## $4 \|^{\text {SERVICE QUALITY ANALYSIS UPDATE: }}$ AT\&T CALIFORNIA

## Principal observations and takeaways

- AT\&T California's performance in 2018-2019 has deteriorated relative to where it had been in the 2010-2017 Phase 1 study period, and its performance with respect to nearly every one of the service quality metrics that we had examined in Phase 1 has deviated further from the Commission's GO 133-D service quality objectives and standards.
- The greatest demand drop-offs for legacy POTS services continues to be experienced in the largest wire centers.
- The trend in average duration of all out-of-service conditions over one hour had been steadily increasing over the Phase 1 study period, and spiked further in 2018-2019. By the end of 2019, it took AT\&T 67\% longer to restore service than it took in 2010.
- Over the 2010-2019 study period, AT\&T's average duration for service outages exceeding 24 hours has increased by roughly $67 \%$.
- During 2018-2019, 55.9\% of the 573,591 out-of-service conditions (38.2\% on an "adjusted" basis) remained uncleared after 24 hours, up from the corresponding 49.6\% / $36.7 \%$ levels during the 2010-2017 period. To satisfy the GO 133-C/D §3.4(c) requirement, these percentages would need to drop to less than $10 \%$.
- On an adjusted basis, the number of days required for AT\&T to clear $90 \%$ of all out-of-service conditions was increasing at a faster rate over the 2018-2019 period than over the longer Phase 1 period. Over the eight years from 2010Q1 through 2017Q4, the number of days required for AT\&T to clear $90 \%$ of service outages increased at an annual rate of $3.37 \%$, from 4.10 days to 5.30 days. Over the next 24 months, from 2017Q4 to 2019Q4, the days to clear $90 \%$ jumped at an annual rate of $13.77 \%$, from 5.30 to 6.86 .
- There continues to be little effective competition for POTS services. If the market were sufficiently competitive, the greatest loss of demand would occur in wire centers exhibiting the poorest service quality. In fact, the greatest drop-off in demand has occurred in wire centers with the best service quality records.
- Performance across most service quality metrics is better in wire centers that have been upgraded with fiber optic distribution facilities, in those serving higher-density urban and suburban communities, in larger wire centers, and in those with the largest losses of customers to competitors. But in almost every category, performance has significantly deteriorated over the 2018-2019 period.
- Wire centers upgraded with fiber to support broadband services achieve better service quality performance scores in every category - but in 2018-2019, service quality in both types of wire centers was decidedly inferior to what had been achieved during the Phase 1 2010-2017 period. Based upon Phase 2 trend lines, AT\&T needed only 1.15 days to clear $90 \%$ of service outages in wire centers with fiber optic facilities as of the end of 2019; for non-upgraded wire centers, it took 2.43 days to clear $90 \%$. The corresponding figures as of the end of Phase 1 (4Q2017) were 1.10 and 1.86.
- The strong relationship between the number of POTS lines in a wire center and the quality of service provided has persisted into the 2018-2019 period, with the number and the rate of increase in OOS per 100 POTS lines continuing to be lowest in the very largest (over 20,000 lines) wire centers. However, service quality has deteriorated in all line-size categories since 2017.
- Wire centers that had experienced the lowest rate of POTS line losses - less than $50 \%$ over the study period - saw the largest increase in service outages; for those with successively larger line loss percentages, the incidence of service outages increased more slowly or remained almost constant over the study period. But performance in nearly all of the service quality metrics we studied deteriorated after 2017.
- Except in areas with the highest population density, AT\&T's response to out-of-service conditions has generally deteriorated over the study period. That deterioration appears to have accelerated for all population density categories in the 2018-2019 period.
- Of the five AT\&T maintenance (AFO) districts, LA/Bakersfield and San Gabriel had shown significant improvements in most OOS metrics during the Phase 1 study period. However, even those improvements appear to have largely reversed in 2018-2019.
- Since the bulk of AT\&T's investments in its ILEC network have been aimed at upgrades that support broadband services, the AFO Districts with the smallest percentage of such upgrades have continued to experience substantial degradations in service quality into the 2018-2019 period. This result further underscores the pressing need for infrastructure investment irrespective of AT\&T's pursuit of the broadband market.


## SERVICE QUALITY ANALYSIS UPDATE: <br> AT\&T CALIFORNIA

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## Phase 2 2018-2019 update to the AT\&T California Service Quality analysis

This chapter updates Chapter 4A in our Phase 1 Report to include AT\&T California trouble report records for 2018-2019 that have been submitted by the company as required pursuant to GO 133-D. As we discuss in detail below, this updated analysis indicates that, in general, AT\&T California's performance in 2018-2019 has deteriorated relative to where it had been in the 20102017 Phase 1 study period. The company's performance with respect to nearly every one of the service quality metrics that we had examined in Phase 1 has deviated further from the Commission's GO 133-D service quality objectives and standards. AT\&T California continued to account for a successively smaller portion of its parent company's operations, a fact that appears to be fully reflected in the low priority that AT\&T California has been receiving both with respect to capital investment and senior management attention over the past several years.


## Access line demand continues to plummet

In the first part of this Chapter 4, we updated the California statewide ILEC demand over the 2008-2018 period based upon published and publicly available FCC data. The GO 133-C/D data routinely submitted by AT\&T California to the CPUC indicates that AT\&T's legacy circuitswitched POTS access line demand drop-off rate is similar to the industry-wide results for California being compiled by the FCC. This downward trend persisted into 2018 and 2019. In the two years from December 2017 to December 2019, the company lost 565,537 POTS access lines, going from 2,245,171 in December 2017 to 1,679,638 in December 2019. For the entire 10-year period from January 2010 through December 2019, total AT\&T California POTS access lines in service experienced a $79.1 \%$ decrease, dropping from 8,035,134 in January 2010 to 1,679,638 in December 2019. The calculated long-term trend in total out-of-service incidents dropped from 322,075 in the first quarter of 2010 to 68,409 in the fourth quarter of 2019, a similar decrease of $78.76 \%$. Figure 4A. 1 plots AT\&T California access lines in service and out-of-service incidents over the full 2010-19 period. Every AT\&T California wire center continued to experience further erosion in POTS demand, but the drop-off rate for individual wire centers was highly variable. The largest drop was $96.56 \%$ in the Paradise Main wire center, which had 12,039 lines in service as of January 2010 but only 414 by the end of 2019. As shown in Table 4A.1, the greatest demand drop-offs generally occurred in the largest wire centers.

Table 4A． 1

DROP－OFF IN POTS DEMAND AT WIRE CENTERS OF VARYING SIZES JANUARY 2010 －DECEMBER 2019

| Wire Center Size | No．of Wire Centers | Total lines Jan 2010 | Total lines Dec 2017 | Total lines Dec 2019 | \％change <br> 2010－2019 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Small（＜1000 lines） | 90 | 43，326 | 19，710 | 16，396 | －62．16\％ |
| Medium（1000－3000） | 109 | 202，041 | 70，494 | 54，785 | －72．88\％ |
| Large（＞3000－10000） | 140 | 802，097 | 237，004 | 180，073 | －77．55\％ |
| Large Urban（10000－20000） | 205 | 1，532，574 | 429，100 | 320，440 | －79．09\％ |
| Large Metro（＞20000） | 168 | 5，445，451 | 1，488，863 | 1，107，849 | －79．66\％ |
| TOTAL | 612 | 8，035，134 | 2，245，171 | 1，679，543 | －79．10\％ |
| NOTE．Size categorization per GO 133－C／D size ranges are based on POTS lines in service as of January 1， 2010. |  |  |  |  |  |

Figure 4A． 1 below compares the decrease in AT\＆T California＇s POTS lines in service with the fitted trend of total OOS incidents over the 2010－2019 period．As shown，the relative decreases have in aggregate been similar，although there has been a small increase in the relative incidence of OOS conditions．

The greatest demand drop－offs for legacy POTS services continues to be experienced in the largest wire centers．

From January 2010 through December 2019，total AT\＆T California POTS access lines in service experienced a $79.1 \%$ decrease，dropping from 8，035，134 in January 2010 to 1，679，543 in December 2019.

The continuing erosion in POTS demand occurred in every AT\＆T California wire center over the 2018－2019 Phase 2 study period．


Figure 4A.1. The decrease in the number of AT\&T California out-of-service Incidents has roughly corresponded with the drop-off in access lines in service over the 2010-2019 period.

## Trouble Reports and POTS Lines in Service - a more granular perspective

Viewed at the individual wire center level, the ratio of out-of-service conditions to total POTS lines has varied both from month-to-month and as a long-term trend over time. Focusing specifically upon out-of-service conditions not cleared within 24 hours, some wire centers have experienced significant increases in the incidence of this condition, while others have seen improvements. The following tables summarize the most recent two years' (2018-19) experience with respect to four service quality metrics. Each table provides the 20 wire centers with the worst and the 10 wire centers with the best performance with respect to each of these four metrics. Table 4A. 2 presents the percentages of out-of-service conditions not cleared within 24 hours (expressed on a per 100 POTS lines per month basis). Table 4A. 3 provides the average out-of-service durations. Table 4A. 4 provides the percentages of out-of-service incidents cleared within 24 hours. Table 4A. 5 provides the number of days to clear $90 \%$ of out-of-service conditions. Finally, Table 4A. 6 provides these data elements for all AT\&T wire centers sorted alphabetically.

| Table 4A. 2AT\&T CALIFORNIAOUT-OF-SERVICE OVER 24 HOURS' DURATION PER 100 POTS LINES IN SERVICE20 POOREST PERFORMING AND 10 BEST PERFORMING WIRE CENTERS$2018-2019$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | $\begin{aligned} & \text { Access } \\ & \text { Lines } \\ & \text { (avg for } \\ & \text { Qtr) } \end{aligned}$ | OOS per 100 ALs per month | $\begin{gathered} \text { OOS }>24 \\ \text { per } 100 \\ \text { ALs per } \\ \text { month } \end{gathered}$ | $\begin{aligned} & \text { Cleared } \\ & \text { win } 24 \\ & \text { hours } \\ & \text { (unadj) } \end{aligned}$ |  | \# days to clear 90\% OOS (unadj) | \# days to clear 90\% OOS (adj) | Avg OOS Duratn (mins) | $\begin{gathered} \text { AVG } \\ \text { CPUC } \\ \text { oos } \\ \text { Duratn } \\ \text { (mins) } \end{gathered}$ | oos | OOS >1 hour | OOS $>24$ Hours | OOS $>1$ week | CPUC OOS > 1 hour | CPUC OOS > 24 hours | $\begin{aligned} & \text { CPUC } \\ & \text { oos }>1 \\ & \text { Week } \end{aligned}$ |
| 20 POOREST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FRENCH GULCH | 530455 | FRGLCA11 | 85 | 4.74 | 4.06 | 14.4\% | 13.4\% | 77.9 | 63.2 | 26999 | 25667 | 97 | 94 | 83 | 47 | 63 | 57 | 30 |
| SHASTA LAKE | 530503 | SHLKCA01 | 342 | 5.53 | 3.74 | 32.4\% | 41.5\% | 11.0 | 6.8 | 6034 | 3590 | 454 | 444 | 307 | 90 | 207 | 128 | 31 |
| SHOSHONE | 760796 | SHSHCA11 | 132 | 4.14 | 3.70 | 10.7\% | 11.6\% | 18.7 | 15.8 | 16171 | 15977 | 131 | 130 | 117 | 61 | 77 | 69 | 35 |
| COULTERVILLE | 209161 | CTVLCA11 | 660 | 4.88 | 3.63 | 25.7\% | 37.4\% | 13.1 | 10.0 | 6862 | 4780 | 774 | 756 | 575 | 169 | 386 | 255 | 64 |
| ALLEGHANEY | 530425 | ALGHCA11 | 48 | 4.34 | 3.56 | 18.0\% | 18.4\% | 7.3 | 9.1 | 5138 | 4952 | 50 | 47 | 41 | 9 | 29 | 26 | 4 |
| BURRELL | 559242 | BURLCA11 | 89 | 4.73 | 3.51 | 25.7\% | 26.2\% | 5.2 | 4.7 | 3624 | 3141 | 101 | 100 | 75 | 7 | 75 | 56 | 4 |
| OROVILLE EAST | 530485 | ORVLCA12 | 1526 | 4.61 | 3.47 | 24.7\% | 32.4\% | 7.4 | 5.8 | 5200 | 4179 | 1690 | 1653 | 1272 | 300 | 849 | 589 | 91 |
| LATON | 559186 | LATNCA11 | 186 | 4.69 | 3.41 | 27.3\% | 26.3\% | 6.5 | 5.6 | 3601 | 3281 | 209 | 208 | 152 | 20 | 158 | 118 | 12 |
| TERRA bella | 559226 | TRBLCA11 | 413 | 4.61 | 3.22 | 30.2\% | 31.5\% | 5.7 | 4.8 | 3930 | 3486 | 457 | 434 | 319 | 42 | 359 | 261 | 22 |
| THREE RIVERS | 559228 | THRRCA11 | 595 | 4.80 | 3.13 | 34.7\% | 38.7\% | 4.5 | 4.3 | 3252 | 3397 | 685 | 665 | 447 | 30 | 251 | 164 | 13 |
| BIG SUR | 831101 | BGSRCA11 | 392 | 3.74 | 3.11 | 16.8\% | 17.7\% | 5.8 | 4.2 | 4449 | 3511 | 352 | 343 | 293 | 36 | 248 | 211 | 19 |
| BRIDGEVILLE | 707281 | BGVLCA11 | 173 | 4.37 | 2.94 | 32.6\% | 42.4\% | 4.6 | 3.3 | 3078 | 2722 | 181 | 178 | 122 | 10 | 66 | 38 | 1 |
| WALKER BASIN | 661401 | WLBSCA11 | 457 | 3.85 | 2.94 | 23.7\% | 28.7\% | 5.4 | 4.8 | 3815 | 3059 | 422 | 410 | 322 | 31 | 217 | 164 | 7 |
| BANGOR | 530430 | BNGRCA11 | 336 | 3.78 | 2.90 | 23.3\% | 28.3\% | 11.3 | 9.7 | 5919 | 5399 | 305 | 297 | 234 | 65 | 128 | 98 | 23 |
| COTTONWOOD | 530441 | CTWDCA11 | 2148 | 4.17 | 2.90 | 30.4\% | 32.1\% | 10.8 | 9.2 | 6043 | 5037 | 2149 | 2091 | 1495 | 541 | 1350 | 948 | 276 |
| ELK CREEK | 530448 | EKCKCA11 | 100 | 3.66 | 2.87 | 21.6\% | 21.7\% | 8.1 | 6.1 | 5305 | 4081 | 88 | 85 | 69 | 21 | 45 | 36 | 6 |
| POTTER VALLEY | 707316 | PTVYCA11 | 532 | 3.68 | 2.87 | 22.1\% | 24.8\% | 13.3 | 11.0 | 7839 | 6198 | 470 | 461 | 366 | 148 | 356 | 275 | 88 |
| TIPTON | 559229 | TPTNCA11 | 201 | 3.93 | 2.79 | 28.9\% | 28.4\% | 6.8 | 5.8 | 4380 | 3958 | 190 | 190 | 135 | 31 | 162 | 116 | 17 |
| WOODLAKE | 559239 | WDLKCA11 | 543 | 4.10 | 2.75 | 33.1\% | 35.5\% | 5.1 | 4.2 | 3480 | 3055 | 535 | 524 | 358 | 37 | 392 | 261 | 15 |
| NIAGARA | 530490 | PLVLCA12 | 2250 | 3.60 | 2.73 | 24.2\% | 29.0\% | 14.3 | 11.2 | 8389 | 6661 | 1942 | 1901 | 1472 | 656 | 1169 | 854 | 282 |
| 10 BEST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FOLSOM NIMBUS | 916453 | FLSMCA12 | 1876 | 0.47 | 0.19 | 59.4\% | 61.9\% | 4.8 | 4.0 | 2560 | 2215 | 212 | 202 | 86 | 16 | 172 | 69 | 10 |
| SPECTRUM-IRVINE | 949810 | IRVNCA12 | 1731 | 0.34 | 0.16 | 52.9\% | 51.9\% | 6.1 | 5.0 | 2867 | 2519 | 140 | 133 | 66 | 16 | 120 | 61 | 5 |
| EDWARDS | 661369 | EDWRCA01 | 137 | 0.36 | 0.15 | 58.3\% | 58.3\% | 1.0 | 1.0 | 1037 | 1114 | 12 | 12 | 5 | 0 | 10 | 5 | 0 |
| FOLSOM | 415068 | SNFCCA21 | 7728 | 0.35 | 0.15 | 57.5\% | 60.9\% | 4.5 | 3.6 | 2338 | 1917 | 657 | 595 | 279 | 34 | 473 | 207 | 17 |
| BURBANK PALM AVE | 818606 | BRBNCA11 | 758 | 0.30 | 0.14 | 51.9\% | 56.4\% | 3.9 | 2.9 | 2102 | 1629 | 54 | 50 | 26 | 2 | 42 | 20 | 1 |
| BISHOP RANCH | 925082 | BSRNCA70 | 1442 | 0.25 | 0.13 | 48.3\% | 52.6\% | 4.3 | 3.4 | 2165 | 1792 | 87 | 80 | 45 | 2 | 68 | 35 | 0 |
| HACIENDA | 925083 | PLTNCA13 | 1625 | 0.31 | 0.12 | 61.2\% | 62.0\% | 3.4 | 2.5 | 1699 | 1484 | 121 | 114 | 47 | 1 | 102 | 41 | 1 |
| BEALE CAPEHART-BEALE AFB | 530431 | BEALCA11 | 79 | 0.11 | 0.11 | 0.0\% | 0.0\% | 5.2 | 4.1 | 7471 | 5861 | 2 | 2 | 2 | 0 | 1 | 1 | 0 |
| NORTH STAR | 530516 | TRUCCA12 | 606 | 0.14 | 0.09 | 35.0\% | 41.0\% | 10.0 | 6.9 | 5935 | 4122 | 20 | 19 | 13 | 5 | 12 | 8 | 2 |
| LEMORE WYMAN | 559189 | LEMRCA12 | 90 | 0.19 | 0.05 | 75.0\% | 100.0\% | 1.0 | 0.1 | 817 | 177 | 4 | 2 | 1 | 0 | 1 | 0 | 0 |


