Broadband Competition and Pricing Strategies in California's Urban Markets

A Comparative Analysis of Major Internet Service Providers in San Mateo, Oakland, Los Angeles, and San Diego

The Public Advocates Office
California Public Utilities Commission

All Californians deserve access to affordable, high-quality, and reliable communications services.

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The Public Advocates Office (also known as Cal Advocates) is the state-appointed independent ratepayer advocate at the California Public Utilities Commission (CPUC). We advocate for affordable, reliable, and safe utility services across energy, water, and communications, ensuring that policies and regulations protect ratepayers' interests while advancing California's environmental goals.

Our communications advocacy focuses on protecting customers of communication companies in California by analyzing market conditions and recommending solutions in several areas, including improving service quality, advancing broadband access and affordability, and participating in CPUC proceedings to address customer needs and challenges.

This paper examines how broadband competition affects the prices of standalone residential internet access service[1] charged by California's four largest fixed providers – AT&T, Comcast, Charter, and Cox – across four major metropolitan cities (markets): San Mateo, Oakland, Los Angeles, and San Diego. Using residential address-level broadband pricing and availability data, this analysis evaluates how promotional broadband prices vary with local competitive intensity and provides initial policy recommendations for improving competition and affordability.

The data collected for this report was in partnership with the University of California, Santa Barbara utilizing the University's Broadband Query Tool, which enabled real-time data analysis of internet service provider (ISP) behavior at the address level.

Additional analysis and prior reports are available on the Public Advocates Office website at www.publicadvocates.cpuc.ca.gov

For more information about our work, contact us at publicadvocatesoffice_press@cpuc.ca.gov.

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[1] Standalone broadband service is a retail internet service offered on its own, with a monthly price that does not depend on purchasing additional services (e.g., cable TV, voice, or wireless plans). This pricing construct allows prices to be compared directly across providers and locations without the influence of bundling discounts or cross-product promotions.

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EXECUTIVE SUMMARY

Broadband prices in California's urban markets vary widely depending on the level and type of competition available to households. Across the four studied urban cities (markets) – San Mateo, Oakland, Los Angeles, and San Diego, the benchmark price for competitive high-speed broadband service averages approximately $51 per month. In contrast, households with access to only a single gigabit provider[2] pay $15 to $40 more per month for comparable services. Comparing locations with limited competition to those with overlapping gigabit networks shows that Californians could save more than $1 billion annually if competitive pricing prevailed statewide.

The four urban markets studied illustrated varying levels of competitive intensity. San Mateo and Oakland exhibit the greatest gigabit competition, with a median of three gigabit providers per residential location. Los Angeles shows moderate competitive pressure, while San Diego has the most limited competition, with many neighborhoods served by a monopoly gigabit provider. These differences closely track fiber deployment patterns of companies such as AT&T, Frontier, and Sonic.

Across these markets, pricing outcomes are driven primarily by the presence of overlapping gigabit-capable networks, not simply by the number of available broadband providers. Competition among providers offering comparable gigabit service produces the strongest downward pressure on prices for higher-speed tiers. By contrast, providers offering only sub-gigabit service,[3] including speeds above 100 Mbps but below 1 Gbps,[4] do not consistently constrain pricing of a monopoly gigabit provider. As a result, prices are

[2] For purposes of this paper, "gigabit providers" are defined as broadband service providers offering maximum advertised residential download speeds of at least 1 gigabit per second (Gbps) at a given location. One Gbps equals 1,000 megabits per second (Mbps).

[3] A sub-gigabit service is a service that is incapable of offering a gigabit service tier due to technical or financial constraints such as fixed wireless or satellite.

[4] While sub-gigabit service can support basic household internet use, gigabit-level service enables multiple simultaneous high-bandwidth activities such as remote work, distance learning, and telehealth. For this reason, gigabit availability is widely used as a benchmark for modern residential broadband service.

systematically lower in markets with more than one gigabit provider than in areas with multiple lower-speed options and a gigabit monopoly.

