

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Petition for Expedited Rulemaking to Adopt)	WC Docket No. 09-222
Rules Pertaining to the Provision by)	
Regional Bell Operating Companies of)	Filed: January 12, 2010
Certain Network Elements Pursuant to 47)	
U.S.C. § 271(c)(2)(B) of the Act)	

COMMENTS OF CALTEL

Pursuant to the Commission’s Public Notice Requesting Comment,¹ the California Association of Competitive Telecommunications Companies² (“CALTEL”) files the following comments in support of the Petition for Expedited Rulemaking.³

INTRODUCTION AND SUMMARY

CALTEL urges the Commission to adopt the rules proposed by the petitioner Section 271 Coalition as quickly as possible for the following reasons:

- (1) According to an analysis performed by California Public Utilities Commission (“CPUC”) staff on data maintained by this Commission,

¹ Pleading Cycle Established for Comments on Petition for Expedited Rulemaking Regarding Section 271 Unbundling Obligations, Federal Communications Commission WC Docket No. 09-222 (DA 09-2590), December 14, 2009.

² CALTEL is a non-profit trade association working to advance the interests of fair and open competition and customer-focused service in California telecommunications. CALTEL members are entrepreneurial companies building and deploying next-generation networks to provide competitive voice, data, and video services. The majority of CALTEL members are small businesses who help to fuel the California economy through technological innovation, new services, affordable prices and customer choice. A list of all members of CALTEL can be found at <http://www.caltel.org/members2.html>.

³ Petition for Expedited Rulemaking to Adopt Rules Pertaining to the Provision by Regional Bell Operating Companies of Certain Network Elements Pursuant to 47 U.S.C. § 271(c)(2)(B) of the Act, WC Docket No. 09-222 (filed Nov. 9, 2009) (“*Section 271 Petition*”).

telecommunications market power is becoming more concentrated in California – and is more concentrated now than it was in 2001 – indicating that the competitive policy objectives underlying the market opening provisions of the Telecommunications Act of 1996 are not being met.

(2) Emboldened by its success concentrating market power across telecommunications services in California, AT&T has publicly stated its intent to eliminate competitive access to its network as quickly as possible, ignoring its obligations to provide nondiscriminatory access to network elements at just and reasonable rates under 47 U.S.C. §§ 201, 202 and 271.

(3) Competitors have no recourse outside of this Commission in setting just and reasonable rates for §271⁴ checklist items.

(4) The rules proposed by the Section 271 Coalition are reasonable, based in sound policy and patterned after existing ILEC obligations.

DISCUSSION

1. Commission Data Shows Telecommunications Competition Steadily Decreasing in California: There is Less Competition now than in 2001.

The competitive promise of §§ 251 and 271 is not being kept in California. That conclusion is the natural and predictable result of the consistent erosion of unbundling requirements under §251(c)(3) coupled with the absence of rules governing the checklist items under §271. As the Congress and this Commission once recognized, without access to the telecommunications infrastructure, there can be no telecommunications competition.

⁴ All section references in these comments are to Title 47 of the United States Code, unless otherwise indicated.

In California, there is only one BOC subject to the §271 checklist. But that BOC – AT&T – is the dominant telecommunications provider in the state.⁵ AT&T’s California operating company, Pacific Bell Telephone Company, received authority to provide interLATA services on December 19, 2002.⁶ Despite §271’s requirements for opening the market to competition, competition has eroded in California since December 2002, and particularly following the merger of SBC / Pacific Bell with AT&T in 2005.

A white paper prepared by the California Public Utilities Commission Communications Division – Policy Branch in December 2008⁷ analyzing Commission Form 477 and North American Numbering Plan data shows that erosion. The white paper concludes “As of June 2007, the two largest telephone companies [AT&T and Verizon] held more than 65 percent of all residential wireline telephone lines, wireless accounts billed directly, and residential broadband connections.”⁸ It goes on to report that all markets for residential wireline, wireless accounts billed directly and residential broadband connections in California are “concentrated” or “oligopolistic” under the Herfindahl-Hirschman Index (“HHI”) and Four-Firm Concentration (“CR4”) ratios.⁹

⁵ While Verizon operates as an ILEC in scattered pockets of the state, including much of the Los Angeles market, it operates there as a result of the acquisition of GTE.

⁶ Memorandum Opinion and Order, *In the Matter of Application by SBC Communications Inc., Pacific Bell Telephone Company, and Southwestern Bell Communications Services Inc., for Authorization To Provide In-Region, InterLATA Services in California*, FCC 02-330, WC Docket No. 02-306 (December 19, 2002).

⁷ *Market Share Analysis of Residential Voice Communications in California*, December 2008 (the “*Market Share White Paper*”). A copy of the white paper is submitted as Attachment A and can be found at <http://taxdollars.freedomblogging.com/files/2009/03/cpuc-white-paper.pdf>.

⁸ *Id.*, p. 1.

⁹ *Id.*

Most concerning, however, the analysis shows that the concentration ratios for the combined three markets have steadily increased in California since June 2005, with the largest increases coming most recently. According to the CPUC staff, the CR4 concentration ratios for the combined markets increased from 81.1% in June 2006 to 88.0% in December 2006, before retreating only slightly to 87.4% in June 2007.¹⁰ This is compared to a 78.6% concentration ratio in June 2001 (the first time period studied). The HHI concentration measurements increased from 1.818 in June 2006 to 2.627 in December 2006 and 2.605 in June 2007 (compared to 2.476 in June 2001).¹¹

In sum, Commission data shows that the California telecommunications market is becoming less and less competitive, and that it is significantly less competitive now than it was in June 2001.

This result is exactly the opposite of the overriding policy goal embodied particularly in §§ 251 and 271 of the Telecommunications Act of 1996 (the “Act”).¹² As the Supreme Court recognized in affirming the Commission’s TELRIC pricing rules for §251 unbundled network elements, the Act is “intended to eliminate the monopolies enjoyed by the inheritors of AT&T’s local franchises; this objective was considered both an end in itself and an important step toward the Act’s other goals of boosting competition in broader markets and revising the mandate to provide universal telephone service.” *Verizon v. FCC*, 535 U.S. 467, 476 (2002).

¹⁰ *Id.*, Table 4, p. 14.

¹¹ *Id.*, Table 3, p. 12.

¹² See discussion at *Section 271 Petition*, pp. 6-7.

Enforcement of the BOC's § 271 obligations, as proposed by the *Section 271 Petition*, is essential to the reversal of these trends in California.

2. AT&T has Publicly Stated its Goal of Eliminating Every Requirement that it Share its Network.

One problem that the Section 271 Coalition is trying to solve – the problem of BOCs reaping the benefit of §271 authority while persistently eliminating the open network access that is the price for that benefit – is amply demonstrated by AT&T's December 21, 2009 comments in response to NBP Notice #25. In those comments, AT&T takes the position that POTS *and the network that supports it* are “relics of a bygone era” that must be eliminated – preferably along with any continued requirement that AT&T share its network.¹³ AT&T, in fact, has asked the Commission to ensure that competitors can't use the pesky interconnection agreements required by §251 and §271 to slow down its abrogation of its network sharing obligations.¹⁴

In other words, AT&T sees the path toward broadband *services* as one that eliminates competitor access to *network elements*, thereby eliminating competitors.

AT&T's comments in response to NBP Notice #25 are significant for another reason relating specifically to this docket: Despite focusing seven pages on obligations that AT&T thinks should be eliminated in the name of broadband deployment,¹⁵ the

¹³ *Comments of AT&T, Inc. on the Transition from the Legacy Circuit-Switched Network to Broadband*, GN Docket Nos. 09-47, 09-51, 09-137, p. 26.

¹⁴ “Those [interconnection] agreements establish terms and conditions for access to legacy facilities and services that will be retired as the industry transitions to broadband. The Commission should seek comment on how best to ensure that the existence of these agreements does not serve to impede the transition by preventing providers from retiring legacy facilities and services.” *Id.*, p. 27.