|  | ```Table 4A. 3 \\ AT\&T CALIFORNIA \\ AVERAGE OUT-OF-SERVICE DURATION \\ 20 POOREST PERFORMING AND 10 BEST PERFORMING WIRE CENTERS 2018-2019``` |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wire Center Name | $\begin{aligned} & \text { Wire } \\ & \text { Center } \end{aligned}$ | CLLI | $\begin{aligned} & \text { Access } \\ & \text { Lines } \\ & \text { (avg for } \\ & \text { Qtr) } \end{aligned}$ | OOS per 100 ALs per month | $\begin{aligned} & \text { oos }>24 \\ & \text { per } 100 \\ & \text { ALs per } \\ & \text { month } \end{aligned}$ | $\begin{aligned} & \text { Cleared d } \\ & \text { win } 24 \\ & \text { hours } \\ & \text { (unad) } \end{aligned}$ |  | $\begin{gathered} \text { \# days to } \\ \text { clear 90\% } \\ \text { oos } \\ \text { (unadj) } \end{gathered}$ | $\begin{aligned} & \text { \#days to } \\ & \text { clear 90\% } \\ & \text { oos (adj) } \end{aligned}$ | $\begin{gathered} \text { Avg oos } \\ \text { Duratn } \\ \text { (mins) } \end{gathered}$ | $\begin{gathered} \text { AVg } \\ \text { CPUC } \\ \text { OOS } \\ \text { Duratn } \\ \text { (mins) } \end{gathered}$ | $\begin{aligned} & \text { oos } \\ & \text { Total } \end{aligned}$ | $\text { oos > } 1$ | $\begin{gathered} \text { OOS }>24 \\ \text { Hours } \end{gathered}$ | $\begin{gathered} \text { OOS }>1 \\ \text { week } \end{gathered}$ | $\begin{gathered} \text { CPUC } \\ \text { OOS }>1 \\ \text { hour } \end{gathered}$ | $\begin{gathered} \text { CPUC } \\ \text { OOS }>24 \\ \text { hours } \end{gathered}$ | $\begin{gathered} \text { CPUC } \\ \text { OOS }>1 \\ \text { Week } \end{gathered}$ |
| $\stackrel{\sim}{\sim}$ | 20 POOREST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | FRENCH GULCH | 530455 | FRGLCA11 | 85 | 4.74 | 4.06 | 14.4\% | 13.4\% | 77.9 | 63.2 | 26999 | 25667 | 97 | 94 | 83 | 47 | 63 | 57 | 30 |
|  | FURNACE CREEK | 760738 | FRCKCA11 | 133 | 1.28 | 1.25 | 2.4\% | 4.9\% | 43.3 | 57.5 | 21026 | 21106 | 41 | 41 | 40 | 25 | 21 | 20 | 8 |
|  | AVALON | 310603 | AVLNCA11 | 1126 | 0.64 | 0.45 | 30.5\% | 38.8\% | 28.4 | 24.0 | 17249 | 11748 | 174 | 164 | 121 | 84 | 108 | 73 | 48 |
|  | SHOSHONE | 760796 | SHSHCA11 | 132 | 4.14 | 3.70 | 10.7\% | 11.6\% | 18.7 | 15.8 | 16171 | 15977 | 131 | 130 | 117 | 61 | 77 | 69 | 35 |
|  | bear valley | 209155 | BVLYCA11 | 445 | 1.51 | 1.23 | 18.6\% | 22.7\% | 34.8 | 8.8 | 14786 | 8598 | 161 | 152 | 131 | 57 | 88 | 74 | 22 |
|  | GEYSERVILLE | 707294 | GYVLCA11 | 297 | 2.20 | 1.60 | 27.4\% | 31.5\% | 15.9 | 12.5 | 12237 | 6772 | 157 | 150 | 114 | 53 | 118 | 87 | 37 |
|  | SONOMA | 707323 | SONMCA12 | 4019 | 1.29 | 0.72 | 44.5\% | 54.3\% | 32.8 | 5.6 | 12032 | 4613 | 1249 | 1199 | 693 | 254 | 750 | 372 | 68 |
|  | OJAI | 805382 | OJAICA11 | 1662 | 2.01 | 1.47 | 26.7\% | 36.7\% | 21.0 | 5.0 | 11969 | 4499 | 802 | 772 | 588 | 137 | 467 | 316 | 41 |
|  | ANNAPOLIS | 707322 | ANNPCA11 | 70 | 2.79 | 2.49 | 10.6\% | 10.4\% | 18.8 | 18.7 | 11056 | 9276 | 47 | 45 | 42 | 21 | 36 | 34 | 15 |
|  | MURPHYS | 209203 | MRPHCA11 | 846 | 2.74 | 2.02 | 26.3\% | 34.6\% | 16.4 | 9.4 | 10834 | 5453 | 556 | 539 | 410 | 181 | 288 | 199 | 61 |
|  | STONYFORD | 530513 | STFRCA11 | 136 | 2.30 | 1.97 | 14.7\% | 18.7\% | 13.0 | 10.2 | 10459 | 6464 | 75 | 73 | 64 | 34 | 46 | 39 | 16 |
|  | EL PORTAL | 209241 | YSMTCA12 | 302 | 2.17 | 1.86 | 14.0\% | 15.8\% | 14.3 | 10.9 | 9764 | 7836 | 157 | 156 | 135 | 80 | 112 | 95 | 47 |
|  | LOS ALAMOS | 707319 | SNRSCA11 | 2554 | 1.35 | 0.87 | 35.3\% | 43.0\% | 15.9 | 8.5 | 9754 | 4940 | 825 | 785 | 534 | 216 | 538 | 334 | 110 |
|  | OAKVIEW | 805381 | OKVWCA11 | 619 | 2.40 | 1.70 | 29.2\% | 33.9\% | 17.0 | 14.6 | 9619 | 8037 | 356 | 341 | 252 | 79 | 234 | 164 | 47 |
|  | kYburz | 530465 | KYBRCA11 | 61 | 2.26 | 1.92 | 15.2\% | 18.2\% | 10.7 | 8.0 | 8990 | 6732 | 33 | 33 | 28 | 16 | 18 | 14 | 5 |
|  | UPPER LAKE VALLEY RD | 707329 | UPLKCA11 | 401 | 3.11 | 2.01 | 35.5\% | 42.6\% | 18.6 | 9.7 | 8751 | 5235 | 299 | 287 | 193 | 97 | 177 | 110 | 36 |
|  | HOPLAND | 707298 | HPLDCA12 | 199 | 2.22 | 1.51 | 32.1\% | 34.5\% | 17.3 | 14.6 | 8691 | 7388 | 106 | 101 | 72 | 34 | 82 | 56 | 22 |
|  | BLUE LAKE | 707278 | BLLKCA11 | 236 | 2.80 | 2.33 | 17.0\% | 14.5\% | 8.8 | 17.9 | 8663 | 10706 | 159 | 159 | 132 | 20 | 83 | 71 | 10 |
|  | MONTE RIO | 707309 | MNRICA11 | 515 | 2.51 | 1.85 | 26.5\% | 35.1\% | 12.5 | 11.2 | 8492 | 6184 | 310 | 301 | 228 | 124 | 177 | 120 | 49 |
|  | VENTURA/FIR | 805400 | VNTRCA02 | 2398 | 0.96 | 0.59 | 38.0\% | 47.3\% | 19.3 | 4.8 | 8466 | 4000 | 550 | 513 | 341 | 86 | 372 | 216 | 24 |
|  | 10 BEST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $m m$ | PEDLEY | 951765 | PDLYCA11 | 2502 | 1.19 | 0.46 | 61.3\% | 66.3\% | 3.2 | 2.6 | 1861 | 1629 | 713 | 688 | 276 | 27 | 499 | 175 | 11 |
|  | MOJAVE | 661376 | mojvca01 | 590 | 1.83 | 0.85 | 53.3\% | 56.8\% | 3.0 | 2.3 | 1845 | 1582 | 259 | 247 | 121 |  | 188 | 86 |  |
| O | MENDOTA | 559195 | MNDTCA11 | 445 | 1.24 | 0.46 | 62.9\% | 65.5\% | 3.5 | 2.7 | 1831 | 1468 | 132 | 128 | 49 | 3 | 115 | 41 | 2 |
| I口 | BENICIA | 707277 | BNCICA11 | 1978 | 1.01 | 0.34 |  | 69.6\% | 3.0 | 2.4 | 1828 | 1567 | 481 | 457 | 160 | 8 | 402 | 130 | 4 |
|  | HUNTINGTON PARK | 323617 | HNPKCAO1 | 6843 | 1.43 | 0.56 | 61.1\% | 67.1\% | 3.0 | 2.2 | 1822 | 1407 | 2345 | 2174 | 913 | 52 | 1774 | 635 | 21 |
| $\bigcirc$ | LOS ANGELES MADISON/MO | 213624 | LSANCA02 | 8070 | 0.67 | 0.24 | 63.6\% | 67.8\% | 3.3 | 2.7 | 1788 | 1410 | 1302 | 1186 | 474 | 46 | 1013 | 364 | 24 |
| 00 | AROMAS | 831144 | ARMSCA11 | 447 | 1.74 | 0.75 | 56.7\% | 64.3\% | 3.0 | 2.5 | 1711 | 1472 | 187 | 180 | 81 | 0 | 138 | 51 | 0 |
|  | HACIENDA | 925083 | PLTNCA13 | 1625 | 0.31 | 0.12 | 61.2\% | 62.0\% | 3.4 | 2.5 | 1699 | 1484 | 121 | 114 | 47 | 1 | 102 | 41 | 1 |
|  | EDWARDS | 661369 | EDWRCA01 | 137 | 0.36 | 0.15 | 58.3\% | 58.3\% | 1.0 | 1.0 | 1037 | 1114 | 12 | 12 | 5 | 0 | 10 | 5 | 0 |
| $\bigcirc \geq$ | LEMORE WYMAN | 559189 | LEMRCA12 | 90 | 0.19 | 0.05 | 75.0\% | 100.0\% | 1.0 | 0.1 | 817 | 177 | 4 |  | 1 | 0 | 1 | 0 | 0 |
| ๑0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| $\bigcirc \square$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Table 4A. 4 <br> AT\&T CALIFORNIA <br> PERCENT OUT-OF-SERVICE CLEARED WITHIN 24 HOURS 20 POOREST PERFORMING AND 10 BEST PERFORMING WIRE CENTERS 2018-2019 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wire Center Name | $\begin{aligned} & \text { Wire } \\ & \text { Center } \end{aligned}$ | CLLI | $\begin{gathered} \text { Access } \\ \text { Lines } \\ (\text { avg for } \\ \text { Otr) } \end{gathered}$ | OOS per 100 ALs per month | OOS>24 per 100 ALs per month | $\begin{aligned} & \text { Cleared } \\ & \text { w/in } 24 \\ & \text { hours } \\ & \text { (unadj) } \end{aligned}$ |  | $\begin{gathered} \text { \# days to } \\ \text { clear } 90 \% \\ \text { oos } \\ \text { (unadj) } \end{gathered}$ | \# days to clear $90 \%$ OOS (adj) | Avg OOS Duratn (mins) | AVG CPUC OOS <br> Duratn <br> (mins | $\begin{aligned} & \text { oos } \\ & \text { Total } \end{aligned}$ | $\text { oos }>1$ hour | $\begin{gathered} \text { OOS }>24 \\ \text { Hours } \end{gathered}$ | $\begin{gathered} \text { oos > }>1 \\ \text { weekk } \end{gathered}$ | CPUC oos > 1 hour | $\begin{gathered} \text { CPUC } \\ \text { oos }>24 \\ \text { hours } \end{gathered}$ | $\begin{gathered} \text { CPUC } \\ \text { OOS }>1 \\ \text { Week } \end{gathered}$ |
| 20 POOREST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| beale capehart-beale afb | 530431 | bealca11 | 79 | 0.11 | 0.11 | 0.0\% | 0.0\% | 5.2 | 4.1 | 7471 | 5861 | 2 | 2 | 2 | 0 | 1 | 1 | 0 |
| MOUNTAIN PASS | 760753 | MTPSCA11 | 20 | 1.71 | 1.71 | 0.0\% | 0.0\% | 7.2 | 6.2 | 7123 | 6953 | 8 | 8 | 8 | 4 |  | 4 |  |
| WEOTT | 707333 | WEOTCA11 | 59 | 0.84 | 0.84 | 0.0\% | 0.0\% | 6.7 | 5.2 | 4612 | 3948 | 12 | 12 | 12 | 2 | 8 | 8 | 0 |
| FURNACE CREEK | 760738 | FRCKCA11 | 133 | 1.28 | 1.25 | 2.4\% | 4.9\% | 43.3 | 57.5 | 21026 | 21106 | 41 | 41 | 40 | 25 | 21 | 20 | 8 |
| BAKER | 760705 | BAKRCA11 | 120 | 2.08 | 1.98 | 5.0\% | 2.4\% | 7.1 | 6.9 | 7325 | 7112 | 60 | 59 | 57 | 13 | 38 | 38 | 5 |
| ANNAPOLIS | 707322 | ANNPCA11 | 70 | 2.79 | 2.49 | 10.6\% | 10.4\% | 18.8 | 18.7 | 11056 | 9276 | 47 | 45 | 42 | 21 | 36 | 34 | 15 |
| SHOSHONE | 760796 | SHSHCA11 | 132 | 4.14 | 3.70 | 10.7\% | 11.6\% | 18.7 | 15.8 | 16171 | 15977 | 131 | 130 | 117 | 61 | 77 | 69 | 35 |
| GAZELLE | 530456 | GzLLCA11 | 44 | 1.60 | 1.41 | 11.8\% | 23.5\% | 4.8 | 4.1 | 4693 | 3865 | 17 | 17 | 15 | 1 | 8 | 7 | 0 |
| yosemite main | 209240 | YSMTCA11 | 529 | 0.98 | 0.85 | 12.9\% | 14.5\% | 11.1 | 9.4 | 7411 | 6297 | 124 | 121 | 108 | 42 | 107 | 94 | 28 |
| EL PORTAL | 209241 | YSMTCA12 | 302 | 2.17 | 1.86 | 14.0\% | 15.8\% | 14.3 | 10.9 | 9764 | 7836 | 157 | 156 | 135 | 80 | 112 | 95 | 47 |
| WAWONA | 209238 | WANACA11 | 268 | 1.20 | 1.03 | 14.3\% | 15.8\% | 9.7 | 8.2 | 8295 | 7078 | 77 | 77 | 66 | 26 | 55 | 47 | 14 |
| FRENCH GULCH | 530455 | FRGLCA11 | 85 | 4.74 | 4.06 | 14.4\% | 13.4\% | 77.9 | 63.2 | 26999 | 25667 | 97 | 94 | 83 | 47 | 63 | 57 | 30 |
| STONYFORD | 530513 | STFRCA11 | 136 | 2.30 | 1.97 | 14.7\% | 18.7\% | 13.0 | 10.2 | 10459 | 6464 | 75 | 73 | 64 | 34 | 46 | 39 | 16 |
| KYBURZ | 530465 | KYBRCA11 | 61 | 2.26 | 1.92 | 15.2\% | 18.2\% | 10.7 | 8.0 | 8990 | 6732 | 33 | 33 | 28 | 16 | 18 | 14 | 5 |
| BIG SUR | 831101 | BGSRCA11 | 392 | 3.74 | 3.11 | 16.8\% | 17.7\% | 5.8 | 4.2 | 4449 | 3511 | 352 | 343 | 293 | 36 | 248 | 211 | 19 |
| POINT ARENA | 707315 | PNARCA11 | 600 | 1.98 | 1.65 | 16.8\% | 22.0\% | 12.4 | 10.7 | 7611 | 6158 | 285 | 282 | 237 | 84 | 208 | 166 | 44 |
| BLUE LAKE | 707278 | BLLKCA11 | 236 | 2.80 | 2.33 | 17.0\% | 14.5\% | 8.8 | 17.9 | 8663 | 10706 | 159 | 159 | 132 | 20 | 83 | 71 | 10 |
| SPRINGVILLE | 559219 | SPVLCA11 | 750 | 2.85 | 2.36 | 17.2\% | 20.4\% | 10.2 | 7.7 | 6456 | 5021 | 513 | 508 | 425 | 123 | 363 | 293 | 58 |
| SEQUOIA PARK ASH MTN | 559152 | ASmTCA11 | 85 | 2.79 | 2.30 | 17.5\% | 16.2\% | 4.8 | 6.0 | 5577 | 6864 | 57 | 57 | 47 | 4 | 26 | 22 | 2 |
| ALLEGHANEY | 530425 | ALGHCA11 | 48 | 4.34 | 3.56 | 18.0\% | 18.4\% | 7.3 | 9.1 | 5138 | 4952 | 50 | 47 | 41 | 9 | 29 | 26 | 4 |
| 10 BEST PERFORMING WIRE CENTERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FREMONT ADAMS | 510015 | FRMTCA12 | 6954 | 1.01 | 0.38 | 62.2\% | 68.3\% | 2.9 | 2.0 | 2367 | 1751 | 1683 | 1611 | 636 | 54 | 1359 | 460 | 30 |
| COLMA | 650010 | COLACA01 | 5946 | 1.00 | 0.37 | 62.7\% | 68.3\% | 2.9 | 2.1 | 1989 | 1590 | 1423 | 1317 | 531 | 43 | 849 | 300 | 19 |
| VALLEJO | 707331 | VLLJCA01 | 6232 | 1.29 | 0.48 | 62.7\% | 66.7\% | 2.9 | 2.4 | 2205 | 1900 | 1935 | 1833 | 721 | 53 | 1598 | 572 | 31 |
| MENDOTA | 559195 | MNDTCA11 | 445 | 1.24 | 0.46 | 62.9\% | 65.5\% | 3.5 | 2.7 | 1831 | 1468 | 132 | 128 | 49 | 3 | 115 | 41 | 2 |
| LOS ANGELES MADISON/MO | 213624 | LSANCA02 | 8070 | 0.67 | 0.24 | 63.6\% | 67.8\% | 3.3 | 2.7 | 1788 | 1410 | 1302 | 1186 | 474 | 46 | 1013 | 364 | 24 |
| CAMPTONVILLE | 530436 | CMPVCA11 | 220 | 6.07 | 2.18 | 64.1\% | 68.3\% | 3.8 | 2.7 | 2227 | 1610 | 320 | 307 | 115 | 18 | 178 | 63 | 7 |
| SAN JOSE CHYNOWETH AV | 408131 | SNJSCA13 | 7641 | 1.71 | 0.61 | 64.4\% | 70.3\% | 3.1 | 2.3 | 2007 | 1617 | 3130 | 3012 | 1114 | 109 | 2406 | 752 | 57 |
| benicia | 707277 | BNCICA11 | 1978 | 1.01 | 0.34 | 66.7\% | 69.6\% | 3.0 | 2.4 | 1828 | 1567 | 481 | 457 | 160 | 8 | 402 | 130 | 4 |
| BORREGO SPRINGS | 760707 | BRSPCA11 | 703 | 4.48 | 1.38 | 69.2\% | 64.4\% | 4.0 | 3.7 | 2147 | 2777 | 756 | 717 | 233 | 33 | 257 | 93 | 16 |
| LEMORE WYMAN | 559189 | LEMRCA12 | 90 | 0.19 | 0.05 | 75.0\% | 100.0\% | 1.0 | 0.1 | 817 | 177 | 4 | 2 | 1 | 0 | 1 | 0 | 0 |



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## AT\&T Service Quality Performance

In our Phase 1 Report, we described a series of detailed analyses of AT\&T service quality and performance in resolving out-of-service conditions both statewide and, more importantly, on a wire center-by-wire center basis. Each of these analyses are updated here to include results for 2018 and 2019.