Across all four major providers, prices are lowest where gigabit networks overlap and highest where a provider operates as the sole gigabit option. In competitive markets, providers offer multiple promotional pricing tiers and deeper discounts, while in markets with limited gigabit competition, pricing is more uniform and higher. For example, cable providers reduce prices substantially when faced with fiber competition but not when facing fixed wireless competition.

The findings indicate that policy efforts focused solely on broadband availability are unlikely to deliver affordable outcomes without also addressing competitive structure. Overlapping gigabit networks materially reduce broadband prices even in a duopoly setting where there are just two dominant providers. Policies that support entry by additional private or public gigabit-capable providers, particularly in areas served by a gigabit monopoly, offer the broadest consumer cost savings at all income levels.

Greater transparency in broadband pricing is also essential. Promotional prices vary by address and are not publicly disclosed in a comprehensive or usable format, limiting regulatory oversight and obscuring market behavior. Collecting the pricing data used in this analysis required significant technical effort and academic collaboration. If broadband providers were required to publish machine-readable, address-level pricing data, it would significantly improve transparency, strengthen competition analysis, and better protect consumers by improving their access to pricing information.

For a deeper understanding, technical appendices supporting this analysis are provided in a separate document and referenced following the conclusion.

I. INTRODUCTION

Broadband is an essential service. Nearly every aspect of participating in modern society (e.g., work, education, healthcare, and communication) now relies on fast and reliable internet access. However, a central challenge remains – broadband must also be affordable. Unlike other competitive markets where expansive consumer choice disciplines price, broadband markets in

urban settings often offer only one or two high-quality gigabit choices and several "sub-gigabit" alternatives. This whitepaper examines two questions: **(1) how does the type of competition shape broadband pricing in California's urban markets, and (2) what costs do consumers bear when competition is limited or absent?**

Urban residential markets provide an ideal setting to observe how competition translates into consumer benefits because they contain advantages that favor broadband deployment. These markets typically have high population density and concentrated demand for high-speed service that reduces deployment costs compared to rural areas. This paper evaluates four distinct urban markets with varying levels of competition. Price information was collected from the four largest fixed broadband providers that serve approximately 95% of California households.[5]

The four markets included in this analysis exhibit the following competitive characteristics:

- **San Mateo**: A highly competitive market with two major cable providers (Comcast and Astound) and one major fiber provider (AT&T) offering widespread gigabit service. In addition, Sonic provides fiber in roughly one-third of the market's gigabit locations.[6]
- **Oakland**: Similarly competitive to San Mateo, but with a different mix: one dominant cable provider (Comcast) and two fiber providers (AT&T and Sonic) offering extensive gigabit service.
- **Los Angeles**: A moderately competitive market dominated by one cable provider (Charter). Two fiber providers, AT&T and Frontier, cover less than half of the market's gigabit locations,[7] limiting the competitive pressure they exert on Charter's pricing in many neighborhoods.
- **San Diego**: The least competitive of the four markets, divided almost evenly between two cable providers, Charter and Cox, whose service footprints do not substantially overlap. AT&T's fiber network covers only about 40% of the market's gigabit locations. As a result, many areas have a single gigabit provider option and limited competitive pressure.

[5] Pricing from AT&T, Comcast, Charter, and Cox were examined. Frontier was excluded due to its ongoing merger with Verizon.

[6] For purposes of this paper, "gigabit locations" are defined as locations served by at least one broadband provider offering maximum advertised residential download speeds of at least 1 Gbps.

[7] AT&T and Frontier have 489 overlapping locations, representing less than 0.4% of each provider's gigabit locations in Los Angeles.

II. DATASETS

Understanding how competition shapes broadband prices requires more than reviewing publicly posted rates. Consumer surveys indicate that many consumers feel misled by broadband pricing and that only 19% of respondents are aware of broadband consumer labels[8] currently required by the Federal Communications Commission (FCC).[9]

Our data has found that providers set promotional prices even at the address level. As a result, two households on the same street may pay different prices for the exact same service. To capture these variations, this study combines three complementary datasets to reflect real consumer experiences. These datasets are summarized in the following sections with detailed analysis provided in the appendices.