¹⁵ *Id.*, pp. 23-30.

comments never once mention or discuss the company's checklist obligations under §271. This, perhaps more than anything, is a clear indicator of the need for the Commission to act on the *Section 271 Petition*: Because there are no rules in place to enforce §271 obligations, they simply don't exist to AT&T.

AT&T's position before this Commission is consistent with its advocacy in California. In a CPUC proceeding considering the use of a reverse auction process to designate carriers of last resort ("COLRs"), AT&T argued in November 2007 that it should be relieved of its §251/271 obligations in areas where a carrier other than AT&T is the COLR, even though those obligations are not tied in any way to the company's status as a COLR:

To the extent the FCC would want the provisions of section 251 to apply in an area subject to an auction, the FCC should apply section 251 to the auction winner. To that end, as part of its bidding requirements the Commission should require winners to support being treated like an ILEC, pursuant to section 251(h)(2), for purposes of section 251 and to support a non-winning ILEC's petition for forbearance from sections 251/271 in the auction area, or other efforts to seek relief from those requirements.¹⁶

These two examples demonstrate what every competitor in the industry already knows: BOCs view every post-271 state or federal regulatory proceeding as another avenue for eliminating competitive access to its network, which eliminates competitors. Adopting rules to enforce the BOCs' § 271 obligations in the face of these attacks is a necessary step to protecting and promoting competition.

¹⁶ Phase II Comments of AT&T California (U 1001 C); AT&T Advanced Solutions, Inc. (U 6346 C); AT&T Communications of California (U 5002 C); TCG San Francisco (U 5454 C); TCG Los Angeles, Inc. (U 5462 C); TCG San Diego (U 5389 C); and AT&T Mobility LLC (New Cingular Wireless PCS, LLC (U 3060 C); Cagal Cellular Communications (U 3021 C); Santa Barbara Cellular Systems Ltd. (U 3015 C); and Visalia Cellular Telephone Company (U 3014 C), Nov. 9, 2007, in *Order Instituting Rulemaking into the Review of the California High Cost Fund B Program*, CPUC Rulemaking 06-06-028 (filed June 29, 2006), p. 19.

3. Competitors have No Means for Securing Just and Reasonable Rates for Access to §271 Checklist Elements in California.

The Commission must set just and reasonable rates for §271 checklist elements because competitors have no other options for obtaining those rates in California.

In 2006, the CPUC expressly declined to set rates for §271 checklist items in its decision arising from the arbitration of interconnection agreement terms implementing the *Triennial Review Remand Order*. The Commission said “we concur with SBC that the rates, terms and conditions applicable to [§271] access are not appropriate for inclusion in this Amendment. ... If the CLECs dispute that SBC’s rates are just and reasonable, they may file a complaint at this Commission. We will address the jurisdictional issues at that time.”¹⁷

Although it declined to set §271 rates in the interconnection agreements, the CPUC did set rates for UNE-P services that were not migrated by March 11, 2006.¹⁸ On appeal, the U.S. District Court for the Northern District of California reversed the CPUC, finding that:

Because ILECs were not required under Section 251 to provide access to the UNE-P after March 11, 2006, the CPUC did not have authority to set rates for the UNE-P after that date. *See Southwestern Bell Tel. L.P. v. Missouri Pub. Serv. Comm’n*, 461 F. Supp. 2d 1055, 1068-69 (E.D. Mo. 2006) (rejecting state commission argument that it had authority to set rates under Section 271 of Act, and holding that “the statute limit state commission arbitration and rate-setting authority to items required under §

¹⁷ CPUC Decision D.06.01.043, *Application of Pacific Bell Telephone Company, d/b/a SBC California for Generic Proceeding to Implement Changes in Federal Unbundling Rules Under Sections 251 and 252 of the Telecommunications Act of 1996*, p. 28. http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/53194.PDF.

¹⁸ *Id.* at p. 47; CPUC Decision D.07.01.019, *Order Granting Limited Rehearing, Application of Pacific Bell Telephone Company, d/b/a SBC California for Generic Proceeding to Implement Changes in Federal Unbundling Rules Under Sections 251 and 252 of the Telecommunications Act of 1996*, pp. 20-21. http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/63687.PDF.

251.”); *cf. Qwest Corp. v. Public Utils. Comm’n of Ohio*, 479 F.3d 1184, 1197 (10th Cir. 2007) (“However, the state commissions cannot create a duty to provide services not required by the statute, so their arbitration power cannot extend beyond the four corners of § 251.”).¹⁹

In so finding, the court held that the appropriate remedy for competitors seeking relief from anticompetitive pricing for non-§251 network elements “would be to seek relief at the FCC, which has jurisdiction to enforce Sections 201 and 215 of the Telco Act.”²⁰

If this Commission does not act on the Section 271 Petition, therefore, and set just and reasonable rates for §271 checklist items, competitors in California will have no recourse to have such rates established or to remedy the anticompetitive effects of BOC-determined pricing for those items.

4. The Rules Proposed by the Section 271 Coalition are Well-Crafted, Reasonable and in line with Commission Precedent.

CALTEL endorses the prudent and conservative approach the §271 Coalition took crafting the new rules proposed in Appendix A to the *Section 271 Petition*. As discussed in the petition and demonstrated on a line-by-line basis in its Appendix B, the proposed rules access rules are largely based on and drawn from existing commission rules implementing §251, with necessary adjustments based on the differences between §251 and §271. Likewise, the petition’s proposed pricing rules are based on long-standing Commission precedent and a conservative, safe-harbor, approach to common cost allocation that results in a maximum percentage allocation (22%) that is higher than the

¹⁹ *Pacific Bell Telephone Company d/b/a AT&T California v. California Public Utilities Commission*, Order Re: Cross Motions for Summary Judgment, 2008 WL 501390 (2008). Other parts of the District Court’s decision are currently under appeal to the Ninth Circuit Court of Appeals.

²⁰ *Id.*

California-specific common cost allocation adopted by the CPUC for TELRIC pricing (19%)²¹ and the same as the rate originally requested by AT&T (then Pacific Bell) in the proceeding adopting those prices (22%).²²

CONCLUSION

Contrary to the public rhetoric of AT&T and other ILECs, Commission data shows that competition is decreasing in California, not increasing. The irony and disingenuousness of AT&T's lament that it is losing wireline customers to wireless and broadband services, both of which it provides, is aptly demonstrated by the data showing decreased competition and increased market power concentration in California when all three services are considered together. Moving a customer from the right hand to the left hand, after all, is not losing that customer.

The reason that more and more customers move from one hand to the other in California, instead of seeking competitive alternatives, is that the rules currently in place simply do not foster competition. And California competitors have no alternatives to those rules. California needs the well-crafted rules proposed by the Section 271 Coalition. CALTEL urges the Commission to adopt them as quickly as possible.

Respectfully submitted,

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²¹ CPUC Decision D.05.03.026 (March 22, 2005).
http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/44844.PDF

²² See *AT&T Communications of California, Inc., et al., v. Pacific Bell Telephone Company, et al.* 375 F.3d 894, 903 (9th Cir. 2004).

APPENDIX A



Market Share Analysis of Residential Voice Communications in California

California Public Utilities Commission
Communications Division – Policy Branch
Staff White Paper

December 2008

This white paper represents the CPUC Communications Division's (CD) overview of voice communications subscribership in California, based on the most recent and detailed data available. We, the CD staff, used this data to assess market concentration. CD concludes by recommending that further data collection and analysis continue to be performed, in accordance with the Uniform Regulatory Framework (URF) decision (D.06-08-030), which determined that continued monitoring of voice communications market shares in California is necessary to ensure against market power abuses.

Summary:

CD defines California's residential "voice communications market" as (1) residential wireline telephone lines, (2) wireless accounts billed directly, and (3) residential broadband connections.¹ CD finds that the two largest telephone companies' wireline market shares have decreased since June 2005, largely due to growth in wireless subscribership. As of June 2007, the two largest telephone companies held more than 65 percent of all residential wireline telephone lines, wireless accounts billed directly, and residential broadband connections.² Using two traditional measurements of market concentration (the Herfindahl-Hirschman Index and Four-Firm Concentration ratios), CD observes that all "markets" are "concentrated" and/or "oligopolistic".³ The market concentration ratios also suggest that since June 2005, concentration has increased in residential (wireline) telephone lines and wireless accounts billed directly, while market concentration in residential broadband has remained relatively constant over the same time period.