## "Adjusted" vs. "actual" results

As we explained in our Phase 1 Report, GO 133-C/D does not hold ILECs responsible for the entire outage duration if a Sunday or federal holiday intervenes. Outage durations are thus adjusted for GO 133-C/D compliance purposes by subtracting Sunday or federal holiday hours that fall within an outage situation. Certain additional situations have also been treated as "excluded" even though, from the customer's perspective, the service is not functioning. ${ }^{10}$ As we explained in our Phase 1 Report, ETI does not believe that it is appropriate to entirely exclude all instances where, upon encountering an out-of-service condition, the customer has requested an appointment date/time at the customer's convenience because the requirement to accommodate the customer's personal needs in order to effect a restoration of service is a direct result of the service outage itself. Instead, the delay in the ultimate restoration of service attributable to the additional time needed to satisfy the customer's request for an appointment should be adjusted out of the total out-of-service duration. ETI was advised that such an adjustment is already reflected in the "CPUC Duration" calculation provided on the individual Trouble Report data records. Figures 4A. 4 through 4A. 12 provide the OOS data on both an actual and an adjusted basis.

## Focus upon 2018-2019 results

Inclusion of the additional 2018-2019 trouble tickets has enabled us to develop service quality trends over a 10 -year period (2010-2019) whereas the Phase 1 study was limited to only 8 years of data. However, we also wanted to examine each of the two datasets separately in order to evaluate whether conditions in these last two years had improved or deteriorated relative to the Phase 1 study period. Each of the service quality charts presented in this chapter provides three separate trend lines - the full 10-year trend (the solid red line); the 8 -year Phase 1 trend (the dashed green line, which is approximately the same as the 8 -year trend line presented in our

[^0]Phase 1 Report ${ }^{11}$ ); and the 2-year Phase 2 trend line for 2018-2019 (the dashed purple line). This format provides a convenient visual comparison of the Phase 1 and Phase 2 results for each of the individual service quality metrics we examined.

Each of these three trend lines was calculated using a separate regression analysis, each confined to its respective period (i.e., 2010-2019, 2010-2017, and 2018-2019. In order to compare the results for 2018-2019 with the Phase 1 trends, the 2018-2019 analysis used the fourth quarter of 2017 as a starting point. Since these trends were each subject to separate calculations, their respective starting and ending points are discontiguous. For this reason, the focus should be mainly upon the percentage change - up or down - over each of the periods studied, rather than upon the absolute starting and ending values.

## Out-of-service conditions overall

There has been a slight upward trend over the 10-year study period in the number of out-ofservice trouble reports per 100 access lines, as shown on Figure 4A.2. The rate of increase, as shown on the 2018-2019 trend line, has accelerated slightly relative to where it had been for the 2010-2017 Phase 1 study period. Updated Figure 4A. 2 eliminates all trouble tickets that did not involve an out-of-service condition. Updated Figure 4A. 3 eliminates trouble reports that could be quickly resolved - for example, by advising the customer to make sure that the handset is plugged in or that the battery in a cordless phone has not run down. By excluding those OOS complaints that can typically be cleared up quickly, we refine our focus to conditions that will require more complex remedial measures. As shown on Figure 4A.3, while there had been a generally upward trend in the average duration of all OOS conditions over one (1) hour in duration over the Phase 1 study period, 2018-2019 saw a sharp increase for that metric. It took AT\&T some $29 \%$ longer on average to restore a service outage at the end of the 8 -year study period than at its outset. However, for 2018-2019, that trend increased even further, rising $26.3 \%$ in just two years. The long-term trend, calculated over the full 10-year (2010-2019) period, was $67.3 \%$ higher at the end of the period than at its outset.

The trend in average duration of all out-of-service conditions over one hour had been steadily increasing over the Phase 1 study period, and spiked further in 2018-2019. By the end of 2019, it took AT\&T 67\% longer to restore service than it took in 2010.

[^1]

Figure 4A.2. Over the 2010-2017 period, the trend of AT\&T California out-of-service incidents per 100 access lines (actual) had been increasing; for 2018-2019, that trend experienced a further increase.


Figure 4A.3. The rate of increase in the average duration of AT\&T California out-of-service incidents lasting more than one hour (actual) grew even larger in the 2018-2019 period.

## Duration of out-of-service conditions

A principal focus of the Commission's concerns regarding ILEC service quality is with respect to both the frequency and the duration of out-of-service conditions. GO 133-C/D has placed particular emphasis upon protracted out-of-service situations, focusing specifically upon POTS lines that are not restored within the first 24 hours.

Updated Figures 4A. 4 and 4A. 5 track the average duration of all OOS conditions and the average duration of OOS conditions greater than 24 hours, respectively, together with their longterm trend lines, on an actual basis. Updated Figures 4A. 6 and 4A. 7 present these same metrics on an adjusted bases (i.e., excluding Sunday/holiday hours and OOS conditions deemed beyond the carrier's control). As the results show, for AT\&T California overall, the actual durations of all reported service outages (Figure 4A.4), as reflected in the trend line, have steadily increased by $77.6 \%$ over the full 10 -year study period. Looking at the Phase 1 and Phase 2 study periods separately, we observe a particularly sharp increase in 2018-2019. The 2010-2017 trend in average OOS duration increased by $31.0 \%$ from 2010 through 2017. However, in just the last two years, that metric jumped by another $28.4 \%$. For outages that remained uncleared after 24 hours (Figure 4A.5), their trend line average durations was lengthened by $47 \%$ over the 20102017 period. For 2018 and 2019, average duration rose further, although the trend held steady over those last two years. The results were somewhat better for all OOS when Sunday/holiday hours and "excluded" situations were eliminated, but the trend was still in the upward direction, and increased for 2018-2019.

Finally, the incidence of OOS conditions lasting more than 24 hours (updated Figure 4A. 8 OOS $>24$ Hours per 100 Access Lines), which had held steady over the 2010-2017 study period, experienced an increase over the 2018-2019 period.


Figure 4A.4. The average duration of all AT\&T California out-of-service incidents (actual) saw a significant jump during the 2018-2019 Phase 2 study period.


Figure 4A.5. The average duration of all AT\&T California out-of-service incidents over 24 hours (actual) increased further over the 2018-2019 Phase 2 study period.


Figure 4A.6. The average duration of all AT\&T California out-of-service incidents (adjusted) saw a significant jump during the 2018-2019 Phase 2 study period.


Figure 4A.7. The average duration of all AT\&T California out-of-service incidents over 24 hours (adjusted) increased further over the 2018-2019 Phase 2 study period.


Figure 4A.8. 2018-2019 saw a $39 \%$ increase in the rate of AT\&T California out-of-service conditions over 24 hours (actual), as compared with about $12 \%$ over the 2010-2017 Phase 1 study period.

## Out-of-service conditions cleared within 24 hours

The average duration of AT\&T California out-of-service conditions has been increasing over the study period, as plotted on Figure 4A. 3 above. Taken over the 8 -year (2010-2017) Phase 1 period, AT\&T data identify a total of $5,000,823$ trouble reports that involved an out of service condition of varying durations. 2,480,362 of these - nearly half - remained uncleared after 24 hours. Even on an adjusted basis, there were still $1,837,177$ outages - some $44.05 \%$ - that remained uncleared after 24 hours. For the Phase $22018-2019$ period, there were 573,581 trouble reports that involved an out of service condition of varying durations; 320,567 of these $55.9 \%$ - remained uncleared after 24 hours. The various clearance rates are summarized in Table 4A. 7 below:

| Table 4A. 7 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AT\&T CALIFORNIA |  |  |  |  |  |  |  |  |
| QUANTITIES OF ACTUAL AND ADJUSTED ("CPUC") OUT-OF-SERVICE CONDITIONS |  |  |  |  |  |  |  |  |
| 2010-2017 |  |  |  |  | 2018-2019 |  |  |  |
| Condition | Actual |  | Adjusted |  | Actual |  | Adjusted |  |
|  | Quantity | Pct | Quantity | Pct | Quantity | Pct | Quantity | Pct |
| Out-of-Service - all types | 5,001,270 | 100.00\% | 4,170,490 | 100.00\% | 573,581 | 100.00\% | 434,737 | 100.00\% |
| Out-of-Service - less than one (1) hour | 329,043 | 6.58\% | 339,906 | 8.15\% | 25,858 | 4.51\% | 26,336 | 6.06\% |
| Out-of-Service - 1 to 6 hours | 857,648 | 17.15\% | 744,189 | 17.84\% | 109,786 | 19.14\% | 88,625 | 20.39\% |
| Out-of-Service - 6 to 12 hours | 272,620 | 5.45\% | 295,679 | 7.09\% | 27,384 | 4.77\% | 26,195 | 6.03\% |
| Out-of-Service - 12 to 24 hours | 1,061,366 | 21.22\% | 953,539 | 22.86\% | 89,986 | 15.69\% | 74,339 | 17.10\% |
| Out-of-Service - more than 24 hours | 2,480,593 | 49.60\% | 1,837,177 | 44.05\% | 320,567 | 55.89\% | 219,242 | 50.43\% |
| Out-of-Service - more than 1 week | 272,465 | 5.45\% | 140,948 | 3.38\% | 62,412 | 10.88\% | 29,627 | 6.81\% |
| NOTE: Out-of-service more than 1 week is included in Out-of-service more than 24 hours.. |  |  |  |  |  |  |  |  |

Over the 8-year (2010-2017) Phase 1 period, $49.6 \%$ of AT\&T out of service conditions remained uncleared after 24 hours. For the Phase 2 2018-2019 period, $55.9 \%$ of all reported service outages remained uncleared after 24 hours.

GO 133-C/D §3.4(c) establishes a "Minimum Standard Reporting Level" requiring that " $90 \%$ of all out of service trouble reports [be cleared] within 24 hours [as] the set minimum standard." As updated Table 4A. 7 demonstrates, over the 2010-2017 period whose reporting was ordered by the adoption of GO 133-C, AT\&T had not come even remotely close to meeting this
requirement: Only $50.4 \%$ of the roughly 5 -million out-of-service conditions had been cleared within 24 hours; even on an adjusted basis, where Sunday and federal holiday hours were subtracted out of the outage duration, only $63.3 \%$ of out-of-service conditions had been restored within 24 hours. The shortfall relative to the GO 133-D 90\% standard increased further in 20182019 , where service had been restored to only $44.1 \%$ of the 573,581 out-of-service conditions ( $61.8 \%$ for "adjusted") within 24 hours.

> During 2018-2019, 55.9\% of the 573,581 out-of-service conditions ( $38.2 \%$ on an "adjusted" basis) remained uncleared after 24 hours, up from the corresponding 49.6\% / 36.7\% levels during the 2010-2017 period. To satisfy the GO 133-C §3.4(c) requirement, these percentages would need to drop to less than $10 \%$.

There was considerable variation across all of AT\&T's $612^{12}$ California wire centers both in terms of percent of out-of-service trouble tickets cleared within 24 hours and the number of days required to clear $90 \%$ of all out-of-service conditions. Updated Table 4A. 8 below provides the results of linear regression trend line calculations for the GO 133-C/D §3.4(c) "set minimum standard" of " $90 \%$ of all out of service trouble reports within 24 hours" for each of the 612 AT\&T California wire centers over the full 2010-2019 period (Table 4A.8(a)) and for 2018-2019 only (Table 4A-8(b)). These tables also provide similar trend line calculations for the number of days required to clear $90 \%$ of all out-of-service conditions, and for each on both an actual and adjusted basis.

The values shown for the trend lines are the coefficients of the independent variable in each case - i.e., the quarterly time period - which when applied to the time variable produced the predicted value for the percent cleared within 24 hours, or the number of days required to clear $90 \%$. The coefficient would appear graphically as the slope of a plotted trend line. For the "percentage cleared within 24 hours" metrics, a positive value of the coefficient indicates improvement over time (i.e., an upward sloping trend line); a negative value indicates that over time the ILEC's record of meeting this standard has been deteriorating. For "days required to clear $90 \%$," a negative value of the slope of the trend line indicates that, over time, it is taking less time for the ILEC to meet the $90 \%$ completion objective - thus, an improvement in

[^2]performance. Positive values for the coefficient of "days required to clear $90 \%$ " indicates that it is taking longer for the Company to reach the target $90 \%$ cleared threshold.

We have sorted this table by the coefficient of Percent Cleared within 24 Hours, from lowest (i.e., most negative, or worst result) to highest (most positive, or best result). The "Coefficient" shown for each of the four metrics on this table represents the slope of the estimated trend line based upon the actual out-of-service incidents experienced in the wire center over the full 10-year period (Table 4A-8(a)) and for the 2-year 2018-2019 period (Table 4A-8(b)). A positive value for the coefficient indicates an upward trend - i.e., that if plotted on a graph the trend line would go from the lower left to the upper right of the chart. The higher the positive value of a coefficient, the greater the rate of increase over time.

The regression calculations were prepared using quarterly time-series data. The tables provide the starting and ending predicted values for the variable being examined (e.g., the starting and ending predicted values for the percentage of out-of-service tickets cleared within 24 hours) and the mean value over the full 10-year period or the 2 -year Phase 2 period. The regression coefficient represents the change, up or down, in the trend on a per-quarter basis. For example, the following values are shown for AT\&T's Acton wire center (ACTNCA12) over the 2010-2019 period with respect to the Percent Cleared within 24 Hours.

| Acton - Percent out-of-service cleared within 24 hours - 2010-2019 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mean Value |  |  |  |  |  |
| (Mean Val) | Regression <br> Coefficient <br> (Coef) | $t$-statistic <br> $(t$-stat) | Confidence <br> Interval <br> (Conf.) | Starting value - <br> 1st Quarter 2010 <br> (1Q10 Val) | Ending value - <br> 4th Quarter 2019 <br> (4Q19 Val) |
| $56.63 \%$ | -0.0970 | -0.4036 | $31.1 \%$ | $58.52 \%$ | $54.74 \%$ |

From this, we learn that the mean (average) percentage of out-of-service conditions cleared by AT\&T within 24 hours in the Acton wire center was $56.63 \%$ over the full 10 -year period. At the beginning of the period (first quarter 2010), the predicted regression trend line indicated that AT\&T was clearing $58.52 \%$ within 24 hours; by the end of the period (fourth quarter of 2019), it was only slightly lower, at $54.74 \%$. These are not the actual clearance percentages for either of the two quarters; they are the projected rate of OOS clearances based upon the linear regression calculation. The "regression coefficient" of -0.0970 is interpreted as the change in the predicted trend per quarter - i.e., as each quarter went by, the percent cleared within 24 hours was decreasing by approximately $0.097 \%$. The $t$-statistic is a measure of the statistical significance of the estimated coefficient, specifically, the confidence that the regression coefficient is significantly different from zero. In general, a $t$-value with an absolute value in excess of roughly 2.0 denotes statistical significance at the $95 \%$ confidence level. Here, a $t$-value of -0.4036
corresponds to a confidence level of $31.1 \%$. The confidence level corresponding with the $t$ values are also provided on the tables. In this instance, the performance of the Acton wire center with respect to the "percent cleared within 24 hours" metric was virtually unchanged over the full 20 -year time frame - i.e., the slope of the trend line was close to zero, as confirmed by the low value of the $t$-statistic.

If we then compare the results for the Acton wire center over the full 2010-2019 period with the corresponding results for the 2018-2019 Phase 2 study period from Table 4A.8(b), we observe a dramatic shift in performance:

| Acton - Percent out-of-service cleared within 24 hours |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean <br> Value <br> (Mean <br> Val) | Regression <br> Coefficient <br> (Coef) | $t$-statistic <br> $(t$-stat) | Confidence <br> Interval <br> (Conf.) | Starting value - <br> (1Q10 or 4Q2017 <br> Value) | Ending value - 4th <br> Quarter 2019 <br> (4Q19 Val) |
| Period | $56.63 \%$ | -0.0970 | -0.4036 | $31.1 \%$ | $58.52 \%$ | $54.74 \%$ |
| $2010-19$ | $5018-19$ | $45.87 \%$ | -9.0096 | -4.2320 | $99.5 \%$ | $77.40 \%$ |

The regression coefficient for the 2018-2019 period has become highly negative, indicating a highly pronounced downward trend. The high value for the $t$-statistic, reflecting a confidence level of $99.5 \%$, further confirms the statistical significance of this drop-off in performance.

Updated Table 4A. 9 summarizes the percentages of out-of-service incidents that are cleared within 24 hours and the number of days required to clear $90 \%$ of all reported out-of-service conditions, on both an actual and an adjusted (for weekends and holidays) basis, across all of AT\&T's wire centers over the 2010-2019 period. GO 133-C/D §3.4(c) requires that $90 \%$ of all out of service trouble reports are expected to be cleared within 24 hours. As the results indicate, on a companywide basis, AT\&T California has not come even close to meeting the $90 \%$ cleared within 24 hours standard.


