Broadband in California:

Pricing, Affordability, and Adoption Trends

Implications of broadband pricing in achieving universal adoption

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The Public Advocates Office

at the California Public Utilities Commission

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EXECUTIVE SUMMARY

The Public Advocates Office at the California Public Utilities Commission has analyzed broadband pricing, affordability, and adoption trends to assess whether California households can obtain the fast, reliable service that is essential for daily life. This is our annual analysis of broadband pricing and affordability year over year. Below are our key findings.

Key Findings

- **Broadband remains unaffordable for many Californians.** The average monthly price for a plan at or above 100 megabits per second (Mbps) download and 20 Mbps upload – the Federal Communications Commission's benchmark for broadband speeds – is $116.68. This is far above what many households can afford.
- **Affordability is a challenge statewide.** In 76 of California's 281 Public Use Microdata Areas,[1] low-income households spend more than 15% of their discretionary income on broadband service.
- **California's national ranking has fallen.** For most categories of service, California's broadband prices have become higher relative to all markets analyzed.
- **Market concentration appears to increase price.** The five largest broadband providers in California serve nearly all customers (97%), with monthly prices often exceeding $300.
- **Broadband adoption in California has deteriorated.** While broadband adoption has increased nationally, California's adoption rates have declined slightly. The end of the federal Affordable Connectivity Program[2] may have worsened affordability gaps and threatens additional declines.
- **Equity disparities are significant.** Low-income households, rural areas, and communities

[1] Public Use Microdata Areas are statistical geographic areas defined by the U.S. Census Bureau, each containing at least 100,000 people

[2] The Affordable Connectivity Program was designed to help low-income households afford broadband internet access, but ended June 1, 2024, due to a lack of funding.

with higher proportions of seniors and people with disabilities face the greatest barriers to affordable broadband access.

- **Prices vary by provider type.** Small Local Exchange Carriers receiving state subsidies reported the highest prices in the 100–500 Mbps tier. In contrast, municipal and cooperative providers reported lower-than-average prices.

Why This Matters

Broadband is no longer optional. It is an essential service for Californians to access healthcare, education, employment, and public safety services. Yet rising prices and limited competition put broadband out of reach for the very communities who would benefit most. With the expiration of the federal Affordable Connectivity Program, there is an urgent need to ensure access to affordable broadband options to sustain adoption, especially in lower-income communities and regions with limited provider competition.

About this Report

This report incorporates data from the Federal Communications Commission's Urban Rate Survey, which provides national broadband pricing benchmarks, and from broadband provider responses to Public Advocates Office's annual pricing data requests, which provide California-specific details on prices across technologies and geographies. The report focuses on broadband pricing and its implications for broadband affordability and adoption. It does not evaluate the supply-side economics of broadband deployment.

INTRODUCTION

Broadband access is a keystone for full participation in modern society. It affects every dimension of economic opportunity, education, public health, and civic engagement. Recognizing this, California has committed to universal[3] broadband service that is not only available, but also affordable and equitably accessible. While broadband infrastructure investment has been a central focus of state and federal programs, broadband affordability remains a significant barrier for many California households, particularly those in low-income, rural, or underserved communities.

This report – the third annual broadband pricing report produced by the Public Advocates Office – assesses how broadband prices affect affordability and adoption across California. It is intended to complement infrastructure-focused efforts by highlighting the demand-side realities facing consumers. Each chapter can be read independently, though together they provide a comprehensive picture of pricing, affordability, and adoption challenges.

- **Chapter I** uses the Federal Communications Commission (FCC)'s Urban Rate Survey (URS) data to benchmark broadband pricing nationally in urban markets and examines California's relative position comparatively.
- **Chapter II** analyzes California-specific broadband pricing data collected directly from providers, covering urban and rural markets, speed tiers, technology types, and ownership models (see Appendix A for data gathering methodology). This chapter also identifies areas of California that present affordability concerns.
- **Chapter III** reviews current broadband adoption trends, with particular attention to affordability barriers, the expiration of the federal Affordable Connectivity Program

[3] Pub. Util. Code §§ 709(a) The Legislature hereby finds and declares that the policies for telecommunications in California are as follows: (a) To continue our universal service commitment by assuring the continued affordability and widespread availability of high-quality telecommunications services to all Californians.

(ACP), and recent changes to the Broadband Equity, Access and Deployment (BEAD) program that may influence broadband adoption going forward.

Together, these chapters illustrate the broadband affordability challenges Californians face, the inequities across regions and communities, and the urgent need for policy solutions that ensure all residents can access and maintain reliable broadband service.

CHAPTER I: Broadband Pricing Benchmarks and National Rankings

Federal Communications Commission Urban Rate Survey

As part of its examination of fixed broadband pricing trends, the Public Advocates Office reviewed the Federal Communications Commission (FCC)'s annual Urban Rate Survey (URS) for 2021-2023. The FCC collects standalone internet access service prices from a representative sample of fixed broadband providers[4] in urban census tracts across the United States. Each URS report is based on data collected from the prior year. The primary purpose of the URS is to establish a reasonable comparability benchmark[5] for each broadband service tier.[6] Providers that receive funding from the Federal Universal Service High-Cost Program[7] must then offer broadband service at or below these benchmark rates.[8]

Table 1 shows the number of unique monthly rates collected by the FCC since 2019. For the purposes of this report, the Public Advocates Office focuses on the most recent three years of data: 2021, 2022, and 2023.

[4] "Fixed broadband service refers to any type of broadband service that terminates at a specific end-user premises. This includes the provision of a broadband wireless channel to the end-user premises over licensed or unlicensed spectrum." https://docs.fcc.gov/public/attachments/DOC-402905A1.pdf

[5] The reasonable comparability benchmark is the estimated average monthly rate plus twice the standard deviation of rates for the fixed broadband service plans with download bandwidths of 10 Mbps or greater, upload bandwidths of 1 Mbps or greater, and meeting or exceeding the minimum monthly usage allowance. (FCC 2024 Urban Rate Survey – Fixed Broadband Service Methodology Report, at 9.)

[6] A service tier, also known as an internet plan or speed tier, refers to the specific range of download and upload speeds an internet service provider (ISP) offers to its customers.

[7] The FCC's high-cost programs provide funding to telecom carriers to provide service in rural areas. Historically, it has subsidized voice service, but the FCC is modernizing the high-cost program to support broadband service.

[8] DA 23-1172, at 2. FCC 11-161, paragraph 86 at 33 https://docs.fcc.gov/public/attachments/DA-23-1172A1.pdf

Table 1: Unique Rates Reported from 2019 through 2023

Year	Count of Unique Rates
2019	4,547
2020	3,203
2021	10,386
2022	12,181
2023	13,133
Total	**43,450**

FCC URS Data Geographical Scope & Weighting

The URS includes data from 50 states, the District of Columbia, and Puerto Rico (52 markets). Not all 52 markets report services for every speed tier or technology, so some speed tiers or technologies include fewer than 52 markets. Furthermore, not all providers in each market respond to the FCC's request for data.[9] This does not necessarily mean unreported plans or services are unavailable, only that they were not reported by URS participants as having these plans or services.

The Public Advocates Office analyzed California's fixed broadband weighted urban rates from the URS pricing data for 2021-2023. Weighted averages account for, among other factors, the geographic size of a provider's service territory and responsiveness, which adjusts the data to account for providers that do not respond to the URS.[10] This weighted average approach ensures the contributions of each response more closely represent the broadband pricing plans that may be available to consumers nationwide and prevents a single provider's rates from exerting undue influence on setting benchmark rates simply because it offers multiple technologies.[11] The FCC uses the weighted average rate to calculate its national benchmark.

[9] FCC 2024 Urban Rate Survey – Fixed Broadband Service Methodology Report, at 1 https://usfcc.app.box.com/s/nm4oqvqpeywxlgmtui31hkbwiunjqmxb

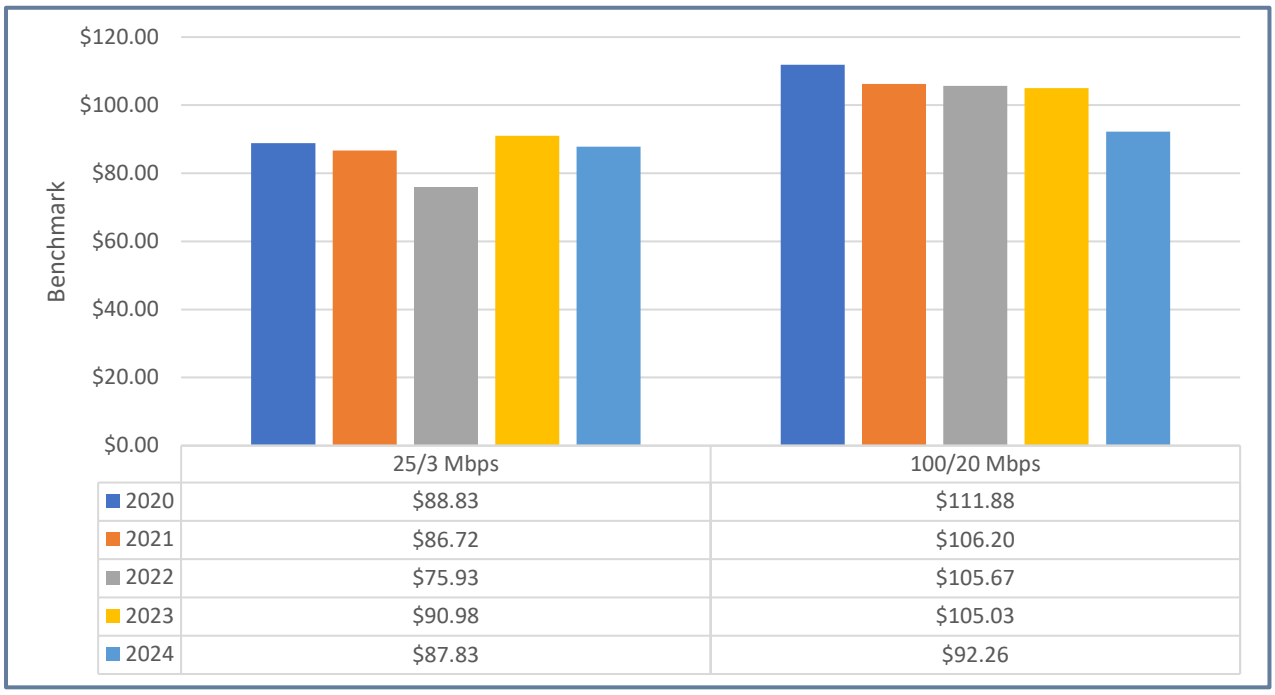
[10] For a more detailed description of the FCC URS weighting methodology please see Appendix A.

[11] FCC 2024 Urban Rate Survey – Fixed Broadband Service Methodology Report, at 4. https://us-fcc.app.box.com/s/nm4oqvqpeywxlgmtui31hkbwiunjqmxb

To assess California's relative competitiveness, the Public Advocates Office ranked California's weighted average urban rates against other markets from lowest to highest. A #1 ranking represents the lowest rate among the 52 markets, while #52 represents the highest.

On March 14, 2024, the FCC raised the high-speed fixed broadband benchmark to 100/20 Mbps – representing a four-fold increase in required upload speeds compared to the 25/3 Mbps benchmark set in 2015. Figure 1 below shows the FCC benchmark rate for 25/3 Mbps and 100/20 Mbps services from 2020 through 2024.

Figure 1: FCC Determined Benchmarks for 25/3 Mbps and 100/20 Mbps (2020-2024)



	25/3 Mbps	100/20 Mbps
2020	$88.83	$111.88
2021	$86.72	$106.20
2022	$75.93	$105.67
2023	$90.98	$105.03
2024	$87.83	$92.26

The FCC, using URS data from the prior year to establish the pricing benchmarks, reflects decreased rates for 100/20 Mbps service from $111.88 in 2020 (2019 data) to $92.26 in 2024 (2023 data). By comparison, California's 2023 average urban rates were $57.31.

However, it bears repeating that the URS data reflects only urban markets. It does not capture the rates that Californians may encounter in rural areas. As discussed in Chapter II, the Public Advocates Office collects data from both rural and urban providers. Using this broader dataset, we found that average rates for 100/20 Mbps service in 2024 were $120.56 (*unweighted*) and $66.25 (*weighted*).

The following section focuses on California's fixed broadband urban rates for download speeds equal to or greater than 100 Mbps and compares California's performance to other U.S. markets in 2021, 2022, and 2023.

California's Urban Rates for All Download Speeds ≥100 Mbps

Despite being lower than the FCC's benchmarks, California's rates for urban areas were much higher than many markets. Table 2 below ranks California's weighted average rates across speed tiers and compares them to markets with the lowest rates. For example, Idaho offered the lowest rates in both the ≥100 & <500 Mbps and ≥500 & <1000 Mbps tiers. Compared to subscribers in Idaho, Californians paid about 47% more for the ≥100 & <500 Mbps tier and 23% more for the ≥500 & <1000 Mbps tier.

Table 2: Summary of California's Weighted Average Urban Rates for Broadband Download Speeds of ≥100 Mbps in 2023

≥100 & <500 Mbps	California			1st Across Markets	
	Weighted Avg.	Rank #	Main Provider(s)	Market	Main Provider(s)
ALL Three Technologies	$75.04	24th of 51	Comcast (cable) and Charter (cable)	Idaho ($50.88)	Lumen (fiber) and Cable One (cable)
Fixed Wireless	$54.01	5th of 20	Verizon Wireless	District of Columbia Illinois ($45.00)	Starry and Webpass
Fiber	$58.64	14th of 47	Charter and	Nebraska ($33.69)	Lumen
Cable	$76.40	18th of 48	Comcast and Charter	Iowa ($52.41)	Mediacom
≥500 & <1000 Mbps	**California**			**1st Across Markets**	
	Weighted Avg.	Rank #	Main Provider(s)	Market	Main Provider(s)
ALL Three Technologies	$94.97	24th of 49	Comcast (cable) and Charter (cable)	Idaho ($77.06)	Lumen (fiber) and Cable One (cable)
Fixed Wireless	$62.30	1st of 3	Starry and Webpass	California ($62.30)	Starry and Webpass
Fiber	$76.77	8th of 46	Charter	Alabama ($60.99)	Knology of Alabama, Inc.
Cable	$96.93	24th of 49	Comcast and Charter	South Dakota ($76.54)	Midcontinent Communications and Clarity Telecom, LLC DBA Bluepeak Fiber.
≥1000 Mbps	**California**			**1st Across Markets**	
	Weighted Avg.	Rank #	Main Provider(s)	Market	Main Provider(s)
ALL Three Technologies	$152.36	28th of 52	Comcast (cable) and Charter (cable)	Vermont ($70.00)	Champlain Broadband LLC
Fixed Wireless	$70.00	1st of 4	Webpass	California, Illinois, and Washington ($70.00)	Webpass
Fiber	$199.59	28th of 48	Comcast and AT&T	Vermont ($70.00)	Champlain Broadband LLC
Cable	$112.43	11th of 47	Comcast and Charter	Puerto Rico ($84.99)	Liberty Communications of Puerto Rico LLC

Five Providers Dominate California's Broadband Market

In 2023, 19 providers in California reported ≥100 Mbps download speed service to the URS, with offerings extending up to 10 gigabits (10,000 Mbps). Table 3 below lists these providers and the weights assigned by the FCC to their services in California.

As the table shows, California's broadband market is highly concentrated by a few providers (i.e. those with the largest weighting).

