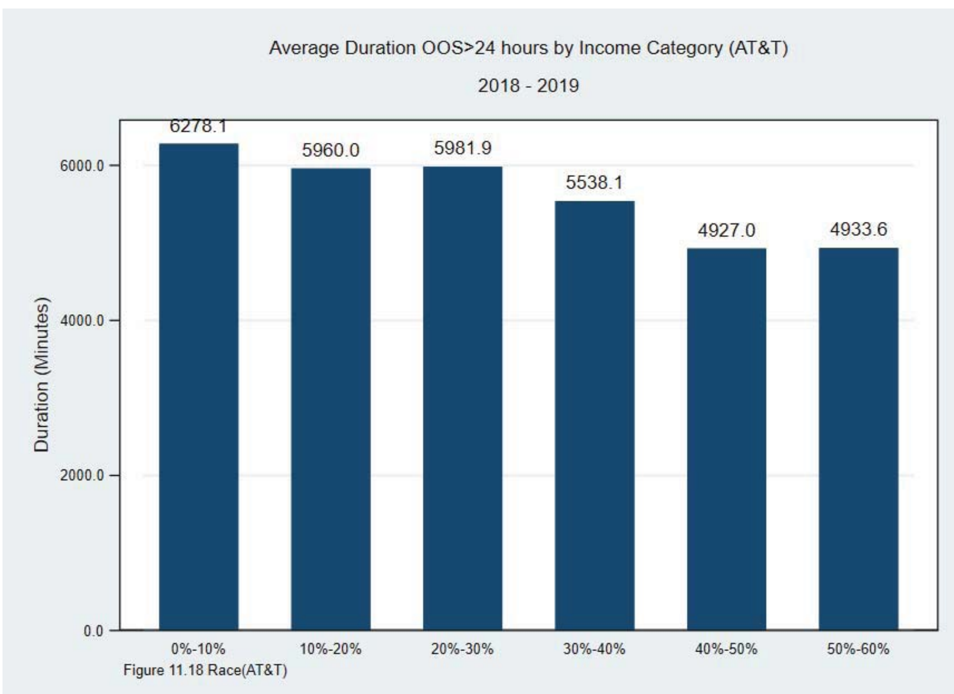


Figure 11.18. AT&T California Average Duration of Service Outages by Racial Population Characteristics – Percent Black, 2018-2019.

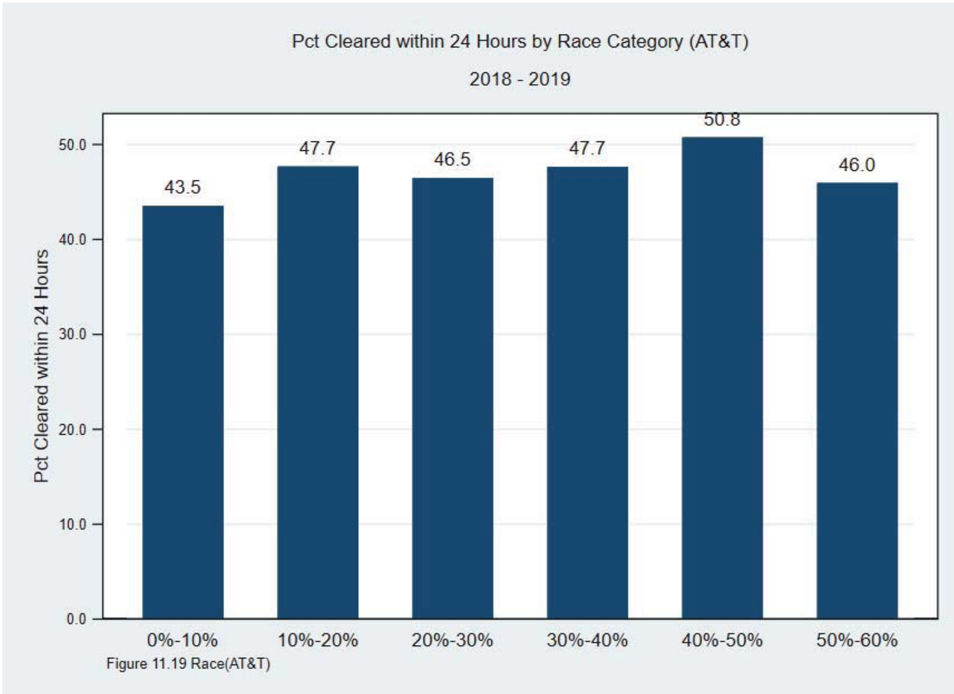


Figure 11.19. AT&T California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Black, 2018-2019.

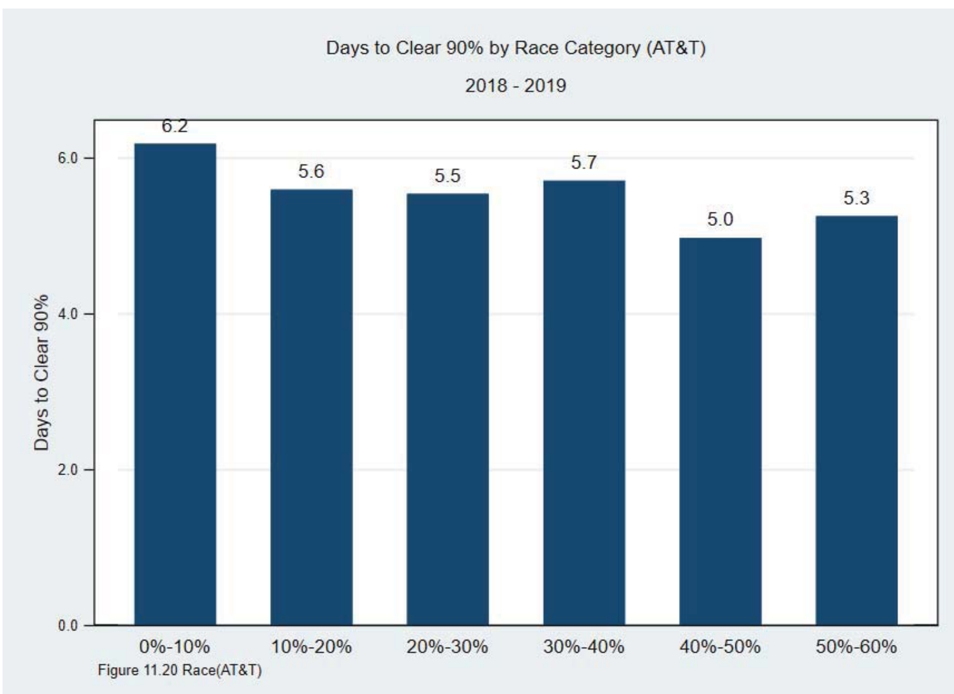


Figure 11.20. AT&T California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Black, 2018-2019.