A. Broadband Promotional Pricing Dataset

While non-promotional prices displayed on broadband consumer labels for each standalone broadband internet access service are generally consistent statewide,[10] consumers typically receive promotional prices when they first subscribe and similarly discounted prices when they consider switching to alternatives.[11] Promotional pricing is important despite its perceived time limits because it represents providers' efforts to obtain and retain customers in broadband markets. Furthermore, because promotional pricing data is public, it can be collected and observed to measure competitive conduct. However, promotional prices are not easily accessible because they are not published in any aggregated or transparent form.

The Public Advocates Office partnered with the University of California, Santa Barbara (UCSB) to obtain pricing data utilizing UCSB's internally developed Broadband Plan Querying

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[8] *Confusing Pricing Makes 59% of Internet Customers Feel Misled: Survey* (May 22, 2025), **Telecompetitor**. https://www.telecompetitor.com/confusing-pricing-makes-59-of-internet-customers-feel-misled-survey; See also *The Cost of Connectivity 2020* (2020), **New America, Open Technology Institute**, https://www.newamerica.org/oti/reports/cost-connectivity-2020.

[9] Federal Communications Commission, *Consumer Broadband Labels*, 47 C.F.R. § 8.1 (2024).

[10] The Public Advocates Office annually collects data from providers on broadband plans and pricing. This information is based on broadband providers' responses to the Public Advocates Office's 2024 broadband pricing data request.

[11] Octavio Blanco, *How to Lower Your Cable and Internet Bills*, **Consumer Reports** (June 9, 2021), https://www.consumerreports.org/electronics-computers/telecom-services/how-to-lower-your-cable-and-internet-bills-a9803471134/

Tool.[12] Between August and October of 2025, the UCSB team systematically collected the following data for selected sample locations and providers: available broadband plans, advertised speed tiers, and promotional prices. This approach enabled consistent address-level price information for the four major fixed broadband providers and allowed for observation of near real-time market behavior.[13]

B. Broadband Deployment Dataset

The FCC's National Broadband Map[14] provides a dataset of where broadband is available. For each broadband serviceable location (BSL),[15] the dataset identifies: All providers, maximum advertised download and upload speeds, and technology type (fiber, cable, or fixed wireless).[16] The address-level details facilitate a mapping of the competitive choices available to households and are necessary to distinguish neighborhoods with multiple gigabit providers from those with only a single gigabit provider.[17]

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[12] University of California, Santa Barbara, *Broadband Query Tool (BQT)*, https://address.cs.ucsb.edu/bqt/ (last visited Jan. 8, 2026).

[13] See Appendix A for detailed information on sample sizes by provider and market.

[14] Current as of June 30, 2025.

[15] A broadband serviceable location (BSL) is "a business or residential location in the United States at which mass-market fixed broadband Internet access service is, or can be, installed." https://help.bdc.fcc.gov/hc/en-us/articles/16842264428059-About-the-Fabric-What-a-Broadband-Serviceable-Location-BSL-Is-and-Is-Not

[16] Federal Communications Commission**,** *Getting Broadband – Questions and Answers*, https://www.fcc.gov/consumers/guides/getting-broadband-qa

Fiber: Fiber optic technology converts to light electrical signals carrying data and sends the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds.

Cable modem service enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your TV set, though you can still watch cable TV while using a cable modem service. Transmission speeds vary depending on the type of cable modem, cable network and traffic load.

Fixed wireless: While Wireless fidelity (WiFi) connects end-user devices to a local Internet service via short-range wireless technology, fixed wireless technologies using longer range directional equipment can provide broadband service in remote or sparsely populated areas where other types of broadband would be too costly to provide.

[17] For purposes of this paper, business-only locations are excluded.

C. Income Level Dataset

The U.S. Census Bureau provides a dataset of median household income (MHI) estimates. The 2023 MHI dataset is used because it is the most current dataset available that includes income information at the census block group level. Income categories are defined relative to each market's MHI.[18]

- **Low-income**: Household incomes below 80% of the market's MHI.[19]
- **Middle-income (not low-income)**: Household incomes at or above 80% but below 120% of the market's MHI.
- **Moderate-income**: Household incomes at or above 120% of the market's MHI.