Table 3: Providers of ≥100 Mbps Broadband Plans in California in 2023

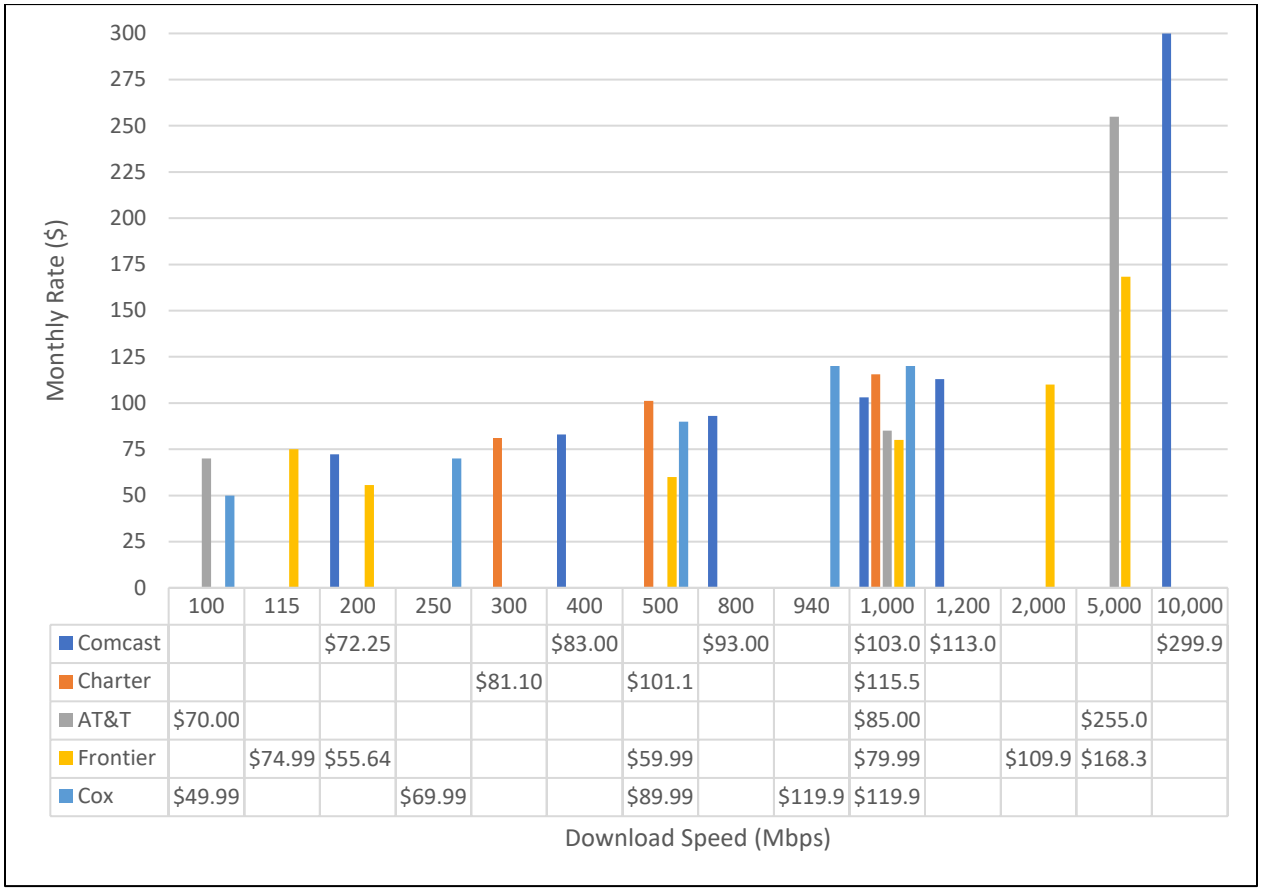
Rank	Providers	Sum of FCC Assigned Weights
1	Comcast Cable Communications, LLC (**Comcast**)	**19,176,444**
2	Charter Communications, Inc. (**Charter**)	**13,069,987**
3	Pacific Bell Telephone Company (**AT&T**)	**4,887,110**
4	Frontier Communications Corporation (**Frontier**)	**3,606,836**
5	Cox Communications (**Cox**)	**3,193,699**
6	WaveDivision Holdings, LLC (**WaveDivision**)	303,554
7	Consolidated Communications Holdings, Inc. (**Consolidated**)	146,356
8	Sonic Telecom, LLC (**Sonic**)	87,814
9	Cellco Partnership (**Verizon Wireless**)	86,212
10	Google Fiber California, LLC (**Google Fiber**)	85,802
11	City of San Bruno	65,860
12	Starry, Inc (**Starry**)	65,860
13	Mediacom California LLC (**Mediacom**)	58,543
14	Webpass, Inc. (**Webpass**)	51,481
15	Golden Rain Foundation	43,907
16	Zito West Holding, LLC (**Zito**)	21,953
17	Internet Consulting Services, LLC	7,318
18	Sail Internet, Inc. (**Sail**)	7,318
19	Cruzio Media Inc. (**Cruzio**)	3,659

Comcast and Charter together account for more than 32 million or 71% of FCC-assigned weights – nearly five times the share of the next-largest provider (AT&T). The five largest providers in California (Big 5) account for 97% of the FCC-assigned weights.

Urban Rates Among the "Big 5" Vary Widely

Figure 2 below illustrates the urban rates offered by the Big 5 for broadband download speeds of ≥100 Mbps in 2023. Rates shown are unweighted average rates, meaning that if a provider offered multiple plans at the same download speed, the rates were a simple average without regard to market size. For example, if Comcast offered 200/10 Mbps at $61.00 in one census tract, 200/10 Mbps at $73.00 in 9 census tracts, and 200/100 Mbps in 6 census tracts at $73.00, then the unweighted average rate is $72.25.

Figure 2: Unweighted Rates of California's Big 5 Providers in 2023



	100	115	200	250	300	400	500	800	940	1,000	1,200	2,000	5,000	10,000
Comcast			$72.25			$83.00		$93.00		$103.0	$113.0			$299.9
Charter					$81.10		$101.1			$115.5				
AT&T	$70.00									$85.00			$255.0	
Frontier		$74.99	$55.64				$59.99			$79.99		$109.9	$168.3	
Cox	$49.99			$69.99			$89.99		$119.9	$119.9				

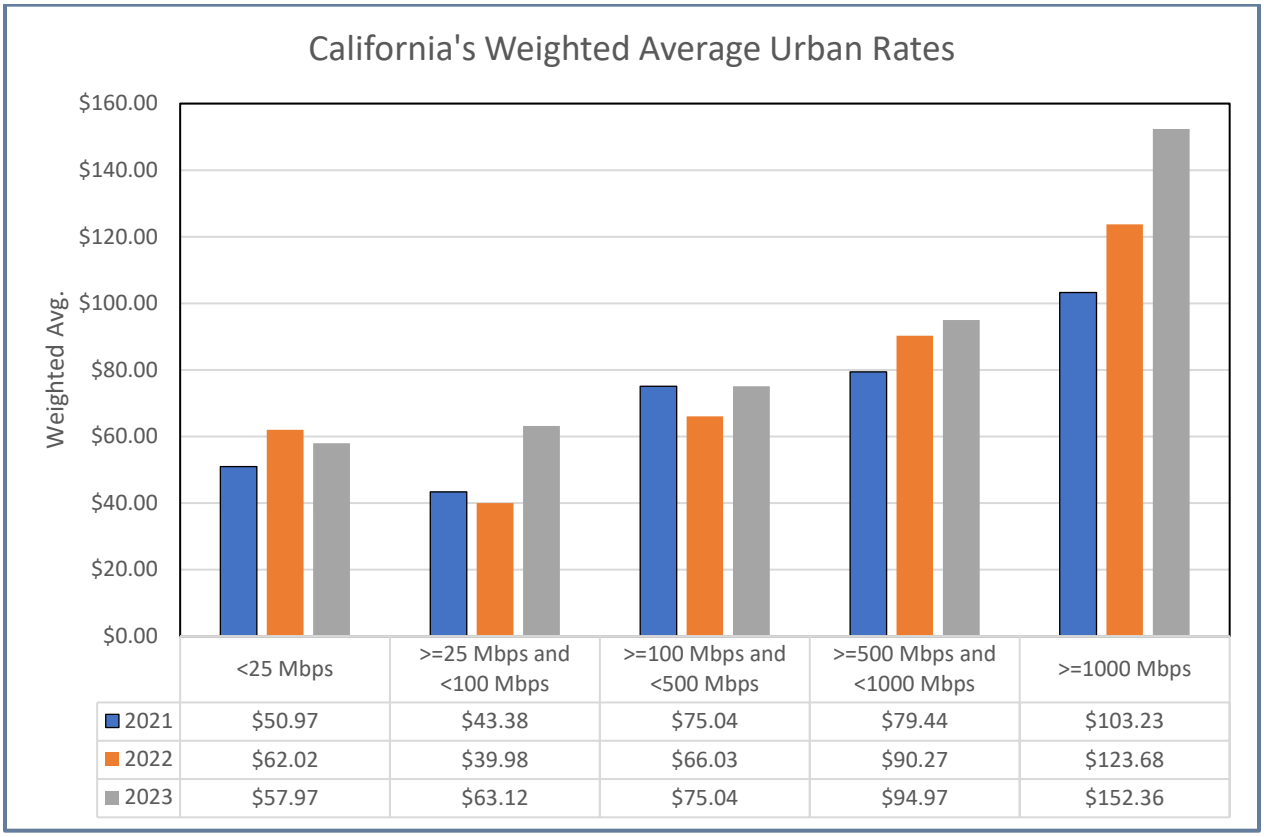
Prices among the Big 5 providers varied from Cox's $49.99 cable plan at 100/5 Mbps to Comcast's $299.95 fiber plan at 10,000/10,000 Mbps. In general, rates increased with increased

download speeds. However, Frontier's 115 Mbps DSL plan was priced higher than its 200 Mbps and 500 Mbps fiber plans.[12]

Analysis of California's Average Weighted Urban Rates in 2021, 2022, and 2023

Figure 3 shows the trend in California's weighted average urban rates by speed tier from 2021-2023, across four fixed broadband technologies (DSL, coaxial cable (cable), fiber, and fixed wireless).[13]

Figure 3: California's Weighted Average Urban Rates (2021-2023, all technologies)



	<25 Mbps	>=25 Mbps and <100 Mbps	>=100 Mbps and <500 Mbps	>=500 Mbps and <1000 Mbps	>=1000 Mbps
2021	$50.97	$43.38	$75.04	$79.44	$103.23
2022	$62.02	$39.98	$66.03	$90.27	$123.68
2023	$57.97	$63.12	$75.04	$94.97	$152.36

[12] DSL provides internet access over standard copper telephone lines.

[13] See Appendix B: Broadband Delivery Technologies.

Table 4 presents California's national rankings for each speed tier, based on weighted average rates.

Table 4: California Weighted Average Urban Rates Market Ranking (2021-2023)

Speed Tiers	2021	2022	2023
<25 Mbps	#21 out of 50 Markets	#23 out of 48 Markets	#32 out of 45 Markets
≥25 Mbps and <100 Mbps	#26 out of 52 Markets	#28 out of 49 Markets	#26 out of 49 Markets
≥100 Mbps and <500 Mbps	#14 out of 52 Markets	#20 out of 50 Markets	#24 out of 51 Markets
≥500 Mbps and <1000 Mbps	#8 out of 48 Markets	#10 out of 47 Markets	#24 out of 49 Markets
≥1000 Mbps	#15 out of 51 Markets	#29 out of 49 Markets	#28 out of 52 Markets

Over the three-year period, California's ranking decreased across all services except one speed tier. The precipitous decline in California's ranking for higher speed tiers (≥500 Mbps) negatively impacts the competitiveness of California nationally as more than 50% of broadband subscribers are now selecting higher-speed plans.

Chapter I. Conclusion

Overall, California became less competitive with other markets in regard to the prices of most broadband services. The influence of California's two main cable providers – Comcast and Charter – significantly shaped California's average urban rates, reflecting how market concentration, subscribership and service area impact affordability.

Broadband prices for different technologies varied by speed tier and availability. Fixed wireless providers offered the lowest urban rate for speeds equal to or greater than 100 Mbps in 2023. However, the limited footprint of Fixed Wireless (less than 0.5% of all weightings) limited its influence on average weighted prices. In 2023, fiber was priced relatively competitive in California for most speed tiers but was the most expensive technology for speeds greater than 1000 Mbps, which pushed California toward the bottom of national rankings. Conversely, cable had the highest urban rates of all technologies for the most popular speed tiers (100 & <500 Mbps and ≥500 & <1000 Mbps) in California, but became less expensive in 2023 for the fastest speed tier (≥1000 Mbps).

In total, Californians continue to face significantly higher priced broadband services across most speed tiers. While fixed wireless demonstrates the potential for lower-priced alternatives, high cable and fiber prices – compounded by the dominance of a few large providers – weigh down California's overall competitiveness and national rankings.

CHAPTER II: Broadband Pricing in Urban & Rural California

With broadband being identified as an essential service,[14] understanding the relative affordability of broadband services is just as critical as understanding the relative affordability of water, electricity, and natural gas.

Broadband pricing varies widely across the country and within the state of California. To better understand pricing in California, the Public Advocates Office annually collects data from providers on broadband plans and pricing. While Chapter I focuses on FCC URS data, this chapter analyzes broadband providers' responses to the Public Advocates Office's data requests.[15] These data requests sought information related to various elements of broadband plans like pricing, speeds, and technology. Providers were also asked to identify whether a broadband plan is standalone or bundled with another service, like voice or television. Unless otherwise stated, this chapter focuses on standalone broadband plans or broadband plans that require customers to purchase a bundle of voice and broadband services.[16]

In 2024, the FCC updated its benchmark for broadband speeds to at least 100 Mbps download and 20 Mbps upload (100/20 Mbps).[17] Thus, anything lower than 100/20 Mbps is appropriately characterized as "Below Standard Broadband" (BSB). This report primarily focuses on those speeds and technologies that meet the FCC's benchmark. The CPUC currently defines "essential telecommunications service" as fixed voice service and broadband at speeds of 25/3

[14] Statement of Chairwoman Jessica Rosenworcel, April 25, 2024: Safeguarding and Securing the Open Internet, WC Docket No. 23-320; Restoring Internet Freedom, WC Docket 17-108; Declaratory Ruling, Report and Order, Order, and Order on Reconsideration docs.fcc.gov/public/attachments/FCC-24-52A2.txt

[15] Data Requests of the Public Advocates Office are formal requests for information as authorized under Section 309.5(e) of California's Public Utilities Code.

[16] Some Small LECs require customers to purchase a voice line in order to purchase broadband service.

[17] Federal Communications Commission (FCC) Increases Broadband Speed Benchmark, at 2. See https://docs.fcc.gov/public/attachments/FCC-24-27A1.pdf

Mbps.[18] As of the date of this report, the CPUC has not updated its definition to reflect the FCC's broadband benchmark of 100/20 Mbps.

Defining Affordability

"Affordability" depends on a household's ability to pay. A rate for an essential service may be affordable to some populations, yet unaffordable to others. The California Public Utilities Commission (CPUC) adopted a framework to measure the relative affordability of utility services in the Cross-Industry Affordability Proceeding.[19] The CPUC's affordability framework establishes baseline "essential" quantities of utility service for gas, electricity, water and telecommunications.[20]

The CPUC's affordability framework includes the Affordability Ratio Calculator (ARC) to analyze relative affordability of broadband within California. The ARC is prepopulated with data and utilizes household discretionary income to determine affordability. The CPUC defines discretionary income as the income that remains after the customer pays for housing and other utilities. The CPUC's definition does not remove other essential household costs such as food and healthcare,[21] which may tend to overstate both discretionary income and the affordability of utility services.

The ARC produces Affordability Ratios. Affordability Ratios are calculated at the Public Use Microdata Area (PUMA) level. PUMAs are statistical non-overlapping geographies that are comprised of census tracts and contain at least 100,000 people.[22] Affordability Ratios at the 20th percentile (AR_{20}) and 50th percentile (AR_{50}) of a PUMA's median household income level are used

[18] Decision (D.) 20-07-032, Decision Adopting Metrics and Methodologies for Assessing the Relative Affordability of Utility Service, at 33.

[19] Rulemaking (R.) 18-07-006.

[20] Decision (D.) 20-07-032, Decision Adopting Metrics and Methodologies for Assessing the Relative Affordability of Utility Service, at 19 -33.

[21] Decision (D.) 22-08-023, Decision Implementing the Affordability Metrics, Appendix A.