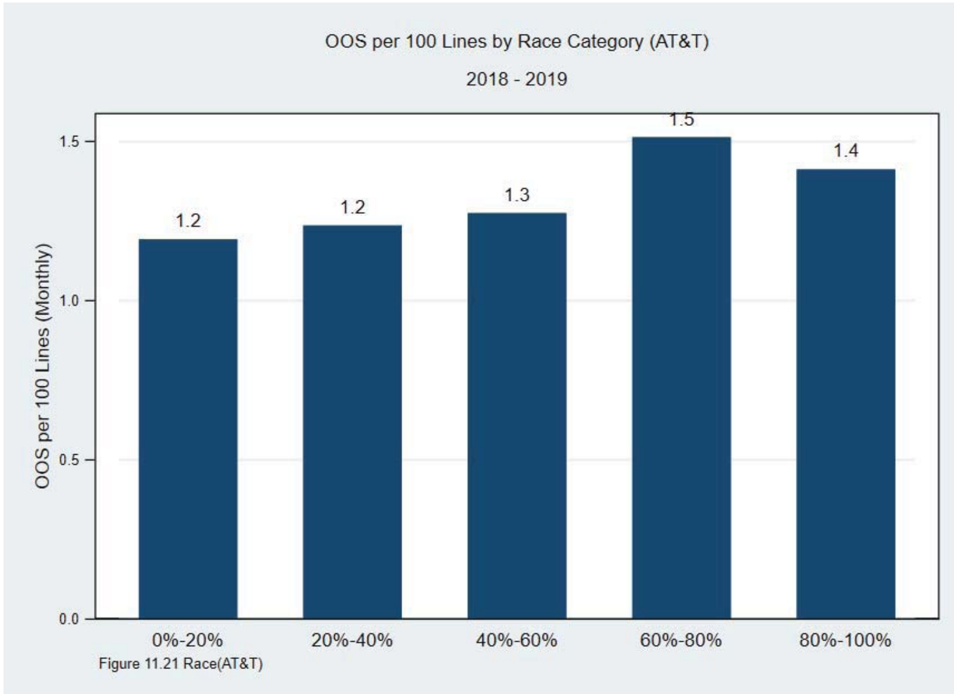


Figure 11.21. AT&T California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Hispanic, 2018-2019.

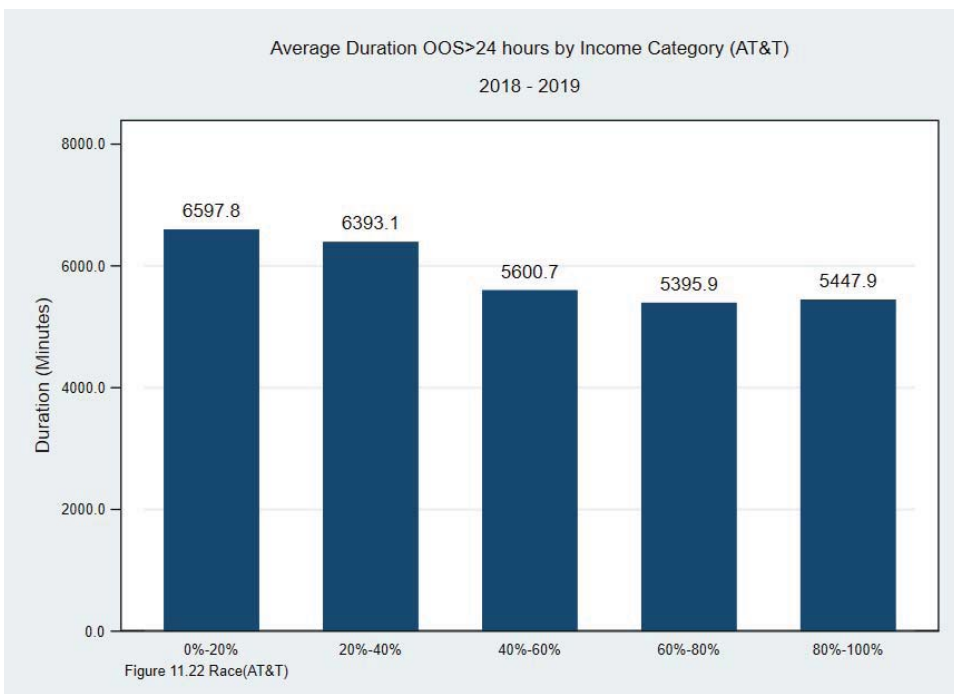


Figure 11.22. AT&T California Average Duration of Service Outages by Racial Population Characteristics – Percent Hispanic, 2018-2019.