III. METHODOLOGY

Competitive conditions are identified by the number of gigabit providers available at each location. Gigabit service availability is used as the benchmark for modern high-speed service because it is widely offered across providers, reflects current network capabilities, serves as an anchor point for all prices, and exhibits the greatest sensitivity to competitive conditions.

Broadband map data and income data are collected in different geographic sizes[20] with broadband map data collected at the census block and income data collected at the census block group. Therefore, to present competition across neighborhoods, each census block is assigned the *median* number of gigabit providers across locations within that census block. Using the median number avoids distortion from outliers. For example, a single apartment building with an unusually high number of gigabit providers could create a misleading impression of gigabit availability for nearby homes if using averages.

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[18] U.S. Census Bureau, *City Profile Data* for San Mateo, Oakland, San Diego, and Los Angeles, California, https://data.census.gov (last visited Jan. 8, 2026) (providing demographic and income characteristics).

[19] California Public Utilities Commission, *Environmental & Social Justice Action Plan*, April 7. 2022, at 2. https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf

[20] U.S. Census Bureau, *GEOID Structure for Geographic Areas*, https://www.census.gov/programs-surveys/geography/guidance/geo-identifiers.html

After integrating broadband deployment, incomes, and promotional pricing datasets, the analysis examines how promotional prices vary with:

- The number of gigabit providers available at each location
- The income level of the census block group

The data show that broadband competition differs sharply across the four study markets. By using the median number of gigabit providers, the analysis shows that San Mateo and Oakland have greater competitive intensity with many locations served by three or more gigabit providers. Los Angeles and San Diego, by contrast, are more concentrated: large portions of both markets have only one or two gigabit providers, which limits competitive pressure to reduce prices.

Across all four markets, cable networks account for the largest gigabit availability, followed by fiber networks. In San Mateo and Oakland, certain fiber providers' networks pass[21] over 70% of gigabit locations (AT&T in San Mateo, and both AT&T and Sonic in Oakland), contributing to more dynamic pricing competition. In these markets, providers frequently vary promotional prices across locations in response to competitive local conditions, rather than offering a single uniform price. In Los Angeles and San Diego, by contrast, no fiber provider's network passes even half of the market's gigabit locations, meaning fiber competition plays a more limited role in constraining prices.

The following table summarizes the characteristics of each study market.

Table 1: Market Overview

Description	San Mateo	Oakland	Los Angeles	San Diego
Median Number of Gigabit Providers per Residential Location	Median = 3 81% ≥ 3 gigabit providers 5% = 1 gigabit provider	Median = 3 59% ≥ 3 gigabit providers 9% = 1 gigabit provider	Median = 2 49% = 2 gigabit providers 48% = 1 gigabit provider	Median = 1 38% = 2 gigabit providers 60% = 1 gigabit provider
% of Low-Income Households	18%	30%	29%	26%

[21] A network pass occurs when a provider's infrastructure reaches a serviceable location, enabling service without additional construction, regardless of subscription status.

Description	San Mateo	Oakland	Los Angeles	San Diego
Main Gigabit providers' Coverage at Gigabit Locations	Comcast (cable): 99.4% Astound (cable): 88% AT&T (fiber): 80% Sonic (fiber): 34%	Comcast (cable): 99.4% AT&T (fiber): 77% Sonic (fiber): 70%	Charter (cable): 98% AT&T (fiber): 30% Frontier (fiber): 17%	Charter (cable): 53% Cox (cable): 48% AT&T (fiber): 39%
% of AT&T Fiber in AT&T's Service Area	85%	79%	36%	42%

IV. PROVIDER-SPECIFIC MARKET ANALYSIS

The four providers' promotional prices, which revert to higher non-promotional prices after a defined introductory period (typically one- or two-year terms),[22] are not applied uniformly across a market. Instead, they vary at the neighborhood or even address level, reflecting differences in local competitive conditions. More detailed market and pricing data can be found in the appendices.[23] Notably, each gigabit provider exhibits different pricing behavior.