The existence of oligopolistic or concentrated markets does not in itself compel Commission action. At this time Staff makes no recommendation regarding how to address these findings, except that the Commission should continue to collect and analyze data to detect future trends.

Background:

The CPUC determined in its 2006 URF decision that wireless, cable and Voice over Internet Protocol (VoIP)⁴ services are close and/or direct substitutes for local wireline telephone service.⁵ The URF decision concluded that the potential entry of competitors offering these services, combined with unbundling requirements developed by the Federal Communications Commission (FCC) and the CPUC, represent sufficient competitive options to check the market power of the four largest incumbent local exchange telephone companies (ILECs).⁶ The decision determined, however, that "[t]here is an ample need for the Commission to remain vigilant in monitoring the voice

¹ CD includes residential broadband connections as a proxy for Voice over Internet Protocol (VoIP) subscriptions, for which companies currently do not report data.

² Company-specific market shares are highly confidential; in this paper CD refers only to aggregated market shares. CD includes company-specific market shares in a separate appendix B, available only to CPUC staff.

³ An oligopolistic market or industry is one in which a very small number of firms account for a large share of the industry's output, customers, revenue, etc.

⁴ VOIP enables broadband users to send voice calls via the Internet. There are now a number of these services in operation and some calls can be made free of charge.

⁵ D.06-08-030, Findings of Fact 19, 20, 39, 44, 62 and 63.

⁶ *Ibid.*, Finding of Fact 61. The consideration of the threat of entry as a sufficient indication of competition is based on contestable markets theory, which states that such markets' "fundamental feature is low barriers to entry and exit; a perfectly contestable market would have no barriers to entry or exit." William J. Baumol, John C. Panzar, & Robert D. Willig (1982). *Contestable Markets and the Theory of Industry Structure*. In this report CD does not attempt to analyze the costs of entry into, and/or exit from, providing voice communications services in California.

communications marketplace in order to ensure that the market continues to serve California consumers well.”⁷ In the aftermath of the URF decision, CD presents this paper as an update to previously-issued reports on the status of market concentration in California’s voice communications market.⁸

Market Share Analysis:⁹

CD staff utilized two datasets to assess market share: data on the number of (wireline and wireless) voice service lines and broadband connections by company, and telephone numbering data, both of which are describe below.

FCC Form 477

The FCC, under agreement of nondisclosure, provides California-specific (wireline and wireless) telephone and broadband subscribership data to the CPUC approximately every six months.¹⁰ The FCC uses this data, commonly referred to as Form 477 data, to calculate summary statistics of subscribership in telephone and broadband services, which it publishes in its *Local Telephone Competition*, *High-Speed Services for Internet Access*, and annual *Commercial Mobile Radio Services* reports.¹¹ CPUC analysts utilize Form 477 data to calculate telephone and broadband subscribership statistics at the state and, to a limited extent, ZIP code levels.

Form 477 data includes company-specific data on: the total number of voice grade equivalent (wireline) telephone lines and the percentage that are residential (and, prior to June 2005, small business); the total number of wireless subscribers and the percentage that are billed directly by the reporting company; and the total number of broadband connections and the percent that are residential (and, prior to June 2005, small business). Companies with wireline telephone and/or broadband customers also provide lists of the ZIP codes in which they have at least one customer. While the URF decision found that the practice of defining markets by customer type (i.e. residential vs. small business) is no longer necessary, a change in reporting requirements (which CD discusses further below) limits our analysis, beginning with June 2005, to residential data.

Although the Form 477 data allows us to determine the total number of residential (wireline) telephone lines and broadband connections, and wireless accounts billed directly, certain deficiencies prevent us from conducting a more thorough analysis:

- Little further detail is provided, such as the *type* of service that a company’s customers subscribe to over its lines/connections (i.e. basic vs. premium, or flat

⁷ Ibid, Finding of Fact 73.

⁸ In 2002 and 2003, in response to a legislative mandate to report on the status of competition and deregulation in the telecommunications industry, CD produced three reports documenting then-current trends and recommendations to the State Legislature. <<http://www.cpuc.ca.gov/PUC/Telco/Reports/030326TelecommunicationsCompetition.htm>>

⁹ Market analyses can, and do, utilize a variety of metrics. In this report, CD staff has made use of two: (wireline and wireless) voice grade equivalent lines / (broadband) connections; and utilized telephone numbers. Traditional market analysis also employs revenue data, which is available through the FCC’s Automated Reporting Management Information System (ARMIS). However, only the largest local telephone companies are required to submit ARMIS data, thus it does not allow us to accurately calculate companies’ shares of the *entire* market. This information is, of course, still useful to examine for purposes of analyzing market concentration among the larger, more significant players.

¹⁰ The FCC requires all facilities-based providers of broadband connections to end-user locations; local exchange carriers, including resellers as well as facilities-based carriers (including cable); and commercial mobile radio service providers that serve mobile telephone service subscribers using licensed spectrum, to submit Form 477 data.

<<http://www.fcc.gov/Forms/Form477/477instr.pdf>>

¹¹ Federal Communications Commission Local Telephone Competition and Broadband Deployment webpage <<http://www.fcc.gov/wcb/iatd/comp.html>>

- vs. measured);
- Form 477 data does not specify whether one of a company's wireline telephone customers also subscribe to one of its DSL connections as part of a bundle, as opposed to standalone subscriptions;
 - Form 477 filers are also not required to indicate the number of VoIP customers they serve, thus likely overstating our representation of an increasingly significant portion of the voice communications "market"; and
 - Although they list the ZIP codes in which they have at least one (wireline) telephone or broadband customer, Form 477 filers are only required to report their subscribership numbers at the state level. A company may have one residential customer out of a total of 100 (wireline) telephone customers, and list 50 ZIP codes in which it has one or more customers. From the above, it is impossible to determine (1) *how many* customers the company has in *each* ZIP code, and (2) *what type(s)* of customers, residential or non-residential, are located in *each* ZIP code. This lack of detail and geographic granularity prevents us from defining "markets" more precisely, as is prescribed for traditional market analyses. Geographic granularity is important given the size and diversity of California's landscape: many companies concentrate their business in one or several specific areas, thus the number of companies offering service – and each company's share of voice communications subscribers – will vary from region to region.

CD also notes that the reporting requirements for Form 477 changed between December 2004 and June 2005. These changes include:

- The reporting threshold of 10,000 voice grade equivalent lines for (wireline) telephone lines and wireless subscriptions, and 250 connections for broadband, were eliminated; and
- The requirement to indicate what percent of total lines is residential or small business was changed to residential only.¹²

In sum, these two changes (1) increased the total number of reporting entities and (2) decreased the percentage of lines reported as residential, as opposed to non-residential. Given that, prior to June 2005, the reported percentages of "residential" lines included small business lines, Form 477 data regarding "residential/small business" percentages through December 2004 is not perfectly comparable with "residential" percentages for subsequent reporting periods. CD notes this change in reporting requirements with a red asterisk and/or red borders in the following tables and charts, and omit inconsistent data in our analysis, where applicable.