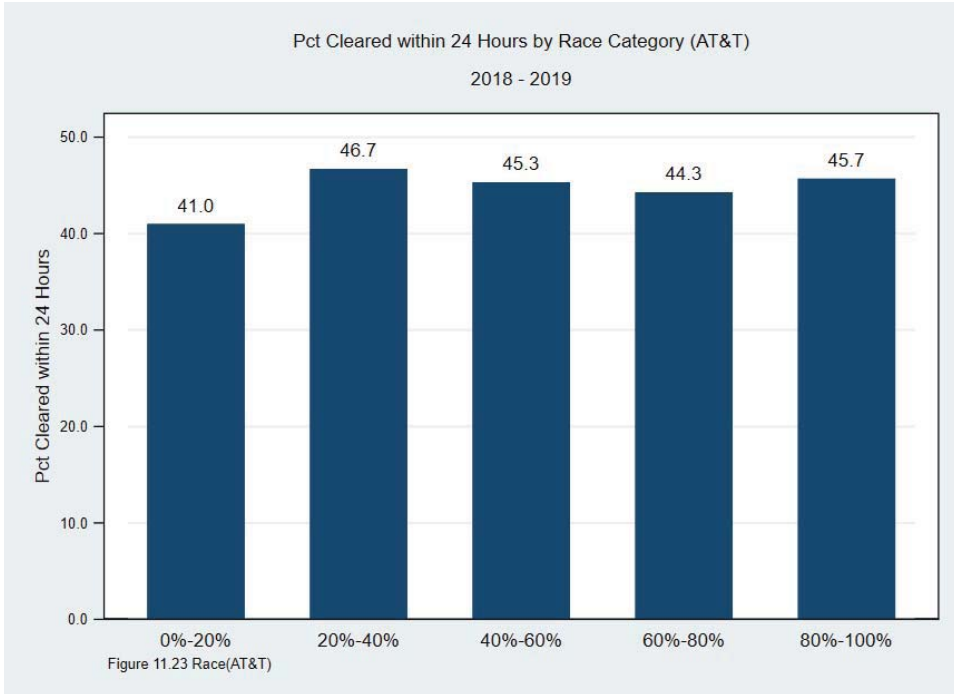


Figure 11.23. AT&T California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Hispanic, 2018-2019.

Figure 11.24. AT&T California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Hispanic, 2018-2019.

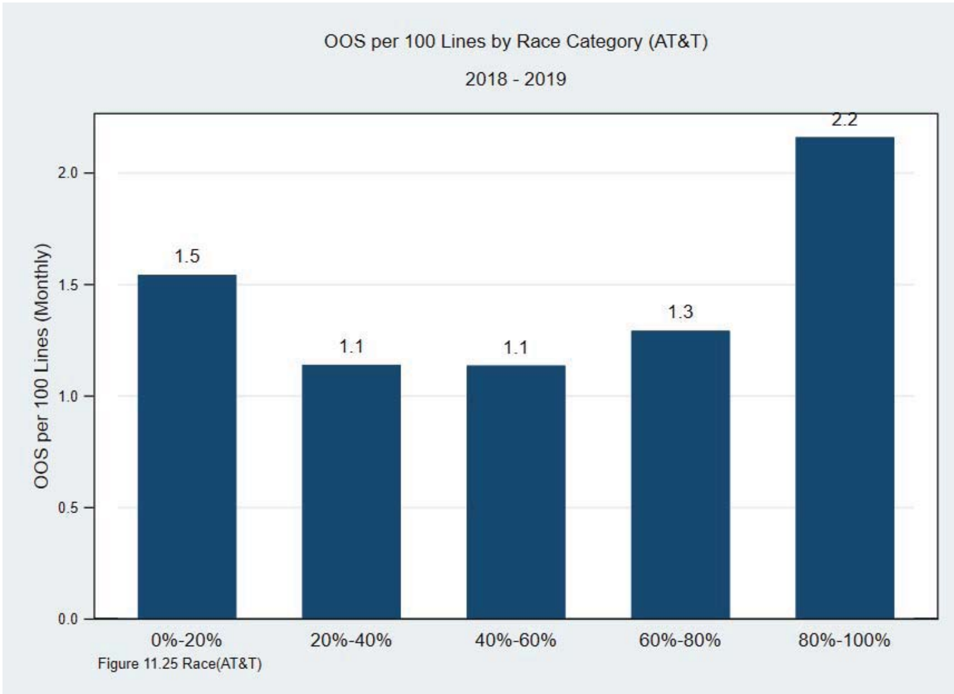


Figure 11.25. AT&T California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Non-White, 2018-2019.

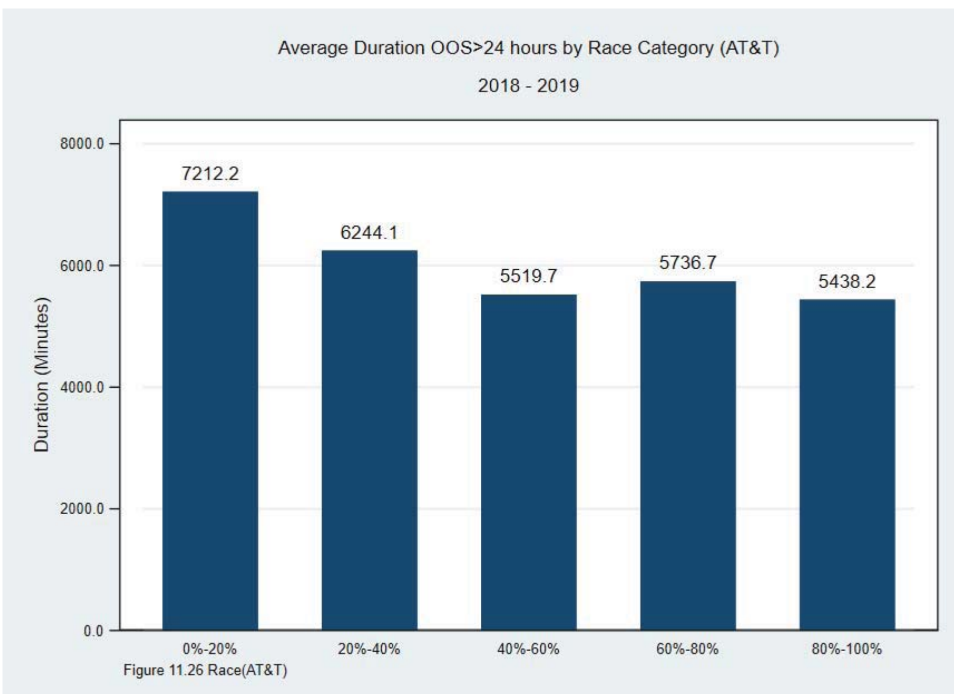


Figure 11.26. AT&T California Average Duration of Service Outages by Racial Population Characteristics – Percent Non-White, 2018-2019.

