Before the
CALIFORNIA PUBLIC UTILITIES COMMISSION

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Rebuttal Testimony

of

LEE L. SELWYN

on behalf of the

Office of Ratepayer Advocates
of the
California Public Utilities Commission

July 15, 2016
# REBUTTAL TESTIMONY OF LEE L. SELWYN

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REBUTTAL TESTIMONY

Introduction

1. I am the same Lee L. Selwyn who submitted testimony in this matter on March 15 and
   June 1, 2016 on behalf of the CPUC Office of Ratepayer Advocates in response to the November
   5, 2015 Order Instituting Investigation (“OII”).

2. The purpose of this testimony is to address and respond to several Respondent witnesses’
   contentions, as set out in their June 1 submissions, regarding the effectiveness of competition in
disciplining prices and protecting consumers of voice and broadband services.

Overview of Respondents’ June 1 Testimony

3. In their June 1 testimony, the carrier Respondents summarily reject any data-driven or
   other formal analytical approach to assessing the effectiveness of competition. They argue
generally that the various analytical approaches being proposed by ORA and other non-
Respondent parties are too difficult (e.g., measuring cost and profitability), arbitrary (e.g., lack
of bright-line market definitions), backward-looking (e.g., market shares, market concentration),
or irrelevant (e.g., the linkage between availability of 25/3 broadband and competition in the
voice market). Their position is directly at odds with the stated objective of this OII – to obtain
data and to apply a “data-driven approach” as a basis for assessing the extent of competition in
California telecom markets:

   We open this proceeding to gather information about the state of the telecom-
   munications marketplace in California. To conduct this inquiry, we seek: (1) data
related to competition in the retail and wholesale telecommunications markets in California; and (2) comment on existing reports and studies (including by the Commission’s Communications Division) related to the price and availability of competing telecommunications services across California’s diverse population, and its large and diverse geography. We undertake this investigation mindful of our obligation, pursuant to Public Utilities Code § 451, to ensure just and reasonable rates, terms and conditions of service. Accordingly, we request data and comment on these issues as an exercise in good government, and in light of our promise to monitor and inform ourselves about the State’s telecommunications infrastructure. His data-driven approach does not reflect an intent to regulate where the Commission lacks regulatory authority.¹

In their Scoping Ruling issued on July 1, the ALJ and the Assigned Commissioner further clarified that “the ultimate question before us is whether intermodal competition, in the decade after URF, has offered sufficient discipline to produce just and reasonable prices for traditional landline services.”²

4. Notably, none of the Respondents offer any alternative analytical framework, other than their emphasis upon superficial similarities between distinctly different services but without any formal scientific examination of actual substitution by consumers, such as formal cross-elasticity analyses. The carrier Respondents also reject the relevance of price comparisons or price trends as evidence of substitution or lack thereof. Instead, the carrier Respondents largely dismiss, ignore or mischaracterize important aspects of ORA and other parties' analytical framework proposals, such as quantification of Minimum Efficient Scale, examinations of price trends and, in particular, observed divergence in pricing trends among putatively substitute services, price

¹. OII 16-11-007, at 1-2.

². July 1 Scoping Ruling, at 2.
benchmarking, profitability trends and benchmarking, and formal indicia of market concentration and market dominance. Instead, they argue that all forms of voice service – fixed vs. mobile, wireline vs. wireless, circuit-switched vs. VoIP – are sufficiently substitutable that they must be treated as a single market for voice service being served by multiple competing providers and offering a level of competition fully capable of constraining prices across all service and technology segments. This “single market” theory is, however, entirely unsupported by any substantive facts or analysis and, in fact, the facts actually compel precisely the opposite conclusion – i.e., that there are several distinct types of voice services and, while they may in some instances satisfy similar needs, market conduct and performance are not consistent with a “single market” conclusion.