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## Table 4A. 9

## AT\&T CALIFORNIA

## PERCENTAGES OF ACTUAL AND ADJUSTED ("CPUC") OUT-OF-SERVICE CONDITIONS CLEARED WITHIN 24 HOURS AND DAYS REQUIRED TO CLEAR 90\%

|  | Actual |  | Adjusted |  |
| :---: | :---: | :---: | :---: | :---: |
| Quarter | Pct. Cleared within 24 hours | Days Required to Clear 90\% | Pct. Cleared within 24 hours | Days Required to Clear 90\% |
| 2010q1 | 33.5\% | 4.86 | 36.5\% | 4.10 |
| 2010q2 | 28.7\% | 5.04 | 30.1\% | 4.14 |
| 2010q3 | 44.6\% | 4.92 | 46.8\% | 4.08 |
| 2010q4 | 41.0\% | 5.15 | 43.8\% | 4.48 |
| 2011q1 | 39.1\% | 11.52 | 57.3\% | 11.15 |
| 2011q2 | 55.3\% | 2.97 | 71.9\% | 2.03 |
| 2011q3 | 62.6\% | 2.29 | 77.9\% | 1.77 |
| 2011q4 | 61.8\% | 2.64 | 77.8\% | 1.86 |
| 2012q1 | 66.7\% | 2.07 | 78.4\% | 1.67 |
| 2012q2 | 65.5\% | 2.17 | 76.8\% | 1.81 |
| 2012q3 | 64.3\% | 2.44 | 75.1\% | 1.89 |
| 2012q4 | 49.7\% | 4.22 | 71.3\% | 3.05 |
| 2013q1 | 58.9\% | 3.13 | 75.1\% | 2.20 |
| 2013q2 | 64.4\% | 2.67 | 75.6\% | 1.95 |
| 2013q3 | 54.0\% | 3.24 | 65.6\% | 2.72 |
| 2013q4 | 59.2\% | 3.00 | 71.5\% | 2.11 |
| 2014q1 | 42.1\% | 4.86 | 58.0\% | 3.84 |
| 2014q2 | 53.9\% | 4.10 | 64.3\% | 3.25 |
| 2014q3 | 61.0\% | 3.23 | 70.2\% | 2.74 |
| 2014q4 | 43.8\% | 6.15 | 61.0\% | 4.92 |
| 2015q1 | 47.1\% | 5.64 | 59.7\% | 4.23 |
| 2015q2 | 63.7\% | 2.91 | 73.1\% | 2.09 |
| 2015q3 | 64.5\% | 2.81 | 73.7\% | 2.04 |
| 2015q4 | 53.5\% | 3.93 | 67.0\% | 2.93 |
| 2016q1 | 45.2\% | 4.94 | 61.5\% | 3.92 |
| 2016q2 | 66.6\% | 2.70 | 77.6\% | 1.91 |
| 2016q3 | 65.9\% | 2.50 | 76.8\% | 1.90 |
| 2016q4 | 46.0\% | 5.26 | 61.0\% | 4.20 |
| 2017q1 | 36.7\% | 8.08 | 78.4\% | 5.49 |
| 2017q2 | 42.9\% | 6.93 | 59.4\% | 5.57 |
| 2017q3 | 45.0\% | 6.95 | 58.4\% | 5.82 |
| 2017q4 | 48.3\% | 7.02 | 63.2\% | 5.30 |
| 2018q1 | 48.5\% | 6.33 | 65.9\% | 4.98 |
| 2018q2 | 59.3\% | 3.31 | 71.5\% | 2.77 |
| 2018q3 | 51.5\% | 4.08 | 65.4\% | 3.05 |
| 2018q4 | 41.0\% | 6.15 | 59.2\% | 4.99 |
| 2019q1 | 36.3\% | 7.90 | 60.3\% | 6.01 |
| 2019q2 | 47.3\% | 4.82 | 62.4\% | 3.59 |
| 2019q3 | 37.9\% | 6.13 | 52.7\% | 5.00 |
| 2019q4 | 36.1\% | 8.13 | 55.5\% | 6.86 |

Updated Figures 4A. 9 and 4A. 10 plot these data and trends graphically. The AT\&T California companywide percentages of outages cleared within 24 hours - actual and adjusted are plotted, along with associated trend lines. While there is considerable year-to-year variation in the completion percentages, the long term trend shows some, albeit modest, improvement i.e., over the Phase 1 2010-2017 period, a successively larger percentage of outages are being cleared within 24 hours. Mathematically, the trend lines for both actual and adjusted metrics have positive slopes, reflecting the increasing percentages of OOS completions within 24 hours over the 2010-2017 period. However, this is decidedly not the case for the 2018-2019 Phase 2 period, where the slopes of both the actual and adjusted metrics turn sharply negative.

Another approach to examining this " $90 \%$ cleared within 24 hours" requirement is to look at the length of time it takes AT\&T to reach the $90 \%$ cleared threshold. These results are also plotted, for AT\&T statewide, on updated Figures 4A. 11 (actual) and 4A. 12 (adjusted). On an adjusted basis, the number of days required for $90 \%$ OOS cleared ranges from a low of 1.67 days in the first quarter of 2012 to a high of 11.15 days in the first quarter of 2011. For the most recent year (2019), the adjusted number of days to achieve $90 \%$ OOS cleared falls in the 3.8 to 5.2 range. The plotted trend lines for both the actual and adjusted days to achieve $90 \%$ OOS cleared shows a lengthening of this duration over time. Here, the slope of the trend lines are positive, reflecting the successively larger number of days required to achieve $90 \%$ OOS cleared over the 2010-17 period, becoming even more positive over the 2018-2019 time frame.

On an adjusted basis, the number of days required for AT\&T to clear $90 \%$ of all out-of-service conditions was increasing at a faster rate over the 2018-2019 period than over the longer Phase 1 period. Over the eight years from 2010Q1 through 2017Q4, the number of days required for AT\&T to clear $90 \%$ of service outages increased at an annual rate of $3.37 \%$, from 4.10 days to 5.30 days. Over the next 24 months, from 2017Q4 to 2019Q4, the days to clear 90\% jumped at an annual rate of $13.77 \%$, from 5.30 to 6.86 .

There is considerable variation across all of AT\&T's 612 California wire centers both in terms of percent OOS cleared within 24 hours and days required to achieve $90 \%$ OOS cleared. Trend lines for these four metrics - actual and adjusted percentages of OOS cleared within 24 hours, and actual and adjusted days required to achieve $90 \%$ OOS cleared - have been calculated for each wire center. The values shown for the trend lines are the coefficient of the independent variable, time in this case, and would appear graphically as the slope of a plotted trend line.


Figure 4A.9. AT\&T California had not come even close to achieving the GO 133-CD §3.4(c) goal of $90 \%$ of all OOS cleared within 24 hours (actual) during the Phase 1 study period, and that metric saw a significant degradation in 2018-2019.


Figure 4A.10. The percentage of all AT\&T California OOS cleared within 24 hours (adjusted) has consistently fallen far short of meeting the GO 133-C/D §3.4(c) 90\% cleared within 24 hours standard, and got a lot lower in 2018-2019.


Figure 4A.11. The number of days required to clear $90 \%$ of AT\&T California out-of-service incidents (actual) increased considerably in 2018-2019.


Figure 4A.12. The number of days required to clear $90 \%$ of AT\&T California out-of-service incidents (adjusted) also increased in 2018-2019.

For the "percentages of OOS cleared within 24 hours" metric, a positive value of the slope of the trend line indicates that, over time, the durations of service outages are getting shorter and it is taking less time, on average, for AT\&T to restore service; a negative value indicates just the opposite. For the "days required to achieve $90 \%$ OOS cleared" metric, a positive value of the slope of the trend line indicates that, over time, it is taking longer to meet the $90 \%$ completion objective; a negative value indicates an improvement in performance in that it is taking less time to meet the $90 \%$ completion objective. Positive values for the "percentages of OOS cleared within 24 hours" metrics indicate an improving trend over time; negative values indicate that the completion percentage is decreasing over time.

Updated Appendix 4A-1 provides a compilation of individual wire center statistics and includes, for each AT\&T California wire center, data and trend line calculations for several performance metrics relating to OOS conditions cleared within varying lengths of time.

## AT\&T has continued to increase rates for its legacy services while service quality continues to be degraded

As we discussed in our Phase 1 Report, AT\&T California appears to have implemented a "harvesting strategy" similar to one that its parent company had pursued in the period immediately following its July 2005 announcement of its intention to merge with SBC Communications, which was accompanied by the withdrawal of AT\&T Corp. from CLEC operations. AT\&T had described this "harvesting" tactic in testimony submitted in the CPUC's AT\&T/SBC merger proceeding. ${ }^{13}$ Consistent with this approach and as shown in updated Table 4A. 10 below, AT\&T California had been steadily raising prices for its legacy POTS services since such actions became possible following the CPUC's adoption of the Uniform Regulatory Framework in 2006, although no further increases were put into effect after 2018. ${ }^{14}$ "Harvesting" both explains and

[^3]14. Uniform Regulatory Framework, D.06-08-030.
relies upon the seemingly inverse relationship between the impact of competition (as reflected in POTS line losses) and AT\&T's service quality record. If the market were so competitive that customers confronted actual alternatives to traditional POTS services, one would expect to see the greatest loss of demand in wire centers exhibiting the poorest service quality, with only minimal losses where service quality is being maintained or improved. Yet the actual result appears to be just the opposite - line losses are greatest in those wire centers exhibiting the best performance with respect to addressing and responding to service outages.

|  |  |  | Table | 4A. 10 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | C RESIDE RATE | AT\&T CAL NTIAL (PO NCREASE | IFORNIA <br> S) ACCES <br> ISTORY 2 |  | VICE |  |
|  |  | Flat-r | e Residen | (1FR) | Measur | Rate Resi | ce (1MR) |
| Year | Effective date | Monthly Rate | \% incr since onset of URF | \% incr relative to 1/1/10 | Monthly Rate | \% incr since onset of URF | \% incr relative to 1/1/10 |
| 2006 | 9/1/2006 | \$10.69 | - |  | \$5.70 | - |  |
| 2008 | 1/1/2008 | \$10.94 | 2.34\% |  | \$5.83 | 2.28\% |  |
| 2009 | 1/1/2009 | \$13.50 | 26.29\% |  | \$7.28 | 27.72\% |  |
| 2010 | 1/1/2010 | \$16.45 | 53.88\% | - | \$8.87 | 55.61\% | - |
| 2011 | 1/1/2011 | \$19.95 | 86.62\% | 21.28\% | \$12.37 | 117.02\% | 39.46\% |
| 2012 | 3/1/2012 | \$21.00 | 96.45\% | 27.66\% | \$15.37 | 169.65\% | 73.28\% |
| 2013 | 1/1/2013 | \$23.00 | 115.15\% | 39.82\% | \$18.25 | 220.18\% | 105.75\% |
| 2014 | 1/1/2014 | \$24.00 | 124.51\% | 45.90\% | \$21.25 | 272.81\% | 139.57\% |
| 2015 | 1/1/2015 | \$24.00 | 124.51\% | 45.90\% | \$21.25 | 272.81\% | 139.57\% |
| 2016 | 1/1/2016 | \$25.00 | 133.86\% | 51.98\% | \$22.25 | 290.35\% | 150.85\% |
| 2017 | 1/1/2017 | \$26.00 | 143.22\% | 58.05\% | \$23.25 | 307.89\% | 162.12\% |
| 2018 | 1/1/2018 | \$27.00 | 152.57\% | 64.13\% | \$24.25 | 325.44\% | 173.39\% |
| 2019 | 1/1/2019 | \$27.00 | 152.57\% | 64.13\% | \$24.25 | 325.44\% | 173.39\% |
| 2020 | 1/1/2020 | \$27.00 | 152.57\% | 64.13\% | \$24.25 | 325.44\% | 173.39\% |
| Source: CPUC Communications Division Staff. |  |  |  |  |  |  |  |

There continues to be little effective competition for POTS services. If the market were sufficiently competitive, the greatest loss of demand would occur in wire centers exhibiting the poorest service quality. In fact, the greatest drop-off in demand continues to arise in wire centers with the best service quality records.

## Effects of geographic and other wire center attributes upon performance results

While examinations of individual wire centers is essential to isolating specific problem areas and sources of concern, it is also instructive to create groups of individual wire centers having similar geographic or other attributes. In Phase 1, ETI had constructed five different attribute dimensions - (1) the presence of fiber upgrades; (2) wire center size (number of access lines); (3) the percentage decrease (loss) in the number of access lines in service to competing providers and/or to competing services over the study period; (4) the AT\&T Technology Field Services (TRs) organization to which the wire center has been assigned; and (5) the population density of the area served by the wire center (households per square mile). For each of these five attribute dimensions, ETI defined a set of categories whose potential effect upon service quality was then individually examined. These were summarized in Table 4A. 11 in our Phase 1 Report, and in Table 4A. 12 of the Phase 1 Report, we showed, for each of these five attribute dimensions, the category in which each individual AT\&T wire center has been classified. ${ }^{15}$ In addition, Table 4A. 12 also provided the median household income for the population served from the specified wire center. Updated versions of these two Tables are provided below:

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| Table 4A.11 <br> AT\&T CALIFORNIA |  |  |  |
| :--- | :--- | :---: | :---: |
| WIRE CENTER ATTRIBUTE DIMENSIONS <br> AND CATEGORIES |  |  |  |
| Attribute Dimension | Categories |  |  |


| AT\&T CALIFORNIA WIRE CENTER ATTRIBUTE CLASSIFICATIONS |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | $\begin{aligned} & \text { Pct Line } \\ & \text { Loss } \\ & \text { Category } \end{aligned}$ | Household <br> Density Category | AT\&T Field Operations District | Median Household Income Category |
| ACTON | 661410 | ACTNCA11 | LOS ANGELES | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| AGUA DULCE | 661351 | AGDLCA11 | LOS ANGELES | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| AGOURA | 818600 | AGORCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| ALBANY SOLANO | 510001 | ALBYCA11 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| ALLEGHANEY | 530425 | ALGHCA11 | SIERRA | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| ALHAMBRA | 626601 | ALHBCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$55,000-\$66,999 |
| ALAMEDA CENTRAL | 510002 | ALMDCA11 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| ALPINE | 619700 | ALPICA12 | SAN DIEGO | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| ANGELS CAMP | 209150 | ANCMCA01 | CALAVERAS | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| ANGWIN | 707275 | ANGWCA11 | NAPA | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| ANAHEIM LEMON | 714701 | ANHMCA01 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| ANAHEIM CYPRESS | 714702 | ANHMCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| ANAHEIM LA PALMA | 714703 | ANHMCA12 | ORANGE | No | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| ANHM HILLS | 714811 | ANHMCA17 | ORANGE | Yes | 3000-10000 Lines | >80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| ANNAPOLIS | 707322 | ANNPCA11 | SONOMA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| ANTIOCH | 925003 | ANTCCA11 | CONTRA COSTA | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| APTOS | 831100 | APTSCA12 | SANTA CRUZ | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| ARCADIA | 626602 | ARCDCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | San Gabriel | \$67,000-\$87,999 |
| ARCATA | 707276 | ARCTCA11 | HUMBOLDT | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ARROYO GRANDE | 805352 | ARGRCA12 | SAN LUIS OBISPO | No | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| AROMAS | 831144 | ARMSCA11 | SAN BENITO | No | 1001-2999 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| ARNOLD | 209151 | ARNLCA11 | CALAVERAS | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| ANDERSON | 530427 | ARSNCA11 | SHASTA | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ARLINGTON | 951704 | ARTNCA11 | RIVERSIDE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| ARVIN | 661353 | ARVNCA11 | KERN | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| SEQUOIA ASH MTN | 559152 | ASMTCA11 | FRESNO | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| ATASCADERO | 805354 | ATSCCA11 | SAN LUIS OBISPO | No | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| ATWATER | 209153 | ATWRCA12 | MERCED | Yes | 10001-20000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| AUBURN MAIN | 530428 | AUBNCA01 | PLACER | Yes | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| AUBURN PLACER HILLS | 530429 | AUBNCA11 | PLACER | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| AVILA BEACH | 805355 | AVBHCA11 | SAN LUIS OBISPO | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| AVENAL | 559154 | AVNLCA12 | KINGS | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| BAKER | 760705 | BAKRCA11 | SAN BERNARDINO | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| BALBOA | 949706 | BALBCA01 | ORANGE | Yes | 10001-20000 Lines | 60\%-70\% | 1800 + per Sq. Mile | Southern CA | \$88,000 + |
| BROCKWAY | 530434 | BCWYCA11 | PLACER | No | 3000-10000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| BODEGA BAY | 707279 | BDBACA11 | SONOMA | No | 1001-2999 Lines | 60\%-70\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| BEALE | 530431 | BEALCA11 | YUBA | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| BELL | 323604 | BELLCA11 | LOS ANGELES | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| BIGGS | 530432 | BGGSCA11 | BUTTE | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| BIG SUR | 831101 | BGSRCA11 | MONTEREY | No | 0-1000 Lines | <50\% | 0-16 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| BRIDGEVILLE | 707281 | BGVLCA11 | HUMBOLDT | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| BAKERSFIELD EMPIRE | 661356 | BKFDCA11 | KERN | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| BAKERSFIELD MAIN FAIRI | 661357 | BKFDCA12 | KERN | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| BAKERSFIELD COLUMBU؟ | 661358 | BKFDCA13 | KERN | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| BAKERSFIELD TEMPLE | 661359 | BKFDCA14 | KERN | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| BAKERSFIELD METTLER | 661360 | BKFDCA15 | KERN | No | 0-1000 Lines | <50\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| BAKERSFIELD WEST ROS | 661361 | BKFDCA17 | KERN | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| BAKERSFIELD NOMAD | 661409 | BKFDCA19 | KERN | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| BERKELEY BANCROFT | 510004 | BKLYCA01 | ALAMEDA | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| BOULDER CREEK | 831102 | BLCKCA11 | SANTA CRUZ | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| BLUE LAKE | 707278 | BLLKCA11 | HUMBOLDT | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| BLAIRSDEN | 530433 | BLRSCA12 | PLUMAS | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| BENICIA | 707277 | BNCICA11 | SOLANO | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| BANGOR | 530430 | BNGRCA11 | BUTTE | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| BEN LOMOND | 831103 | BNLMCA11 | SANTA CRUZ | No | 1001-2999 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| BUENA PARK | 714710 | BNPKCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| BOONVILLE | 707280 | BNVLCA11 | MENDOCINO | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| BURBANK PALM | 818605 | BRBNCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| BURBANK THORNTON | 818606 | BRBNCA13 | LOS ANGELES | No | 1001-2999 Lines | 50\%-60\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| BRADLEY | 805363 | BRDLCA90 | MONTEREY | No | 0-1000 Lines | <50\% | 0 | Bay / Central Coast | 0 |
| BREA | 714709 | BREACA12 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| BURLINGAME | 650006 | BRLNCA01 | SAN MATEO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| BORREGO SPRINGS | 760707 | BRSPCA11 | SAN DIEGO | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| BRENTWOOD | 925007 | BRWDCA12 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| BRAWLEY | 760708 | BRWLCA11 | IMPERIAL | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| BISHOP RANCH | 925082 | BSRNCA70 | CONTRA COSTA | No | 3000-10000 Lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| BUTTE CITY | 530435 | BTCYCA11 | GLENN | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| BETHEL ISLAND | 925008 | BTISCA11 | CONTRA COSTA | Yes | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| BURRELL | 559242 | BURLCA11 | FRESNO | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| BEVERLY HILLS | 310607 | BVHLCA01 | LOS ANGELES | Yes | Over 20000 lines | 50\%-60\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| BEAR VALLEY | 209155 | BVLYCA11 | CALAVERAS | No | 0-1000 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| BEAR VLLY SPRING | 661403 | BVSPCA11 | KERN | No | 1001-2999 Lines | >80\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| BAYWOOD PARK | 805362 | BYPKCA11 | SAN LUIS OBISPO | No | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| CAMPO | 619715 | CAMPCA11 | SAN DIEGO | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| COBB MOUNTAIN | 707285 | CBMTCA11 | LAKE | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CHICO MAIN | 530438 | CHICCA01 | BUTTE | Yes | Over 20000 lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CHALLANGE | 530437 | CHLNCA11 | YUBA | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| CHUALAR | 831104 | CHLRCA11 | MONTEREY | No | 0-1000 Lines | 50\%-60\% | 0 | Bay / Central Coast | 0 |


| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household <br> Density Category | AT\&T Field Operations District | Median Household Income Category |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CHULA VISTA THIRD AVEI | 619718 | CHVSCA11 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| CHULA VISTA APACHE | 619719 | CHVSCA12 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| CHOWCHILLA | 559158 | CHWCCA11 | MADERA | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| CALABASAS PARK SORRE | 818666 | CLBSCA11 | LOS ANGELES | Yes | 10001-20000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| CALABASAS LOS VIRGEN | 818665 | CLBSCA50 | LOS ANGELES | No | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| CULVER CITY | 310608 | CLCYCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| COALINGA | 559160 | CLNGCA01 | FRESNO | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CLEAR LAKE OAKS | 707283 | CLOKCA11 | LAKE | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| CALPATRIA | 760713 | CLPTCA11 | IMPERIAL | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| CALISTOGA | 707282 | CLSTCA11 | NAPA | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| CLOVIS | 559159 | CLVSCA11 | FRESNO | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| CALEXICO | 760712 | CLXCCA12 | IMPERIAL | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$0-\$42,999 |
| CAMBRIA | 805364 | CMBACA11 | SAN LUIS OBISPO | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| CAMP NELSON | 559156 | CMNLCA11 | tulare | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| CAMP PENDLETON | 760714 | CMPDCA01 | SAN DIEGO | No | 0-1000 Lines | 60\%-70\% |  | Southern CA | 0 |
| CAMPTONVILLE | 530436 | CMPVCA11 | YUBA | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| COMPTON | 310609 | CMTNCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| CONCORD | 925009 | CNCRCA01 | CONTRA COSTA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| CANOGA PARK | 818610 | CNPKCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| CENTRAL VALLEY | 530528 | CNVYCA11 | SHASTA | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CLOVERDALE | 707284 | CODLCA11 | SONOMA | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| COLMA DALY CITY | 650010 | COLACA01 | SAN MATEO | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| CORDELIA | 707286 | CORDCA12 | SOLANO | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| CORONA | 951721 | CORNCA11 | RIVERSIDE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| COLTON | 909720 | COTNCA11 | SAN BERNARDINO | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| CROCKETT | 510011 | CRCTCA02 | CONTRA COSTA | No | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| CORONA DEL MAR | 949722 | CRDMCA11 | ORANGE | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| CARLSBAD HARDING | 760716 | CRLSCA11 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| CARLSBAD LA COSTA | 760717 | CRLSCA12 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| CARMEL MAIN | 831105 | CRMLCA11 | MONTEREY | Yes | 10001-20000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| CORONADO | 619723 | CRNDCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| CORNING | 530440 | CRNGCA12 | TEHAMA | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CARUTHERS | 559157 | CRTHCA11 | FRESNO | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| CARMEL VALLEY | 831106 | CRVYCA11 | MONTEREY | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| COSTA MESA | 949725 | CSMSCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| CASTAIC | 661408 | CSTCCA11 | LOS ANGELES | Yes | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| CASTROVILLE | 831107 | CSVLCA11 | MONTEREY | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| COTATI | 707287 | CTTICA12 | SONOMA | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| COULTERVILLE | 209161 | CTVLCA11 | MARIPOSA | No | $0-1000$ Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| COTTONWOOD | 530441 | CTWDCA11 | TEHAMA | No | 3000-10000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CROWS LANDING | 209162 | CWLDCA12 | STANISLAUS | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| CAYUCOS | 805366 | CYCSCA11 | SAN LUIS OBISPO | No | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| CLAYTON | 925081 | CYTNCA11 | CONTRA COSTA | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| COYOTE WELLS | 760726 | CYWLCA11 | IMPERIAL | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| DANVILLE MAIN 12 | 925012 | DAVLCA12 | CONTRA COSTA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| DANVILLE TASSAJARA 13 | 925085 | DAVLCA13 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| DAVIS | 530442 | DAVSCA11 | YOLO | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| DELANO | 661367 | DELNCA11 | TULARE | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| DINUBA | 559164 | DINBCA01 | TULARE | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| DIXON | 707443 | DIXNCA11 | SOLANO | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| DEL MAR | 858727 | DLMRCA12 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| DEL REY | 559163 | DLRYCA11 | FRESNO | No | 0-1000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| DULZURA | 619728 | DLZRCA11 | SAN DIEGO | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| DUNNIGAN | 530445 | DNGNCA12 | YOLO | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| DUNSMUIR | 530446 | DNSMCA11 | SISKIYOU | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ALTA DUTCH FLATS | 530447 | DTFLCA11 | PLACER | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| DOWNIEVILLE | 530444 | DWNVCA11 | SIERRA | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| EDWARDS | 661369 | EDWRCA01 | KERN | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| ELK CREEK | 530448 | EKCKCA11 | GLENN | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| EL CAJON | 619729 | ELCJCA11 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| EL CENTRO | 760730 | ELCNCA01 | IMPERIAL | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| ELK | 707288 | ELK CA11 | MENDOCINO | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| EL MONTE | 626611 | ELMNCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$43,000-\$54,999 |
| RICH APPIAN WAY EL SOE | 510013 | ELSBCA11 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| EL SEGUNDO DOUGLAS | 310613 | ELSGCA12 | LOS ANGELES | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| EL TORO | 949731 | ELTRCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| ENCINITAS | 760732 | ENCTCA12 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| EARLIMART | 661368 | ERLMCA11 | TULARE | No | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ESCALON | 209192 | ESCLCA11 | SAN JOAQUIN | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| ESCONDIDO | 760733 | ESCNCA01 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| ESPARTO | 530450 | ESPRCA11 | YOLO | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| EUREKA | 707289 | EURKCA01 | HUMBOLDT | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| FELTON | 831108 | FETNCA11 | SANTA CRUZ | No | 3000-10000 Lines | 60\%-70\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| FALLBROOK | 760735 | FLBKCA12 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| FILLMORE | 805370 | FLMRCA11 | VENTURA | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| FOLSOM NIMBUS | 916453 | FLSMCA12 | SACRAMENTO | Yes | 3000-10000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| FOLSOM EL DORADO HILI | 916454 | FLSMCA13 | SACRAMENTO | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| FOLSOM BLUE RAVINE | 916536 | FLSMCA14 | SACRAMENTO | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| FONTANA | 909736 | FNTACA11 | SAN BERNARDINO | Yes | Over 20000 lines | >80\% | 95-449 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| FIREBAUGH | 559166 | FRBHCA11 | FRESNO | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FURNACE CREEK | 760738 | FRCKCA11 | SAN BERNARDINO | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| FAIRFIELD | 707290 | FRFDCA01 | SOLANO | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| FRENCH GULCH | 530455 | FRGLCA11 | SHASTA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| FREMONT MAIN 11 | 510014 | FRMTCA11 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire <br> Center | CLLI | County | Fiber | Wire Center Size Category |  | Household Density Category | AT\&T Field Operations District | Median Household Income Category |
| FREMONT ADAMS OLIVEF | 510015 | FRMTCA12 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| FAIR OAKS | 916451 | FROKCA11 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| FRESNO MAIN | 559168 | FRSNCA01 | FRESNO | Yes | Over 20000 lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FRESNO BALDWIN | 559169 | FRSNCA11 | FRESNO | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FRESNO CLINTON | 559172 | FRSNCA12 | FRESNO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FRESNO SIERRA | 559170 | FRSNCA13 | FRESNO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| FRESNO WEST HIGHWAY | 559245 | FRSNCA14 | FRESNO | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| FRESNO WOODWARD | 559247 | FRSNCA15 | FRESNO | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| FARMERSVILLE | 559165 | FRVLCA11 | tulare | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FORESTVILLE | 707291 | FSVLCA11 | SONOMA | No | 1001-2999 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| FORT BRAGG | 707292 | FTBRCA02 | MENDOCINO | No | 3000-10000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| FORTUNA | 707293 | FTUNCA11 | HUMBOLDT | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FULLERTON | 714737 | FUTNCA01 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| FIVE POINTS | 559167 | FVPNCA11 | FRESNO | No | 0-1000 Lines | <50\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| FRAZIER PARK | 661371 | FZPKCA11 | KERN | No | 1001-2999 Lines | 60\%-70\% | $95-449$ per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| GALT | 209171 | GALTCA11 | SACRAMENTO | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| GLENDALE | 818614 | GLDLCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| GREEN FIELD | 831109 | GNFDCA11 | MONTEREY | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| GONZALES | 831110 | GNZLCA11 | MONTEREY | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| GERBER | 530458 | GRBRCA11 | TEHAMA | No | 0-1000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| GRIDLEY | 530461 | GRDLCA11 | BUTTE | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| GARDENA | 310615 | GRDNCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| EUCLID | 714739 | GRGVCA01 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| GRENADA | 530460 | GRNDCA13 | SISKIYOU | No | 0-1000 Lines | 70\%-80\% | 0 | Northern CA / Central Valley | 0 |
| GEORGETOWN | 530457 | GRTWCA11 | EL DORADO | No | 1001-2999 Lines | <50\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| GRASS VALLEY | 530459 | GRVYCA01 | NEVADA | No | Over 20000 lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LAKE OF THE PINE | 530532 | GRVYCA11 | NEVADA | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| WILDWOOD | 530535 | GRVYCA12 | NEVADA | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| GOSHEN | 559246 | GSHNCA11 | tulare | No | 1001-2999 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| GUALALA | 707295 | GULLCA11 | MENDOCINO | No | 1001-2999 Lines | <50\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| GUSTINE | 209174 | GUSTCA11 | MERCED | No | 1001-2999 Lines | 60\%-70\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| GUERNEVILLE | 707296 | GUVLCA11 | SONOMA | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| GROVELAND | 209173 | GVLDCA11 | tuolumne | No | 3000-10000 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| GEYERSVILLE | 707294 | GYVLCA11 | SONOMA | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| gazelle | 530456 | GZLLCA11 | SISKIYOU | No | $0-1000$ Lines | 60\%-70\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HERALD | 209176 | HERLCA11 | SACRAMENTO | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| Highland | 909741 | HGLDCA11 | SAN BERNARDINO | Yes | 10001-20000 Lines | >80\% | $95-449 \mathrm{per}$ Sq. Mile | Southern CA | \$55,000-\$66,999 |
| HUGHSON | 209177 | HGSNCA11 | StANISLAUS | Yes | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HEALDSBURG | 707297 | HLBGCA11 | SONOMA | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| HOLLISTER | 831111 | HLSTCA11 | SAN BENITO | Yes | 10001-20000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| Holtville | 760742 | HLVLCA11 | IMPERIAL | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$0-\$42,999 |
| HOLLYWOOD | 323616 | HLWDCA01 | LOS ANGELES | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | $\begin{aligned} & \text { Pct Line } \\ & \text { Loss } \\ & \text { Category } \end{aligned}$ | Household <br> Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| HALF MOON BAY | 650016 | HMBACA12 | SAN MATEO | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| HAMILTON CITY | 530462 | HMCYCA11 | GLENN | No | 0-1000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| HOMEWOOD | 530463 | HMWDCA11 | EL DORADO | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HANFORD | 559175 | HNFRCA01 | KINGS | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HUNTINGTON PARK | 323617 | HNPKCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| HOPLAND | 707298 | HPLDCA12 | MENDOCINO | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HoRNBROOK | 530464 | HRBKCA11 | SISKIYOU | No | 0-1000 Lines | <50\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| HERCULES PINOLE | 510080 | HRCLCA11 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| HURON | 559178 | HURNCA11 | FRESNO | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| HAWTHORNE | 310618 | HWTHCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| HYDESVILLE | 707299 | HYVLCA11 | HUMBOLDT | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| HAYWARD MAIN | 510017 | HYWRCA01 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| HAYWARD DEPOT | 510018 | HYWRCA11 | ALAmeda | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| IGNACIO | 415019 | IGNCCA12 | MARIN | No | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| INGLEWOOD | 310619 | IGWDCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| IMPERIAL BEACH | 619744 | IMBHCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| IMPERIAL | 760743 | IMPRCA11 | IMPERIAL | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| INVERNESS | 415020 | INVRCA11 | MARIN | No | 0-1000 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| IONE | 209179 | IONECA11 | AMADOR | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| IRVINE | 949745 | IRVNCA01 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$88,000 + |
| IRVINE AIRPORT | 949807 | IRVNCA11 | ORANGE | Yes | 10001-20000 Lines | 50\%-60\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SPECTRUM IRVINE | 949810 | IRVNCA12 | ORANGE | Yes | 3000-10000 Lines | <50\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| ivanhoe | 559180 | IVNHCA11 | tulare | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| JAMUL | 619851 | Jamlcabo | SAN DIEGO | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$88,000 + |
| JACUMBA | 619746 | JCMBCA11 | SAN DIEGO | No | 1001-2999 Lines | 60\%-70\% | 0 | Southern CA | 0 |
| JACKSON | 209181 | JCSNCA01 | AMADOR | No | 3000-10000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| JAMESTOWN | 209182 | JMTWCA11 | TUOLUMNE | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| JULIAN | 760748 | JULNCA12 | SAN DIEGO | No | 1001-2999 Lines | 50\%-60\% | 17-94 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| KINGSBURG | 559183 | KGBGCA11 | tulare | No | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| KING CITY | 831112 | KGCYCA11 | MONTEREY | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| KELSEYVILLE | 707300 | KLVLCA12 | LAKE | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| KNIGHTS FERRY | 209184 | KNFYCA11 | Stanislaus | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| KYBURZ | 530465 | KYBRCA11 | EL DORADO | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| LA CANADA OAK GROVE | 818620 | LACNCA11 | LOS ANGELES | No | 0-1000 Lines | 50\%-60\% | 0 | San Gabriel | 0 |
| LA CRESCENTA | 818621 | LACRCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| LA HONDA | 650021 | LAHNCA11 | SAN MATEO | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| LA Jolla GIRARD | 858750 | LAJLCA11 | SAN DIEGO | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| LA MESA | 619752 | LAMSCA01 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| LAMONT | 661372 | LAMTCA11 | KERN | No | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LATON | 559186 | LATNCA11 | FRESNO | No | 0-1000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| LOCKEFORD | 209190 | LCFRCA11 | SAN JOAQUIN | No | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LEBEC | 661373 | LEBCCA11 | KERN | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| PINE MOUNTAIN | 661404 | LEBCCA12 | KERN | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LEMORE MAIN | 559188 | LEMRCA11 | KINGS | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LEMORE WYMAN | 559189 | LEMRCA12 | KINGS | No | 0-1000 Lines | >80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| LAFAYETTE | 925022 | LFYTCA11 | CONTRA COSTA | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| LAGUNA NIGUEL | 949749 | LGNGCA12 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$88,000 + |
| LE GRANDE | 209187 | LGRDCA11 | MERCED | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LAGRANDE D PEDRO | 209185 | LGRNCA12 | STANISLAUS | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| LAKE BERRYESSA | 707301 | LKBRCA11 | NAPA | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| LAKE LOS ANGELES | 661405 | LKLACA11 | LOS ANGELES | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LAKEPORT | 707302 | LKPTCA02 | LAKE | No | 3000-10000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LAKESIDE | 619751 | LKSDCA12 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| LOYALTON | 530471 | LLTNCA11 | PLUMAS | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| LINCOLN | 916467 | LNCLCA11 | PLACER | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| LEONA VALLEY | 661374 | LNVYCA11 | LOS ANGELES | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| LODI | 209191 | LODICA01 | SAN JOAQUIN | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| LOLITA | 707303 | LOLTCA11 | HUMBOLDT | No | 0-1000 Lines | 60\%-70\% | 0 | Northern CA / Central Valley | 0 |
| LOOMIS | 916470 | LOMSCA11 | PLACER | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| LOMITA | 310622 | LOMTCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| LARKSPUR CORTE MADE। | 415023 | LRKSCA11 | MARIN | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| MADISON 02 MO | 213624 | LSANCA02 | LOS ANGELES | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| MADISON 03 MA | 213625 | LSANCA03 | LOS ANGELES | Yes | 10001-20000 Lines | 50\%-60\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN PLEASANT | 323626 | LSANCA05 | LOS ANGELES | No | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| UNION | 213627 | LSANCA06 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN AIRPORT | 310628 | LSANCA07 | LOS ANGELES | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| LSAN MELROSE | 323629 | LSANCA08 | LOS ANGELES | No | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| RICHMOND | 213630 | LSANCA09 | LOS ANGELES | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN WEBSTER | 323631 | LSANCA10 | LOS ANGELES | No | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| RAMPART | 213632 | LSANCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| NORMANDY | 323633 | LSANCA12 | LOS ANGELES | No | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| LSAN PLYMOUTH | 323634 | LSANCA13 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN ADAMS | 323635 | LSANCA14 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN AXMINSTER | 323636 | LSANCA15 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN CAPITOL | 323638 | LSANCA23 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$43,000-\$54,999 |
| LSAN SUNSET | 323640 | LSANCA29 | LOS ANGELES | Yes | 10001-20000 Lines | 60\%-70\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| LSAN ANGELES | 323641 | LSANCA34 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$0-\$42,999 |
| LSAN MONTEBELLO | 323642 | LSANCA35 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$43,000-\$54,999 |
| LSAN REPUBLIC | 323643 | LSANCA38 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| LSAN CLINTON | 323644 | LSANCA56 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$55,000-\$66,999 |
| LOS ALTOS | 650024 | LSATCA11 | SANTA CLARA | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| LOS BANOS | 209193 | LSBNCA12 | MERCED | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LOS MOLINOS | 530469 | LSMLCA11 | TEHAMA | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| LEWISTON | 530466 | LSTNCA11 | TRINITY | No | 0-1000 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | $\begin{aligned} & \text { Pct Line } \\ & \text { Loss } \\ & \text { Category } \end{aligned}$ | Household <br> Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| LITTLE ROCK | 661375 | LTRKCA11 | LOS ANGELES | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| LIVERMORE | 925025 | LVMRCA11 | ALAMEDA | Yes | Over 20000 lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| LIVE OAK | 530468 | LVOKCA11 | SUTTER | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| LOWER LAKE | 707304 | LWLKCA11 | LAKE | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MADERA MAIN | 559194 | MADRCA11 | MADERA | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| MADERA BONNADELLI | 559243 | MADRCA12 | MADERA | Yes | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| MARINA | 831113 | MARNCA11 | MONTEREY | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| MODESTO MAIN | 209199 | MDSTCA02 | StanisLaus | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| MODESTO KELLOG SOUT | 209200 | MDSTCA03 | StanisLaus | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| MODESTO KINGSWOOD C | 209201 | MDSTCA04 | STANISLAUS | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| MODESTO TALLY | 209248 | MDSTCA05 | STANISLAUS | Yes | 3000-10000 Lines | >80\% | 1800 + per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| MODESTO DAVIS | 209249 | MDSTCA52 | StANISLAUS | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | - |
| MIDDLETOWN | 707306 | MDTWCA11 | LAKE | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| MOKELUMNE HILL | 209202 | MKHLCA12 | CALAVERAS | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| MCKINLEYVILLE | 707307 | MKVLCA11 | HUMBOLDT | No | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| MILLBRAE | 650026 | MLBRCA11 | SAN MATEO | Yes | 3000-10000 Lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MILPITAS | 408114 | MLPSCA11 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MILL VALLEY | 415027 | MLVYCA01 | MARIN | Yes | 10001-20000 Lines | 60\%-70\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| MENDOCINO | 707305 | MNDCCA11 | MENDOCINO | No | 3000-10000 Lines | 50\%-60\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MENDOTA | 559195 | MNDTCA11 | FRESNO | No | 1001-2999 Lines | 70\%-80\% | $0-16$ per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MENLO PARK | 650028 | MNPKCA11 | SAN MATEO | Yes | 10001-20000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MONTE RIO | 707309 | MNRICA11 | SONOMA | No | 1001-2999 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MoJAVE | 661376 | MOJVCA01 | KERN | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| MORAGA | 925029 | MORGCA12 | CONTRA COSTA | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MORRO BAY | 805378 | MRBACA11 | SAN LUIS OBISPO | No | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| MERCED | 209196 | MRCDCA01 | MERCED | Yes | Over 20000 lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| MERIDAN | 530473 | MRDNCA11 | SUTTER | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| MIRANDA | 707308 | MRNDCA11 | HUMBOLDT | No | $0-1000$ Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MURPHYS | 209203 | MRPHCA11 | CALAVERAS | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MOORPARK | 805377 | MRPKCA12 | VENTURA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| MARTINEZ | 925030 | MRTZCA11 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MOSS BEACH | 650031 | MSBHCA11 | SAN MATEO | No | 3000-10000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MISSION VIEJO | 949806 | MSVJCAAT | ORANGE | Yes | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| MONTAGUE | 530529 | MTAGCA11 | SISKIYOU | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MOUNTAIN PASS | 760753 | MTPSCA11 | SAN BERNARDINO | No | 0-1000 Lines | 50\%-60\% | 0 | Southern CA | 0 |
| MONTEREY | 831115 | MTRYCA01 | MONTEREY | No | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| MOUNT SHASTA | 530474 | MTSHCA12 | SISKIYOU | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| MOUNTAIN VIEW | 650032 | MTVWCA11 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MARYSVILLE | 530472 | MYVICA01 | YUBA | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| NAPA | 707310 | NAPACA01 | NAPA | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| NICOLAUS | 530477 | NCLSCA12 | SUTTER | No | 0-1000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| EDGEWOOD N HIGHL | 916478 | NHLDCA11 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household <br> Density Category | AT\&T Field Operations District | Median Household Income Category |
| NEWHALL | 661379 | NHLLCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| NHWD LANKERSHIM | 818646 | NHWDCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| NHWD MAGNOLIA | 818647 | NHWDCA02 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| NICE | 707311 | NICECA11 | LAKE | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| NICASIO | 415033 | NICSCA11 | MARIN | No | 0-1000 Lines | <50\% | - | Northern CA / Central Valley | 0 |
| NILAND MAIN | 760855 | NILDCA11 | IMPERIAL | No | 0-1000 Lines | 70\%-80\% | $0-16$ per Sq. Mile | Southern CA | \$0-\$42,999 |
| NINLAND BOMBAY BEACF | 760856 | NILDCA12 | IMPERIAL | No | 0-1000 Lines | >80\% | 0-16 per Sq. Mile | Southern CA | \$0-\$42,999 |
| NIPOMO | 805380 | NIPMCA11 | SAN LUIS OBISPO | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| NORTHRIDGE | 818648 | NORGCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| WABASH | 916479 | NSCRCA11 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| NORTH NATOMAS | 916537 | NSCRCA12 | SACRAMENTO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| NORTH SAN JUAN | 530480 | NSJNCA11 | NEVADA | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| NATIONAL CITY HIGHLANI | 619754 | NTCYCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$0-\$42,999 |
| NEVADA CITY | 530475 | NVCYCA11 | NEVADA | No | 3000-10000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| NEWCASTLE | 916476 | NWCSCA11 | PLACER | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| NEWMAN | 209204 | NWMNCA12 | StANISLAUS | No | 1001-2999 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| NORTH YUBA | 530481 | NYUBCA11 | YUBA | No | 1001-2999 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| OCCIDENTAL | 707312 | OCDNCA11 | SONOMA | No | 1001-2999 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| OCEANSIDE MISSION | 760758 | OCSDCA11 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| OJAI | 805382 | OJAICA11 | VENTURA | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| OAKDALE | 209205 | OKDLCA11 | STANISLAUS | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| OAKLAND FRANKLIN | 510036 | OKLDCA03 | ALAMEDA | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| OAKLAND KELLOGFRUITV | 510037 | OKLDCA04 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$0-\$42,999 |
| OAKLAND 45TH OLYMPICI | 510038 | OKLDCA11 | ALAmeda | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| OAKLAND HOLLY | 510039 | OKLDCA12 | ALAmEDA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| OAKLAND MOUNTAIN | 510040 | OKLDCA13 | ALAMEDA | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| OAKLEY | 925041 | OKLYCA11 | CONTRA COSTA | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| OAKVIEW | 805381 | OKVWCA11 | VENTURA | No | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| EXPORT OILDALE | 661383 | OLDLCA11 | KERN | Yes | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| ORANGE COVE | 559206 | ORCVCA11 | FRESNO | No | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ORLAND | 530483 | ORLDCA11 | GLENN | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ORINDA | 925042 | ORNDCA11 | CONTRA COSTA | Yes | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| ORANGE CHAPMAN | 714759 | ORNGCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| ORANGE OLIVE | 714760 | ORNGCA13 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| ORANGE WEST | 714761 | ORNGCA14 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| OROSI | 559207 | ORSICA11 | tulare | No | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| ORANGEVALE | 916482 | ORVACA11 | SACRAMENTO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| OROVILLE MAIN | 530484 | ORVLCA11 | BUTTE | No | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| OROVILLE EAST | 530485 | ORVLCA12 | BUTTE | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| OTAY MESA | 619853 | OTMSCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Southern CA | \$88,000 + |
| PAUMA VALLEY | 760764 | PALACA11 | SAN DIEGO | No | 1001-2999 Lines | 50\%-60\% | 17-94 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| GARNET | 858762 | PCBHCA01 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| HORNBLEND | 858763 | PCBHCA11 | SAN DIEGO | Yes | 1001-2999 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| PACIFICA | 650043 | PCFCCA11 | SAN MATEO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| PEDLEY | 951765 | PDLYCA11 | RIVERSIDE | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| PIRU | 805386 | PIRUCA11 | VENTURA | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| PALO ALTO MAIN | 650045 | PLALCA02 | SANTA CLARA | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| PALO ALTO SOUTH | 650046 | PLALCA12 | SANTA CLARA | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| PLACENTIA | 714767 | PLCNCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| PALMDALE | 661384 | PLDLCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| PALMDALE EAST 47TH ST | 661412 | PLDLCA11 | LOS ANGELES | Yes | 3000-10000 Lines | >80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| PLEASANT GROVE | 916491 | PLGVCA12 | PLACER | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| PLYMOUTH | 209212 | PLMOCA11 | AMADOR | No | 3000-10000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| PLANADA | 209211 | PLNDCA11 | MERCED | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| PLEASANTON MAIN HOPY | 925047 | PLTNCA12 | ALAMEDA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| PLEASANTON HACIENDA | 925083 | PLTNCA13 | ALAMEDA | No | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| PLACERVILLE MAIN | 530489 | PLVLCA11 | EL DORADO | No | Over 20000 lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| PLACERVILLE NIAGARA | 530490 | PLVLCA12 | EL DORADO | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| POINT ARENA | 707315 | PNARCA11 | MENDOCINO | No | 1001-2999 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| PINECREST | 209209 | PNCRCA11 | TUOLUMNE | No | 1001-2999 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| PINE VALLEY | 619766 | PNVYCA11 | SAN DIEGO | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| POWAY MIDLAND | 858768 | POWYCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| PEPPERWOOD | 707313 | PPWDCA11 | HUMBOLDT | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| PARADISE MAIN | 530486 | PRDSCA11 | BUTTE | No | 10001-20000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| PARADISE PINES | 530487 | PRDSCA12 | BUTTE | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| PARLIER | 559208 | PRLRCA11 | FRESNO | Yes | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| PARAMOUNT | 562649 | PRMTCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| POINT REYES | 415048 | PRSNCA11 | MARIN | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| PITTSBURG MAIN | 925049 | PSBGCA01 | CONTRA COSTA | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| PITTSBURG BAY POINT W | 925050 | PSBGCA11 | CONTRA COSTA | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| PISMO BEACH | 805387 | PSBHCA11 | SAN LUIS OBISPO | No | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| PESCADERO | 650051 | PSCDCA11 | SAN MATEO | No | 1001-2999 Lines | <50\% | 0 | Bay / Central Coast | 0 |
| PASADENA MT WILSON G | 626650 | PSDNCA11 | LOS ANGELES | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | San Gabriel | \$67,000-\$87,999 |
| PASADENA LAKE | 626651 | PSDNCA12 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | San Gabriel | \$67,000-\$87,999 |
| PASKENTA | 530488 | PSKNCA11 | TEHAMA | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| PASO ROBLES | 805385 | PSRBCA01 | SAN LUIS OBISPO | No | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| PETALUMA | 707314 | PTLMCA01 | SONOMA | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| PORTOLA | 530492 | PTOLCA01 | PLUMAS | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| PORTERVILLE | 559213 | PTVLCA11 | TULARE | Yes | Over 20000 lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| POTTER VALLEY | 707316 | PTVYCA11 | MENDOCINO | No | 1001-2999 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| PIXLEY | 559210 | PXLYCA11 | TULARE | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| QUINCY | 530493 | QNCYCA12 | PLUMAS | No | 3000-10000 Lines | <50\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| RAMONA | 760769 | RAMNCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| RANCHO BERNARDO | 858770 | RBRNCA11 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median Household Income Category |
| STANFORD RANCH | 916541 | RCKLCA01 | PLACER | Yes | 10001-20000 Lines | >80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| ROCKLIN | 916527 | RCKLCA11 | PLACER | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| RICHMOND SF | 510052 | RCMDCA11 | CONTRA COSTA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| RICHVALE | 530496 | RCVACA11 | BUTTE | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | - |
| RED BLUFF | 530494 | RDBLCA01 | TEHAMA | No | 10001-20000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| REDWOOD CITY | 650053 | RDCYCA01 | SAN MATEO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| REDDING MAIN | 530495 | RDNGCA02 | SHASTA | Yes | Over 20000 lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| REDDING ENTERPR | 530531 | RDNGCA11 | SHASTA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| RESEDA | 818652 | RESDCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| RIO DELL | 707317 | RIDECA11 | HUMBOLDT | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| RIO LINDA | 916526 | RILNCA12 | SACRAMENTO | No | 3000-10000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| RIALTO | 909773 | RILTCA11 | SAN BERNARDINO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| RANCHO MURIETTA | 916533 | RNMRCA11 | SACRAMENTO | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| RANCHO PENASQUITOS | 858854 | RNPSCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| RANCHO SAN DIEGO | 619852 | RNSDCA11 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| ROSEMEAD | 626654 | ROSMCA11 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | San Gabriel | \$43,000-\$54,999 |
| RANCHO SANTA FE | 858771 | RSFECA12 | SAN DIEGO | Yes | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Southern CA | \$88,000 + |
| ROSAMOND | 661388 | RSMDCA11 | KERN | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| R S MARGARITA | 949808 | RSMGCA11 | ORANGE | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$88,000 + |
| ROHNERT PARK | 707337 | RTPKCA11 | SONOMA | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| RIVERDALE | 559215 | RVDLCA11 | FRESNO | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| RIVERBANK | 209214 | RVRBCA11 | StANISLAUS | Yes | 3000-10000 Lines | >80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| RIVERSIDE ORANGE | 951774 | RVSDCA01 | RIVERSIDE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| WOODCREST | 951775 | RVSDCA11 | RIVERSIDE | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$88,000 + |
| SAUGUS | 661407 | SAGSCA11 | LOS ANGELES | Yes | 10001-20000 Lines | >80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| SANTEE | 619795 | SANTCA01 | SAN DIEGO | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SATICOY | 805391 | SATCCA12 | VENTURA | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| SEBASTAPOL | 707321 | SBSTCA11 | SONOMA | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| SACRAMENTO MN | 916497 | SCRMCA01 | SACRAMENTO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SCRM IVANHOE | 916498 | SCRMCA02 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SCRM GARDEN | 916499 | SCRMCA03 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SCRM GLADSTONE | 916500 | SCRMCA11 | SACRAMENTO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SCRM EMPIRE | 916501 | SCRMCA12 | SACRAMENTO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SCRM FRUITRIDGE | 916502 | SCRMCA13 | SACRAMENTO | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SCOTTS VALLEY | 831116 | SCVYCA01 | SANTA CRUZ | Yes | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SODA SPRINGS | 530508 | SDSPCA11 | NEVADA | No | 1001-2999 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| SELMA | 559217 | SELMCA11 | FRESNO | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SEASIDE | 831117 | SESDCA11 | MONTEREY | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SOUTH GATE | 323655 | SGATCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$0-\$42,999 |
| SHINGLE SPRINGS | 530504 | SGSPCA11 | EL DORADO | Yes | 10001-20000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| SHAFTER | 661392 | SHFTCA11 | KERN | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| SHASTA LAKE | 530503 | SHLKCA01 | SHASTA | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | $\begin{aligned} & \text { Pct Line } \\ & \text { Loss } \\ & \text { Category } \end{aligned}$ | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| SHERMAN OAKS | 818656 | SHOKCA01 | LOS ANGELES | No | Over 20000 lines | 60\%-70\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| SHOSHONE | 760796 | SHSHCA11 | SAN BERNARDINO | No | 0-1000 Lines | <50\% | 0 | Southern CA | 0 |
| SIMI | 805393 | SImical1 | VENTURA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$88,000 + |
| S J CAPISTRANO | 949791 | SJCPCA12 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| StOCKTON MAIN | 209220 | SKTNCA01 | SAN JOAQUIN | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| StOCKTON GRANITE | 209221 | SKTNCA11 | SAN JOAQUIN | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| STOCKTON ASHLEY | 209222 | SKTNCA12 | SAN JOAQUIN | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| STOCKTON REDWOOD | 209223 | SKTNCA14 | SAN JOAQUIN | Yes | 3000-10000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SOLEDAD | 831118 | SLDDCA11 | MONTEREY | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| SOLEMINT | 661394 | SLMNCA11 | LOS ANGELES | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| SALINAS MAIN | 831119 | SLNSCA01 | MONTEREY | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| HICKORY SALINAS | 831120 | SLNSCA11 | MONTEREY | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| GLENVIEW | 831121 | SLNSCA12 | MONTEREY | No | 1001-2999 Lines | 60\%-70\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| HUNTER | 831122 | SLNSCA13 | MONTEREY | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MORO | 831123 | SLNSCA14 | MONTEREY | No | 3000-10000 Lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SILVERADO | 714797 | SLVRCA11 | ORANGE | No | 0-1000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Southern CA | \$88,000 + |
| SMARTSVILLE | 530507 | SmAVCA11 | YUBA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| SAN ANDREAS | 209216 | SNADCA11 | CALAVERAS | No | 3000-10000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| BUSH | 714788 | SNANCA01 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| BRISTOL | 714789 | SNANCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SANTA ANA WEST SNAN E | 714804 | SNANCA12 | ORANGE | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| SAN ARDO | 831124 | SNARCA11 | MONTEREY | No | 0-1000 Lines | 50\%-60\% | 0 | Bay / Central Coast | 0 |
| SAN BRUNO | 650055 | SNBUCA02 | SAN MATEO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SAN CLEMENTE | 949776 | SNCLCA12 | ORANGE | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Southern CA | \$88,000 + |
| SAN CARLOS | 650056 | SNCRCA11 | SAN MATEO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SANTA CRUZ | 831125 | SNCZCA01 | SANTA CRUZ | Yes | Over 20000 lines | 60\%-70\% | 95-449 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SANTA CRUZ CAPITOLA | 831126 | SNCZCA11 | SANTA CRUZ | Yes | Over 20000 lines | 70\%-80\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SNDG C STREET | 619777 | SNDGCA01 | SAN DIEGO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| SNDG UNIVERSITY | 619778 | SNDGCA02 | SAN DIEGO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SNDG LINDA VISTA | 858779 | SNDGCA03 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SNDG SAIPAN | 619780 | SNDGCA05 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| SNDG 37TH STREET | 619781 | SNDGCA06 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| SNDG COLLEGE | 619782 | SNDGCA11 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| SNDG MARKET STREET | 619783 | SNDGCA12 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| SNDG TENNYSON | 619784 | SNDGCA14 | SAN DIEGO | Yes | 10001-20000 Lines | 70\%-80\% | 1800 + per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SNDG REGENTS | 858785 | SNDGCA15 | SAN DIEGO | Yes | Over 20000 lines | 60\%-70\% | 450-1799 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| SNDG MIRA MESA | 858786 | SNDGCA16 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| SF BUSH PINE | 415058 | SNFCCA01 | SAN FRANCISCO | Yes | Over 20000 lines | 50\%-60\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| SF MARKET MCCOPPIN | 415059 | SNFCCA04 | SAN FRANCISCO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SF MISSION 25TH ST | 415060 | SNFCCA05 | SAN FRANCISCO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SF JUNIPER ONONDAGA | 415061 | SNFCCA06 | SAN FRANCISCO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SF LARKIN STEINER | 415067 | SNFCCA12 | SAN FRANCISCO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| SF EVERGREEN 9TH AVE | 415064 | SNFCCA13 | SAN FRANCISCO | Yes | Over 20000 lines | 60\%-70\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SF MONTROSE 19TH | 415065 | SNFCCA14 | SAN FRANCISCO | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SF THIRD ST | 415066 | SNFCCA17 | SAN MATEO | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SF FOLSOM | 415068 | SNFCCA21 | SAN FRANCISCO | Yes | 10001-20000 Lines | 50\%-60\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN GABRIEL | 626658 | SNGBCA01 | LOS ANGELES | No | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | San Gabriel | \$67,000-\$87,999 |
| SAN GERONIMO | 415069 | SNGNCA11 | MARIN | No | 1001-2999 Lines | 60\%-70\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SAN JUAN BAUSTISTA | 831127 | SNJNCA11 | SAN benito | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SAN JOSE MAIN | 408128 | SNJSCA02 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SAN JOSE WHITE RD | 408129 | SNJSCA11 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SAN JOSE DIAL WAY | 408130 | SNJSCA12 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN JOSE CHYNOWETH | 408131 | SNJSCA13 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| SAN JOSE FOXWORTHY | 408132 | SNJSCA14 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN JOSE EVERGREEN S | 408133 | SNJSCA15 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN JoSE ALMADEN VALI | 408134 | SNJSCA18 | SANTA CLARA | Yes | 10001-20000 Lines | 70\%-80\% | $95-449$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN JOSE JUNCTION | 408145 | SNJSCA21 | SANTA CLARA | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN JOSE BAILEY | 408142 | SNJSCA22 | SANTA CLARA | No | 0-1000 Lines | 50\%-60\% | - | Bay / Central Coast | 0 |
| SAN LUCAS | 831135 | SNLCCA11 | MONTEREY | No | 0-1000 Lines | 50\%-60\% | 0 | Bay / Central Coast | 0 |
| SAN LEANDRO | 510070 | SNLNCA11 | ALAMEDA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SAN LUIS OBISPO | 805389 | SNLOCA01 | SAN LUIS OBISPO | Yes | 10001-20000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Bay / Central Coast | \$43,000-\$54,999 |
| SAN MARTIN | 408136 | SNMACA11 | SANTA CLARA | No | 1001-2999 Lines | 60\%-70\% | 17-94 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN MARCOS | 760792 | SNMCCAAO | SAN DIEGO | No | Over 20000 lines | 70\%-80\% | 0 | Southern CA | 0 |
| SANTA MARGARITA | 805390 | SNMICA11 | SAN LUIS OBISPO | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Bay / Central Coast | \$55,000-\$66,999 |
| SAN MATEO | 650071 | SNMTCA11 | SAN MATEO | Yes | Over 20000 lines | 60\%-70\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN PEDRO | 310659 | SNPDCA01 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |
| SONORA | 209218 | SNRACA13 | tuolumne | No | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SAN RAFAEL MAIN | 415072 | SNRFCA01 | MARIN | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| PARKWAY | 415073 | SNRFCA11 | MARIN | Yes | 10001-20000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| SAN RAMON | 925074 | SNRMCA11 | ALAMEDA | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SANTA ROSA MAIN | 707320 | SNRSCA01 | SONOMA | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| los alamos | 707319 | SNRSCA11 | SONOMA | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| SANTA CLARA SPACEPAF | 408143 | SNTCCA01 | SANTA CLARA | Yes | 10001-20000 Lines | 50\%-60\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SANTA CLARA BELLOMY | 408137 | SNTCCA11 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| CARROL SUNNYVALE | 408138 | SNVACA01 | SANTA CLARA | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Bay / Central Coast | \$88,000 + |
| MATHILDA SUNNEYVALE | 408139 | SNVACA11 | SANTA CLARA | Yes | 3000-10000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Bay / Central Coast | \$88,000 + |
| SAN YSIDRO | 619794 | SNYSCA12 | SAN DIEGO | No | 3000-10000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$43,000-\$54,999 |
| SONOMA | 707323 | SONMCA12 | SONOMA | No | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| SOUT PASADENA MISSIOI | 626660 | SPSDCA11 | LOS ANGELES | No | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | San Gabriel | \$88,000 + |
| SPRINGVILLE | 559219 | SPVLCA11 | tulare | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SIERRA CITY | 530505 | SRCYCA11 | SIERRA | No | 0-1000 Lines | <50\% | 0 | Northern CA / Central Valley | 0 |
| STRATFORD | 559224 | SRFRCA11 | KINGS | No | $0-1000$ Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| SIERRAVILLE | 530506 | SRVLCA11 | SIERRA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| SAUSALITO LARKSPUR | 415075 | SSLTCA11 | MARIN | Yes | 3000-10000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Northern CA / Central Valley | \$88,000 + |