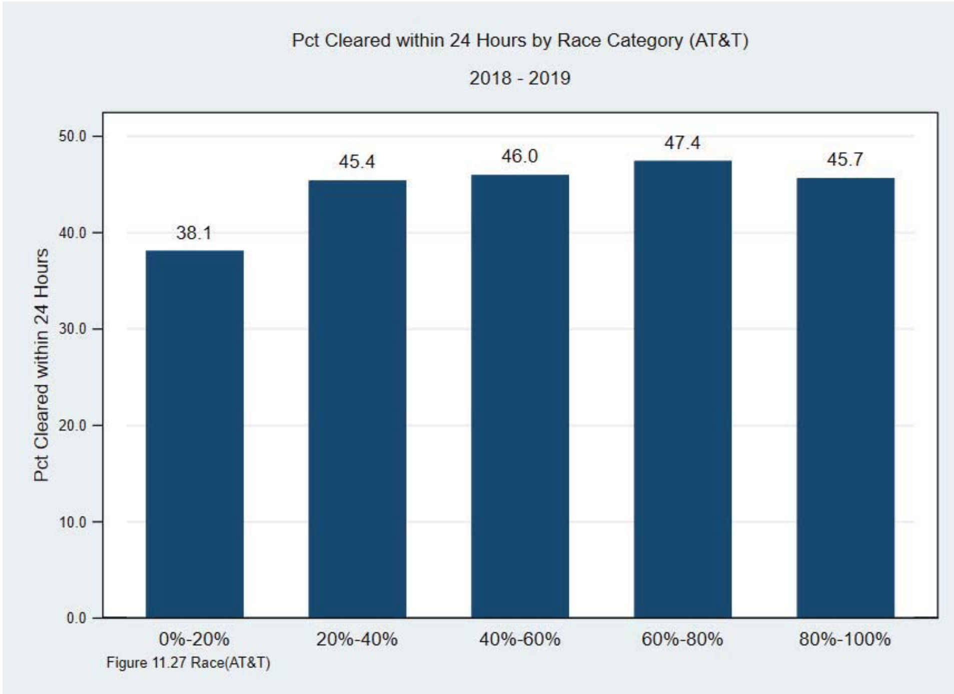


Figure 11.27. AT&T California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Non-White, 2018-2019.

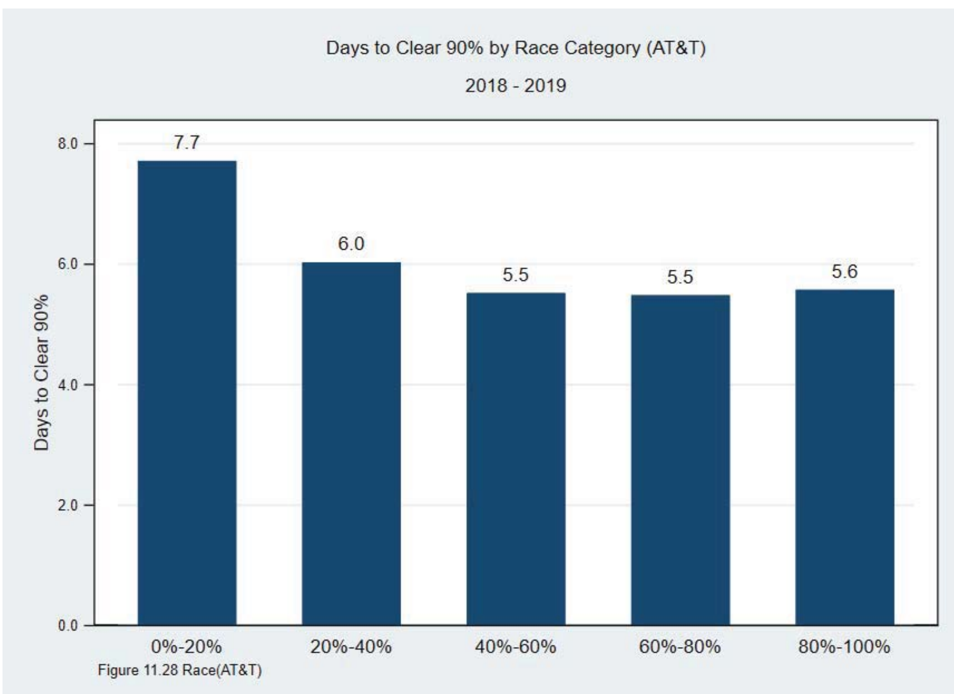


Figure 11.28. AT&T California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Non-White, 2018-2019.