AT&T is unique because it is the only provider among the four providers that offers broadband service in all four study markets. Its pricing behavior differs sharply across markets depending on the type of competition it faces. In San Mateo and Oakland, where AT&T faces extensive overlapping fiber and cable competition, it employs granular, neighborhood-level pricing for its 1 Gbps service. Furthermore, greater overlap with more gigabit competitors yields

[22] In 2025, Comcast introduced a five-year promotional pricing set with prices set $15 higher than its one-year pricing set for all speed tiers. To ensure comparability across providers, which predominantly use one-year promotional terms, this paper analyzes only Comcast's one-year promotional pricing set.

[23] **Appendix B** presents detailed, provider-specific analyses of AT&T, Comcast, Charter, and Cox, showing how each provider structures promotional pricing across the four study markets and how these strategies respond to local competitive pressures.

Appendix C provides examples of both non-promotional and promotional prices for these providers, along with comparable offerings from other providers in the same areas.

Appendix D contains maps illustrating the geographic distribution of promotional pricing, highlighting how promotional offers can vary at the neighborhood or even address level depending on the intensity of competition.

Together, these appendices provide a comprehensive view of how promotional pricing is tailored to local market conditions and competitive dynamics.

lower promotional prices (e.g., $53 and $55, compared with $65 in less competitive areas).[24] In Los Angeles and San Diego, where gigabit competition is more limited and dominated by incumbent cable providers, AT&T adopts uniform, market-wide pricing and offers its highest promotional price for 1 Gbps service ($65).[25] This contrast illustrates how the presence and intensity of overlapping gigabit networks shape AT&T's promotional pricing strategy.

Comcast operates in two competitive broadband markets, San Mateo and Oakland, where its pricing strategy reacts to the presence of AT&T's fiber network and a second competitor: Astound in San Mateo and Sonic in Oakland. In both cities, Comcast provides two promotional pricing sets for its 300 Mbps, 500 Mbps, 1 Gbps, and 2 Gbps services, with discounts of $40 to $70 below non-promotional prices across all speed tiers.[26] These discounts are among the largest observed across the four major providers. These pricing sets also show a geographic pattern: the lower-priced sets are concentrated in central areas of each city, while the higher-priced sets appear more frequently in neighborhoods closer to San Mateo's boundaries and East Oakland, West Oakland, and the eastern hillside neighborhoods of Oakland.[27]

Charter operates in Los Angeles and San Diego. It offers promotional discounts of $20 to $60 on its 100 Mbps, 500 Mbps, and 1 Gbps services, with larger reductions for higher-speed tiers.[28] Across both markets, Charter's pricing patterns change depending on the presence of overlapping fiber networks. Areas with multiple fiber competitors exert downward pressure on Charter's prices for 500 Mbps and 1 Gbps services.[29] Conversely, in locations where Charter is the gigabit monopoly,[30] it maintains the highest prices.

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[24] See Appendix B, Table B1.

[25] See Appendix B, Table B2.

[26] See Appendix B, Table B3.

[27] See Appendix D, maps for San Mateo_Comcast, $45-$50 (500 Mbps, 1 Gbps); San Mateo_Comcast, $55-$70 (500 Mbps, 1 Gbps); Oakland_Comcast, $45-$50 (500 Mbps, 1 Gbps); and Oakland_Comcast, $55-$70 (500 Mbps, 1 Gbps).

[28] See Appendix B, Table B4.

[29] See Appendix B, Table B4.

[30] See Appendix B, Table B4. In Los Angeles, Charter offers the highest promotional pricing set, Pricing Set B ($30-$50-$70), predominantly in areas where 74% of sample locations have Charter as the only gigabit provider.