Numbering Resources Data

The FCC also provides data to the CPUC on the number of telephone numbers assigned to and utilized by each wireline, wireless, and paging company in California, under agreement of nondisclosure. This data set is commonly referred to as North American Numbering Plan Administration (NANPA) data, after the organization that administers numbering resources in the United States and other countries. CD regularly publishes rankings of these companies by market share, based on the number of assigned telephone numbers that each company utilizes (i.e. assigns to an end-user

¹² FCC 04-266 *Report and Order* In the Matter of Local Telephone Competition and Broadband Reporting, Released November 12, 2004 <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-266A1.pdf>

customer).¹³

NANPA data has similar limitations as those noted above for Form 477 data, as well as other features that distinguish it from Form 477 data:

- Numbers are reported on a statewide basis, and are not further broken down by customer type *or* geography;
- VoIP providers do not report their numbering data but paging companies do, while paging companies do not report data for Form 477;
- For Form 477, companies separately report the number of lines they provision to end user customers, and those lines that they allocate to unaffiliated resellers. For NANPA data, companies do not separately report the number of utilized telephone numbers that they in turn allocate to an unaffiliated reseller. This means that companies that sell some portion of their telephone lines to other providers may rank lower according to Form 477 than according to NANPA data. Conversely, companies that lease telephone lines to serve their customers may rank higher according to Form 477 than according to NANPA data.
- A utilized telephone number does not necessarily correspond with one telephone line: a single telephone line, for instance, could have more than one telephone number; and
- The earliest period for which this data is available is 2005, as opposed to 2001 for Form 477 data.

In Table 1 (page 5), CD lists company rankings as another indicator of market share, and compare these with rankings based on the Form 477 data (voice service, i.e. wireline and wireless – broadband and paging excluded) for the most recent time period available (June 2007). As mentioned above, the difference in metrics results in some companies, like Cox Communications, Inc., ranking higher in voice service lines (Form 477 rank, #6) than in utilized telephone numbers (NANPA rank, #12), while other companies like Level 3 rank higher in utilized telephone numbers (NANPA rank, #6) than in voice service lines (Form 477 rank, #17). Despite the substantial differences in company rankings, it is worth noting that the top four companies, according to market share in voice service lines, (with 88.9 percent of the market) also rank highest according to market share in utilized telephone numbers (92.2 percent).

¹³ The most recent rankings, for the period ending June 2008, can be found at:
http://www.cpuc.ca.gov/NR/rdonlyres/F0B8F6CB-31DD-47C2-9CAC-DD51F2C77372/0/Top40carriers_asofJune2008_public.pdf

**Table 1
Company Rankings: Form 477 vs. NANPA data**

477 rank	Company Name	NANPA rank
1	AT&T Inc.	1
2	Verizon Communications Inc.	2
3	Sprint Nextel Corporation	3
4	Deutsche Telekom AG (T-Mobile)	4
5	MetroPCS Wireless, Inc.	7
6	Cox Communications, Inc.	12
7	U.S. TelePacific Corporation	8
8	Time Warner, Inc.	17
9	XO Holdings, Inc.	5
10	SureWest Communications	15
11	Leap Wireless International, Inc.	19
12	Citizens Communications Company	18
13	PaeTec Corporation	10
14	Telscape Communications, Inc.	31
15	Telephone and Data Systems, Inc. (Happy Valley, Hornitos, Winterhaven)	44
16	Comcast Corporation	21
17	Level 3 Communications, LLC	6
18	Charter Communications	26
19	Granite Telecommunications, LLC	*
20	Edge Wireless Licenses, LLC	25
21	WaveDivision Holdings, LLC	*
22	Pac-West Telecomm, Inc.	14
23	ACN, Inc.	*
24	ClearTel Communications, Inc.	*
25	Sierra Tel Communications Group	27
26	California RSA #3 Ltd Partnership	*
27	Ernest Communications, Inc.	*
28	Matrix Telecom, Inc.	*
29	Cbeyond Communications, Inc.	33
30	ALLTEL Corporation	34
31	Eschelon Telecom Inc.(Advanced	36
32	Volcano Communications Company	40
33	BullsEye Telecom, Inc.	*
34	Ponderosa Communications, Inc.	38
35	Sebastian Enterprises (Kerman,	39
36	Integra, Inc.	37
37	NTCH, Inc.	41
38	Navigator Telecommunications, LLC	*
39	Metropolitan Telecommunications Holding Co.	*
40	Siskiyou Telephone Company	45
41	Global Crossing North America, Inc.	16
42	Calaveras Telephone Company	46
43	Lynch Interactive Corporation (Cal-Ore)	47

477 rank	Company Name	NANPA rank
44	VCOM Solutions, Inc.	*
45	O1 Communications, Inc.	9
46	Champion Broadband California, LLC	*
47	NOS Communications, Inc.	*
48	Comtel Telcom Assets LP	*
49	LY Holdings, LLC	*
50	IDT Corporation	*
51	Network PTS, Inc.	*
52	VARCOMM, Inc. (Ducor)	49
53	Mediacom Communications Corp.	*
54	A+ Wireless Inc.	*
55	Cavalier Telephone, LLC	*
56	Sage Telecom, Inc.	*
57	Cequel Communications, LLC	*
58	PNG Telecommunications, Inc.	*
59	Budget Prepay Inc.	*
60	1-800-Reconex, Inc.	*
61	Bryan Family Inc. (Pinnacles)	51
62	First Communications, LLC	*
63	RGT Utilities, Inc.	*
64	Empire One Telecommunications, Inc.	*
65	Qwest Communications International,	*
66	TC Telephone LLC	*
67	Fort Mojave Telecommunications, Inc.	52
68	GCI Globalcom Holdings, Inc.	*
69	Midwestern Telecommunications Inc.	*
~	North County Communications Corp.	11
~	Allegiance Telecom of California	13
~	BROOKS FIBER COM CA	20
~	CommPartners, LLC	22
~	DAVID FIALA	23
~	GLOBAL NAPS CALIFORNIA, INC.	24
~	SLO Cellular, Inc.	28
~	CF Communications d/b/a Telekenex	29
~	FONES4ALL CORP	30
~	PCS1	32
~	Arrival Communications	35
~	Winstar Communications, LLC-CA	42
~	Astound Broadband LLC	43
~	Norcast Communications Corporation	48
~	ACCESSIBLE WIRELESS, LLC	50
~	CenturyTel of Eastern Oregon, Inc.	53
~	DMR Communications Inc	54
~	Royal Street Communications, LLC	55

* NANPA data not available
~ Form 477 data not available

Telephone Penetration and Assumptions Regarding Availability of Service

As of March 2008, 96.6 percent of households in California had some type of telephone service¹⁴; this exceeds the Commission's goal of 95 percent telephone penetration. While the Commission strives to ensure that telephone service is available to everyone in the state, CD relies on competition to ensure that consumers have options, and that this will help keep prices affordable. While CD's analysis implicitly assumes that all providers – wireline, wireless, and broadband (VoIP) – offer service everywhere throughout the state, Form 477 data indicates that the assumption of equal presence is unfounded: in some areas people are unable to get wireless service, while in other areas broadband and even wireline telephone service is not available. In many areas only one provider offers service, and that provider therefore has an effective monopoly. Moreover, the definition of a “market” necessitates that market analysis be conducted at the most geographically granular, or local, level possible – certainly not at the state level for California. This is because all consumers in a given market are assumed to have equal access to all firms serving that market. However, absent more granular data, this analysis is by necessity based on the assumption that all service options are equally available throughout the state.

To provide context regarding subscribership trends, CD first includes data showing the growth or loss trend in the number of lines/connections for each of the separate services. Table 2 (this page, below) shows the total number of residential (and, prior to June 2005, small business) wireline telephone lines; the total number of wireless subscribers that are billed directly by the reporting company; and the total number of residential (and, prior to June 2005, small business) broadband connections, all reported on a statewide basis. The red underline between December 2004 and June 2005 for wireline telephone and broadband numbers and as noted by the red asterisks in the respective column headings indicates the change in reporting requirements as discussed in the previous section (FCC Form 477).