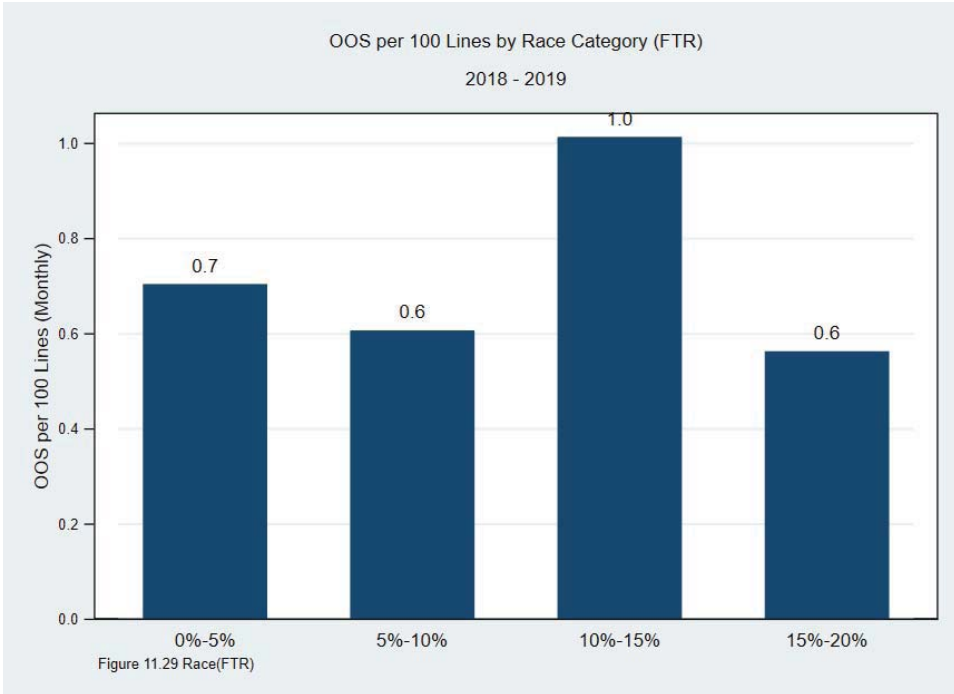


Figure 11.29. Frontier California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Black, 2018-2019.

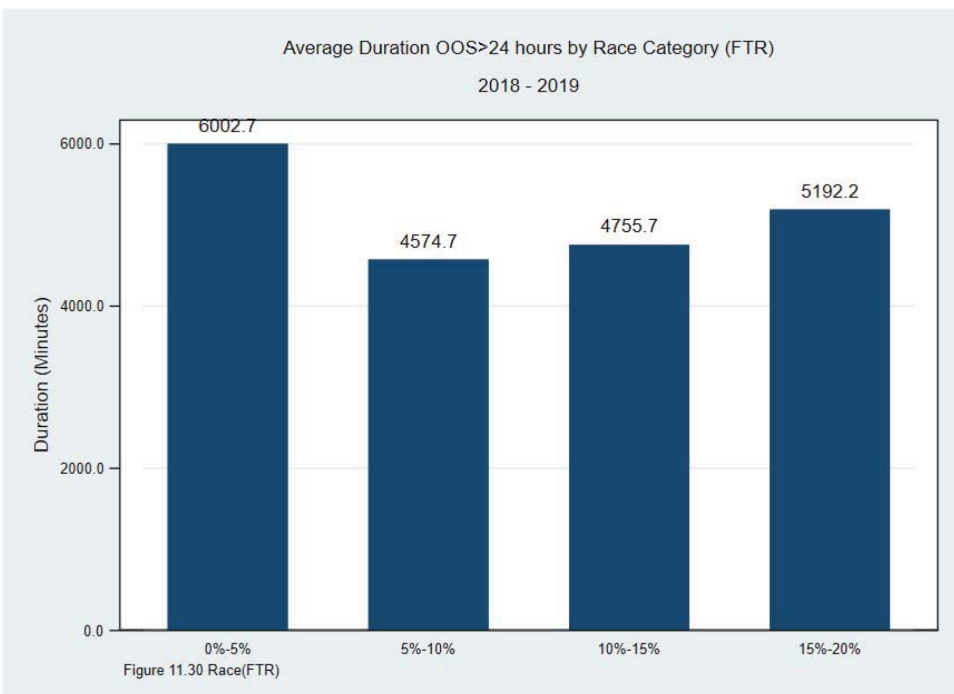


Figure 11.30. Frontier California Average Duration of Service Outages by Racial Population Characteristics – Percent Black, 2018-2019.

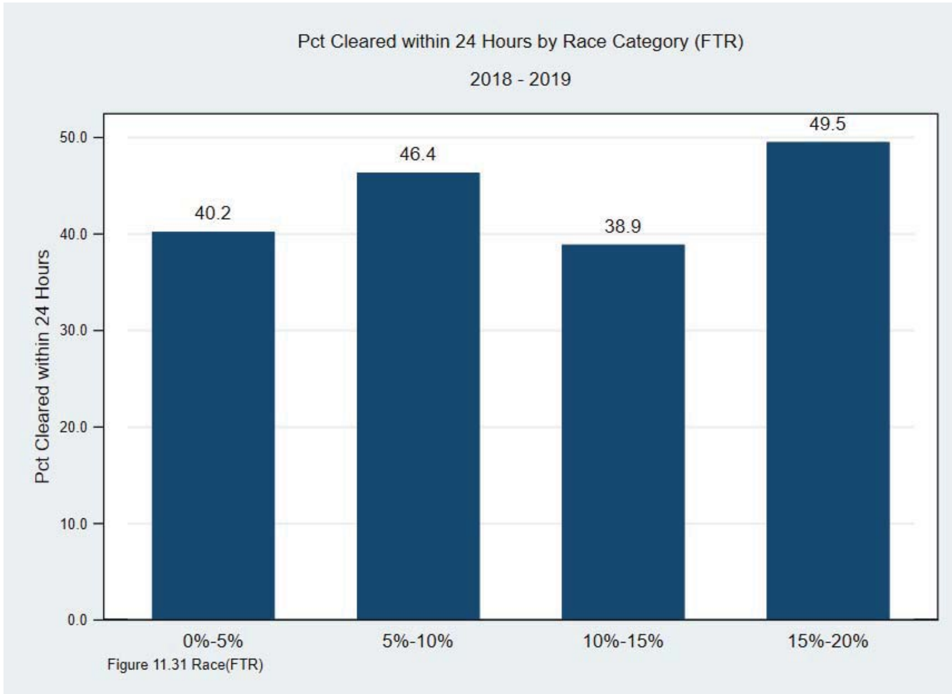


Figure 11.31. Frontier California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Black, 2018-2019.