Across the four studied markets, Cox primarily operates in San Diego, where competitive pressure is limited. Cox offers two promotional pricing sets for its 300 Mbps, 500 Mbps, 1 Gbps, and 2 Gbps services, with promotional discounts of $20 to $65, and the largest reductions applied to gigabit service. In areas with AT&T's fiber network, Cox offers the lower promotional pricing.[31] In areas where Cox is the gigabit monopoly, it maintains higher promotional pricing.[32] This pattern indicates that AT&T is the only provider exerting downward pressure on Cox's pricing in San Diego. Overall, Cox's pricing demonstrates how a lack of a gigabit competitor results in higher prices.

V. CROSS-PROVIDER COMPARISON

Across all four major broadband providers, a consistent pattern emerges: promotional prices are less aggressive in locations with limited or no gigabit competition and more aggressive with deeper discounts in locations where overlapping gigabit networks are present. While each provider employs distinct pricing strategies, their responses to competition are notably similar. Data collected from the carriers indicate that pricing competition is concentrated at 300 Mbps and higher speed tiers, as these are the most subscribed broadband services.[33] The following table compares the non-promotional and promotional prices of these services by provider.

Table 2: Cross-Provider Non-Promotional and Promotional Prices

Description	AT&T	Comcast	Charter[34]	Cox
Non-Promotional Prices	300 Mbps: $65 500 Mbps: $75 1 Gbps: $90	300 Mbps: $80 500 Mbps: $95 1 Gbps: $110	100 Mbps: $50 500 Mbps: $80 1 Gbps: $100	300 Mbps: $70 500 Mbps: $105 1 Gbps: $135

[31] See Appendix B, Table B5.

[32] See Appendix B, Table B5. Cox offers the highest promotional pricing set, Pricing Set B ($50-$70-$90-$140), predominantly in areas where 83% of sample locations have Cox as the only gigabit provider.

[33] The 2024 subscriber information comes from providers' responses to the Public Advocates Office's annual broadband pricing data request.

[34] Charter does not offer a promotional plan for 300 Mbps service, its 100 Mbps price is used as a proxy for purposes of comparison.

Limited to No Competition Promotional Prices	300 Mbps: $55 500 Mbps: $65 1 Gbps: $65	300 Mbps: $40 500 Mbps: $55 1 Gbps: $70	100 Mbps: $30 500 Mbps: $50 1 Gbps: $70	300 Mbps: $50 500 Mbps: $70 1 Gbps: $90
Competition Promotional Prices	300 Mbps: $55 500 Mbps: $65 1 Gbps: $53	300 Mbps: $40 500 Mbps: $45 1 Gbps: $50	100 Mbps: $30 500 Mbps: $50 1 Gbps: $40	300 Mbps: $50 500 Mbps: $60 1 Gbps: $70
Discount Range	$10-$37	$40-$60	$20-$60	$20-$65

VI. STATISTICAL EVALUATION OF COMPETITION IMPACTS ON PRICE

To assess the direction and statistical significance of the relationship between competition and broadband prices, regression analysis was performed on the integrated dataset. Given the highly localized and strategic nature of promotional pricing, the regression is not intended to fully explain all price variations or to predict prices, but rather to assess whether competition or consumer income is correlated with pricing.

The regression model includes sub-gigabit providers to test whether lower-speed alternatives, such as fixed wireless services, exert pricing pressure on cable and fiber broadband offerings. Regressions were performed for each provider and speed tier to reflect differences in pricing strategies across providers and service levels.[35]

A. The Regression Equation

$$\text{Price}_i = \alpha + \beta_1(\text{Gigabit Providers}_i) + \beta_2(\text{Sub-Gigabit Providers}_i) + \beta_3(\text{Income Level}_i) + \varepsilon_i$$

Where:

- **Price**: the promotional monthly price for a given speed tier at location *i.*
- **α (Intercept):** the baseline promotional monthly price for a given speed tier at location *i* for the reference income category and zero values of the competition variables.

[35] Full regression results and model specifications are provided in Appendix E.

- **Gigabit Providers**: the number of providers offering maximum advertised speeds ≥1 Gbps service at location *i*, with β_1 representing the associated coefficient.
- **Sub-Gigabit Providers**: the number of providers offering maximum advertised speeds ≥100 Mbps but <1 Gbps service at location *i, with* β_2 representing the associated coefficient.
- **Income Level**: a categorical measure of neighborhood income at location *i*, including low-income, middle-income, and moderate-income *with* β_3 representing the associated coefficient.
- $\boldsymbol{\varepsilon_i}$**:** the error term.