Table 2

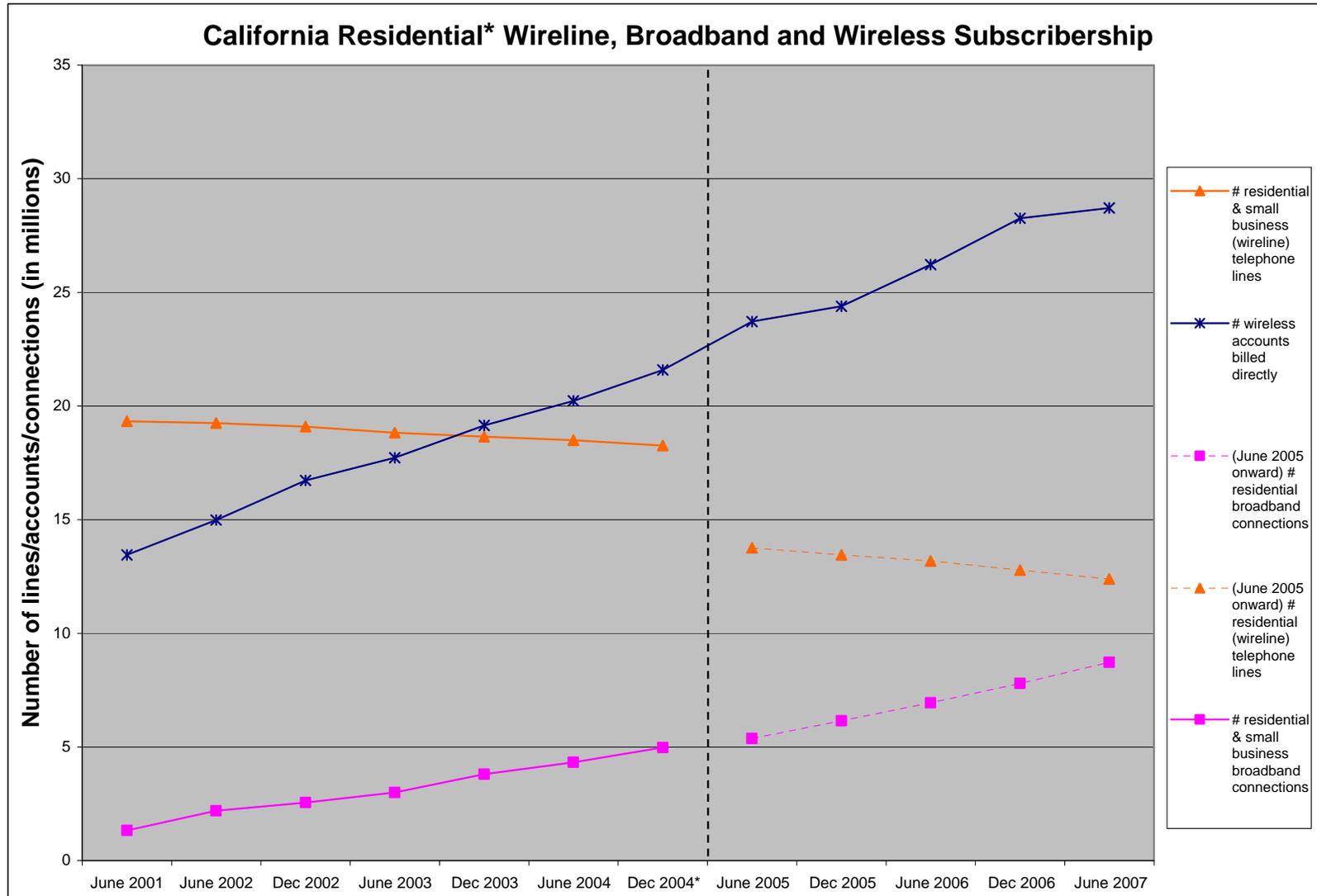
	# residential* (wireline) telephone lines	# wireless accounts billed directly	# residential* broadband connections	Total
June 2001	19,335,044	13,456,230	1,332,462	34,123,736
June 2002	19,254,298	14,989,096	2,193,137	36,436,531
Dec 2002	19,101,344	16,726,904	2,557,288	38,385,536
June 2003	18,829,661	17,725,384	2,994,812	39,549,857
Dec 2003	18,650,623	19,150,931	3,803,058	41,604,612
June 2004	18,498,353	20,233,510	4,325,344	43,057,207
Dec 2004	18,261,669	21,591,328	4,971,879	44,824,876
June 2005	13,762,045	23,717,888	5,376,365	42,856,298
Dec 2005	13,447,784	24,394,237	6,147,446	43,989,467
June 2006	13,187,385	26,223,009	6,946,354	46,356,748
Dec 2006	12,785,656	28,263,248	7,794,432	48,843,336
June 2007	12,392,799	28,718,924	8,727,780	49,839,503

¹⁴ Federal Communications Commission: *Telephone Subscribership Report*, data as of March 2008. The specific question asked is “Does this house, apartment, or mobile home have telephone service from which you can both make and receive calls? Please include cell phones, regular phones, and any other type of telephone.”

From June 2005 to June 2007, the average annual loss rate for residential (wireline) telephone lines was 5.1 percent, while the average annual growth rate for wireless accounts billed directly was 10.0 percent and, for residential broadband connections, 27.4 percent.

Chart 1 (page 8) depicts the Table 2 (page 6) data in a line graph, with each line representing the number of lines/connections for each respective service, in millions (as indicated by the legend to the right of the graph). Chart 1 indicates that residential (wireline) telephone subscriptions have declined *at least* since the FCC began collecting Form 477 data. Given the change in reporting requirements from residential and small business lines/connections (before June 2005) to residential only (June 2005 and thereafter), it is especially significant that residential (wireline) telephone subscribership has decreased since June 2005 while residential broadband subscribership has continued to grow at a healthy pace, trending consistently upward both before *and* after June 2005. From this scale, it appears that approximately four million small business (wireline) telephone lines are no longer included in the count.

Chart 1



This line chart shows the total number of residential wireline telephone lines, wireless accounts billed directly, and residential broadband connections from June 2001 through June 2007. (* A change in FCC Form 477 reporting requirements made it no longer necessary for ILECs and CLECs to report total residential *and* small business lines/connections as of June 2005.)

Chart 2 (page 10) displays the total number of residential wireline telephone lines, wireless accounts billed directly, and residential broadband connections (in millions) from June 2001 through June 2007 in a stacked-line format, highlighting the fact that California's communications market as a *whole* increased in combined subscribership between June 2001 and June 2007. As of June 2007, the largest carriers in the residential (wireline) telephone market included AT&T California (ILEC), Verizon California, Cox Communications, Time Warner Cable, and AT&T (CLEC); in wireless accounts billed directly, the largest carriers included AT&T (ILEC), Verizon, Sprint Nextel, and T-Mobile; and in residential broadband, the largest providers included AT&T, Time Warner, Comcast, Verizon, Cox Communications, and Sprint Nextel.

As previously mentioned, Form 477 filers are not required to indicate what percentage of their lines/connections are part of a bundled service. Therefore, the total number of combined lines as displayed in Chart 2 likely overstates the actual number of customers in California. Note again the discrepancy between those numbers reported before June 2005, which included residential *and* small business lines/connections, and those numbers reported for June 2005 and thereafter, which excluded small business lines/connections. This change in reporting requirements appears to have affected the number of residential (wireline) telephone lines reported, whereas a reduction in the number of residential broadband connections is less apparent.