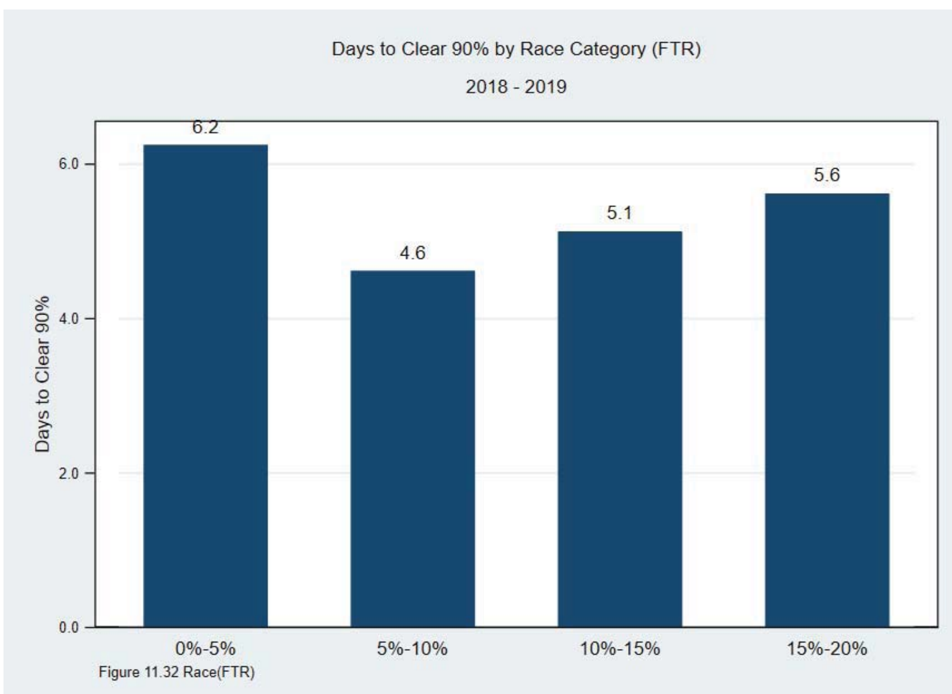


Figure 11.32. Frontier California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Black, 2018-2019.

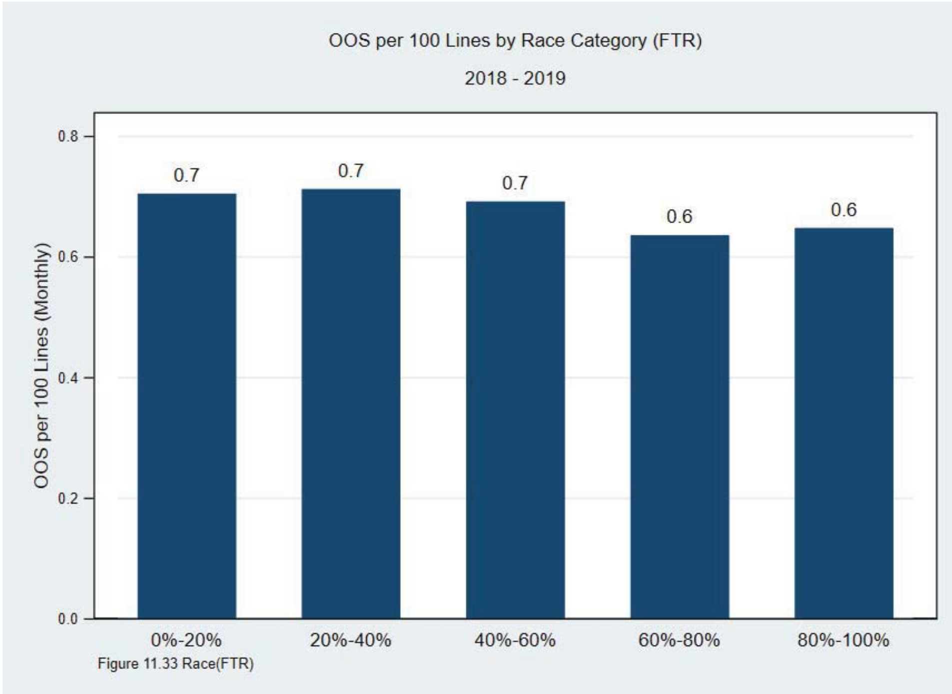


Figure 11.33. Frontier California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Hispanic, 2018-2019.

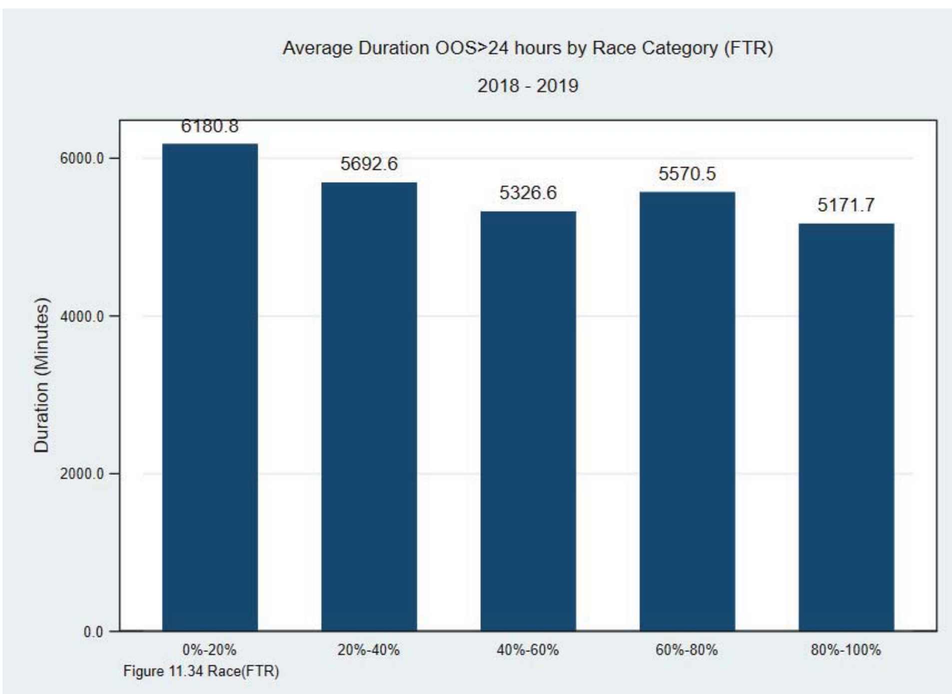


Figure 11.34. Frontier California Average Duration of Service Outages by Racial Population Characteristics – Percent Hispanic, 2018-2019.