5. Similarly superficial arguments are also being advanced by the carrier Respondents with respect to broadband. First, they reject the FCC-adopted minimum consumer broadband service standard of 25 Mbps download/3 Mbps upload, claiming instead that most consumers do not require bandwidths at this or higher speeds. They argue that for purposes of analyzing the state of competition in the voice market, the only relevant broadband service is one that is minimally capable of supporting over-the-top (“OTT”) Voice over Internet Protocol (“VoIP”) service and nothing more, and go so far as to suggest that this requirement can be satisfied by broadband service supporting speeds of as low as 100 kbps. By defining a single “broadband” market that runs the full gamut of bandwidths, from super low-speed services (e.g., 100 kbps) on up to

gigabit-level services, the carrier Respondents effectively expand the roster of broadband-capable providers to include, in addition to the one or at most two suppliers capable of offering service at or above 25/3 in any given area, a number of other fixed wireline, fixed wireless, and mobile wireless providers offering considerably slower broadband but not 25/3. Of course, as with their approach to the voice market, the carrier Respondents offer no facts or scientific evidence as to substitutability across this full range of broadband speeds, which would be minimally necessary to support their “one market” theory.

6. Instead, the carrier Respondents argue that publicly-available data is fully sufficient for the Commission’s purposes in formulating policy going forward. Dr. Topper (Charter), for example, suggests that:

The Commission should conduct its review using the wealth of publicly-available data at its disposal about the entire market. This publicly-available data would provide a consistent source, year-over-year, that the Commission can use to determine competitive trends in California and to evaluate how competition in the State compares to the rest of the nation. As shown throughout this testimony, California’s retail voice markets are robustly competitive. The Commission’s insistence on the production of highly competitively sensitive data from a segment of the industry would not yield different or better results. To the contrary, it risks clouding the real issues.4

Publicly-available data can be informative, but typically reflects highly superficial analyses that cannot support the specific concerns regarding the state of competition as set out in the OII. Portrayals of “robustly competitive markets for voice services” prevalent in publicly-available data offer no formal or scientific analysis as to substitutability, cross-elasticity, or other indicia

4. Topper (Charter), at 7-8.
that would support a properly-formulated definition of the relevant product markets. And I am entirely unaware of any publicly-available data that would support the kind of geographic service availability and competition analysis that is possible only through examination of the granular availability and demand data of the type identified in the OII.

7. Since the facts and data adduced by the OII clearly cannot support the Respondents’ persistent claims as to the presence of effective competition in the voice and broadband markets, they have elected instead to ignore or, worse, to mischaracterize these facts and maintain what must be seen as a fundamentally unsubstantiated portrayal of a level of competition that is simply nonexistent for either voice or broadband services.

Defining the Market(s)

8. In my June 1, 2016 testimony, I provided a summary of ORA’s positions on key issues in this OII, as follows:

Voice Services

- Traditional local exchange carriers continue to maintain overwhelming dominance of circuit-switched voice connections; controlling some 88.6% of the nationwide voice market, including both direct retail connections and indirect wholesale services furnished to other providers for sale at retail or for incorporation into their own retail circuit-switched offerings.

- The vast majority – some 92.5% nationally and 87.4% in California – of all residential and business Voice over Internet Protocol (VoIP) connections are being provided by facilities-based wireline carriers – traditional Incumbent Local Exchange Carriers and Cable MSOs that are also the dominant providers of high-speed (25 Mbps up, 3 Mbps down or greater) broadband access.
The principal competitor to traditional wireline voice service is VoIP, but the use of VoIP requires that the customer have a broadband connection with sufficient bandwidth and reliability. The dominant broadband providers – ILECs and cable MSOs – are also the dominant voice providers, and are thus able to use their control of broadband to limit or otherwise manage customer migration to competing VoIP services. As a result, and after more than a decade in existence, these “over-the-top” VoIP services have captured only about 7.5% of the national and 12.6% of the California residential wireline voice market.

Although for many consumers mobile wireless voice service may be a substitute for fixed wireline voice telephone service, nearly two-thirds of California households that have wireless phones have chosen to retain their wireline service in order to obtain reliable access to 911, for residential alarm service, medical monitoring, and for other purposes they deem important.

There is compelling evidence as to the lack of any effective competitive challenge to legacy wireline voice telephone service. Basic wireline local telephone service prices have increased by more than 40% since being detariffed in 2008, during a period when wireless prices have been cut in half. Wireline “bundles” of unlimited local and long distance calling and service features that have become standard in virtually every postpaid and many prepaid wireless rate plans are nearly double the price for similar wireless bundles, and do not include other standard wireless features such as texting and Internet access. If wireless were an actual competitor to wireline, these wireline price levels would be unsustainable; that the high wireline prices persist belies any claim that wireless is a substitute for wireline voice service.