B. Key Findings from the Regression Analysis

1. Gigabit Competition Drives Lower Broadband Prices

A clear and statistically significant relationship exists between gigabit competition and broadband prices for 1 Gbps and 500 Mbps service when there are overlapping gigabit providers.[36] Locations with more gigabit providers tend to have lower promotional prices for 1 Gbps and 500 Mbps service.

2. Sub-Gigabit Providers Do Not Reliably Constrain Price

In the selected sample locations, the primary sub-gigabit providers include fixed wireless providers such as T-Mobile Home Internet, Verizon 5G Home, AT&T Internet Air, Etheric Networks, San Diego Broadband, and Unwired Ltd.

The number of sub-gigabit providers is not consistently associated with lower prices, and in some cases, is associated with higher prices, particularly for 500 Mbps service.[37] These results suggest that sub-gigabit services do not consistently constrain pricing for providers' 500 Mbps or 1 Gbps offerings. This finding reinforces the conclusion that effective price competition is

[36] Appendix E. The regression results consistently show statistically significant P-values and negative coefficients on the number of gigabit providers for both 1 Gbps and 500 Mbps promotional prices, indicating that greater gigabit competition is associated with lower prices.

[37] Appendix E. The regression results show inconsistent coefficients for the number of sub-gigabit providers. For AT&T and Charter, coefficients are negative for 1 Gbps promotional prices but positive for 500 Mbps promotional prices, while for Cox, coefficients are positive for both 1 Gbps and 500 Mbps promotional prices.

positively correlated with overlapping gigabit networks, rather than merely the presence of additional providers that do not offer gigabit service.

3. Income is Not a Primary Driver of Prices

After controlling for the number of gigabit and sub-gigabit providers, neighborhood income shows a limited and inconsistent relationship with broadband prices.[38] This suggests that providers do not systematically adjust promotional pricing based on income levels and that pricing strategies are driven primarily by market structure and competition.

VII. COST TO CONSUMERS OF LIMITED COMPETITION

To illustrate the cost of insufficient competition, pricing benchmarks in the more competitive markets were calculated alongside pricing in markets with limited or no competition. The benchmark price represents the level of pricing observed when gigabit competition is present. Estimates of the cost burden faced by households in markets where competition is limited were then calculated.

A. Establishing a Benchmark Price

A benchmark price was calculated by averaging the lowest promotional price for the three most in-demand speed tiers of each provider.[39] Prices were averaged across speed tiers rather than within each tier because consumers do not purchase a uniform speed level and frequently migrate between tiers, and providers compete across adjacent tiers. Pricing decisions for higher speed tiers often anchor pricing for adjacent lower tiers. Averaging across tiers therefore captures overall competitive pricing behavior rather than isolating a single speed tier. Also, the incremental cost of delivering higher speeds using the same network infrastructure are

[38] Appendix E. Regression results show inconsistent coefficients for income level, and several estimates are not statistically significant.

[39] 300 Mbps, 500 Mbps, and 1 Gbps

minimal.[40] This is supported by observed pricing behavior, particularly AT&T's and Charter's promotional pricing for 500 Mbps and 1 Gbps.[41]

The following table presents the benchmark price of $51, calculated by averaging prices across the three most in-demand speed tiers.

Table 3: Estimation of Benchmark Price (300 Mbps, 500 Mbps, and 1 Gbps)

Provider	300 Mbps	500 Mbps	1 Gbps
AT&T	$55	$65	$53
Comcast	$40	$45	$50
Charter	$30[42]	$50	$40
Cox	$50	$60	$70
Average Price	**$51**		

B. Estimating Number of Subscribers Impacted

To ensure a conservative estimate of impacted subscribers, only residential locations where just one gigabit provider exists were counted. As shown in the following table, approximately 4.45 million locations are served by one of the four providers as the sole gigabit provider.