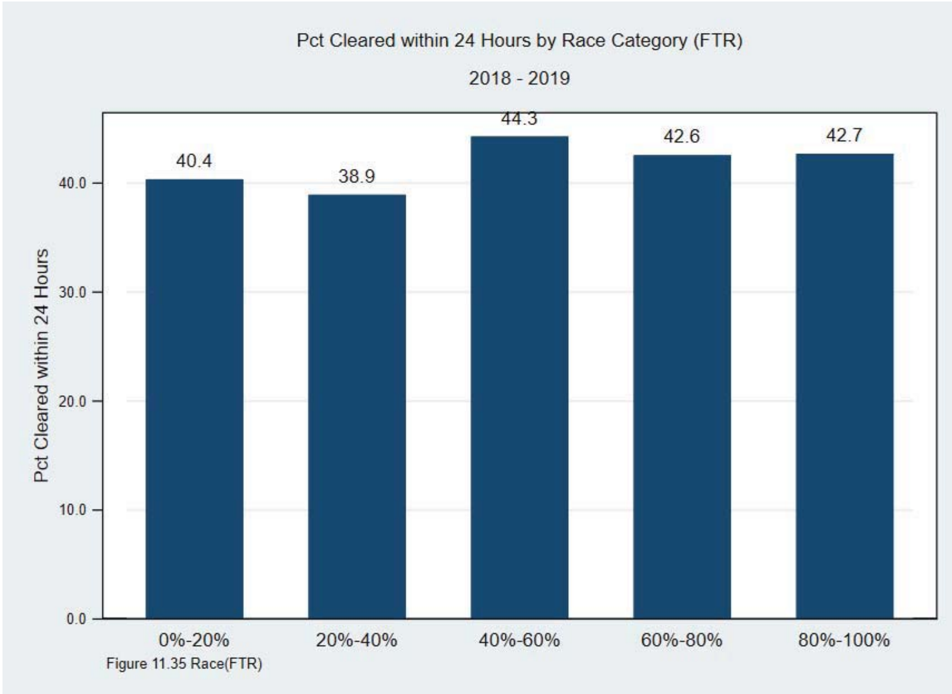


Figure 11.35. Frontier California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Hispanic, 2018-2019.

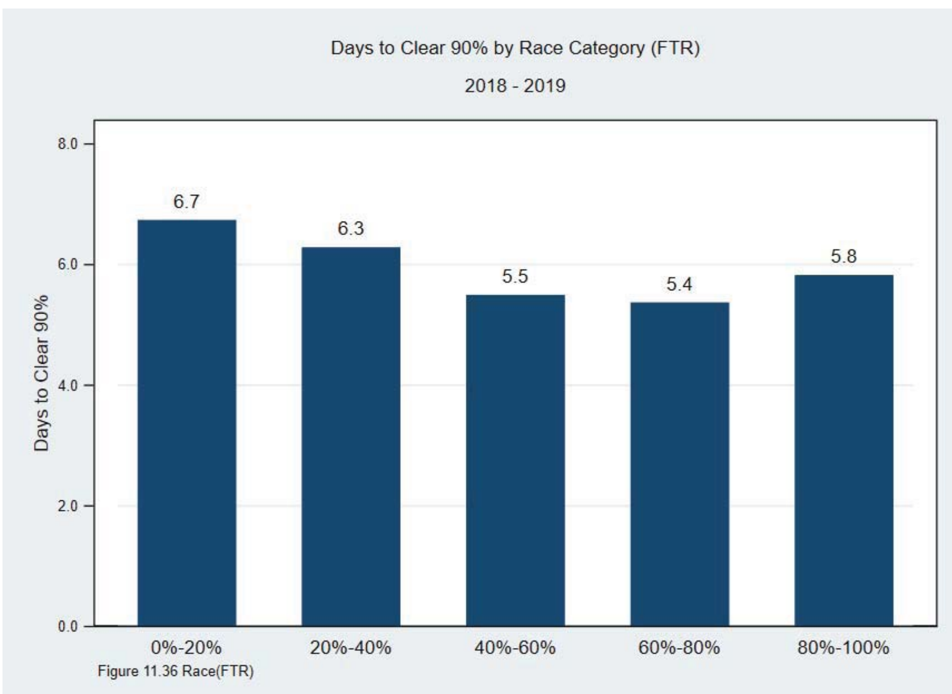


Figure 11.36. Frontier California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Hispanic, 2018-2019.

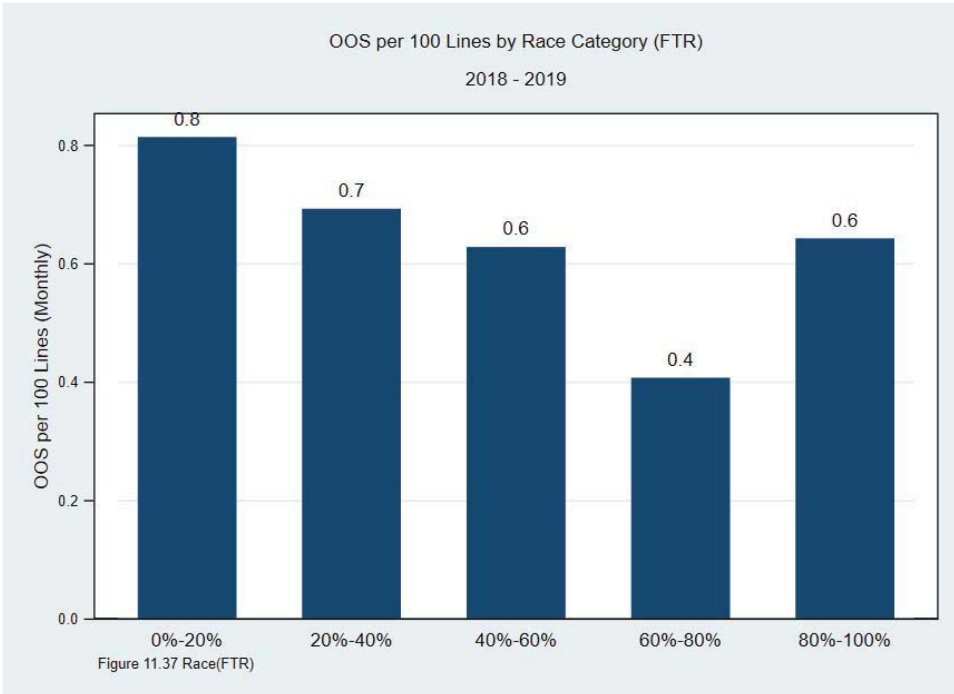


Figure 11.37. Frontier California Service Outages per 100 Access Lines per Month by Racial Population Characteristics – Percent Non-White, 2018-2019.