[22] https://www.census.gov/programs-surveys/geography/guidance/geo-areas/pumas.html

for analysis.[23] For telecommunications, any Affordability Ratio greater than 15% denotes an Area of Affordability Concern.[24]

Affordability of Essential Broadband Service Remains a Concern

According to the broadband pricing data collected through the Public Advocates Office's data requests, the price of broadband plans in California have varied widely across different speed tiers and over the years. Table 8 below shows unweighted average monthly prices for various download speed tiers. Unweighted averages reflect the full range of plans present in the dataset, without adjustment for such factors as subscribership. Unlike weighted averages, unweighted averages do not reflect the prices that the majority of Californians might pay for broadband service. Nevertheless, unweighted averages are useful in understanding what prices are available in specific locations.

As shown in Table 8, the unweighted average price for all speed tiers decreased between 2023 and 2024. Despite the decrease in unweighted average prices across all speed tiers, many prices remain unaffordable for low-income Californians.

Table 8: Unweighted Average Monthly Prices for Cable, DSL, Fixed Wireless, and FTTH Broadband Service Across California by Speed Tier, 2021-2024

Download Speed Tier	<25 Mbps	≥25 & <100 Mbps	≥100 & <500 Mbps	≥500 & <1000 Mbps	≥1000 Mbps
2021	$111.11	$183.42	$282.60	$653.51	$409.39
2022	$103.33	$166.46	$204.92	$159.15	$195.34
2023	$115.68	$176.52	$224.20	$250.32	$184.74
2024	$69.77	$97.96	**$116.68**	$127.07	$152.54

Source: Public Advocates Office Annual Broadband Pricing Data Request Responses

[23] Income percentiles show how a given household income compares to other household incomes. For example, if the 20th percentile income is $20,000, then 20% of households earn less than $20,000 and 80% of households earn more. The Commission has designated the 20th percentile income level to be low-income in the context of the Affordability Ratios. Similarly, the 50th percentile income represents median income, as 50% of households earn less and 50% of households earn more.

[24] Decision (D.) 22-08-023, Decision Implementing the Affordability Metrics, Findings of Fact, 20 at 78.

Based on provider responses to the Public Advocates Office data requests, the average unweighted price of broadband service at the most popular tier in California – comprising of 35% of all subscribers was $116.68 per month (highlighted in above table). Notably, this is nearly double the $67.47 per month reported in FCC's URS data for the same service.[25]

For some low-income households in California, $116.68 per month means spending as much as 100% of discretionary income on communications service alone.[26] More specifically, low-income households in 76 out of 281 PUMAs[27] in California would spend more than 15% of discretionary income on communications service with a $116.68 broadband bill. Thus, 27% of PUMAs would qualify as Areas of Affordability Concern (AACs) for communications services, since they surpass the 15% threshold established by the CPUC. The ten PUMAs with the highest AR_{20}s are depicted in Table 9.

Table 9: Top 10 PUMAs in 2025 Where Low-Income Households are Spending the Most Discretionary Income on Communications Service with a $116.68 Broadband Bill.

County/City	% of Discretionary Income: Weighted Avg Communications AR_{20}	% of Discretionary Income: Weighted Avg Communications AR_{50}
Fresno County (Central)--Fresno City (Southwest)	72.16%	4.98%
Los Angeles County (Central)--LA City (Central/Koreatown)	100.00%	7.21%
Los Angeles County (Central)--Bell Gardens, Bell, Maywood, Cudahy & Commerce Cities	82.21%	5.41%
Los Angeles County (Central)--LA City (East Central/Central City & Boyle Heights)	99.90%	4.87%
Los Angeles County (Central)--LA City (Southeast/East Vernon)	96.30%	6.13%
Los Angeles County-LA City (Central/Univ. of Southern California & Exposition Park)	100.00%	7.68%

[25] The URS reported unweighted average rate of $67.47 and weighted average rate of $75.04 are based on voluntary submissions by providers. Responses to the Public Advocates Office data requests are mandatory, which may explain the difference in calculated prices.

[26] Communications service includes voice and broadband service, as defined in the R.18-07-006, Rulemaking to Establish a Framework and Processes for Assessing the Affordability of Utility Service.

[27] The Commission utilizes PUMAs in R.18-07-006 when analyzing the affordability of utility services. See https://www.census.gov/programs-surveys/geography/guidance/geo-areas/pumas.html

Los Angeles County (South Central)--LA City (South Central/Westmont)	91.38%	5.13%
Los Angeles County (South Central)--LA City (South Central/Watts)	100.00%	6.05%
Los Angeles County (West Central)--LA City (Central/Westwood & West Los Angeles)	100.00%	2.88%
Yolo County (South)--Davis & West Sacramento Cities	78.14%	3.60%

Analysis of the Public Advocates Office's Data in the ≥100 & <500 Mbps Speed Tier

Further disaggregation of pricing data by provider type and technology within the ≥100 & <500 Mbps speed tier reveals additional trends. Figures 7 and 8 below illustrate average plan pricing by provider type. Providers are separated into five groups:

1. The Big 5 comprising AT&T, Charter, Comcast, Cox, and Frontier (97% of subscribers).
2. Small Local Exchange Carriers that receive a California High-Cost Fund A (CHCF-A) subsidy.[28]
3. Small Local Exchange Carriers that do not receive CHCF-A subsidies.
4. Municipal and cooperatively-owned providers (Muni/Coop).
5. Other – smaller, private providers account (2.53% of subscribers).

[28] CHCF-A is specifically aimed at reducing high costs in rural areas and is funded by surcharges on end-user bills statewide.

Figure 7: Subscribership by Provider Type

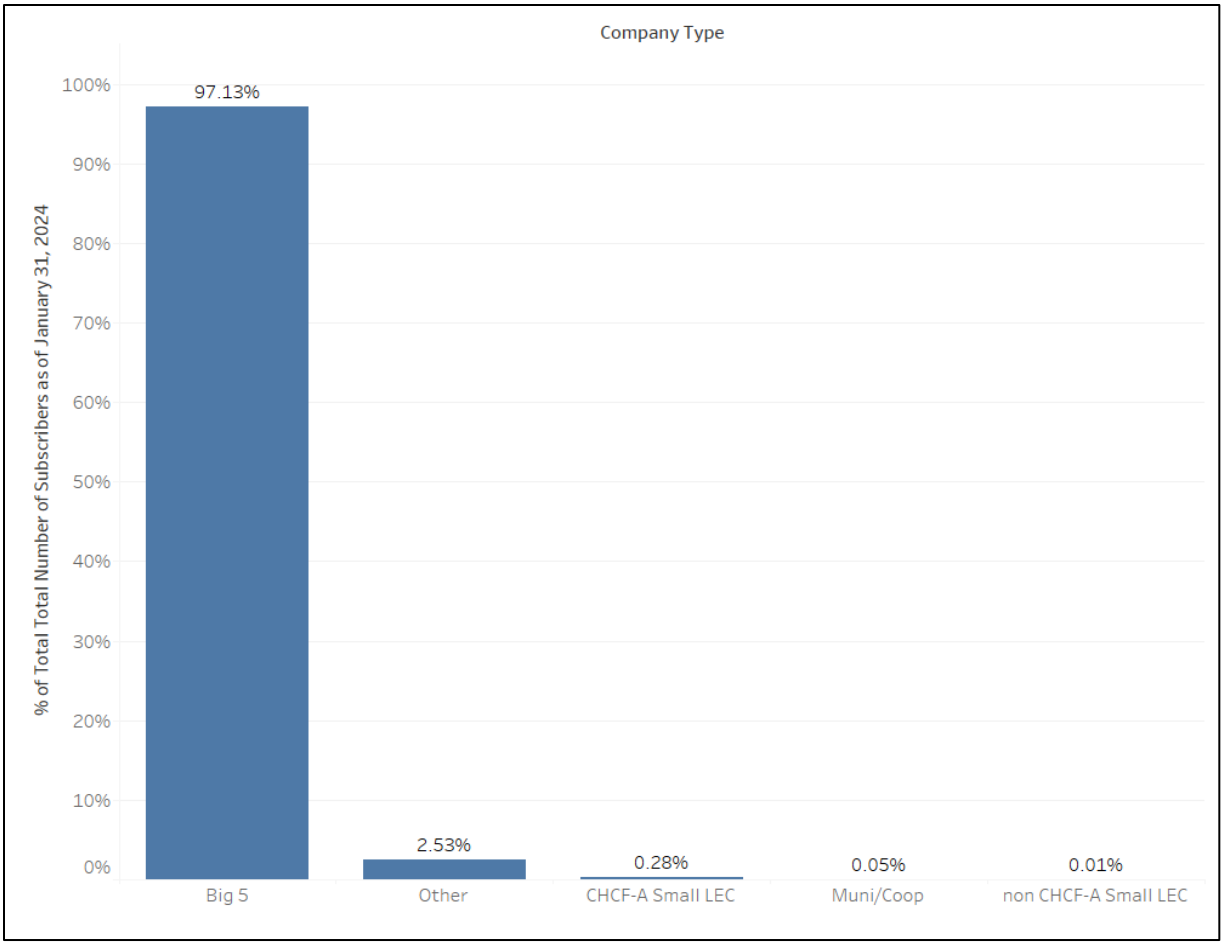
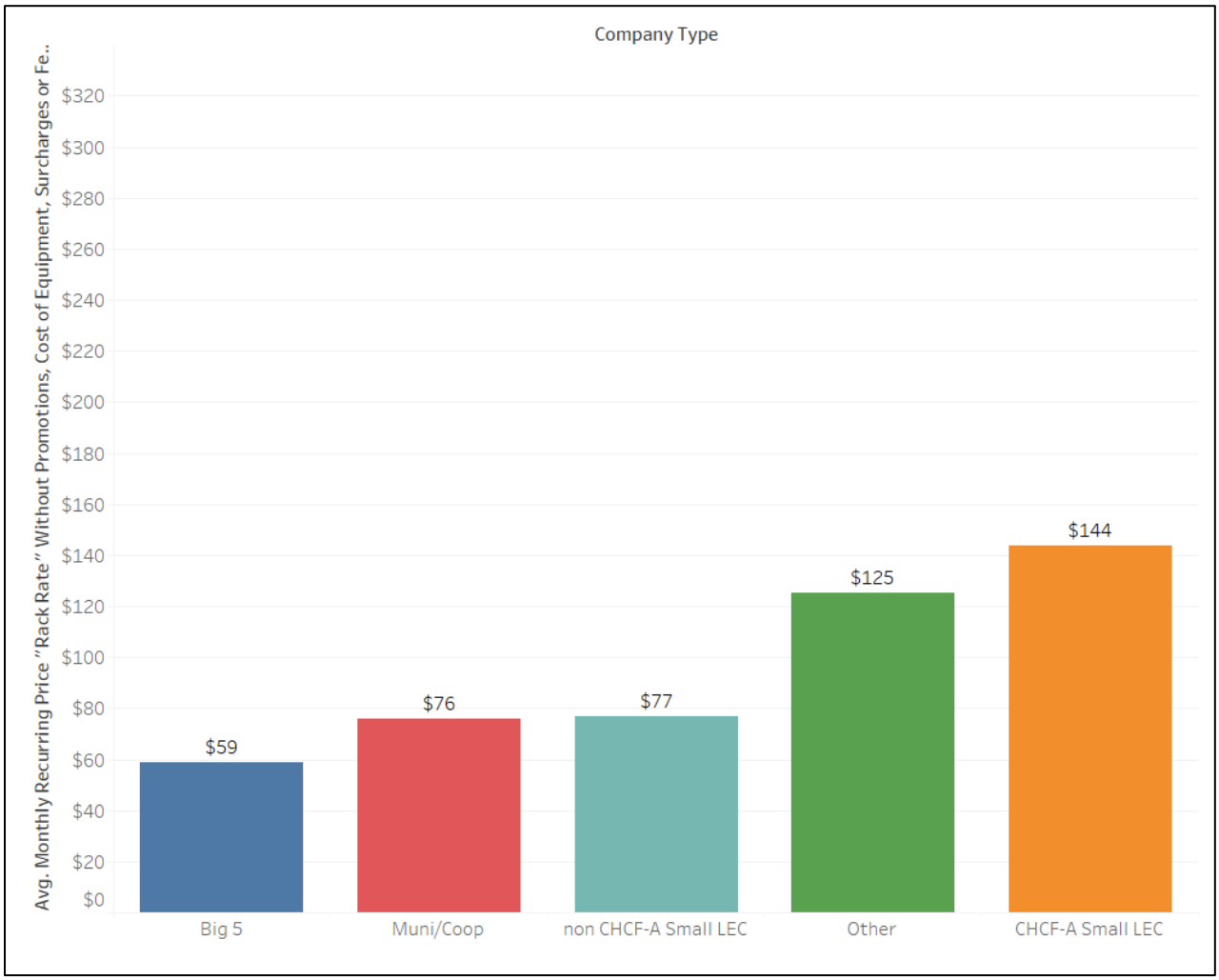


Figure 8 below shows the unweighted averages prices of all plans in the ≤100 & <500 Mbps download speed tier. Unweighted averages simply average all plans in the dataset equally. In this speed tier, the CHCF-A Small LECs have the highest average price. Notably, the average price offered by Small LECs that do not draw from the CHCF-A is nearly half that charged by the CHCF-A Small LECs.

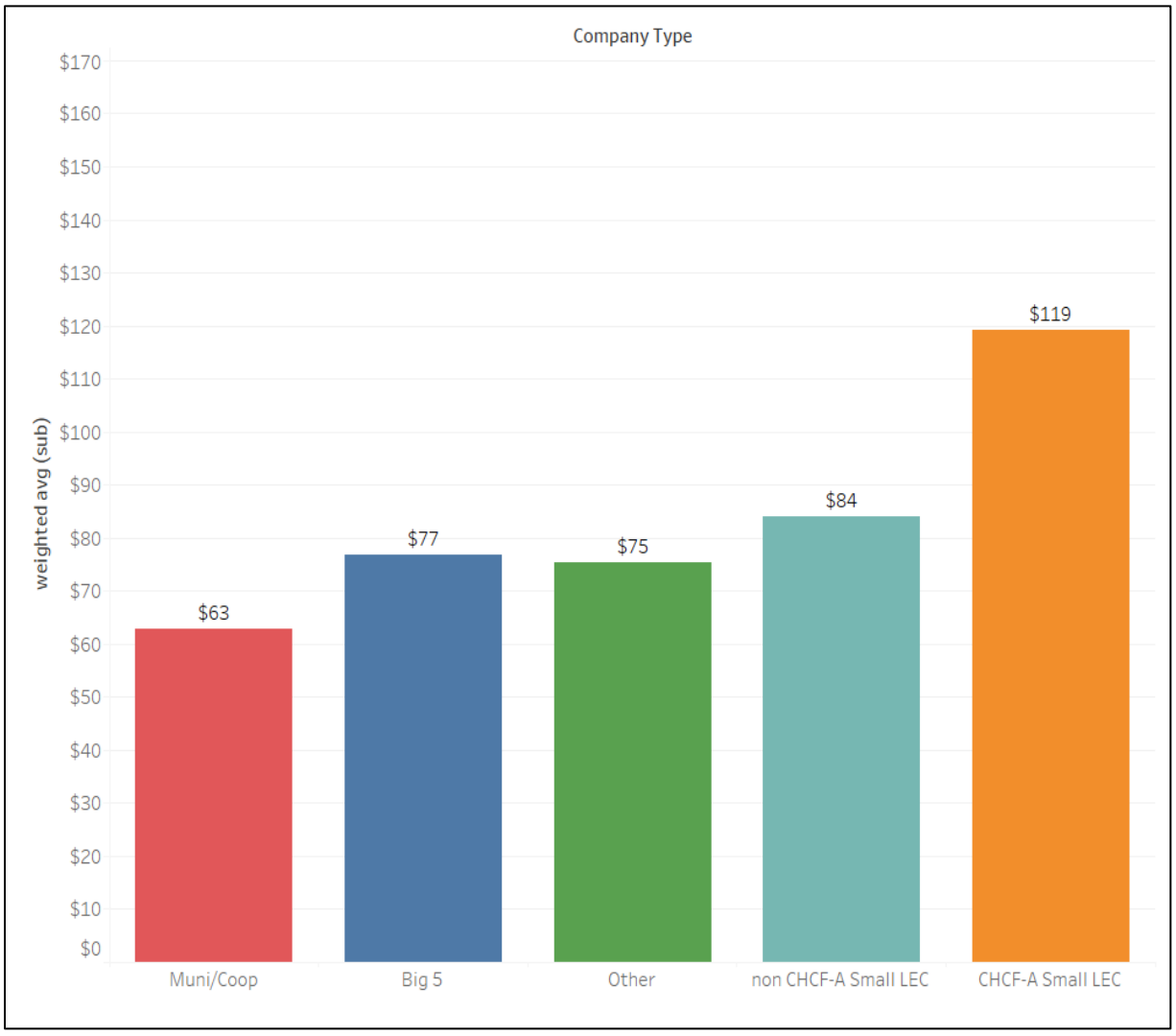
Figure 8: Unweighted Average Monthly Price for Broadband Service Across California in the ≥100 & <500 Mbps Download Speed Tier by Provider Type.