**Broadband**

- The relevant product market for analysis in this OII is residential broadband Internet access at speeds of at least 25 Mbps download and 3 Mbps upload – i.e., the current FCC definition of “advanced telecommunications services.”

- The relevant geographic market for wireline residential broadband Internet access is at the census block level. For convenience, broadband market data can be summarized over larger geographic areas, such as counties or Metropolitan Statistical Areas (MSAs), to assess the extent of broadband availability and the extent to which consumers have a choice of service provider.

- There is a lack of competition and consumer choice for broadband services at speeds of 25/3. Close to 70% of households in California have only one choice of a broadband provider at 25/3; and only 24% have the choice of two providers. Even in the most densely populated counties within MSAs, the results are similar: 69% of households can
obtain 25/3 broadband from only one unregulated monopoly provider, and only about
25% have a choice of two or more providers at 25/3.

- Two separate Market Share and Market Concentration (HHI) analyses were undertaken
  based upon broadband availability and actual broadband subscriptions. In every county
  in California, the HHI in both of these categories is in excess of the 2500, indicating the
  existence of a “highly concentrated” market as defined by the United States Department
  of Justice in its *Horizontal Merger Guidelines*.

- Even where more than one provider nominally offers broadband service in a particular
  census block, the market may still be dominated by only one principal firm. Using a
  Market Dominance Index (“MDI”) newly developed for this purpose, there is a clear
  pattern of extreme dominance by a single broadband provider in virtually every county
  statewide.

- Consistent with the lack of competition and the extreme market power being exercised by
  the unregulated dominant broadband providers statewide, residential broadband prices
  have increased by an average of 28.6% since the first URF decision was issued in 2006.

- The unavailability of wholesale last-mile broadband access at reasonable rates for use by
  competitors in serving residential customers limits competition and competitive
  availability of broadband. Availability of wireless services on a wholesale basis has
  fostered disruptive competition and contributed to lower wireless price levels overall.
  The Commission should consider measures that would expand the availability of
  wholesale broadband services so as to help bring retail prices down to more competitive
  levels.

My March 15 and June 1 testimony both devoted considerable attention to the subject of market
definition. In the following discussion, I will review Respondents’ June 1 rebuttal to my
previous testimony and in so doing respond to the ALJ’s subject outline as it addresses the
subject of Market Definition.

9. Markets can be defined in several different dimensions based upon the nature of the
product(s) involved (“Product Markets”) and the geographic area where the products are being
offered by individual suppliers and within which consumers are willing or able to shop for the
product among competing providers. Voice and Broadband are separate and distinct products
and are offered in separate and distinct product markets. The limited overlap in functionality as
between voice and broadband services (i.e., voice service may be obtained using a customer’s
broadband access connection) does not alter this fundamental distinction. Product markets may
be defined with respect to demand or supply. If consumers are willing and able to use multiple
providers’ products interchangeably, the products may fall within the same product market,
depending upon the extent to which such interchangeability or substitution is present. For
example, consumers can substitute chicken for beef, fish for meat, or vegetables for fish or meat,
but strong consumer preferences for specific foods and food choices limit such substitutability.
While the theoretical ability to substitute among these products is present, thus affording such
products a limited degree of cross-elasticity, they are each sufficiently unique as to constitute
separate product markets for most purposes. Fixed vs. Mobile telecom services are analogous to
the product distinctions extant among the various types of foods. While both support some of
the same functionalities, they are viewed as sufficiently different in terms of their overall
character that roughly two-thirds of California households that have mobile service continue to
purchase and pay for fixed (wireline) services. Moreover, even in the absence of any formal
cross-elasticity analysis as between fixed and mobile services, the fact that their respective prices
continue to diverge confirms that their actual substitutability is limited.
10. Importantly, technology is not by itself a basis for market definition if the alternative
technologies are individually capable of supporting the same overall set of functions. For
example, high-speed broadband can be accomplished via any of several technology architectures
— fiber-to-the-home (“FTTH”), fiber-to-to-node (“FTTN”), also known as hybrid fiber-coax
“HFC”), or hybrid fiber-copper. Generally, the potentially achievable broadband speed can be
increased by shortening the coax or copper segments, which is accomplished by extending fiber
optic facilities closer to the end user customers. From the consumer’s standpoint, any
technology that is capable of achieving the required broadband speed is capable of satisfying the
functional demand, so the alternate technologies are not in and of themselves market-defining.