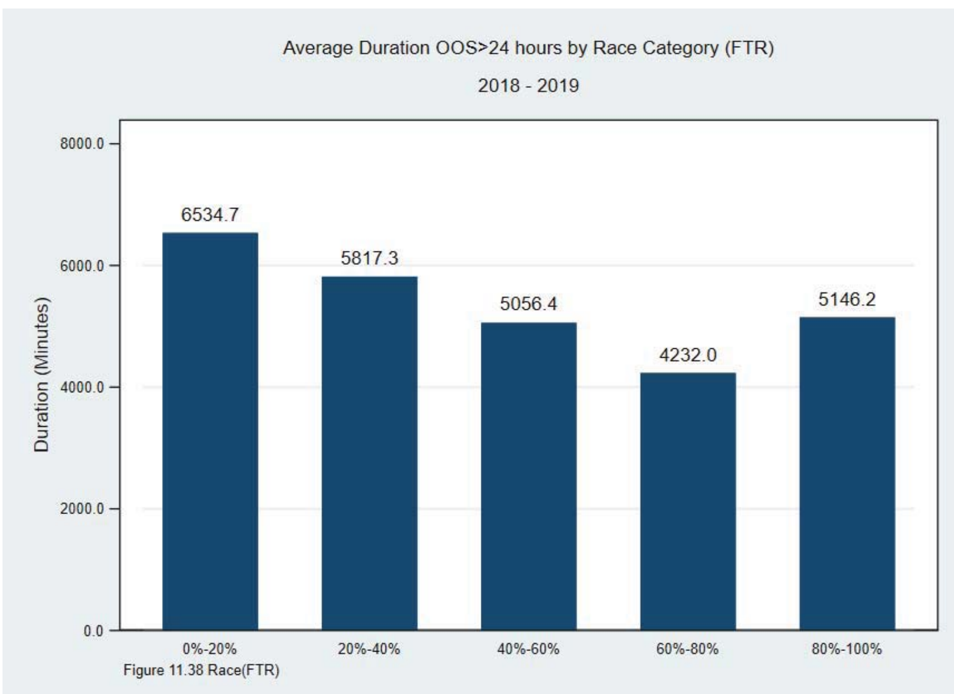


Figure 11.38. Frontier California Average Duration of Service Outages by Racial Population Characteristics – Percent Non-White, 2018-2019.

Figure 11.39. Frontier California Percent of Service Outages Restored Within 24 Hours by Racial Population Characteristics – Percent Non-White, 2018-2019.

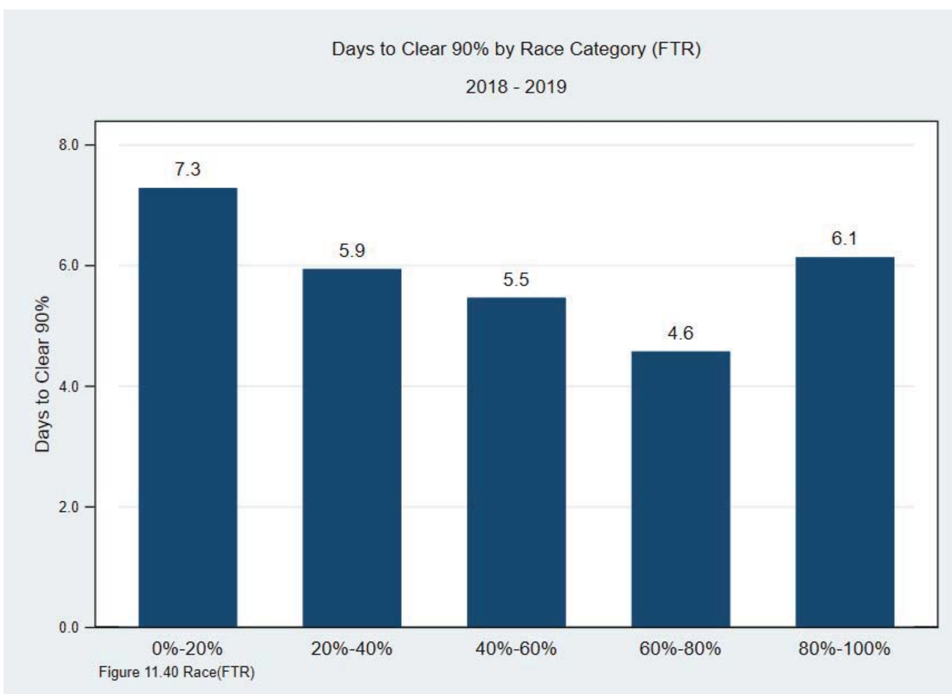


Figure 11.40. Frontier California Average Number of Days Required to Restore 90% of Service Outages by Racial Population Characteristics – Percent Non-White, 2018-2019.

Conclusion

While there is some evidence that both AT&T California and Frontier California may be devoting more attention toward the condition of their central office and distribution plant in higher income and non-minority areas, there is no evidence of any inherent racial bias or redlining, nor is there any indication that higher income or non-minority communities are receiving more favorable treatment with respect to service restorations.

As we have noted, these results are at best an indication that more detailed examination of ILEC service quality performance below the individual wire center level may be warranted. A more granular analysis of this sort is well outside the scope of this Study. We do not consider the results presented here to be conclusive, but at best suggestive of a potential concern that could require more detailed investigation.