In comparison, Figure 9 below shows the same service plans and providers as Figure 8 above but weighted by subscribership. Here, the Muni/Coop providers have the lowest average price at $63 per month while the CHCF-A Small LECs have the highest average price among the provider types at $119 per month. The finding that publicly owned entities offer more

affordable broadband than privately owned internet service providers is consistent with other published studies.[29]

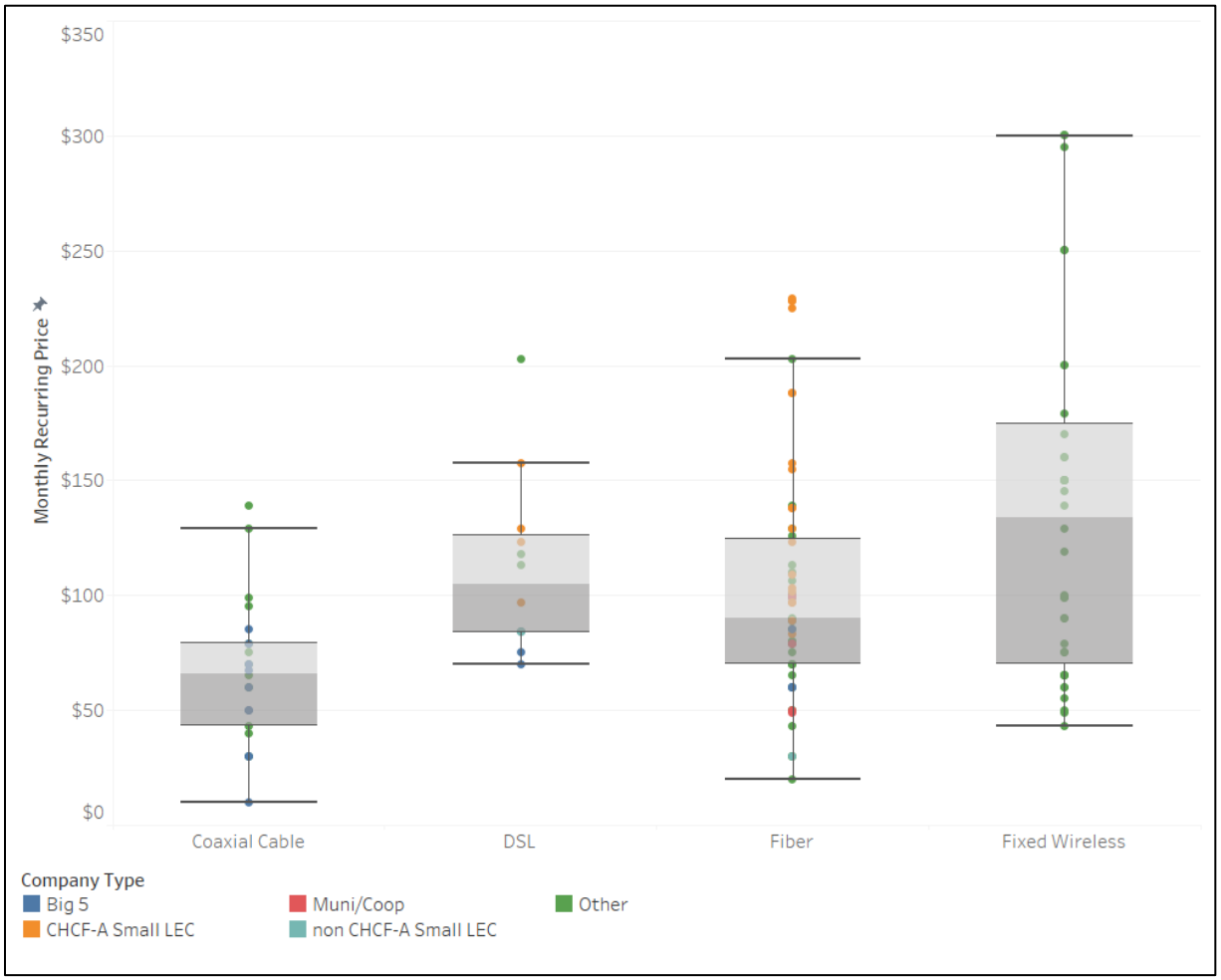
Figure 9: Weighted Average Monthly Price for Broadband Service Across California in the ≥ 100 & <500 Mbps Download Speed Tier by Provider Type.



[29] See *New Municipal Broadband Networks Skyrocket in Post-Pandemic America As Alternative to Private Monopoly Model*. (https://ilsr.org/articles/municipal-broadband-skyrocket-as-alternative-to-private-models/) and *The Road to Broadband for All: Internet as a public Good and Civil Right* (https://20mm.org/wp-content/uploads/2024/11/The-Road-to-Broadband-for-All.pdf).

Figure 10 below illustrates the variation in broadband plan pricing over various technologies in the ≥100 & <500 Mbps speed tier, with each dot representing a plan price.

Figure 10: California Monthly Recurring Broadband Plan Prices by Provider Type and Technology for the ≥100 & <500 Mbps Download Speed Tier



Of all the broadband technologies analyzed in the above speed tier,[30] cable plans offer the lowest range of prices and have 84% of all subscriptions. Fiber plans (8% of subscriptions) have the second lowest median price with Isofusion (Other) offering the lowest price and Cal-Ore (CHCF-A Small LEC) offering the highest price. DSL plans range from $70 to $203 per month and

[30] Broadband technologies include cable, DSL, fiber, fixed wireless.

account for 8% of subscriptions. Only "Other" providers (i.e. not the Big 5, Small LECs, or Muni/Coop providers) offer fixed wireless plans (<1% of all subscriptions). Fixed wireless plans had the highest median price of $134.

Analysis of The Public Advocates Office's Data in the ≥500 & <1000 Mbps Speed Tier

In the next highest speed tier of ≥500 & <1000, the Big 5 have the lowest unweighted average price, as shown in Figure 11. The Big 5 all have cable and fiber plans in this speed tier. The Muni/Coop providers only have one plan in this speed tier. The "Other" providers have cable, fiber, and fixed wireless plans in this speed tier. There are two CHCF-A Small LEC plans in this speed tier, and both are offered over fiber. The CHCF-A Small LECs have a significantly higher average price in comparison to the other providers, almost triple the average price of the Non-CHCF-A Small LECs.

Figure 11: Unweighted Average Monthly Price for Broadband Service Across California in the ≥500 & <1000 Mbps Download Speed Tier by Provider Type.

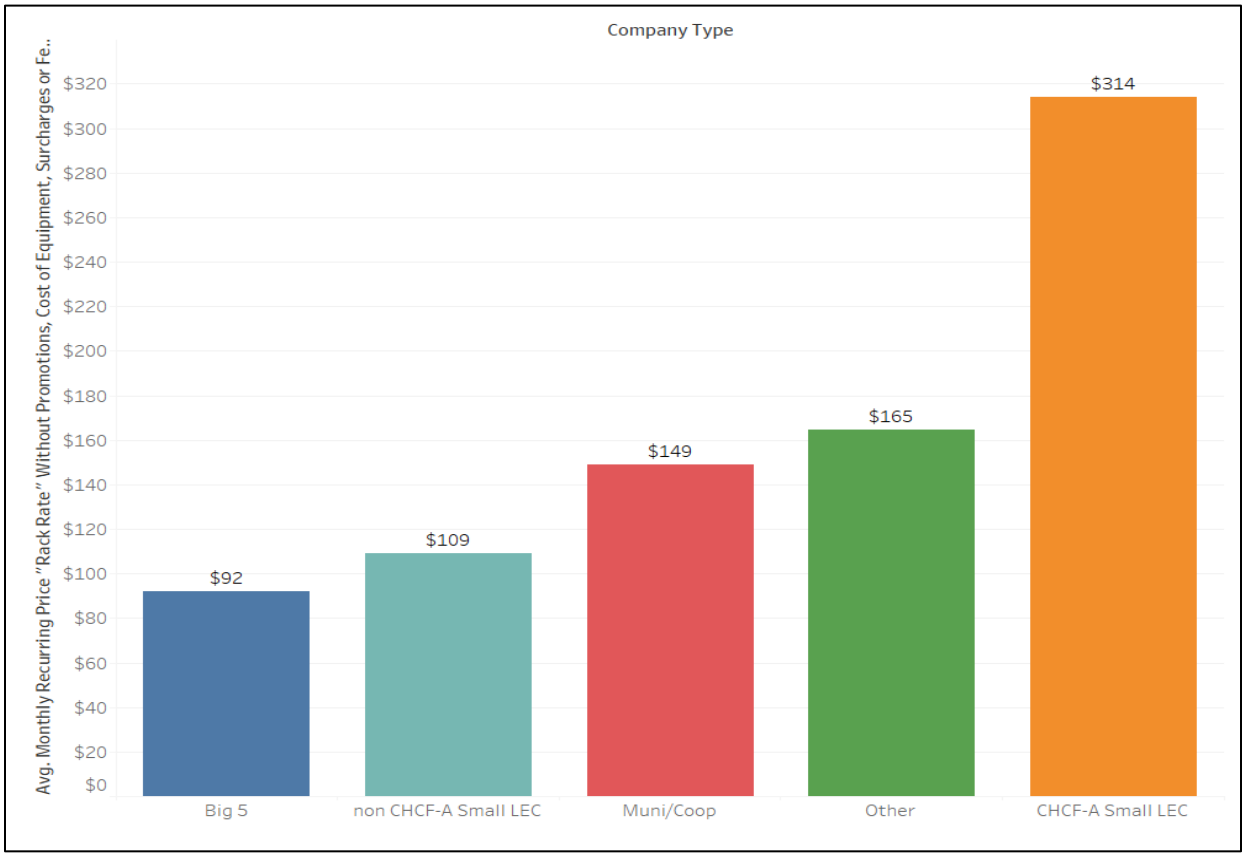
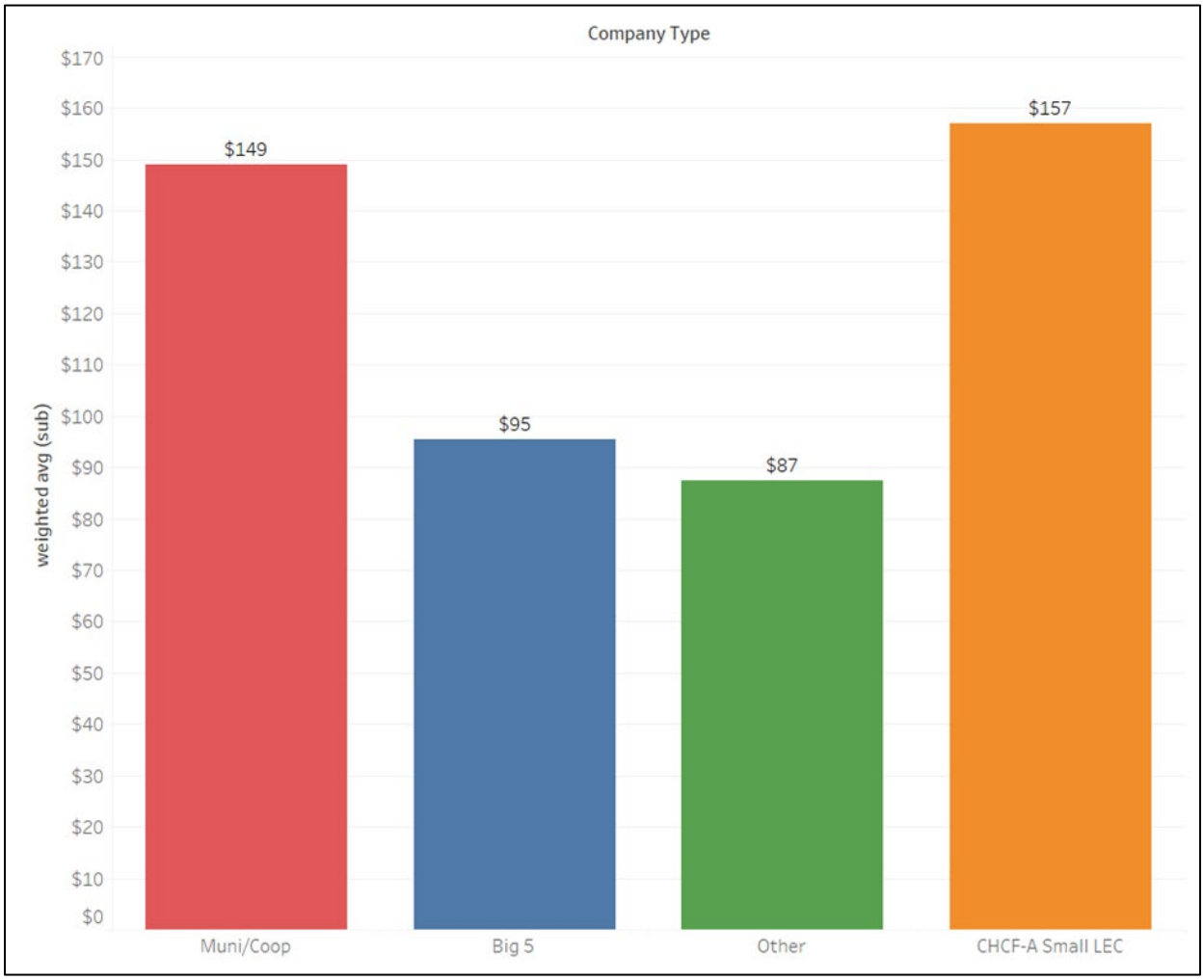


Figure 12 below shows the weighted average prices for the same plans and providers shown above.[31] The Big 5 have a higher weighted average price compared to their unweighted average price, indicating that more customers are subscribing to the higher-priced plans at this speed tier.