| Table 4A.12: WIRE CENTER ATTRIBUTE CLASSIFICATIONS (continued) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wire Center Name | Wire Center | CLLI | County | Fiber | Wire Center Size Category | Pct Line Loss Category | Household Density Category | AT\&T Field Operations District | Median <br> Household Income Category |
| SOUTH TAHOE SUSSEX | 530509 | STAHCA01 | EL DORADO | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| SOUTH TAHOE TAMARAC | 530511 | STAHCA12 | EL DORADO | No | 0-1000 Lines | 70\%-80\% | 0 | Northern CA / Central Valley | 0 |
| SOUTH TAHOE MEYERS A | 530512 | STAHCA13 | EL DORADO | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| STINSON BEACH | 415076 | STBHCA11 | MARIN | No | 1001-2999 Lines | <50\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| SUTTER CREEK | 209225 | STCKCA11 | AMADOR | No | 1001-2999 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| STONYFORD | 530513 | STFRCA11 | COLUSA | No | 0-1000 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| ST HELENA | 707318 | STHNCA11 | NAPA | No | 3000-10000 Lines | 50\%-60\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| SUISUN CITY | 707324 | SUISCA11 | SOLANO | Yes | 1001-2999 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| SUNOL | 925077 | SUNLCA11 | ALAMEDA | No | 0-1000 Lines | 50\%-60\% | 0 | Bay / Central Coast | 0 |
| TIBURON | 415005 | TBRNCA11 | MARIN | No | 3000-10000 Lines | 60\%-70\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$88,000 + |
| TECHACHAPI | 661395 | THCHCA01 | KERN | Yes | 3000-10000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| TAHOE CITY | 530514 | THCYCA01 | PLACER | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| THREE RIVERS | 559228 | THRRCA11 | TULARE | No | 1001-2999 Lines | 50\%-60\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| THORNTON | 209227 | THTNCA11 | SAN JOAQUIN | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| TOMALES | 707325 | TMLSCA12 | SONOMA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| TEMPLETON | 805396 | TMTNCA11 | SAN LUIS OBISPO | No | 1001-2999 Lines | 70\%-80\% | 17-94 per Sq. Mile | Bay / Central Coast | \$67,000-\$87,999 |
| TIPTON | 559229 | TPTNCA11 | TULARE | No | 0-1000 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| TRACY | 209230 | TRACCA11 | SAN JOAQUIN | Yes | Over 20000 lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| TERRA BELLA | 559226 | TRBLCA11 | TULARE | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| TURLOCK | 209232 | TRLCCA11 | STANISLAUS | Yes | Over 20000 lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| TORRANCE | 310661 | TRNCCA11 | LOS ANGELES | Yes | 10001-20000 Lines | 70\%-80\% | $1800+$ per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| TRINIDAD | 707326 | TRNDCA11 | HUMBOLDT | No | 1001-2999 Lines | 70\%-80\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| TRES PINOS | 831140 | TRPSCA11 | SAN BENITO | No | 0-1000 Lines | <50\% | 0 | Bay / Central Coast | 0 |
| TRUCKEE | 530515 | TRUCCA11 | NEVADA | No | 10001-20000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| NORTH STAR | 530516 | TRUCCA12 | PLACER | No | 1001-2999 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| TULARE | 559231 | TULRCA11 | TULARE | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| TUSTIN 11 | 714798 | TUSTCA11 | ORANGE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$88,000 + |
| TUSTIN 70 | 714805 | TUSTCA70 | ORANGE | Yes | 1001-2999 Lines | 50\%-60\% | 0 | Southern CA | 0 |
| TWAIN HARTE | 209233 | TWHRCA11 | TUOLUMNE | No | 3000-10000 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| UKIAH MAIN | 707328 | UKIHCA01 | MENDOCINO | No | 10001-20000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| CAPELLA IVANHOE | 707327 | UKIHCA12 | MENDOCINO | No | 3000-10000 Lines | 60\%-70\% | 17-94 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| UNION CITY | 510078 | UNCYCA11 | ALAMEDA | No | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Bay / Central Coast | \$88,000 + |
| UPPER LAKE | 707329 | UPLKCA11 | LAKE | No | 1001-2999 Lines | 60\%-70\% | 0-16 per Sq. Mile | Northern CA / Central Valley | \$0-\$42,999 |
| VACAVILLE | 707330 | VCVLCA12 | SOLANO | Yes | Over 20000 lines | 70\%-80\% | 95-449 per Sq. Mile | Northern CA / Central Valley | \$67,000-\$87,999 |
| VINA | 530517 | VINACA12 | TEHAMA | No | 0-1000 Lines | 50\%-60\% | 0 | Northern CA / Central Valley | 0 |
| VISALIA MAIN | 559235 | VISLCA11 | TULARE | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$43,000-\$54,999 |
| VISTA | 760800 | VISTCA12 | SAN DIEGO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Southern CA | \$55,000-\$66,999 |
| VALLEY CENTER | 760799 | VLCTCA11 | SAN DIEGO | No | 3000-10000 Lines | 70\%-80\% | 17-94 per Sq. Mile | Southern CA | \$67,000-\$87,999 |
| VALLEJO | 707331 | VLLJCA01 | SOLANO | Yes | Over 20000 lines | 70\%-80\% | 450-1799 per Sq. Mile | Northern CA / Central Valley | \$55,000-\$66,999 |
| VAN NUYS | 818662 | VNNYCA02 | LOS ANGELES | Yes | Over 20000 lines | 70\%-80\% | 1800 + per Sq. Mile | Greater LA / Bakersfield | \$43,000-\$54,999 |
| VENTURA FIR | 805400 | VNTRCA02 | VENTURA | Yes | 10001-20000 Lines | 70\%-80\% | 95-449 per Sq. Mile | Greater LA / Bakersfield | \$55,000-\$66,999 |
| VENTURA MAIN MONTALV | 805399 | VNTRCA11 | VENTURA | Yes | 10001-20000 Lines | 70\%-80\% | 450-1799 per Sq. Mile | Greater LA / Bakersfield | \$67,000-\$87,999 |