Chart 2

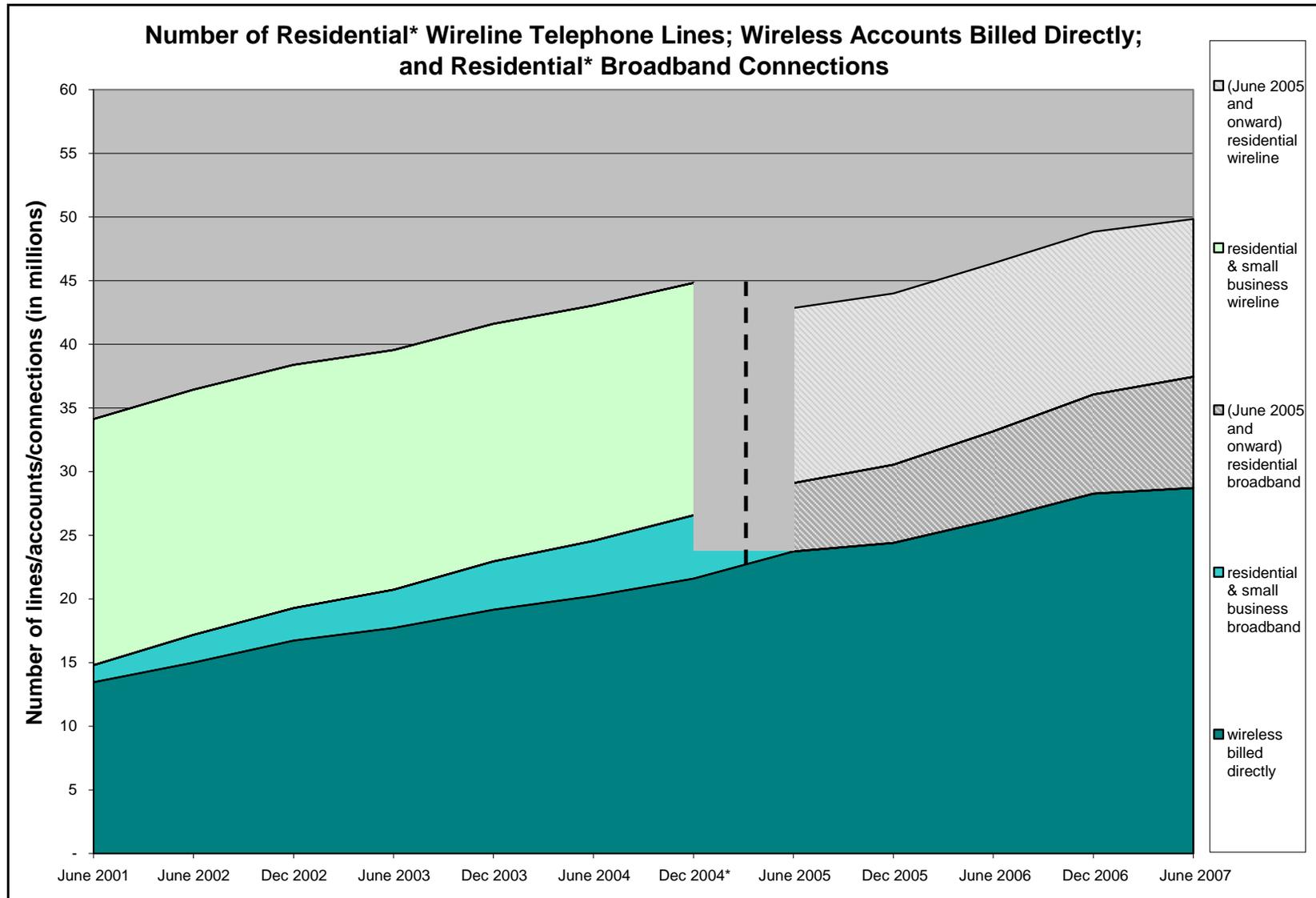


Chart 2 is a stacked-line format of Form 477 filers' total number of (1) residential wireline telephone lines, (2) wireless accounts billed directly, and (3) residential broadband connections. (* A change in FCC Form 477 reporting requirements made it no longer necessary for ILECs and CLECs to report total residential *and* small business lines/connections as of June 2005.)

Measuring Market Concentration: HHI and CR4

The Herfindahl-Hirschman Index (HHI) and Four-firm Concentration Ratio (CR4) are two common methods for measuring market concentration. Both methods rely on determining the market share of each individual firm within a given market. These ratios are further defined in Appendix A.

The HHI is calculated by taking the square of each firm's market share, and then adding all of these squared shares together. For a market with one firm (monopoly), the HHI would be: $1^2 = 1$ (or 10,000 points; see Appendix A, Example 1). For a market with n firms, each with $n/100$ share of the market, the HHI would be $n * (1/n)^2 = 1/n$. Thus (under perfect competition), as n approaches infinite, the HHI approaches zero (see Appendix A, Examples 2 - 4).

The CR4 is calculated by adding the market shares of the four largest firms in a given market. In a one-firm market, the CR4 would simply be 100 percent. In a perfectly competitive market with, for example, 100 firms, the CR4 would be $4 * (1/100) = 4$ percent (see Appendix A, Example 1).

An oligopoly is generally characterized by a CR4 ratio greater than 40 percent.¹⁵ Markets in which the HHI is between 1,000 and 1,800 points (0.1000 to 0.1800) are considered moderately concentrated and those in which the HHI is greater than 1,800 points (0.1800) are considered to be concentrated.¹⁶

After determining the market shares of individual companies, CD staff calculated the HHI and CR4 for each separate service; for residential wireline and wireless accounts billed directly (wireline + wireless); and for all three services combined into one "market" (wireline + wireless + broadband).

HHI and CR4 measurements provide snapshot views of a market at a single point in time; thus, they are static metrics and do not capture information regarding the nature of competition in the specific market. Rather, they serve as indices of firms' likely behaviors, based solely on the level of market concentration. CD uses HHI and CR4 in this analysis to observe how market concentration has changed in the time period for which CD has available data.¹⁷

Several factors justify calculating HHI and CR4 for wireline, wireless and broadband combined: a parent company may own, for example, both a wireline and a wireless service. Many ILECs own both a wireline telephone and a broadband service. Such a situation may reflect intermodal competition, but it does not reflect, and may in fact diminish, the threat of entry by an unaffiliated competitor in a given area. A parent company's ownership of multiple types of voice service increases its market power. This fact is not captured when examining the three services in isolation.

CD notes again that our HHI and CR4 measurements are based on numbers reported for the entire state, while for areas *within* the state some companies have larger shares than is reflected on a statewide basis (see Telephone Penetration and Assumptions

¹⁵ http://info.umuc.edu/ExecutivePrograms/xmit7/mit601/industry_structure.html

¹⁶ <http://www.usdoj.gov/atr/public/testimony/hhi.htm>

¹⁷ The URF decision refrained from examining HHI or other market concentration measurements, stating that "market share tests are inherently backward looking and not a good predictor of future developments." Since CD is concerned with identifying trends in market share since 2006 and before, it is appropriate here to examine these measurements.

Regarding Availability of Service). Thus, our measurements likely understate the level of market concentration for local markets within California.