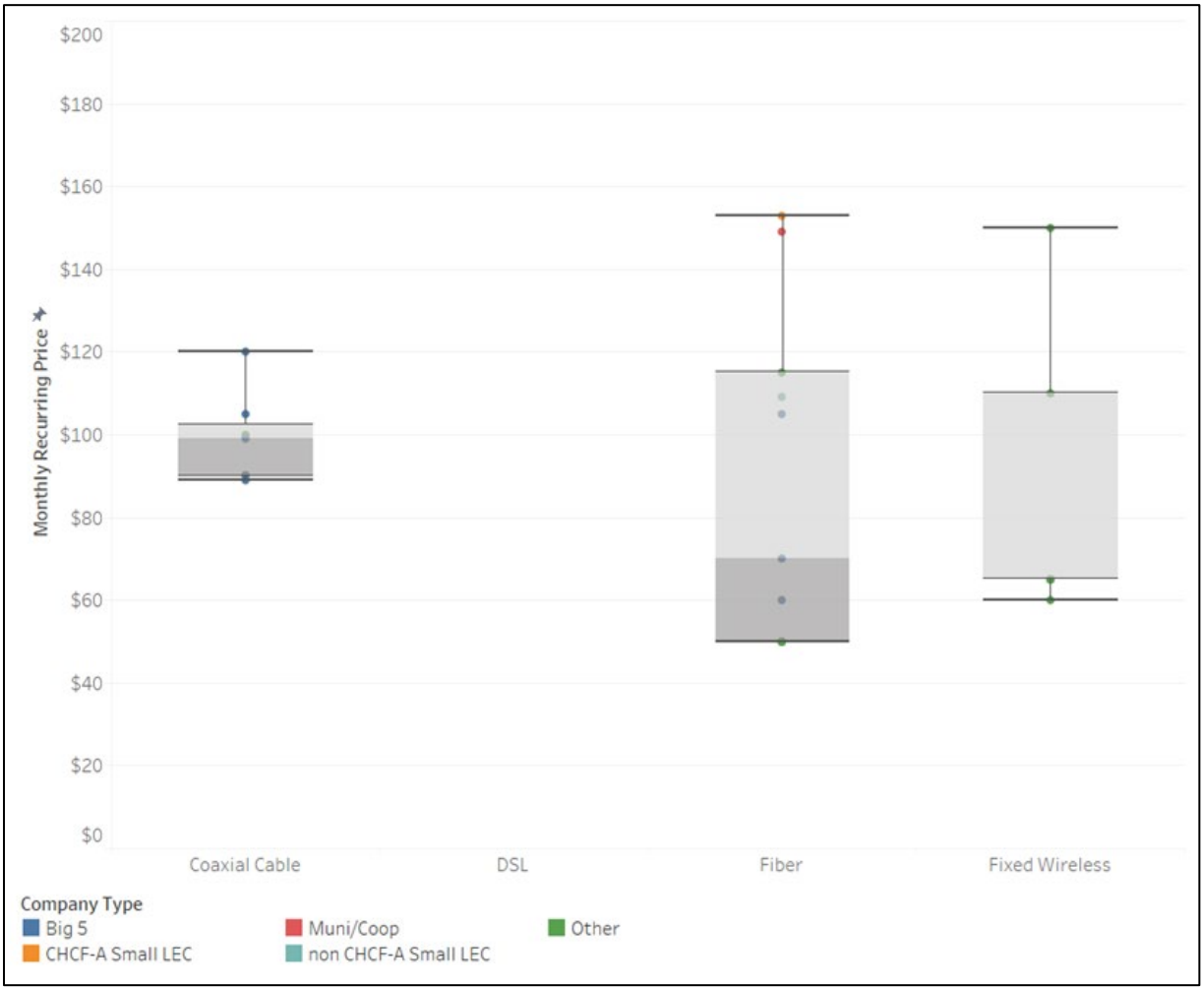
Figure 12: Weighted Average Monthly Price for Broadband Service Across California in the ≥500 & <1000 Mbps Download Speed Tier by Provider Type.



[31] "Non-CHCF-A Small LEC" data removed to prevent disclosure of confidential data.

Figure 13 shows the range of prices in the ≥500 & <1000 Mbps speed tier. DSL is unable to provide speeds greater than 200 Mbps and is thus absent. Race Telecommunications (Other)offered the lowest-priced plan, and Sierra (CHCF-A Small LEC) offered the highest-priced plan. While cable plans have a smaller price range, fiber and fixed wireless plans have a lower median price.

Figure 13: California Monthly Recurring Broadband Plan Prices by Provider Type and Technology for the ≥500 & <1000 Mbps Speed Tier [32]



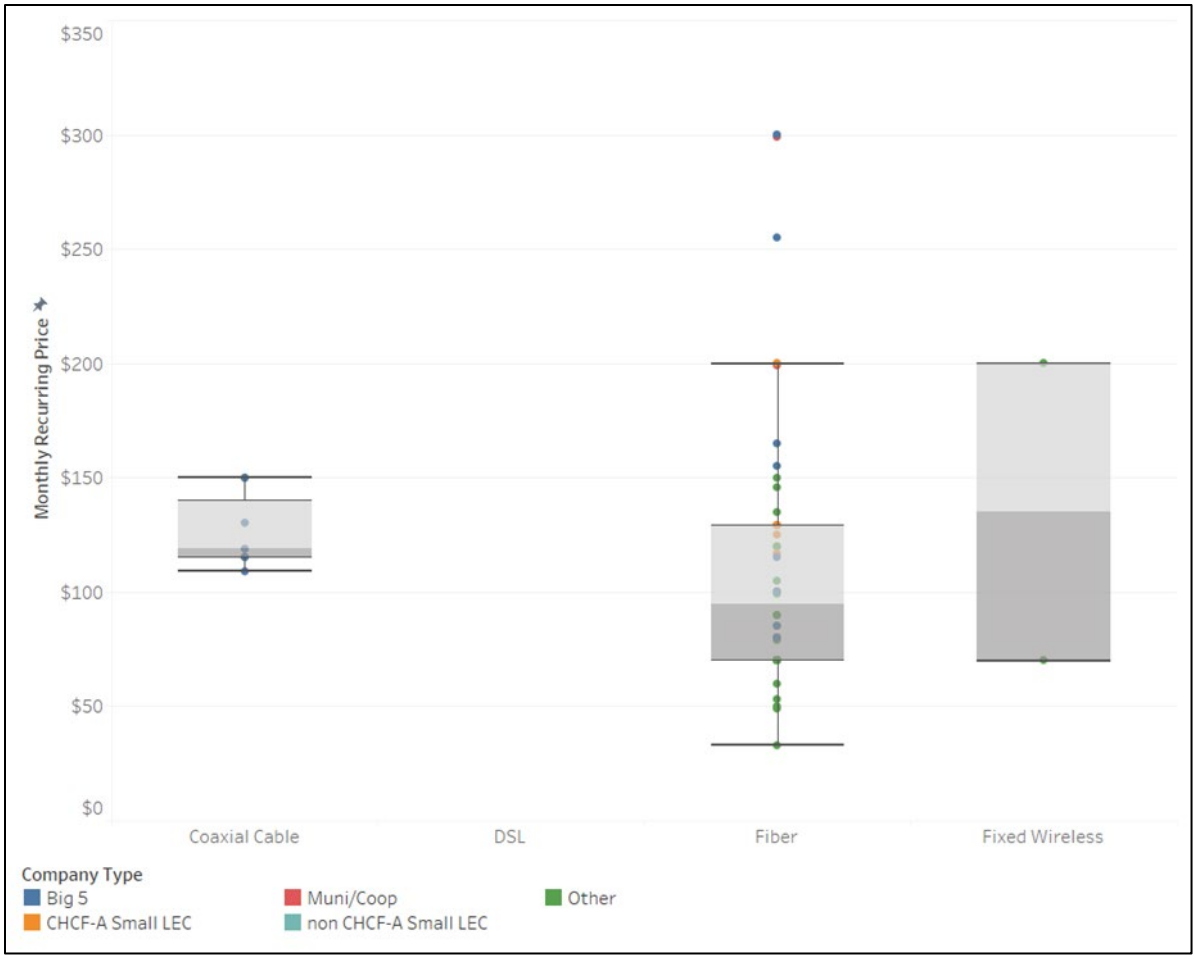
[32] Because DSL is a legacy technology, it is unable to provide speeds greater than 200 Mbps and is thus absent in this figure.

Analysis of The Public Advocates Office's Data in the <1000 Mbps Speed Tier

Figure 14 below shows the range of prices for gigabit (i.e. ≥1000 Mbps) broadband plans. Unable to provide download speeds higher than 200 Mbps, DSL is absent from Figure 14.

Comcast and Sierra have the two highest plan prices in this speed tier, both of which are offered over fiber technology. The median price of fiber in the ≥1000 Mbps speed tier is $95.00, whereas the median price of cable in this speed tier is $119.00. Moreover, there are 32 fiber plans in this speed tier offered by a variety of provider types compared to only 6 cable plans that are offered only by the Big 5 providers. On a price-per-Mbps basis, the average price of fiber at $0.06 is nearly twice the value of cable at $0.10. In sum, the data demonstrates fiber's ability to provide faster speeds at lower prices to consumers.

Figure 14: California Monthly Recurring Broadband Plan Prices by Provider Type and Technology for the ≥1000 Mbps Speed Tier



CHCF-A Small LECs Charge Some of The Highest Broadband Prices in California

The Small LECs account for only 0.3% of subscribers in the data responses to the Public Advocates Office. As a subset, the CHCF-A Small LECs have consistently charged some of the highest prices in the state of California. Conversely, the Small LECs that do not draw funding from CHCF-A have significantly lower average prices that are comparable to the prices offered by the Big 5. Though only the ≥100 & <500 Mbps speed tier is depicted in Table 10 below, this pattern is true across all speed tiers.

Table 10: Average Monthly Price of Big 5 and Small LEC plans in the ≥100 & <500 Mbps download Speed Tier, 2022-2024

Year	CHCF-A Small LEC Avg Price	Non-CHCF-A Small LEC Avg Price	Big 5 Avg Price
2022	$176	$77	$86
2023	$165	$70	$67
2024	$167	$79	$66

In addition to the price variation between the Small LECs that draw funding from CHCF-A and Small LECs that do not, there is also variation in some Small LECs' plan pricing depending on whether plans are standalone broadband plans or bundled with other services such as voice or television. For some Small LECs, the price of broadband within a bundle is cheaper than the price of broadband when purchased on a standalone basis. For example, Cal-Ore's 100/50 Mbps plan when purchased on a standalone basis is $229. For the same broadband speeds bundled with voice service, the price of the plan is $224. Further, within that $224, the price of broadband alone is $199, reflecting that when purchased as a bundle with voice, the broadband service is $30 cheaper. This illustrates the difference in pricing that a customer can face based on whether they choose a standalone or bundled broadband plan. One Small LEC, Calaveras, stated that it requires customers to purchase voice service to purchase broadband service because the wholesale rates of standalone broadband cost more and thus, those costs would need to be

passed on to consumers. In 2023 Calaveras stated that standalone broadband would result in lower revenues for the company.[33]

Chapter II. Conclusion

In addition to high average prices, wide variations in broadband pricing persist depending on the technology over which the broadband connection is provided and provider type. Cable continues as the dominant technology offered in California. However, fiber can provide gigabit speeds at lower prices to consumers. The Small LECs who serve rural areas continue to charge the highest prices in California, whereas the Muni/Coop providers charge some of the lowest average prices.

[33] A. 23-11-011, Part 1 Response of Calaveras Telephone Company to Data Request 4 Issued by the Public Advocates Office.

CHAPTER III: Broadband Adoption Trends & Barriers to Adoption in California

The term "broadband adoption" refers to customers' subscription to broadband service when they have access to subscribe to the service.[34] This is also referred to as the "subscription rate."[35] To determine the broadband adoption rate within California, the CPUC divides the number of customer connections by the number of households that have access to broadband service.[36]

In this chapter, broadband adoption trends are reviewed across the nation and in California utilizing, among other sources, the U.S. Census Bureau's American Community Survey (ACS) data along with the CPUC's California Advanced Services Fund (CASF) Annual Report. Additionally, this chapter examines low-income subsidy programs, such as the now-defunct Affordable Connectivity Program (ACP), and how the ACP compares to those low-income subsidies that remain active. Finally, this chapter reviews changes to infrastructure funding in the Broadband Equity Access Deployment (BEAD) program and discusses how those changes may affect broadband adoption.

Broadband Adoption Increased Nationally in 2023

Each year, the U.S. Census Bureau's ACS conducts a nationwide survey to collect and produce information on social, economic, housing, and demographic characteristics of the nation's population. The ACS releases "estimates" developed from the collected data the following year. These estimates are provided in two forms: one-year estimates, which reflect

[34] Broadband Pricing Trends in California, 2024 Report, July 2024, at 8 https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/240709-public-advocates-office-broadband-pricing-white-paper.pdf.

[35] Broadband Pricing Trends in California, 2024 Report, July 2024, at 8 https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/240709-public-advocates-office-broadband-pricing-white-paper.pdf.

[36] 2023 Annual Report California Advanced Services Fund at 18.

data collected in a twelve-month period for geographic areas with populations over 65,000, and five-year estimates, which reflect sixty months of data and cover all geographic areas.[37]

Table 11 below shows the year-over-year changes in households lacking broadband subscriptions, based on the ACS Five-Year Estimates Report. The data indicates that more Americans are subscribing to broadband services each year and that the country is slowly moving toward universal service. In 2023, however, 18.6%[38] of households still lacked a fixed (non-cellular) broadband subscription. Table 11 shows the decrease in the percentage of households that lacked internet access from 2019 to 2023.

Table 11: U.S. Households Lacking Broadband Subscription

Year	Households Lacking a Broadband Subscription
2019	24.4%[39]
2020	22.7%[40]
2021	21.0%[41]
2022	19.8%[42]
2023	18.6%[43]

[37] U.S. Census Bureau American Community Survey Information Guide at 1, 11, and 12, available at https://www.census.gov/content/dam/Census/programs-surveys/acs/about/ACS_Information_Guide.pdf.

[38] American Community Survey, 2023: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions https://data.census.gov/table/ACSST5Y2023.S2801?q=S2801 (accessed on 2/18/25)

[39] American Community Survey, 2019: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions at https://data.census.gov/table/ACSST5Y2019.S2801?q=S2801 (accessed on 5/13/25).

[40] American Community Survey, 2020: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions https://data.census.gov/table/ACSST5Y2020.S2801?q=S2801 (accessed on 5/13/25).

[41] American Community Survey, 2021: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions https://data.census.gov/table/ACSST5Y2021.S2801?q=S2801 (accessed on 5/13/25).

[42] American Community Survey, 2022: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions https://data.census.gov/table/ACSST5Y2022.S2801?q=S2801 (accessed on 5/13/25).

[43] American Community Survey, 2023: ACS 5-Year Estimates Subject Tables S2801 Types Of Computers and Internet Subscriptions https://data.census.gov/table/ACSST5Y2023.S2801?q=S2801 (accessed on 2/18/25).

Broadband Adoption in California Decreased Slightly Compared to the Prior Year

To analyze broadband adoption rates within California, the Public Advocates Office relies in part on the California Advanced Service Fund (CASF) Annual Report published by the CPUC.[44] In a 2007 decision[45] the CPUC adopted the framework that governs the vital California Advanced Service Fund (CASF) broadband program in order to support broadband infrastructure deployment with subsidies, in an effort to close the digital divide.[46] As of 2021, CASF-funded projects are required to deploy broadband infrastructure capable of providing minimum speeds of 100/20 Mbps.[47] The subsidy funding is generated by a $1.11 surcharge on telephone service bills from every active access line in the state.

CASF consists of the following programs and goals:[48]

- The Broadband Adoption Account – funds publicly available or after-school broadband access and digital inclusion (such as digital literacy training programs and public education to communities with limited broadband adoption).[49]
- The Broadband Infrastructure Grant Account – subsidizes the cost of middle-mile and last-mile infrastructure[50] to expand the State's broadband network and provides

[44] Public Utilities Code (Pub. Util. Code), § 914.7.

[45] D.07-12-054 Interim Opinion Implementing California Advanced Service Fund.

[46] Pub. Util. Code §§ 709(c) and (d).

[47] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-infrastructure-grant.

[48] CASF Background and History at https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-background-and-history and https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund#:~:text=Program%20Description%20and%20Application%20Instructions,Tribal%20Technical%20Assistance%20Program.

[49] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-adoption-account.