For Phase 2, ETI has updated each of the four (4) graphs for each of the five category dimensions that correspond to AT\&T Companywide graphs provided above. These have now been updated to include data for 2018-2019. As with the companywide service quality metric graphs discussed above, we have calculated three separate trend lines for each graph - covering the periods 2010-2019 (solid red line); 2010-2017 (dashed green line); and 2018-2019 (dashed purple line). Two separate charts are provided for each graph. The first, or "A" chart, provides category trend lines for the full 2010-2019 period. The second, or "B" chart, provides trend lines for the 2010-2017 period and for the 2018-2019 period. Table 4A. 13 below provides an index to the figures for each set of attributes.

| Table 4A.13 |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :--- | :--- | :---: |
| SUMMARY OF AT\&T ATTRIBUTE DIMENSION GRAPHS |  |  |  |  |  |  |  |

As we discuss in the remainder of this Chapter, these wire center category analyses have generally retained the same overall relationships among the individual categories that we had identified in Phase 1. Performance across most service quality metrics is better in wire centers that have been upgraded with fiber optic distribution facilities, in wire centers serving relatively high-density urban and suburban communities, in larger wire centers, and in wire centers that have experienced the largest losses of customers to competitors. However, in almost every instance and category of wire center serving area, performance across most service quality metrics has significantly deteriorated over the 2018-2019 period relative to where it had been during the Phase 1 2010-2017 time frame.

Performance across most service quality metrics is better in wire centers that have been upgraded with fiber optic distribution facilities, in those serving higher-density urban and suburban communities, in larger wire centers, and in those with the largest losses of customers to competitors. But in almost every category, performance has significantly deteriorated over the 2018-2019 period.

Fiber optic upgraded wire centers offering broadband services availability.
Although this study and GO 133-C/D are primarily focused upon traditional circuit-switched POTS services, ETI hypothesized that the availability of fiber optic feeder and/or distribution (FTTN or FTTP) facilities capable of supporting broadband services in a particular wire center
indicates that AT\&T has undertaken to invest in and to upgrade the central office and outside plant facilities therein. To test the hypothesis. we compared service quality metrics in upgraded vs. non-upgraded wire centers to see if performance was better where upgrades had occurred and, in general, our expectations had been borne out.

As of 2017, approximately half (338) out of the 612 AT\&T California wire centers had been upgraded with the capability to support high-speed broadband services. ${ }^{16}$ That number has remained unchanged since that date. ${ }^{17}$ The only one of these services that falls within the scope of this study is VoIP; broadband Internet access and video do not. Using fiber availability as a surrogate for specific data on capital investment in each wire center, we examined whether the presence of one or more broadband offerings in any given wire center had a beneficial impact upon POTS service quality being furnished out of that same building - specifically, on the incidence of out-of-service situations, their duration, and the extent to which the $90 \%$ cleared within 24 hours standard had been achieved.

In general, and as illustrated on updated Figures 4A. 13 through 4A.16, wire centers that had been upgraded with fiber performed noticeably better on all OOS metrics than those for which no broadband investment had been made. In non-fiber upgraded wire centers, the long-term trend of monthly out-of-service incidents per 100 POTS lines in service mushroomed from 1.32 in the first quarter of 2010 to 1.86 as of the fourth quarter of 2017. For the 2018-2019 Phase 2 study period, however, service quality performance deteriorated in both fiber- and non-fiber wire cneters, although those that had been upgraded continued to perform significantly better.

> Wire centers upgraded with fiber to support broadband achieve better service quality performance scores in every category - but in 2018-2019, service quality in both types of wire centers was decidedly inferior to what had been achieved during the Phase $12010-2017$ period. AT\&T needed only 1.15 days to clear $90 \%$ of service outages in upgraded wire centers as of the end of 2019; for non-upgraded wire centers, it took 2.43 days to clear $90 \%$. The corresponding Phase 1 (4Q2017) were 1.10 and 1.86 .

As of December 31, 2020, AT\&T California had not upgraded any additional wire centers for Broadband since at least May 11, 2018.

In 2018-2019, service quality in both Broadband-enabled and nonBroadband wire centers was decidedly inferior to what had been achieved during the Phase 1 2010-2017 period.

[^5]

Figure 4A.13. Wire centers that had not been upgraded with fiber optic facilities experienced further degradation in the number of out-of-service incidents per 100 access lines (actual) in 2018-2019.


Figure 4A.14. The average duration for OOS over 24 hours (actual) in wire centers that had not been upgraded with fiber optic facilities grew even longer in 2018-2019.


Figure 4A.15. The percentage of all OOS cleared within 24 hours (actual) dropped considerably both in fiber and non-fiber wire centers in 2018-2019.


Figure 4A.16. It took AT\&T California more days to clear $90 \%$ of outages (actual) both in fiber and non-fiber wire centers in 2018-2019.

## Wire center size

GO 133-C/D refers to three sizes of ILEC wire centers. Small (1000 or fewer POTS lines), Medium (1001-2999 lines), and Large (3000 or more lines). ${ }^{18}$ As shown in Table 4A. 1 above, 413 out of the total 612 AT\&T wire centers would fall in the "Large" category ( 3000 or more POTS lines in service). The large drop-off in AT\&T POTS access line demand over the 20102019 period would require the reclassification of individual wire centers as category thresholds were crossed. However, given that these individual wire centers were configured for the number of POTS lines in service pre-dating January 2010, the size categorization extant as of the beginning of the Phase 1 study period was retained throughout the 10 -year time frame. ${ }^{19}$ Additionally, for analytical purposes, ETI determined that it would be useful to split the "Large" category into several more granular classifications, as we have done on Table 4A.14.

| Table 4A. 14 |  |  |
| :---: | :---: | :---: |
| AT\&T CALIFORNIA |  |  |
| CLASSIFICATIONS OF WIRE CENTERS BY POTS LINES IN SERVICE AS OF JANUARY 2010 |  |  |
| POTS Lines range | Category | No. of WCs |
| 1,000 or fewer | Small | 90 |
| 1,001-2,999 | Medium | 108 |
| 3,000-9,999 | Large Metro | 141 |
| 10,000-19,999 | Large Urban | 105 |
| 20,000 and above | Very Large | 168 |
| TOTAL |  | 612 |

There appears to be a strong relationship between the overall size of a wire center (in terms of the number of POTS lines in service as of January 2010) and the quality of service that is being
18. GO $133-\mathrm{C} / \mathrm{D}$, at §3.3(c).
19. Indeed, GO 133-C/D's reliance upon current wire center size for purposes of determining the applicable TRPH performance standard - 10, 8 or 6 for Small, Medium size, or Large, respectively, seems misplaced, in that it operates to apply successively more lenient performance standards as access line losses increase. For example, a wire center that had 3,100 POTS lines in service in 2010 would then have been required to satisfy a 6.0 TRPH standard. Once that access line count dropped below 3,000 , the allowable TRPH level would have automatically increased to 8.0 and if, by the end of the study period, the wire center's access line count had dropped below 1,000 , the allowable TRPH level would have increased further, to 10.0 . ETI sees no obvious reason why a decrease in the number of POTS lines in service in a given wire center should justify a more lenient service quality performance standard. Indeed, if anything, the very competitive marketplace forces that had been assumed to exist as a basis for adoption of the URF should have precisely the opposite effect - confronted with persistent and growing line losses, the ILEC's incentive should be to improve service quality so as to discourage further losses, rather than simply allow conditions to deteriorate further.
provided. Figure 4A. 17 highlights this relationship. While there has been an increase in the number of out-of-service conditions per 100 POTS lines in all wire center size categories, both the number and the rate of increase in OOS per 100 POTS lines have been lowest in the very largest (over 20,000 lines) wire centers, and highest in the under 1,000 line wire center category. A similar relationship is observed with respect to out-of-service duration. As shown on Figure 4A.18, while durations have been rising across all size categories, the highest rate of increase and the longest durations prior to restorations - are occurring in the smallest wire centers. The largest wire centers also exhibit the highest percentage of all outages cleared within 24 hours (actual) (Figure 4A.19) and the fewest number of days to clear $90 \%$ of all out-of-service incidents (actual) (Figure 4A.20).

The differences in these outcomes based upon wire center size are striking. In the fourth quarter of 2017, AT\&T was able to clear $57 \%$ of outages within 24 hours, and had actually improved that clearance rate from $51 \%$ in 1Q2010. But in the smallest wire center category, the 4Q2017 trend value clearance rate was $36 \%$, actually down from the $38 \%$ trend value in 1Q2010. A corresponding size/service quality relationship is also evident with respect to the days required to clear $90 \%$. That time frame increased in all five size categories, but the rate of increase - and the number of days to reach $90 \%$ - were lowest in the over-20,000 line category and highest in the under- 1,000 line category.

After 2017, the ordinal relationships among the five wire center size categories generally persisted, although almost all of the size categories saw deteriorating results after 2017.