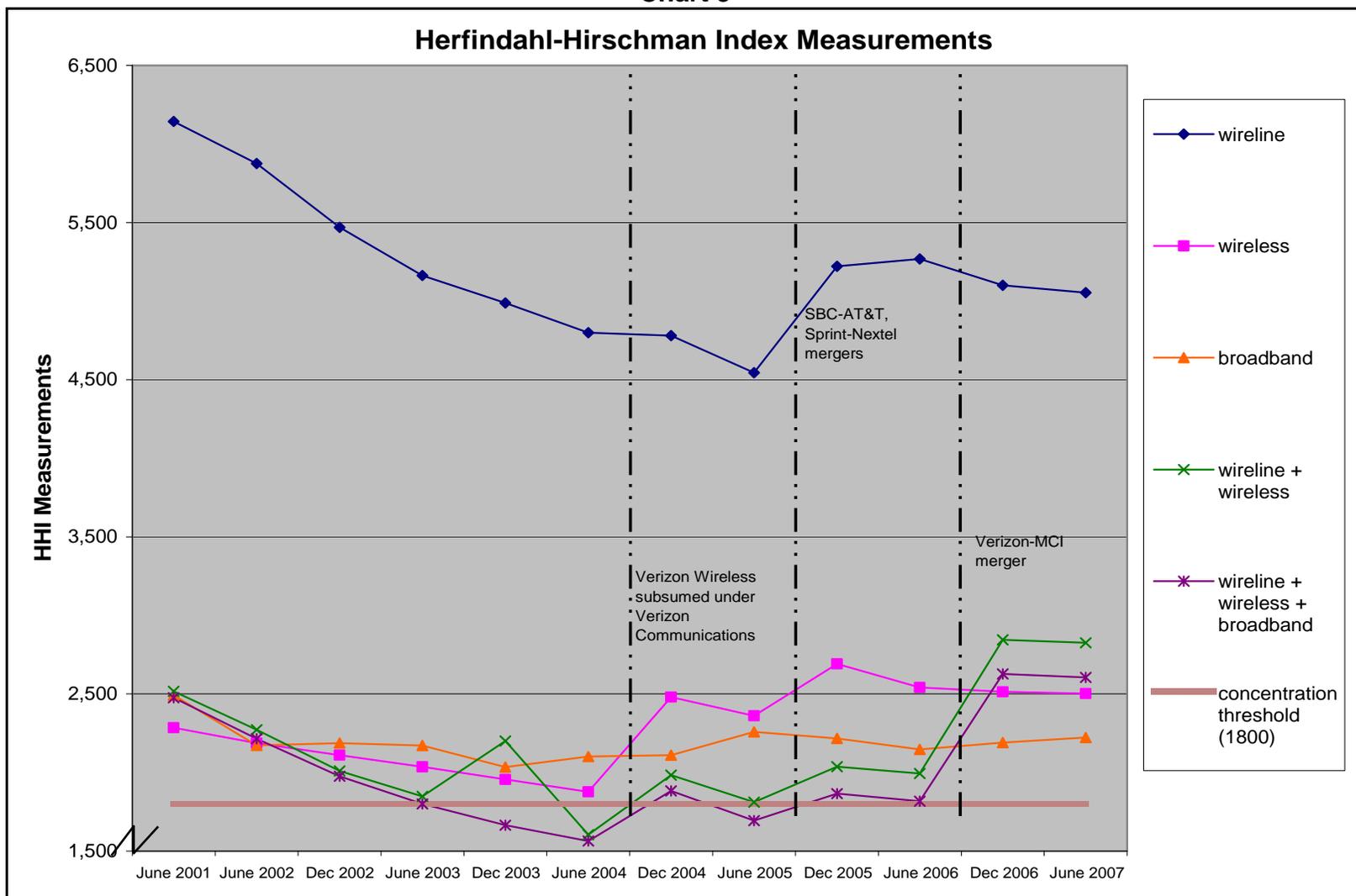
Table 3 includes the respective HHI market concentration measurements for the wireline, wireless, and broadband markets, as well as for wireline plus wireless combined, and for all three services combined. Our HHI calculations for the residential wireline market indicate a small decrease in concentration – from 5,221 to 5,053 points – after SBC merged with AT&T (see Table 3 below and Chart 3, page 13). Since June 2001, the HHI increased in the market for wireless accounts billed directly from 2,285 to 2,502 points. The HHI for residential broadband remained nearly constant from June 2005 to June 2007, ranging from as low as 2,146 (June 2006) to as high as 2,259 points (June 2005). Since June 2005, the HHI increased for both the residential wireline/wireless accounts billed directly “market” (from 1,811 to 2,826 points) and the residential wireline/wireless accounts billed directly/residential broadband “market” (from 1,693 to 2,605 points). Except for the December 2003 and June 2004 periods prior to the 2005 change in reporting requirements, the HHI measurement for all “markets” consistently exceeded the 1,800 point threshold that distinguishes a “moderately concentrated” market (between 1,000 and 1,800 points) from a “concentrated” market (above 1,800 points). Note that the HHI measurements for the wireline + wireless combined market, and for the wireline + wireless + broadband combined market exceeded the HHI measurements for the wireless market and the broadband market from December 2006 through June 2007. Thus, while more companies each had smaller shares in wireless and broadband, fewer companies held larger shares in wireline + wireless combined and in all three services combined.

Table 3
HHI Market Concentration Measurements

	wireline	wireless	broadband	wireline + wireless	wireline + wireless + broadband
June 2001	6,143	2,285	2,492	2,516	2,476
June 2002	5,875	2,187	2,172	2,272	2,215
Dec 2002	5,468	2,110	2,187	2,010	1,976
June 2003	5,163	2,035	2,172	1,848	1,801
Dec 2003	4,988	1,956	2,034	2,200	1,664
June 2004	4,799	1,877	2,102	1,606	1,565
Dec 2004	4,780	2,480	2,110	1,984	1,884
June 2005	4,544	2,361	2,259	1,811	1,693
Dec 2005	5,221	2,692	2,217	2,037	1,866
June 2006	5,268	2,541	2,146	1,994	1,818
Dec 2006	5,100	2,513	2,190	2,844	2,627
June 2007	5,053	2,502	2,222	2,826	2,605

Chart 3 (page 13) displays Table 3 market concentration data in a line graph, along with line markers noting the occurrence of mergers and acquisitions among companies holding a significant share of the market. For instance, when Verizon Communications subsumed Verizon Wireless between June and December of 2004, the wireless, wireline + wireless combined, and wireline + wireless + broadband combined HHI measurements all increased. Similarly for the period between June and December of 2005, when SBC and AT&T merged and Sprint and Nextel merged, the HHI measurements for all markets, except broadband, increased. And between June and December of 2006, when MCI merged with Verizon, the HHI measurements for the wireline + wireless combined and wireline + wireless + broadband combined markets both increased.

Chart 3



Line chart showing HHI measurements for (1) residential wireline telephone; (2) wireless accounts billed directly; (3) residential broadband; (4) residential wireline telephone and wireless accounts billed directly; and (5) residential wireline telephone, wireless accounts billed directly, and residential broadband.

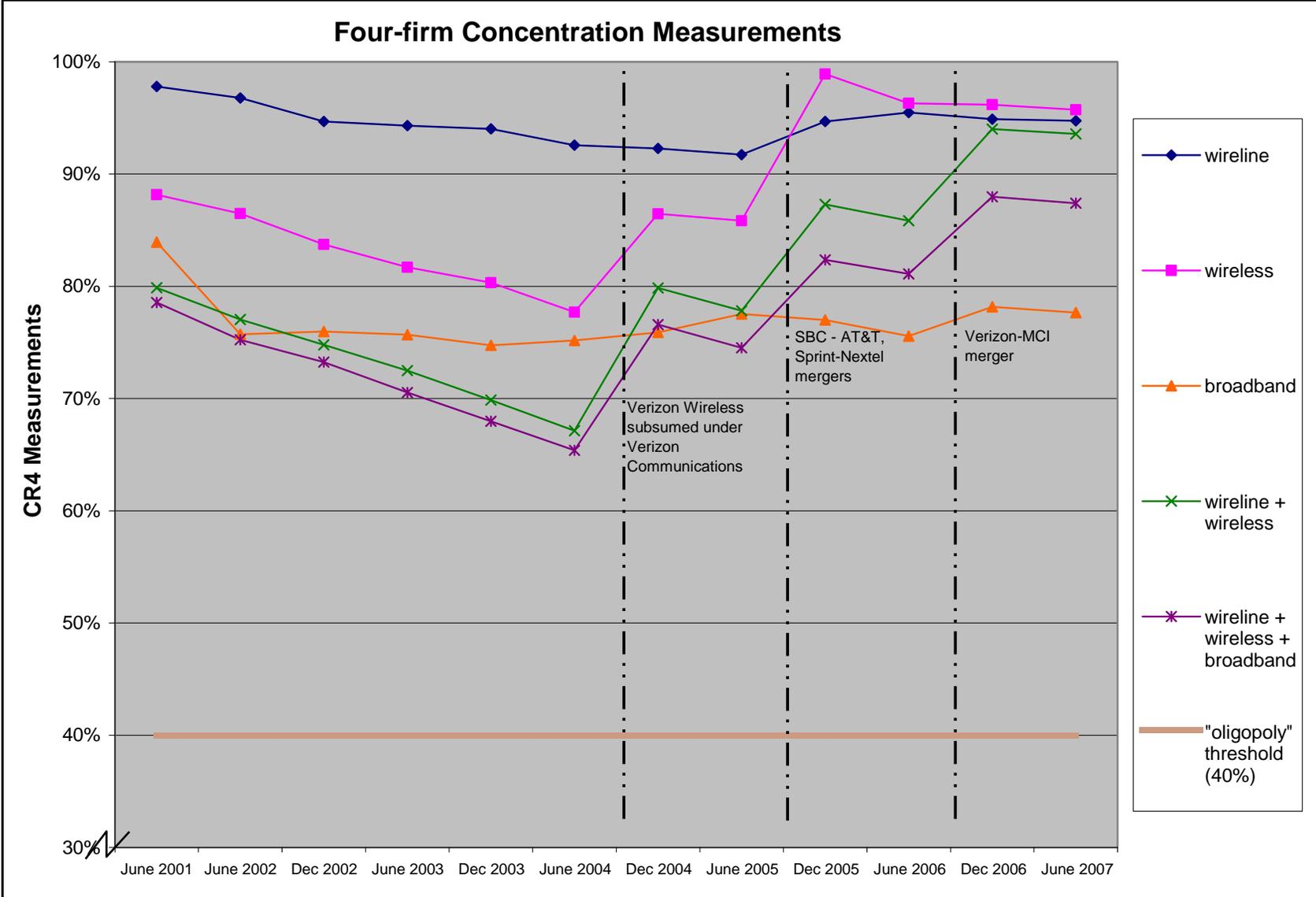
Table 4 (below) includes the respective CR4 market concentration ratios for the wireline, wireless, broadband, wireline + wireless combined, and wireline + wireless + broadband combined markets. The CR4 ratio increased for all three (separate) services: in residential wireline from 91.7 percent (June 2005) to 94.7 percent (June 2007); in wireless accounts billed directly from 88.2 percent (June 2001) to 95.7 percent (June 2007); and in residential broadband from 77.5 percent (June 2005) to 77.7 percent (June 2007). The CR4 also increased in the wireline + wireless market from 77.8 percent (June 2005) to 93.6 percent (June 2007), and in the wireline + wireless + broadband market from 74.5 percent (June 2005) to 87.4 percent (June 2007). Over the entire period from June 2001 through June 2007, the CR4 ratio exceeded 65 percent – well above the 40 percent “oligopoly” threshold – for all markets.