Table 4: Number of Potential Subscribers Exposed to Highest Promotional Price[43]

Description	Gbps Locations	Coverage in CA	Locations with Sole Gbps Provider	Coverage in CA
Charter	4,654,185	50%	2,119,162	44%
Comcast	3,536,028	38%	1,800,837	37%

[40] Electronic Frontier Foundation, *The Future is in Symmetrical, High-Speed Internet Speeds,* https://www.eff.org/deeplinks/2021/07/future-symmetrical-high-speed-internet-speeds#:~:text=In%20other%20words%2C%20the%20only,costs%20to%20upgrade%20at%20all.

[41] AT&T's promotional price for 500 Mbps and 1 Gbps is both $65, and in some locations, the promotional price for 1 Gbps is $53 or $55, lower than the price for 500 Mbps.

Charter has one promotional pricing set in which the price for 500 Mbps ($50) is higher than the price for 1 Gbps ($40) across 434 sample locations in Los Angeles and 599 sample locations in San Diego.

[42] Because Charter does not offer a promotional plan for 300 Mbps, its 100 Mbps price is used as a proxy for the comparison.

[43] Based on FCC National Broadband Map data as of June 30, 2025.

Description	Gbps Locations	Coverage in CA	Locations with Sole Gbps Provider	Coverage in CA
Cox	791,454	8%	504,937	10%
AT&T	2,172,538	23%	22,862	<1%
California total locations	**9,367,234**	**100%**	**4,836,657**	**100%**
Big 4 Total	**9,045,613**	**97%**	**4,447,798**	**92%**

C. Estimating Cost Impacts

To estimate consumer cost impact, the benchmark price is compared with each provider's highest promotional price for 1 Gbps service in locations with limited or no competition. One gigabit service is used for price comparisons because prices at this tier were shown to be most sensitive to competitive pressure. Promotional discounts and price dispersion are largest at the gigabit service level, whereas lower-speed tiers show smaller and less consistent differences. Comparing benchmark prices to 1 Gbps promotional prices provides a reasonable measure of how limited competition affects consumers.

The difference between the benchmark and highest promotional price represents the potential monthly savings a consumer could realize if competitive pricing prevailed. **As shown in the following table, Californians could save approximately $1 billion per year under competitive pricing conditions.**

Table 5: Estimated Annual Consumer Saving in California

Provider	1 Gbps Monthly Promotional Price with Limited or No Competition	Benchmark Monthly Price	Monthly Savings per Consumer	Locations with Sole Gbps Provider	Total Monthly Saving	Total Annual Saving
AT&T	$65	**$51**	$14	22,862	$320,068	$3,840,816
Charter	$70	**$51**	$19	2,119,162	$40,264,078	$483,168,936
Comcast	$70	**$51**	$19	1,800,837	$34,215,903	$410,590,836
Cox	$90	**$51**	$39	504,937	$19,692,543	$236,310,516
				Total Saving:	**$94,492,592**	**$1,133,911,104**

VIII. CONCLUSION

Residential broadband prices across California's urban markets are primarily determined by local competitive conditions. Where multiple gigabit networks overlap, providers consistently offer lower promotional prices. Where competition is limited or absent, prices are higher, regardless of neighborhood income levels or overall market size. These pricing patterns are systematic, predictable, and economically significant.

Insufficient competition has measurable cost consequences for consumers. Based on observed price differences between competitive and non-competitive areas, Californians living in locations served by a single gigabit provider pay approximately $1 billion more each year than what would be expected if multiple gigabit broadband providers competed at those locations.

Not all forms of broadband competition exert equal influence on pricing. While sub-gigabit alternatives, including fixed wireless and satellite, may expand coverage, competition among gigabit providers is far more effective at constraining prices. To bring broadband prices down, public investments and policies promoting competition should prioritize areas where consumers have only one gigabit provider.

Supporting data, maps, and additional analysis referenced in this report are provided in a separate set of technical appendices, available in the document titled *Technical Appendices for Broadband Competition and Pricing Strategies in California's Urban Markets*.