> The strong relationship between the number of POTS lines in a wire center and the quality of service provided has persisted into the $2018-2019$ period, with the number and the rate of increase in OOS per 100 POTS lines continuing to be lowest in the very largest (over 20,000 lines) wire centers. However, service quality has deteriorated in all line-size categories since 2017 .


Figure 4A.17. The largest wire centers generally experienced the lowest out-of-service rate per 100 lines in service (actual), but the outage rate increased for all wire center size categories in 2018-2019.


Figure 4A.18. The largest wire centers generally exhibited the shortest average duration of OOS over 24 hours (actual); the two largest size categories saw some improvement in 2018-2019, while the two smallest size categories experienced even longer durations than in the Phase 1 study period.


Figure 4A.19. The largest wire centers generally exhibited the highest percentage of all OOS cleared within 24 hours (actual), but all five size categories saw significant decreases in this metric in 2018-2019.


Figure 4A.20. The largest wire centers generally required the fewest number of days to clear $90 \%$ of all out-of-service incidents (actual), but the days-to-clear metric increased across all size categories in 2018-2019.

## Access Line Loss.

Figure 4A. 21 highlights the precipitous drop in AT\&T California POTS lines in service over the full 2010-2019 study period. Companywide, AT\&T California experienced a net loss of $79.1 \%$ of its POTS access lines, going from 8,035,134 in January 2010 to only 1,679,543 as of December 2019. These POTS losses were offset to some extent by the growth in interconnected VoIP access lines, as shown in Figure 4.4 above for all wireline carriers statewide and in Table 14.1 (in Chapter 14) for AT\&T California specifically. We don't have carrier-specific residential and business losses, but FCC state-level data covering all wireline carriers (summarized on Figures 4.2 and 4.3 above) confirms that, as a general matter, residential wireline (POTS) losses were far greater than business losses as increasing numbers of households migrated to non-ILEC providers (primarily to cable MSOs offering interconnected VoIP-based telephone services) and to wireless. ${ }^{20}$

However, the actual extent of AT\&T POTS line losses varied widely among individual wire centers, from a gain of $18.75 \%$ in the Modesto 13th Street wire center to a loss of $96.56 \%$ in Paradise Main. In light of these large variations, we wanted to examine the potential impact that POTS line losses might have upon the overall service quality in each wire center. Large POTS line losses would likely result in a reduction of maintenance personnel, which could in turn have an adverse impact upon the Company's ability to respond to OOS situations. Alternatively, a large drop in the number of working lines could have the effect of making additional spare capacity available for rapid deployment as replacements for defective loops, switch ports or other service components. On the other hand, persistent and increasing service quality problems could work to stimulate even more demand shifts away from the ILEC and over to an alternative service provider. We have grouped the AT\&T wire centers into five (5) POTS Line Loss categories, as shown on Table 4A. 15 below:

[^6]

| Table 4A.15 |  |
| :---: | :---: |
| AT\&T CALIFORNIA |  |
| CLASSIFICATIONS OF WIRE CENTERS BY |  |
| POTS LINE LOSS PERCENTAGE |  |
| JANUARY 2010 THROUGH DECEMBER 2019 |  |
| POTS Lines Loss range | No. of WCs |
| Less than 50\% | 25 |
| $50 \%-60 \%$ | 32 |
| $60 \%-70 \%$ | 67 |
| $70 \%-80 \%$ | 248 |
| $80 \%$ and above | 240 |
| TOTAL | 612 |



Figure 4A.21. Companywide, AT\&T California experienced a net loss of 78.6\% of its POTS access lines in service over the 2010-2019 period.

In Phase 1, we observed that those wire centers that had experienced the lowest rate of POTS line losses - less than $50 \%$ over the study period - experienced the largest increases in the rate of outages per 100 POTS lines; for wire centers with successively larger line loss percentages, increases in OOS per 100 POTS lines were much smaller - as too were the numbers of outages per 100 POTS lines - with the group exhibiting the second largest POTS line losses $-70 \%$ to $80 \%$ - remaining almost constant over the study period (Figure 4A.22). For average duration of OOS over 24 hours, the outcome was directly inverse to line loss percentage. Here, the wire centers experiencing POTS line losses in excess of $80 \%$ show virtually no change in average duration - going from 3,604 minutes ( 2.50 days) in 1Q2010 to 5,297 minutes ( 3.67 days) in 4Q2019. For wire centers experiencing the smallest rate of line loss (less than $50 \%$ ), durations of outages over 24 hours jumped by $89 \%$, from 3,672 minutes ( 2.55 days) in 1Q2010 to 7,810 minutes ( 5.42 days) in 4Q2019 (Figure 4A.23). Similar patterns were found for the percentage of outages restored within 24 hours and for the number of days required to reach the $90 \%$ cleared objective. The wire centers experiencing the highest loss of POTS lines performed best on both of these metrics, whereas those with the smallest losses suffered the greatest degradation in service quality (Figure 4A. 24 and 4A.25).

For the most part, these relationships persisted into 2018-2019, although service quality performance was poorer on most of the metrics that we examined. One notable exception was a particularly large spike in out-of-service durations in the very largest wire centers over the 20182019 period relative to the earlier trend (Figure 4A.23).

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Figure 4A.22. AT\&T California wire centers with the fewest POTS line losses have experienced the greatest increase in OOS per 100 lines in service (actual), a disparity that became even greater in 2018-2019.


Figure 4A.23. AT\&T California wire centers with the largest POTS line losses had been experiencing the shortest average durations of OOS over 24 hours (actual) in the Phase 1 study period, but durations in this category saw a huge spike in the 2018-2019 period.


Figure 4A.24. AT\&T California wire centers with the largest POTS line losses are experiencing the highest percentages of all OOS cleared within 24 hours (actual), but this metric worsened for all except the smallest line loss category in 2018-2019.


Figure 4A.25. AT\&T California wire centers with the largest POTS lines losses requires the fewest number of days to clear $90 \%$ of all OOS (actual), but days-to-clear- $90 \%$ increased for all line loss categories in 2018-2019.


#### Abstract

Wire centers that had experienced the lowest rate of POTS line losses less than $50 \%$ over the study period - saw the largest increase in service outages; for those with successively larger line loss percentages, the incidence of service outages increased more slowly or remained almost constant over the study period. But performance in nearly all of the service quality metrics we studied deteriorated after 2017.


## Urban/Suburban/Rural

In support of our work on Phase $1, \mathrm{CD} / \mathrm{GIS}$ had provided us with a mapping of the roughly 500,000 Census Blocks in AT\&T California's operating areas to the AT\&T wire center serving that Census Block. Included in this dataset were the 2017 population, number of households, and median household income for each Census Block. The Census Bureau does not provide Census Block-level area data, but does provide land area in square miles for each Census Tract. Census Tracts are small, relatively permanent statistical subdivisions of a county, with populations that range between 1,200 and 8,000 , with an average of about $4,000 .{ }^{21}$ We aggregated the individual Census Block data to the Census Tract level within each AT\&T wire center serving area. Where a Census Tract was served by more than a single wire center, we assigned it to the wire center that served the majority of the Census Tract. Finally, we aggregated all Census Tracts within each wire center serving area to obtain land area and population for that wire center.

We were then able to calculate the population density for each wire center serving area by dividing its total land area by the number of households. Because wireline telephone service is typically furnished to a household rather than to an individual, we used total households rather than total population for this purpose. Wire centers were then assigned to one of five quintiles in terms of their density - the lowest $20 \%$ were assigned to Density Group 1, the next $20 \%$ to Density Group 2, and so on.

Over the Phase 1 study period, AT\&T's responses to out-of-service conditions had generally deteriorated, except in areas with the highest population density (in terms of households per square mile). The incidence of out-of-service per 100 lines in service (actual) has been increasing except in the highest density wire centers. The average duration of those out-ofservice conditions that remain uncleared for more than 24 hours (actual) has increased in all areas, but with the largest increases occurring in areas with the lowest population densities. The percentage of all out-of-service conditions that are being cleared within 24 hours, for which GO $133-\mathrm{C} / \mathrm{D}$ has established a $90 \%$ objective, remains lowest in areas with the lowest population densities, and does not appear to have improved, except in the highest density wire centers, where the trend line values improved from about $50 \%$ in 2010 to $58 \%$ in 2017. Finally, the

[^7]number of days required for AT\&T California to achieve the $90 \%$ OOS cleared objective has gotten longer, except in the highest density areas.

For the 2018-2019 period, we observed little change in the relationships among the five density categories. However, overall performance was considerably poorer in all five categories and for all four of the metrics we studied. These results are plotted on Figures 4A.26, 4A.27, 4A. 28 and 4A. 29 below:

> Except in areas with the highest population density, AT\&T's response to out-of-service conditions has generally deteriorated over the study period. That deterioration appears to have accelerated for all population density categories in the 2018-2019 period.


Figure 4A.26. AT\&T California OOS per 100 lines in service (actual) had been increasing except in the highest density categories, and escalated further in all but one density category in 2018-2019.


Figure 4A.27. AT\&T California average duration of OOS over 24 hours (actual) had increased the most in areas with the lowest population density, and saw further increases in 2018-2019 across all density categories.


Figure 4A.28. AT\&T California percent of all OOS cleared within 24 hours (actual) had remained stable except in areas with the highest population density, but saw decreases in all five density categories in 2018-2019.


Figure 4A.29. The number of days required for AT\&T California. to clear $90 \%$ of all OOS (actual) has increased in all five density categories over the entire 2010-2019 period.

## ILEC Organizational Assignment

AT\&T California's principal network maintenance organization had been known as "Technical Field Services (TFS) West (Core)" although it was sometimes referred to as Technology Field Services. In its May 15, 2020 response to CD Network Exam Phase 2 Data Request 11-A-1, AT\&T California advised that " $[i] n$ October 2019 the name of the Technology Field Services West (TFS) organization was changed to AT\&T Field Operations (AFO) West." ${ }^{22}$ We shall henceforth utilize that revised designation. According to AT\&T, AFO "is responsible for the installation and repair of Legacy and IP voice and broadband data services (from central offices, through outside cable plant, terminals, and to the customer premises), as well as network infrastructure support and maintenance of those same central office and outside cable plant network facilities. ${ }^{n 3}$ AT\&T has established five (5) regional AFO maintenance organizations, which we refer to as AFO Districts - Greater LA/Bakersfield; San Gabriel; Bay Area/Central Coast; Northern California/Central Valley, and Southern California. Of the five AFO Districts, the Los Angeles/Bakersfield and San Gabriel districts - both of which serve wire centers in the greater Los Angeles metropolitan area - were showing significant improvements in most OOS metrics - decreasing numbers of OOS per 100 POTS lines in service, shorter out-of-service durations until cleared, higher percentages of OOS cleared within 24 hours, and fewer days required to reach the $90 \%$ cleared level - over the Phase 1 2010-2017 study period. However, even those gains were largely reversed in 2018-2019, when performance by all AFO Districts in most service quality metrics suffered. The poorest performing AFO District continue to be the one serving Northern California. These results are plotted on Figures 4A.30, 4A.31, 4A. 32 and 4A. 33 below:


The stark differences in performance among the five AFO Districts may well be explained by the relative amount of broadband investment that AT\&T had made in each of these areas. Table 4A. 16 below summarizes, for each AFO District, the total number of wire centers for which the District is responsible together with the number of those wire centers that have been upgraded for broadband services as of the end of 2017. As noted above, AT\&T has confirmed that no additional wire centers have been upgraded for broadband since that date.

[^8]23. AT\&T California response to DR-01A, Request 1.

| AT\&T FIELD OPE TOTAL WIRE CEN UPGRADED WITH FIBER TO AS OF | le 4A <br> CALIF <br> ATION <br> RS A <br> SUPPO <br> CEMB | IA <br> FO) DISTR WIRE CEN BROADBA 2019 | S <br> S <br> SERVICES |
| :---: | :---: | :---: | :---: |
| AFO District | Total WCs | Upgraded WCs | Percent Upgraded |
| Bay / Central Coast | 126 | 85 | 67.5\% |
| Greater LA / Bakersfield | 85 | 64 | 75.3\% |
| Northern CA / Central Valley | 286 | 95 | 33.2\% |
| San Gabriel | 13 | 12 | 92.3\% |
| Southern California | 105 | 81 | 77.1\% |
| TOTAL | 615 | 337 | 54.8\% |

It seems hardly surprising that the AFO District with the poorest overall performance on all of the relevant service quality metrics - Northern CA / Central Valley - also has the lowest percentage of upgraded wire centers (33.2\%) and, conversely, the AFO District exhibiting the best performance and improvement overall - San Gabriel - also happens to have the highest percentage of upgraded wire centers ( $92.3 \%$ ). However, while investment in wire center upgrades may well account for a net gain in service quality overall (as in the case of the Los Angeles and San Gabriel AFO Districts), it would not by itself explain why those AFO Districts with the smallest percentage of wire center upgrades have experienced so substantial a degradation in service quality over the period, except perhaps to underscore the pressing need for investment and upgrades in these other wire centers as well.


Figure 4A.30. AT\&T California. OOS per 100 lines in service (actual) varied inversely with the type of area being supported by each AFO district - lowest in the largest metro areas, but saw large increases in the San Gabriel and Southern California districts.


Figure 4A.31. The average duration of OOS over 24 hours (actual) is longest and had been increasing - in AT\&T California AFO districts covering non-metro and rural areas, and also saw large increases in the San Gabriel and Southern California districts.


Figure 4A.32. The percentages of OOS to be cleared within 24 hours (actual) decreased in all five AFO districts in 2018-2019.


Figure 4A.33. The number of days required to clear $90 \%$ of all OOS (actual) increased in all five AFO districts in 2018-2019.

Since the bulk of AT\&T's investments in its ILEC network have been aimed at upgrades that support broadband services, the AFO Districts with the smallest percentage of such upgrades have continued to experience substantial degradations in service quality into the 2018-2019 period. This result further underscores the pressing need for infrastructure investment irrespective of AT\&T's pursuit of the broadband market.

## Summary

Overall, ETI's analysis of the 5.6-million AT\&T out-of-service Trouble Report records and other pertinent AT\&T service quality data over the full 10-year 2010-2019 period indicates that the company's service quality and its response to protracted out-of-service conditions has declined, in some cases significantly, over this time frame. Of particular concern, the degradation in AT\&T service quality overall appears to have accelerated in 2018-2019. There were few exceptions within the overall AT\&T California network.

Wire Centers that have received broadband upgrades - and hence benefitted from an infusion of new investment - have fared a lot better than those locations where little or no such upgrades had taken place. Service quality and responses to outages in the very largest wire centers particularly those in the Los Angeles area (the Los Angeles and San Gabriel AFO Districts) actually showed some improvements, whereas other AFO Districts exhibited deteriorating service quality conditions. In terms of absolute numbers, AT\&T out-of-service incidents declined, but the decline was less than in proportion to the large decrease in the number of POTS lines in service that AT\&T has experienced over the 10 -year study period. The various intercategory relationships were largely maintained in the last two years, but most metrics saw significant losses in all categories in 2018-2019.


[^0]:    10. Again serving to underscore the ILECs' persistent lack of interest in their legacy services, principal ILEC competitors - cable MSOs and Commercial Mobile Radio Service (CMRS) carriers - typically provide customer support and are able to address most service outages on a $24 / 7$ basis without taking weekends and holidays off. While the CPUC has given the ILECs a "pass" in this regard, competitive marketplace forces have generally failed to compel the ILECs to offer repair services comparable to what is routinely available from rival providers.
[^1]:    11. Some 2010-2017 trend lines differ slightly from those presented in the Phase 1 Report due to certain revisions and corrections that we have made to the earlier methodology for calculating "adjusted" results - those reflecting the GO $133 \S 3.4(\mathrm{~b})$ "credit" for Sunday and Holiday time from the "actual" elapsed duration of service outages.
[^2]:    12. AT\&T furnished several tabulations of its California wire centers, with differing numbers of wire centers, over the course of the study ( 615 in its response to DR-01A,Data Request 3, Attachment 4; 624 in response to DR-03A, Data Requests 1,2, and 6, Corrected Attachment 1; 622 in DR-03A, Corrected Attachment 2; 626 in DR03A, Corrected Attachment 2, DR-03A, Corrected Attachment 4 ). The GO 133-C/D service quality data covers only 612 wire centers.
[^3]:    13. CPUC 2005 SBC/AT\&T merger proceeding, A.05-02-027, Declaration of Dennis W. Carlton and Hal S. Sider, Joint Applicants’ Exhibit 1, at para. 41, citing AT\&T 4Q04 Earnings Conference Call, January 20, 2005, p. 8; paras. 46, 48-49. As we explained in our Phase 1 Report, in a "harvesting strategy," the firm ceases active marketing of and organizational support for those services that it considers to be on the decline and no longer of strategic importance, relying instead upon customer inertia to maintain its revenue stream, albeit decreasing, for as long as possible. That AT\&T has allowed its POTS service quality to deteriorate over the past decade even in the face of putative "competition" suggests that the carrier is and has been pursuing the very same kind of "harvesting" approach for POTS that its predecessor CLEC operation had employed back in the mid- to late-2000s. In fact, and as shown in Table 4A.10, concurrently with the deterioration in service quality that was the impetus for this Study, AT\&T has effected a succession of even larger rate increases for the very services that it now seeks to exit than its CLEC predecessor had done back in the mid-2000s.
[^4]:    15. For example, the Alhambra wire center in Los Angeles County (ALHBCA01) was assigned to the "Yes" category with respect to Fiber Deployment, to the "Over 20,000 Lines" category with respect to Wire Center Size; to the $70 \%-80 \%$ category with respect to Access Line Loss, to the " $1800+$ per Square Mile" category with respect to Population Density, to the San Gabriel Technical Field Services District, and to the $\$ 55,000-\$ 66,999$ Median Household Income category.
[^5]:    16. AT\&T response to DR-01
    17. AT\&T Response to DR-12-A-10.
[^6]:    20. See, generally, Figures 4.1 through 4.4 above. These were based upon data obtained from FCC Industry Analysis Division Office of Economics and Analytics, Voice Telephone Services: Status as of December 31, 2018, re. March 2020, Supplemental Table 1. Voice Subscriptions (in Thousands) - California, available at https://www.fcc.gov/voice-telephone-services-report (accessed 6/9/21).
[^7]:    21. United States Census Bureau, https.//www2.census.gov/geo/pdfs/education/CensusTracts.pdf, accessed 9/6/18).
[^8]:    22. AT\&T California response to DR 11-A-1 dated May 15, 2020. In that response, AT\&T further advised that "This is the only update to the narrative response provided to Data Request 1, Question 1 on May 11, 2018." On that basis, we have assumed that the specific assignments of individual wire centers to each of the five now-known-as-AFO districts is the same as it had been in Phase 1.