[50] "Middle Mile" refers to the high-capacity fiber-optic cables that traverse long distances (e.g., 10s-100s of miles) to connect communities to the Internet backbone. The "Last Mile," refers to the wires or cables that connect a house to the nearest internet service providers' infrastructure which may route underground or over-head and connect a community to the middle mile.

broadband access to no less than 98 percent of households in each region by December 31, 2032.[51]

- The Broadband Public Housing Account – provides grants and loans to low-income communities in publicly-supported housing developments, mobile home parks, or other housing developments for the financing of broadband projects that offer free broadband service that meets or exceeds state standards.[52]
- The Rural and Urban Regional Broadband Consortia Grant Account – facilitates deployment of broadband service by assisting CASF broadband infrastructure grant applicants in the project deployment or application process.[53]
- The Line Extension Pilot Program – offsets the costs of connecting a household or property to an existing or proposed facility-based broadband provider. The total available grant for this program is up to $5 million. [54]
- The Tribal Technical Assistance Program –provides grants to California Tribes and Tribal Consortia to pursue improved voice and broadband communications. More specifically, these funds are available for market studies, feasibility studies, business plans, tribal staff hours and other activities. Grant assistance through this fund is limited to $250,000 per tribe, per fiscal year.[55]

Like the trend found in the ACS Five Year Estimate, California broadband adoption has had minimal increases over the last four years. The CPUC reported California's broadband adoption

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[51] CASF Annual Report January 2024 – December 2024, April 2025, at 3, see https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/casf-2024-annual-report---final.pdf

[52] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-public-housing-account

[53] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-consortia-account.

[54] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-line-extension-program

[55] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/tribal-technical-assistance

at minimum speeds of 25/3 Mbps in 2023 at 69.34% [56] compared to 70.82%[57] in 2022, 68.5%[58] in 2021, and 83.3% in 2020.[59] The 15% decline between 2021 and 2020 was due to a change in 2022 to the CPUC's method of aggregating data at the address level.[60] This change in methodology resulted in a more granular picture of broadband adoption.

Table 12 presents the year-over-year changes in CASF-reported broadband adoption in California which shows a slight decrease from 2022 to 2023. There are approximately 4.8 million households that did not subscribe to broadband in 2023[61] compared to 4.6 million households in 2022,[62] just over 4 million in 2021[63] and 2.2 million households in 2020.[64]

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[56] 2024 CASF Annual Report, April 2025, at 17 and 18, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/casf-2024-annual-report---final.pdf.

[57] 2023 CASF Annual Report, April 2024, at 18 and 19, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/casf-2023-annual-report-43024.pdf.

[58] 2022 CASF Annual Report, April 2023, at 17, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2022-casf-annual-report.pdf.

[59] 2021 CASF Annual Report, April 2022, at 18, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2021-casf-annual-report.pdf.

[60] Compare 2022 CASF Annual Report, April 2023, at 16, where subscription data collected from providers at the address level, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2022-casf-annual-report.pdf, and 2021 CASF Annual Report, April 2022, at 17, where data is aggregated at the census tract level which is not granular enough to evaluate adoption within adoption project areas, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2021-casf-annual-report.pdf. The accuracy provided at the address level has provided more details and insight for broadband adoption levels for each county as reflected in the 2022 CASF Annual Report.

[61] 2024 CASF Annual Report, April 2025, at 18, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/casf-2024-annual-report---final.pdf, calculated as 15,785,863 (households with access to internet service) subtracted by 10,945,423 (consumer connections).

[62] 2023 CASF Annual Report, April 2024, at 19, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/casf-2023-annual-report-43024.pdf, calculated as 15,665,512 (households with access to internet service) subtracted by 11,094,702 (consumer connections).

[63] 2022 CASF Annual Report, April 2023, at 17, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2022-casf-annual-report.pdf, calculated as 12,974,186 (households with access to internet service) subtracted by 8,892,028 (consumer connections).

[64] 2021 CASF Annual Report, April 2022, at 18, available at https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/reports/2021-casf-annual-report.pdf, calculated as 12,986,178 (households with access to internet service) subtracted by 10,818,881 (consumer connections).

Table 12: Annual CASF Fixed Broadband Adoption

Year	Household Offered Broadband Internet	Consumer Connections	Broadband Adoption Rate	Unsubscribed Households
2023	15,785,863	10,945,423	69.34%	4,840,440
2022	15,665,512	11,094,702	70.82%	4,570,810
2021	12,974,186	8,895,028	68.56%	4,079,158
2020	12,986,178	10,818,881	83.31%	2,167,297

Income and Education Levels Contribute to the Digital Divide

A recent 2024 Pew Research study notes that the national adoption of broadband "surged" over the past two decades, but there are notable differences in the adoption of broadband by household income and educational level. For example, 95% of adults with annual incomes of at least $100,000 have broadband, whereas only 57% of adults with annual incomes less than $30,000 have broadband. The same pattern also exists with formal education levels: 92% of adults with a college education or higher have broadband, while only 65% of adults with a high school education or less have broadband. Despite higher rates in the overall adoption of broadband, a digital divide still exists by income and education levels.[65]

The federal Digital Equity Act (DEA) is part of the Infrastructure Investment and Jobs Act (IIJA).[66] The DEA requires states applying for funding to include Digital Equity Plans[67] as part of their applications. These Digital Equity Plans must identify persistent barriers to digital equity of covered populations[68] and how awarded funds address five statutory requirements and ten

[65] Pew Research Center "Americans' Use of Mobile Technology and Home Broadband," January 31, 2024, at 5, available at https://www.pewresearch.org/wp-content/uploads/sites/20/2024/01/PI_2024.01.31_Home-Broadband-Mobile-Use_FINAL.pdf.

[66] Digital Equity Act, 47 U.S.C. §§ 1701 et seq. (Supp. II 2023)

[67] The statutory requirements for a Digital Equity Plan can be found in Section 60304(c)(1) of the Infrastructure Act. https://broadbandusa.ntia.gov/sites/default/files/2022-11/Digital%20Equity%20Plan%20Guidance%20-%2011-8-22.pdf.

[68] Covered Populations are defined in the NTIA Notice of Funding Opportunity https://broadbandusa.ntia.gov/sites/default/files/2022-05/DE%20PLANNING%20GRANT%20NOFO.pdf at 1

additional requirements that focus on improving outcomes for the covered populations. On May 8, 2025, President Trump proclaimed via social media that he and Secretary of Commerce Howard Lutnick had agreed the DEA program is unconstitutional and therefore should end immediately.[69] On May 9, 2025, the California Department of Technology – along with other states across the country – received letters from the U.S. Department of Commerce terminating funding for the State Digital Equity Planning and Capacity Grant.[70] As of June 24, 2025, twenty-two state attorneys general, along with the Commonwealth of Pennsylvania, had filed suit against multiple federal agencies challenging the termination of this and other Congressionally appropriated funds.[71]

While the future of the DEA is uncertain, the digital equity plans developed by states under the program remain relevant to understanding broadband adoption. In 2024, the Pew Charitable Trust reviewed all 50 states digital equity plans and found that every state identified a lack of affordable access as the leading barrier to digital equity. This finding aligns with a 2021 Pew Research study finding that price, not availability, is the main barrier preventing unconnected households from subscribing to home broadband services.[72]

The DEA aimed to achieve digital equity and support digital inclusion activities with a $2.75 billion fund to establish the three main grant programs described more specifically below:

- $60 million in State Digital Equity Planning Grants to develop State Digital Equity Plans.

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[69] https://truthsocial.com/@realDonaldTrump/posts/114474136573150113

[70] https://broadbandforall.cdt.ca.gov/wp-content/uploads/sites/19/2025/05/06-31-DS077_CA-Dept-of-Tech.pdf

[71] 22 States Filed a New Suit Challenging the Trump Administration. What Does it Mean for Broadband? | Benton Institute for Broadband & Society https://www.benton.org/blog/22-states-filed-new-suit-challenging-trump-administration-what-does-it-mean-broadband

[72] "Every State Identifies Broadband Affordability as Primary Barrier to Closing Digital Divide" by Kelly Wert, October 4, 2024, Every State Identifies Broadband Affordability as Primary Barrier to Closing Digital Divide | The Pew Charitable Trusts, see also Pew Research Center's "Mobile Technology and Home Broadband 2021," June 3, 2021, at 8 and 9, available at https://www.pewresearch.org/wp-content/uploads/sites/20/2021/06/PI_2021.06.03_Mobile-Broadband_FINAL.pdf.

- $1.44 billion over five years for State Digital Equity Capacity Grants to implement State Digital Equity Plans.
- $1.25 billion over five years for Digital Equity Competitive Grants to advance digital equity and engage in digital inclusion activities.

These grants target covered populations as defined by Congress, including:[73]

- Individuals who live in covered households.[74]
- Low-income individuals.
- People 65 and older.
- Incarcerated individuals.
- Veterans.
- People with disabilities.
- Individuals with a language barrier.
- Racial or ethnic minority groups.
- Individuals residing in rural areas.

A 2023 study by the University of Southern California reviewed broadband adoption levels in California. This study also reflects notable differences in broadband adoption by household income and educational levels in California. Almost 100% of adults with incomes of at least $100,000 subscribe to broadband compared to only 85% of adults with incomes less than $20,000. The same pattern persists with formal education levels: almost 100% of adults with college and advanced degrees have broadband, while 91% of adults with a high school diploma or equivalent have broadband, and only 79% of adults with less than a high school education has broadband. California has a better broadband adoption rate than the national survey referenced

[73] https://broadbandusa.ntia.gov/sites/default/files/2022-05/DE%20PLANNING%20GRANT%20NOFO.pdf at 1

[74] Covered Households, per the Notice of Funding Opportunity (NOFO) State Digital Equity Planning Grant Program means a household, the income of which for the most recently completed year is not more than 150 percent of an amount equal to the poverty level, as determined by using criteria of poverty established by the Bureau of the Census. DE PLANNING GRANT NOFO.pdf at 8

earlier. However, the demographics of those impacted by the digital divide at both the national and state level mirror each other in both income and education levels.[75]

Summary of Low-Income Qualified Broadband Plans Offered by the Big 5

Four of the Big 5 currently offer low-income broadband plans to qualifying households in California, as shown in Table 18 below. Frontier no longer offers such a plan. As noted in the Public Advocates Office's 2024 Broadband Pricing Trends White Paper, AT&T raised the price of its low-income broadband plan after the federal Affordable Connectivity Plan (ACP) was implemented.[76] When the ACP ended in May 2024, AT&T did not reduce the plan's price back to its pre-ACP level. Comcast and Charter also increased their low-income broadband plan prices after the ACP ended. These price increases make it more difficult for low-income households to afford service now that the ACP is no longer available.

Multiple initiatives have sought to encourage providers to develop low-income broadband plan alternatives to ACP as a stopgap, but none of these efforts have garnered meaningful results. The Universal Service Administrative Company – the entity that administered the ACP – encourages internet service providers (ISPs) to keep consumers connected by sharing information with customers on alternative low-income internet programs or developing their own alternative low-income internet programs to replace the ACP.[77] In May 2024, California lawmakers reached out to seven of the largest ISPs to discuss how the providers might support low-income customers with the then pending sunset of the ACP. Among other things, lawmakers asked the broadband providers to commit to providing a $30-per-month low-income plan over the next five years, at speeds of 100/20 Mbps. US Telecom, a lobbyist group representing some

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[75] 2023 Statewide Digital Equity Survey, Final Report, August 31, 2023, University of Southern California, Annenberg School for Communication and Journalism, Francois Bar, Ph.D., Hernan Galperin, Ph.D. and Thai V. Le, Ph.D. at 16 and 19, available at https://s42263.pcdn.co/wp-content/uploads/2023/12/2023-Statewide-Digital-Equity-Survey-Final-Report.pdf.

[76] The Public Advocates Office, Broadband Pricing Trends in California, 2024 Report at 27 https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/240709-public-advocates-office-broadband-pricing-white-paper.pdf.

[77] https://www.usac.org/about/affordable-connectivity-program/.

of these ISPs, responded that its members remain committed to providing customers with affordable options, but did not commit to the five-year $30 plan or clarify whether prices would increase in 2025.[78]

As shown in Table 13, three of the Big 5 providers increased their low-income broadband plan prices, and one stopped offering a low-income broadband plan altogether, after the ACP ended. As shown in Table 14, in 2021, three of the Big 5 offered low-income plans for $15 or less per month. Since then, Comcast and Cox have continued to provide plans for $15 or less per month, and AT&T introduced a $15 per month low-income broadband plan in 2024. However, none of these $15 per month low-income plans provide broadband speeds that meet the 100/20 Mbps FCC benchmark.

[78] https://laist.com/news/internet-providers-committed-to-offering-low-cost-plans-in-california-through-2024-after-that-lawmakers-arent-getting-answers.

Table 13: Low-Income Broadband Plans Before, During, and After the ACP (as of March 2025) [79] [80]

Provider	Plan Name	Plan Details as of October 2021		Plan Details as of January 2024		Plan Details as of March 2025	
		Monthly Rate*	Speed	Monthly Rate*	Speed	Monthly Rate*	Speed
AT&T	*Access*	*$10.00*	*Up to 25 Mbps*	*$30.00*	*Up to 100 Mbps*	$30.00	Up to 100 Mbps
						$15.00	Up to 50 Mbps & a data cap of 1.5 TB
Comcast	*Internet Essentials*	*$9.95*	*Up to 50/5 Mbps*	*$10.00*	*Up to 50/10 Mbps*	$14.95	Up to 75/10 Mbps
	Internet Essentials Plus	*n/a*	*n/a*	*$30.00*	*Up to 100/20 Mbps*	$29.95	Up to 100/20 Mbps
Cox	Connect2Complete	$9.95	Up to 50/3 Mbps	$10.00	Up to 100/5 Mbps	$9.95**	Up to 100 Mbps
	ConnectAssist					$30.00***	Up to 100 Mbps
Frontier	*Fundamental Internet*	*$19.99*	*3-50 / 1-50 Mbps*	*$20.00*	*Not provided*	No low-income plan offering	
Charter	Spectrum Internet Assist	$19.99	30 Mbps	$20.00	Up to 30/4 Mbps	$25.00	Up to 50 Mbps
	Spectrum Internet Advantage					$30.00/month for 1 year only	Up to 100 Mbps

*Not Including Taxes and Other Fees ** For Individuals *** For Families

Table 14: $15/Month Low-Income Broadband Plans (2021 – 2025) [81] [82] [83] [84] [85]

Provider	2021	2022	2023	2024/2025
AT&T	*None*	*None*	*None*	*Access from AT&T 50 Mbps or less at $15.00 /month*
Comcast	*Internet Essentials 50/10 Mbps at $9.95/month*	*Internet Essentials 50/10 Mbps at $9.95/month*	*Internet Essentials 50/10 Mbps at $9.95/month*	*Internet Essentials 75 Mbps at $14.95/month*
Cox	*Connect2Compete 100/5 Mbps at $9.95/month*	*Connect2Compete 100/5 Mbps at $9.95/month*	*Connect2Compete 100/5 Mbps at $9.95/month*	*Connect2Compete 100/5 Mbps at $9.95/month*
Frontier	*None*	*None*	*None*	*None*
Charter	*None*	*None*	*None*	*None*

[79] The Public Advocates Office Broadband Pricing Data Request Responses from ISPs from 2021, 2024 & 2025.

[80] AT&T: https://www.att.com/internet/access/; Comcast: https://www.xfinity.com/support/articles/comcast-broadband-opportunity-program; Cox: https://www.cox.com/residential/internet/low-cost-internet-plans.html; Frontier: https://frontier.com/discount-programs; Charter: https://www.spectrum.net/support/account-and-billing/spectrum-internet-assist-and-internet-advantage; all accessed on March 2, 2025.

[81] https://www.att.com/internet/access/ ("Frequently asked questions" accessed 4/30/2025).

[82] https://www.xfinity.com/learn/internet-service/internet-essentials (accessed 4/30/2025).

[83] https://www.cox.com/residential/internet/low-cost-internet-plans.html (accessed on 4/30/2025).

[84] https://frontier.com/discount-programs (accessed on 4/30/2025).

[85] https://www.spectrum.com/internet/spectrum-internet-assist (accessed on 4/30/2025).