Table 4
CR4 Market Concentration Measurements

	wireline	wireless	broadband	wireline + wireless	wireline + wireless + broadband
June 2001	97.8%	88.2%	83.9%	79.9%	78.6%
June 2002	96.8%	86.5%	75.7%	77.0%	75.2%
Dec 2002	94.7%	83.7%	76.0%	74.8%	73.2%
June 2003	94.3%	81.7%	75.7%	72.5%	70.5%
Dec 2003	94.0%	80.3%	74.7%	69.9%	68.0%
June 2004	92.6%	77.7%	75.2%	67.1%	65.4%
Dec 2004	92.3%	86.5%	75.9%	79.9%	76.6%
June 2005	91.7%	85.8%	77.5%	77.8%	74.5%
Dec 2005	94.7%	98.9%	77.0%	87.3%	82.4%
June 2006	95.5%	96.3%	75.6%	85.8%	81.1%
Dec 2006	94.9%	96.2%	78.2%	94.0%	88.0%
June 2007	94.7%	95.7%	77.7%	93.6%	87.4%

Chart 4 (page 15) displays the Table 4 CR4 ratio data in a line graph. As with the HHI measurements, mergers and acquisitions of major companies seemed to have an impact on certain CR4 measurements between June and December of 2004, 2005, and 2006

Chart 4



Line chart showing CR4 measurements for (1) residential wireline telephone; (2) wireless accounts billed directly; (3) residential broadband; (4) residential wireline telephone and wireless accounts billed directly; and (5) residential wireline telephone, wireless accounts billed directly, and residential broadband.

Findings, Conclusions, and Recommendations:

Given the available data and its limitations, CD finds that market concentration increased from June 2005 to June 2007 for the “market” that includes residential wireline telephones and wireless accounts billed directly, as well as for the “market” that includes all three services combined *on a statewide basis*. For each separate service, the HHI and CR4 measurements consistently exceeded the thresholds that indicate an “oligopolistic” or “concentrated” market from June 2001 through June 2007. However, for areas *within* the state, CD only knows where companies report having at least one customer at the ZIP code level, and thus can not analyze concentration for more localized markets.

To confirm whether and where market concentration is increasing at a more local level within the state, and to more comprehensively and appropriately assess competition in California’s voice communications markets, CD staff needs more geographically granular data.

While CD believes that that this analysis provides an informative picture of the status of market concentration at the state level, it would be inappropriate to conclude whether competition is sufficient since true market analysis requires a greater level of detail.

CD continues to rely on existing Form 477 data provided by the FCC, but recommends that the Commission (1) request the FCC to require voice communications and broadband data that is *more* granular or (2) request subject carriers to voluntarily provide more granular data, to strengthen CD’s data-gathering capabilities. CD acknowledges that residents in more densely populated areas of the state tend to have more options for voice and broadband communications service than residents in more sparsely populated areas, but the available data limits further observation. The information in this report cannot provide the sole basis for sound regulatory policy; however, it does point to areas that warrant further examination.

CD staff will continue to analyze available data in order to better and more comprehensively assess the status of California’s competition in voice communications.

Appendix A

Herfindahl-Hirschman and Four-firm Concentration Ratios

The Herfindahl-Hirschman Index (HHI) and Four-firm Concentration Ratio (CR4) are two generally accepted methods for measuring market concentration. Both methods rely on determining the market share of each individual firm within a given market.

The HHI is calculated by taking the square of each firm's market share, and then adding all of these squared shares together. For a market with one firm (monopoly), the HHI would be: $1^2 = 1$. For a market with n firms, each with $n/100$ share of the market, the HHI would be $n * (1/n)^2 = 1/n$. Thus (under perfect competition), as n approaches infinite, the HHI approaches 0.

The CR4 is calculated by adding the market shares of the four largest firms in a given market. In a one-firm market, the CR4 would simply be 100 percent. In a perfectly competitive market with, for example, 100 firms, the CR4 would be $4 * (1/100) = 4$ percent.

Thresholds for “oligopoly” and “concentrated” markets

An oligopoly is generally characterized by a four-firm concentration ratio greater than 40 percent.¹⁸ Markets in which the HHI is between 1000 and 1800 points (0.1000 to 0.1800) are considered to be moderately concentrated, and those in which the HHI is in excess of 1800 points (0.18) are considered to be concentrated.¹⁹

For more examples of measuring the HHI and CR4 for various market structures, refer to the following examples:

¹⁸ http://info.umuc.edu/ExecutivePrograms/xmit7/mit601/industry_structure.html

¹⁹ <http://www.usdoj.gov/atr/public/testimony/hhi.htm>

Methods for measuring concentration

Firm	Market share
A	45%
B	15%
C,D	10% (each)
E	8%
F	5%
G-M	1% (each)

2 firms → C,D

7 firms → G-M

- Herfindahl-Hirschman Index (HHI)

Sum of squares of each firm's market share :

$$0.45^2 + 0.15^2 + 2(0.1)^2 + 0.08^2 + 0.05^2 + 7(.01)^2 = 0.2546 \text{ (2546 points)}$$

- Four-firm concentration ratio (CR4)

Combined market share of four largest firms:

$$0.45 + 0.15 + 0.1 + 0.1 = 0.8 \text{ (80\%)}$$

Monopoly vs. Competition

Example 1: Monopoly

Firm	Market share
A	100%

HHI:

$$1^2 = 1 \text{ (1000 points)}$$

$$\text{CR4} = 1 \text{ (100\%)}$$

Example 2: Perfect competition

Firm	Market share
A, B, C, ... CV	1% (each)

100 firms →

HHI:

$$100(.01)^2 = .01 \text{ (100 points)}$$

CR4:

$$4 * .01 = .04 \text{ (4\%)}$$

Competition: 5 firms vs. 2 firms

Example 3: Perfect competition, 5 firms

5 firms →

Firm	Market share
A, B, C, D, E	20% (each)

HHI:
 $5(0.2)^2 = 0.2$ (2000 points)

CR4:
 $4 * 0.2 = 0.8$ (80%)

Example 4: Perfect competition, 2 firms

2 firms →

Firm	Market share
A, B	50% (each)

HHI:
 $2(0.5)^2 = 0.5$ (5000 points)

CR4:
 $2 * 0.5 = 1$ (100%)

Appendix B has been removed from this document due to confidentiality restrictions.