The End of the ACP Reduces Access to Affordable Broadband

Affordability is the primary barrier to broadband adoption. In California, the 2023 Statewide Digital Equity Survey reported two-thirds (61%) of 118 respondents without broadband at home cited cost as one of the reasons for not subscribing to broadband service.[86]

The Public Advocates Office's 2024 Broadband Pricing White Paper highlighted the ACP as a key tool to address the affordability gap. [87] The FCC launched the $14 billion ACP in November 2021 to replace the shorter-term Emergency Broadband Benefit program. [88] Households with income at or below 200% of the Federal Poverty Guidelines were eligible for the ACP subsidy. Qualifying households could receive a discount of up to $30 per month toward internet service (up to $75 per month for households on Tribal lands).[89] After funds were exhausted, the ACP's monthly discount ended on June 1, 2024.[90]

Prior to the ACP ending, in January 2024 the Big 5 ISPs reported significant increases in low-income subscribership compared to the previous data collection point of December 31, 2022. These increases in low-income subscribership ranged from 68% to 200%.[91] An estimated 5.8 million California households were eligible for the ACP, and its termination eliminated subsidies for roughly 2.9 million enrolled households.[92] At the time of this writing, there is no

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[86] 2023 Statewide Digital Equity Survey, Final Report, August 31, 2023, University of Southern California, Annenberg School for Communication and Journalism, Francois Bar, Ph.D., Hernan Galperin, Ph.D. and Thai V. Le, Ph.D. at 36, available at https://arnicusc.org/wp-content/uploads/2023/12/2023-Statewide-Digital-Equity-Survey-Final-Report.pdf.

[87] The Public Advocates Office at the California Public Utilities Commission "Broadband Pricing Trends in California, 2024 Report" at 24.

[88] https://www.fcc.gov/emergency-broadband-benefit-program.

[89] https://docs.fcc.gov/public/attachments/DOC-380259A1.pdf

[90] https://www.fcc.gov/acp

[91] The Public Advocates Office analysed the trends in the Big 5 ISPs broadband plans from 2021 – 2024 based on its Annual Broadband data requests.

[92] https://broadbandforall.cdt.ca.gov/affordable-connectivity-program/acp-enrollment/.

federal or state subsidy equivalent to the ACP. This places former ACP recipients – many of whom are unable to afford this essential service – at risk of falling on the wrong side of the digital divide.

California continues to be one of the most expensive places to live in the United States. In 2023, high housing costs were the biggest contributor to California having the highest reported regional price parity in the country.[93] This high cost of living also affects low-income Californians' ability to qualify for income-restricted federal subsidy programs, including the ACP. For example, the ACP's low-income eligibility threshold was at or below 200% of the federal poverty guidelines. In 2024, for a family of four to qualify for the ACP, their maximum income needed to be at or below $62,400.[94]

By contrast, the California Department of Housing and Community Development's (HCD) defines "low-income" differently. In its 2024 State Income Limits report, HCD classified a family of four in Los Angeles County making $110,950 or below as low-income. [95] This means that in 2024, a Los Angeles County household making equal to or less than $110,950, but more than $62,400, would be considered low-income under California's HCD definition but ineligible for the ACP. The HCD report also establishes categories of acutely low, extremely low, very low, low- and moderate- income levels across California's 58 counties. These distinctions highlight the mismatch between federal poverty guidelines and California's cost of living, further underscoring why many households in the state qualify as low-income locally but not under federal subsidy programs.

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[93] "Regional price parities are calculated using price quotes for a wide array of items from the CPI covering apparel, education, food, housing, medical, recreation, transportation, and other goods and services. Data on housing rents are obtained separately from the U.S. Census Bureau's American Community Survey (ACS). The expenditure weights for each category are constructed using BEA PCE and Census ACS housing rents expenditures." U.S. Real Personal Consumption Expenditures by State and Real Personal Income by State and Metropolitan Area, 2023 | U.S. Bureau of Economic Analysis (BEA)

[94] See 2024 Poverty Guidelines for the 48 Contiguous States at https://aspe.hhs.gov/sites/default/files/documents/7240229f28375f54435c5b83a3764cd1/detailed-guidelines-2024.pdf.

[95] See https://www.hcd.ca.gov/sites/default/files/docs/grants-and-funding/income-limits-2024.pdf.

Existing federal and state telecommunications subsidy programs present a complex landscape of requirements for low-income customers to navigate. This complexity, compounded by varying income requirements, makes these programs inadequate replacements for the ACP. Table 15 below compares Federal Lifeline, ACP, and CA LifeLine program. Varying eligibility requirements, monthly benefits, and service provider information complicates the application process for consumers. Participation in both Federal and California LifeLine is voluntary, and not all major providers choose to participate. By contrast, while ACP participation was also voluntary, all Big 5 broadband providers in California offered ACP discounts.

Table 15: Comparing Federal Lifeline[96], ACP[97], and California (CA) LifeLine[98]

	Federal Lifeline Program	ACP	CA Lifeline
Program Eligibility	Income =< 135% of federal poverty guideline	Income = < 200% of federal poverty guideline	Income = < $48,400 for a family of 4 as of May 31, 2025 or $49,600 effective June 1,
	Enrollment in Other Federal Needs-Based Assistance Programs:	**Enrollment in Other Federal Needs-Based Assistance Programs:**	**Program-Based Qualifications:**
	* Medicaid	* Medicaid	* Medicaid/Medi-Cal
	* Supplemental Nutrition Assistance Progra, (SNAP)	* SNAP	* Low Income Home Energy Assistance Program (LIHEAP)
	* Supplemental Security Income (SSI)	* SSI	* SSI
	* Federal Public Housing Assistance (FPHA)	* FPHA	* FPHA or Section 8
	* Veterans Pension and Survivors Benefits	* Lifeline	* Cal Fresh, Food Stamps or SNAP
		* Federal Pell Grants	* WIC
		* Free and Reduced Price School	* National School Lunch Progam (NSL)
		* Special Supplemental Nutrition Program for Women, Infants, and Children Program (WIC)	* Temporary Assistance for Needy Families (TANF)
	* Receiving federal tribal assistance	Qualification for a participating provider's existing low-income internet program	* Tribal TANF
			Assistance
			* Head Start Income Eligible (Tribal Only)
			* Food Distribution Program on Indian Reservations
			* Federal Veterans and Survivors Pension Benefit Program
Program Monthly Benefit	Up to $5.25/month for voice-only	Up to $30/month	Up to $19/month
	Up to $9.25 for Broadband-only or Broadband-voice bundles	Up to $75/month for those living on qualifying Tribal lands	
	Up to $34.25/month for those living on tribal lands		
Program Service Providers	Eligible Telecommunications Carriers (ETCs) (e.g., landline phone companies, mobile phone companies). There is no requirement for companies to participate.	ETCs and non-ETC (e.g., cable companies) with FCC approval. Participation in ACP was voluntary. All Big 5 Providers in California participated in the ACP.	Eligible Telecommunications Carriers (ETCs) and Non-ETC's (such as cable companies) There is no requirement for California providers to participate.

[96] https://www.fcc.gov/sites/default/files/ACP_Wind-down_Lifeline_Fact_Sheet%20.pdf.

[97] https://www.fcc.gov/sites/default/files/ACP_Wind-down_Lifeline_Fact_Sheet%20.pdf

[98] https://www.cpuc.ca.gov/consumer-support/financial-assistance-savings-and-discounts/lifeline/california-lifeline-eligibility#qualify.

The federal Lifeline program cannot fully replace the shuttered ACP program. Providers who offer Lifeline must have an Eligible Telecommunication Carrier (ETC) designation from their respective states or, in some cases, from the FCC and meet all Lifeline requirements,[99] which limits the number of participating providers. In contrast, the ACP included both ETCs and Non-ETC providers (e.g. cable providers). The income criteria for Lifeline are at or below 135% of the federal poverty level, which is lower than the ACP income eligibility of 200%, and consequently fewer households qualify for Federal Lifeline. Also, Federal Lifeline offers a lower monthly benefit of up to $9.25/month (up to $34.25 for Tribal lands) compared to the ACP subsidy of $30.00/month ($75.00/month for Tribal lands).[100] Lifeline may alleviate some cost burdens for eligible households now that ACP has ended, but neither the Federal Lifeline nor the California LifeLine programs are full replacements. Responses to the Public Advocates Office's annual data requests reflect that the Big 5 serve 97% of broadband subscribers in California. If the only provider available in a geographical area is one of those Big 5, and if that provider fails to offer access to the LifeLine subsidy, then even households at or below the federal poverty level will not have access to LifeLine.

Changes to Federal BEAD Program May Impact Broadband Adoption in California

Signed into law in November 2021, the federal BEAD program is a $42.45 billion-dollar federal initiative created by the IIJA to expand high-speed internet access across the United States.[101] Administered by the National Telecommunications and Information Administration (NTIA) and housed within the FCC, BEAD is the largest federal investment in broadband infrastructure to date. The policy shifts resulting from the transfer of power from the Biden

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[99] https://www.usac.org/lifeline/get-started/join-lifeline-as-an-etc/#:~:text=Eligible%20telecommunications%20carriers%20(ETCs%2C%20or,Providers%20Responsible%20for%20Compliance%20Plan.

[100] See "Broadband Affordability: Removing a Roadblock to Universal Service, Lessons from the Affordable Connectivity and Lifeline Programs," Raza Panjwani, Sarah Forland, and Jessica Dine, November 7, 2024, available at https://www.newamerica.org/oti/briefs/broadband-affordability-removing-a-roadblock-to-universal-service/.

[101] Infrastructure Investment and Jobs Act of 2021, Division F, Title I, Section 60101, Public Law 117-58, 135 Stat. 429 (November 15, 2021) (codified at 47 U.S.C. § 1701 et seq.)

Administration to the Trump Administration have resulted in significant changes to the original BEAD framework.

On June 6, 2025, the NTIA issued a comprehensive BEAD Restructuring Policy Notice (Policy Notice) that replaces several provisions of the prior 2022 Notice of Funding Opportunity.[102] While not exhaustive, the new framework introduces a technology-neutral approach: all broadband delivery methods –fiber, fixed wireless, cable, DSL, and satellite[103] – are eligible if they meet baseline performance standards (≥100/20 Mbps, ≥ 100 milliseconds latency, scalability).[104] Existing requirements related to labor, diversity, equity, and inclusion (DEI), climate, open-access, net-neutrality, and affordability have been modified or removed altogether from BEAD sub-grantee recipient obligations.[105] Funding for non-deployment activities (e.g., digital adoption, device subsidies) have been terminated as of June 6, 2025.[106] Many of these changes may affect broadband pricing and affordability in the future.

Under the header of "Elimination of Regulatory Burdens," the restructuring of BEAD eliminates the requirement that providers offer a middle-class affordability plan. It also eliminates non-statutory requirements that providers offer a low-cost broadband service option (LCSO).[107] More specifically, while sub-grantee recipients must still offer an LCSO, the NTIA now

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[102] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice.

[103] See https://www.nasa.gov/humans-in-space/leo-economy-frequently-asked-questions/

[104] National Telecommunications and National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 9. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

[105] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 4. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

[106] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 15. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

[107] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 6. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

prohibits Eligible Entities,[108] such as California, from explicitly or implicitly establishing specific rate requirements.[109] The Policy Notice stipulates that NTIA will only approve LCSO rates proposed by the sub-grantees themselves.[110]

Finally, NTIA aligned the LCSO qualification requirements with those of the federal Lifeline Program, rather than the requirements of the now-defunct ACP.[111] This is a substantial change given that Lifeline eligibility is capped at 135% of the federal poverty level, compared to 200% under the ACP.[112] This reduced federal poverty level threshold to qualify for an LCSO will negatively impact low-income Californians. As a result, it is reasonable to anticipate that many low-income households that could have benefited from BEAD-supported networks may now be excluded and produce further declines in broadband adoption.

Addressing Affordability at the State Level

To address affordable access to broadband services, many states are taking legislative action. California, Massachusetts, and Vermont have introduced legislation to curb the cost of broadband service following the success of New York's Affordable Broadband Act (ABA). New York now requires ISPs with over 20,000 subscribers to offer broadband service at $15/month or

[108] "Eligible Entity" means any State of the United States, the District of Columbia, Puerto Rico, American Samoa, Guam, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands or, in the case of an application failure, a political subdivision or consortium of political subdivisions that is serving as a Substitute Entity." Notice of Funding Opportunity, Broadband Equity, Access and Deployment Program at 12.

[109] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 6. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

[110] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 7. https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD_Restructuring_Policy_Notice

[111] National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: BEAD Restructuring Policy Notice at 8.

[112] https://www.fcc.gov/sites/default/files/ACP_Wind-down_Lifeline_Fact_Sheet%20.pdf

less for download speeds of at least 25 Mbps or $20/month for speeds of at least 200 Mbps.[113] The ABA was enacted in 2021 and implemented in January 2025[114] after the Supreme Court refused to hear a challenge to the law from a collection of telecom industry groups.[115]

In March 2025, the Public Advocates Office published a preliminary report, Broadband Policy Options to Improve Affordability for Low-Income Californians (Broadband Policy Options).[116] The report considers, among other things, the implications of a $15 plan to address affordability and the potential financial impact on broadband providers that offer such a plan.

Using the CPUC's Affordability Ratio Calculator (ARC), the Broadband Policy Options preliminary report modeled the theoretical effect of a $15 broadband plan. The analysis projects preliminary price savings of approximately $100 million per year for California broadband subscribers.[117] While the paper does not assess the supply-side economics or cost structures associated with broadband infrastructure deployment, or market competitiveness, the

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[113] The New York State Senate, Section 399-ZZZZZ, Broadband service for low-income consumers, General Business (GBS) CHAPTER 20, ARTICLE 26, effective April 16, 2021, available at https://www.nysenate.gov/legislation/laws/GBS/399-ZZZZZ.

[114] On August 15, 2024, Governor Kathy Hochul of New York announced a settlement agreement with Charter Communications, Inc. (the largest cable provider in the State) to re-establish the low-income broadband program at $15.00/month for 50 Mbps download for four years. The New York State Public Service Commission (New York Commission) alleged that Charter increased its low-income program to $24.99/month at a higher speed of 50 Mbps from the required $14.99/month for 30 Mbps without New York Commission's approval thus violating their 2016 merger order. See https://www.governor.ny.gov/news/governor-hochul-announces-settlement-provide-discounted-broadband-low-income-new-yorkers#:~:text=Governor%20Kathy%20Hochul%20today%20announced,the%20communications%20company%20to%20provide.

[115] https://www.supremecourt.gov/search.aspx?filename=/docket/docketfiles/html/public/24-161.html.

[116] Broadband Policy Options to Improve Affordability for Low-Income Californians, The Public Advocates Office at the California Public Utilities Commission. https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/250318-public-advocates-office-broadband-policy-options-to-address-affordability-in-ca.pdf

[117] Broadband Policy Options to Improve Affordability for Low-Income Californians, The Public Advocates Office at the California Public Utilities Commission at 7. https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/250318-public-advocates-office-broadband-policy-options-to-address-affordability-in-ca.pdf

Broadband Policy Options preliminary report suggests that, in aggregate, the Big 5 providers in California would see less than a 1% decline in revenues if required to offer a $15.00 plan. [118]

Chapter III. Conclusion

According to the U.S Census data, in 2023, 19% of households lacked a fixed broadband connection, compared to 20% in 2022 and 21% in 2021. Specifically, in California, broadband adoption in 2022 was around 71% compared to 69% in 2021.

Affordability remains the primary barrier to broadband adoption. With the ACP ending in June 2024, the impact to low-income customers and overall adoption remains to be seen. While the federal Lifeline and state LifeLine programs may offer some relief, their voluntary nature of provider participation means low-income access to these programs in certain areas may not exist. The ACP was itself a voluntary program, but unlike Lifeline, the FCC allowed cable companies to offer access to the ACP and consequently all the Big 5 providers in California participated. Without a suitable replacement to the ACP, broadband adoption could reverse course, jeopardizing the progress made toward closing the digital divide.

With recent changes to the BEAD program, specifically to the LCSO requirements, it is reasonable to predict that a smaller portion of California's low-income population will benefit from the record-level infrastructure investment than originally estimated. The BEAD program is poised to spend nearly two billion dollars on broadband infrastructure but will fall far short of its value proposition by failing to address the true barrier to closing the digital divide – affordability. States, including California, are actively pursuing legislative action to address affordability, but the effectiveness of these efforts is not yet clear.

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[118] Broadband Policy Options to Improve Affordability for Low-Income Californians, Initial Findings and Preliminary Report, The Public Advocates Office at the California Public Utilities Commission at 4. https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/250318-public-advocates-office-broadband-policy-options-to-address-affordability-in-ca.pdf

CONCLUSION

This report presents a focused analysis of broadband pricing and affordability in California based on data from both the FCC's Urban Rate Survey (URS) and the Public Advocates Office's provider data collection. While average prices for broadband service have declined across speed tiers in recent years, the findings show that affordability remains a persistent challenge, particularly for low-income households.

California's broadband pricing is shaped by multiple factors, including technology type, provider ownership, and market concentration. Among technology types, fiber and fixed wireless technologies offer more cost-efficient options in some tiers, while cable and DSL plans remain relatively expensive. In several speed tiers, particularly those below 1000 Mbps, California's competitive position has declined in the national rankings. According to URS data, California lost ground between 2021 and 2023, with average urban rates slipping relative to other states. This trend suggests that pricing improvements by the ISPs in California have not kept pace with broader national shifts or the offerings in lower-cost markets.

Affordability gaps are most visible when applying the CPUC's Affordability Ratio (AR) metric. In more than 25% of California's PUMAs, low-income households would need to spend more than 15% of their discretionary income to afford an average-priced broadband plan. These findings raise important questions about whether public investments and subsidy programs will translate into consumer-level affordability, particularly in regions with limited provider choice or legacy infrastructure.

As state and federal investments in broadband infrastructure continue, California faces an important inflection point. Pricing and affordability - not just availability - will determine whether California achieves universal broadband adoption. Policymakers should consider enhanced pricing transparency, support for alternative ownership models, and accountability mechanisms tied to public funding as part of the next phase in broadband expansion. Our office is working to provide more detailed recommendations for policymakers to consider.

Ensuring that Californians can access and afford high-speed internet service is not only a matter of connectivity, but also a requirement for Californians to fully participate in modern

economic, educational, and civic life. The trends and disparities identified in this report offer a clear rationale for policy action that places affordability at the center of broadband strategy.

Appendix A: Methodologies

Urban Rate Survey

Chapter I discusses the Federal Communications Commission's (FCC) annual Urban Rate Survey (URS) and the Public Advocates Office's analysis of the resulting data for years 2021, 2022, and 2023. The FCC's URS weighted averages are based on five components:[119]

1. **Sampling weight** – reflects the probability that a plan is included in the URS sample, based on the total number of service subscribers in each census tract;
2. **Nonresponse weight** – adjusts the data to account for providers that do not respond to the URS;
3. **Same rate weight** – accounts for cases when a provider uses different technologies to provide similar services at the same rate to customers in different parts of a census tract;
4. **Broadband speed weight** – applied when a provider reports the same speed service but via different technologies and at different rates; and
5. **Number of subscribers** – incorporates how many customers are served in a census tract to ensure the results reflect the scale of each provider's service.

[119] FCC 2024 Urban Rate Survey – Fixed Broadband Service Methodology Report, at 6.

The Public Advocates Data Collection Methodology

The Public Advocates Office created two samples of internet service providers (ISPs) for this analysis: one sample is referred to as the Random Sample and another one is referred to as the Focus Sample.

The Random Sample was created as follows:

1. The Public Advocates Office began with the list of ISPs that reported offering fixed broadband service in California via the FCC's June 30, 2023, Broadband Data Collection public data (made publicly available in November 2023). 193 ISPs were on this list.[120]
2. We divided this provider list into subgroups based on the total number of locations each provider claimed to serve in California:
   (1) ISPs serving 100,000 locations or more
   (2) ISPs serving 10,000 or more locations, up to 99,999 locations
   (3) ISPs serving 1,000 or more locations, up to 9,999 locations
   (4) ISPs serving 100 or more locations, up to 999 locations
   (5) ISPs serving less than 999 locations.
3. Given their relatively smaller impact on the overall picture of the broadband prices paid by most Californians, we removed ISPs serving less than 999 locations from our frame.

[120] There are 195 provider names in the FCC data for this vintage. However, one provider, Applied Technology Group Inc., provided data entries under three different versions of the same name ("Applied_Technology_Group_Inc", "Applied_Technology_Group_Inc.", and "Applied_Technology_Group_Inc Applied_Technology_Group_Inc"). Variations of the name were removed such that Applied Technology Group, Inc. appeared only once in the field of providers possible for selection; all locations reported under these names were totaled to represent the locations-served figure for Applied Technology Group, Inc.

4. We then calculated the percentage share of the total list of ISPs that each of the groups listed in Step 2, above, represents.

5. We identified the total number of data requests we intended to issue in order to create a large enough sample to draw a wide range of prices balanced with the staff resources needed to collect, review, and analyze each set of responses from ISPs.

6. We used an Excel formula to randomly pull ISPs from each subgroup in proportion to that subgroup's representation in the full field, limiting the number of ISPs pulled from each group so that the total number of ISPs pulled would total the limit identified in Step 5. This created a provider list with a range of provider-sizes that is statistically representative of the full range of ISPs in California that serve more than 999 locations.

The Focus Sample contains those ISPs that have a particular analytical significance for the California Public Utilities Commission's (CPUC's) assessment of broadband affordability: the Big 5 ISPs that collectively provide service to the vast majority of Californians; the Small Local Exchange Carriers, some of which receive subsidies to provide rate-regulated phone service and broadband service in rural areas of California; and municipal and other publicly or cooperatively owned ISPs for which special broadband deployment programs have been created.

These samples occasionally overlap (i.e., a Big-5 provider that appears in the Random Sample will also appear in the Focus Sample) but the samples are not mixed in any analyses; every chart or analysis in this report relies on an analysis conducted solely on one sample. This methodology was chosen to conduct statistically representative random assessments, while also providing assessments of the ISPs that serve the most customers in California or that serve specific areas focused on by the CPUC and The Public Advocates Office.

The Public Advocates Office sent data requests to all ISPs on our Random and Focus data request lists. 44 ISPs from our Random Sample provided responses to our data requests. All Focus Sample ISPs provided responses to our data requests.

Appendix B: Broadband Delivery Technologies

1. Digital Subscriber Line (DSL)

DSL is a wireline transmission technology that transmits data over traditional copper telephone lines already installed to homes and businesses.[121] The maximum speed the DSL technology provides can be hundreds of megabits per second (Mbps).

There are two types of DSL transmission technologies: Asymmetrical Digital Subscriber Line (ADSL) and Symmetrical Digital Subscriber Line (SDSL). ADSL provides faster speed in the downstream direction than the upstream direction. It is used primarily by residential customers who receive a lot of data but do not send much.[122] SDSL provides symmetrical download and upload speeds and is typically used by businesses for services such as video conferencing, which require significant bandwidth both upstream and downstream to operate effectively.

2. Coaxial Cable (cable)

Coaxial cable is a type of copper cable built with a metal shield and other components engineered to block signal interference. Coaxial cable is primarily used by cable TV companies to connect their satellite antenna facilities to customer homes and businesses. Coaxial cable is also sometimes used by telephone companies to connect central offices to telephone poles near customers.[123] Coaxial cable technology can provide thousands of megabits per second.

3. Fiber to the Home (fiber or FTTH)

Fiber refers to the use of fiber optic cables to deliver broadband internet connections from a central location directly to the home. In a fiber to the home network, optical fiber is

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[121] FCC, Types of Broadband Connections – FCC Consumer Facts, https://www.fcc.gov/general/types-broadband-connections.

[122] FCC, Types of Broadband Connections – FCC Consumer Facts, https://www.fcc.gov/general/types-broadband-connections

[123] Coaxial Cable, *TechTarget Network*, https://searchnetworking.techtarget.com/definition/coaxial-cable-illustrated

used over the "last mile," displacing DSLs or coaxial wires with lower bandwidth capacities. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds.[124]

4. Fixed Wireless

The FCC defines fixed wireless as the operation of wireless communication devices or systems to connect two or more fixed locations, such as a building to a building or a tower to a home or business, using a radio or other wireless link. For broadband purposes, this involves using fixed wireless access (FWA) technology to transmit high-speed internet service via radio signals to a specific, fixed location, like a home or enterprise, without the need for physical cables.[125]

[124] Fiber to the Home – the Ultimate Guide, *OSPInsight*, https://get.ospinsight.com/the-ultimate-guide/fiber-to-the-home.

[125] https://help.bdc.fcc.gov/hc/en-us/articles/5290793888795-Fixed-Technology-Codes

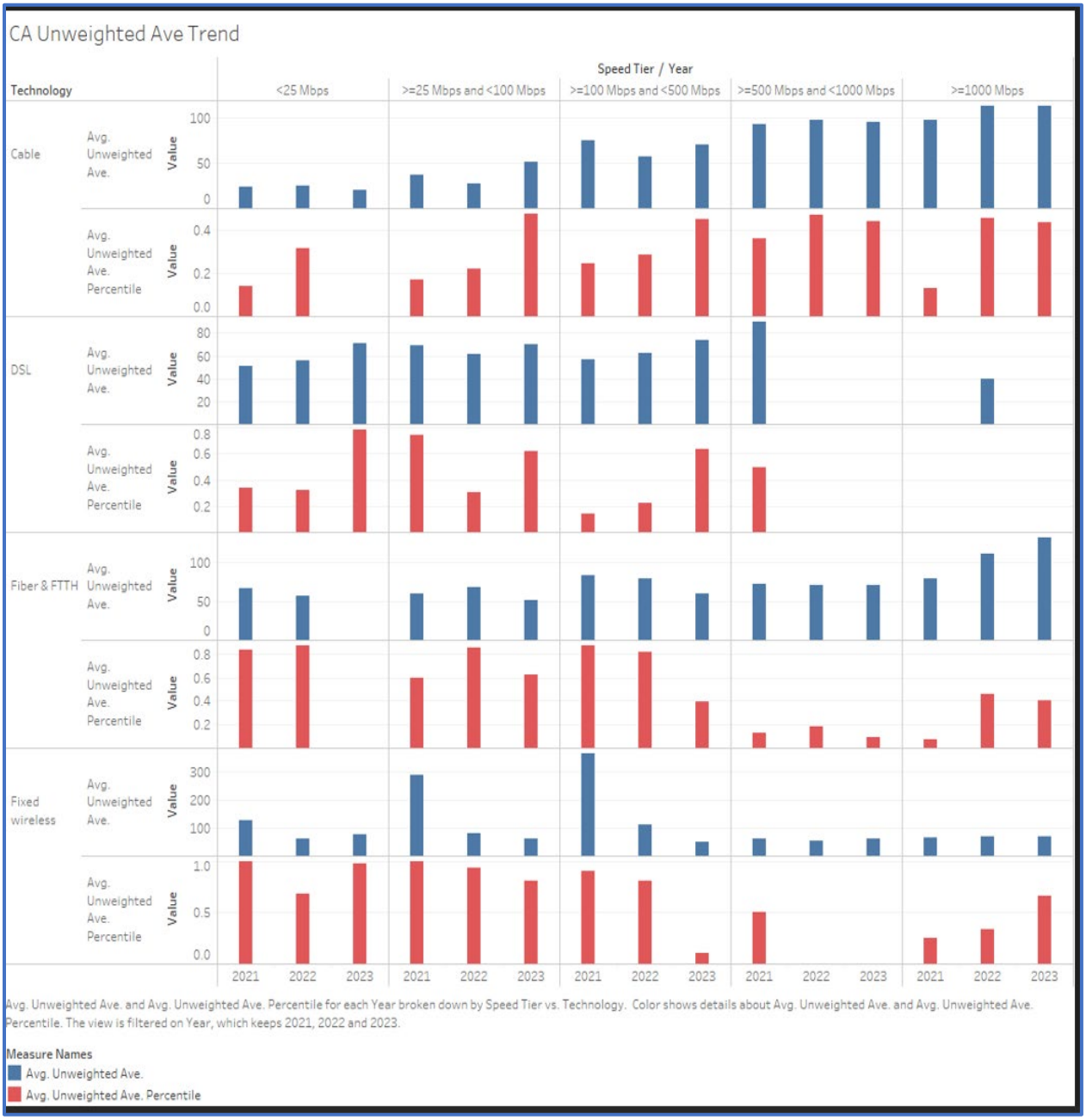
Appendix C: Change in Unweighted Average Urban Rates for Broadband Service in California by Technology (2021-2023)

	2021	2022	2023	Percentage Change from 2021 to 2022	Percentage Change from 2022 to 2023
<25 Mbps					
Cable	$23.50	$25.60	$19.95	8.9%	-22.1%
DSL	$50.87	$56.09	$70.62	10.3%	25.9%
Fiber & FTTH	$66.45	$57.48		-13.5%	
Fixed wireless	$127.99	$61.17	$75.99	-52.2%	24.2%
≥25 Mbps & <100 Mbps					
Cable	$36.96	$27.09	$51.17	-26.7%	88.9%
DSL	$68.67	$61.31	$70.00	-10.7%	14.2%
Fiber & FTTH	$59.89	$67.95	$52.14	13.5%	-23.3%
Fixed wireless	$288.39	$80.99	$59.67	-71.9%	-26.3%
≥100 Mbps & <500 Mbps					
Cable	$75.46	$56.91	$69.82	-24.6%	22.7%
DSL	$56.99	$62.14	$73.36	9.0%	18.1%
Fiber & FTTH	$83.89	$79.65	$60.52	-5.1%	-24.0%
Fixed wireless	$365.60	$110.65	$49.64	-69.7%	-55.1%
≥500 Mbps & <1000 Mbps					
Cable	$93.45	$97.82	$95.11	4.7%	-2.8%
DSL	$89.99				
Fiber & FTTH	$71.66	$71.04	$70.52	-0.9%	-0.7%
Fixed wireless	$60.00	$53.75	$62.50	-10.4%	16.3%
≥1000 Mbps					
Cable	$97.29	$113.53	$113.48	16.7%	0.0%
DSL		$39.99			
Fiber & FTTH	$78.80	$111.54	$132.52	41.5%	18.8%
Fixed wireless	$65.80	$70.00	$70.00	6.4%	0.0%

Appendix D: Change in Weighted Average Urban Rates for Broadband Service in California by Technology (2021-2023)

	2021	2022	2023	Percentage Change from 2021 to 2022	Percentage Change from 2022 to 2023
<25 Mbps					
Cable	$23.50	$34.02	$19.95	44.8%	-41.4%
DSL	$46.63	$62.41	$70.30	33.8%	12.7%
Fiber & FTTH	$63.95	$64.38		0.7%	
Fixed wireless	$128.85	$57.59	$49.99	-55.3%	-13.2%
≥25 Mbps & <100 Mbps					
Cable	$28.63	$24.43	$60.49	-14.7%	147.7%
DSL	$55.56	$67.33	$70.00	21.2%	4.0%
Fiber & FTTH	$53.07	$75.29	$52.14	41.9%	-30.7%
Fixed wireless	$281.97	$59.01	$60.33	-79.1%	2.2%
≥100 Mbps & <500 Mbps					
Cable	$76.93	$65.44	$76.40	-14.9%	16.7%
DSL	$56.56	$68.82	$72.86	21.7%	5.9%
Fiber & FTTH	$67.89	$70.20	$58.64	3.4%	-16.5%
Fixed wireless	$257.13	$67.18	$54.01	-73.9%	-19.6%
≥500 Mbps & <1000 Mbps					
Cable	$92.74	$95.83	$96.93	3.3%	1.1%
DSL	$89.99				
Fiber & FTTH	$70.94	$68.33	$76.77	-3.7%	12.3%
Fixed wireless	$60.00	$51.61	$62.30	-14.0%	20.7%
≥1000 Mbps					
Cable	$119.49	$113.64	$112.43	-4.9%	-1.1%
DSL		$39.99			
Fiber & FTTH	$83.85	$131.00	$199.59	56.2%	52.4%
Fixed wireless	$68.79	$70.00	$70.00	1.8%	0.0%

Appendix E: California's Unweighted Average Urban Rates for Fixed Broadband Service by Technology (2021-2023)



Appendix F: California's Weighted Average Urban Rates for Broadband Service by Technology (2021-2023)