11. Note, however, that some technology distinctions also create product distinctions. Fixed
services (voice and broadband) are most often supported by a fixed wireline (copper, coax, fiber
or some combination) infrastructure; mobile services always involve some radio segment in
addition to fixed wireline segments. But as discussed above, fixed and mobile services do not
support the same mix of functionalities and, while their demands may overlap (as is the case of
beef, chicken or fish), they cannot be treated as sufficiently close substitutes to constitute a
single market. The specific relationships between fixed wireless and mobile broadband as
compared with fixed wireline broadband are addressed in the June 1 testimony of ORA
witnesses Adam Clark and Tony Tully.

5. Technology can nonetheless provide a basis for defining product markets to the extent that a specific
technology presents functional service attributes that are not similarly supported by other technology architectures.
Thus, wireline last-mile technology is incapable of providing the functionality associated with mobile service, such
that wireline technology may be used, for analytical purposes, as a proxy for “fixed” services if the available data is
otherwise organized along technology lines.
12. Geographic markets are defined in terms of a consumer’s ability and/or willingness to travel or relocate in order to obtain a competing service. For example, most consumers are not willing to travel very far from home to make most routine household purchases, such as for groceries. The “geographic market” served by one or more grocery stores is thus limited to the willingness of consumers to travel far from their homes to obtain potentially lower prices. Consumers may be willing to travel further for higher-ticket purchases of durable goods, such that the geographic market served by, for example, a furniture store, an auto dealership, or other “big box” stores, is likely larger than that for a local neighborhood grocery store. The Internet has vastly expanded the geographic scope of many markets by effectively eliminating the distance factor in its entirety. But “brick and mortar” retailing is still subject to geographic bounds.

13. In the case of fixed telecommunications services supported by a wireline infrastructure, the extent of competition is limited to the service providers available at the consumer’s specific location. As I noted in my March 15 testimony (at fn. 23), Comcast is the only broadband provider offering 25/3 service at my home, but a competing provider (RCN) also offers this service just around the corner, approximately 500 feet away, and within the same census block in which my house is located. Nevertheless, unless I am willing and able to sell my house and move (which I am not), the presence of that very nearby competitor is of no value to me because I cannot obtain service from that company. Mobile service, on the other hand, is not so geographically limited in its market. Mobile spectrum licenses are issued across broader geographies such as entire metropolitan areas, states, or multi-state regions. Except in pockets where wireless coverage may be spotty, consumers can choose among any wireless licensee.
serving the area. Moreover, since the four largest wireless carriers offer service nationwide,
most consumers can retain their existing service and service provider even after a relocation to a
distant point within the US.

14. Because of their dependence upon fixed infrastructure and extremely limited geographic
flexibility, fixed voice and broadband service markets are necessarily highly concentrated,
because the massive capital cost of replicating (“overbuilding”) an existing wireline
infrastructure is sufficiently high as to create an effective, and quite formidable, economic
barrier to further competitive entry. Data provided by Respondents to this OII confirm that, in
California, fixed service markets are characterized by one or at most two dominant providers.
Using that data, I have calculated Herfindahl-Hirschman Indices (HHIs) for 25/3 broadband
service markets by county, by Statistical Area, statewide, and with respect to the specific
geographic footprint being served by each of the principal fixed broadband providers. I have
found that persistently high HHIs, Market Dominance Indices, and persistent price increases are
all present across all of these geographic areas, lending further support to the conclusion that
fixed voice and broadband service markets are necessarily highly concentrated and that there is
little or no likelihood that effective price-constraining competition is capable of developing any
time soon.

15. Respondents propose an unduly expansive definition of the “voice” market, to include
all fixed and mobile, wireline and wireless services, claiming, based entirely upon several
superficial functional similarities, that all forms of voice service are sufficiently close substitutes
as to constrain any one provider's market power. Mr. Gillan, for example, claims that “Wireless
pricing creates an effective ceiling that limits wireline price levels, and that this ceiling is the
product of a national market characterized by four national [wireless] providers. However, he
offers no facts or other evidence to support this assertion. His citation (at fn. 10) is to wireless
market shares, not prices and, in fact, the source he cites (the FCC’s 2015 Eighteenth Wireless
Competition Report) expressly confines its market share calculations to wireless services only,
thus contradicting Mr. Gillan’s own market definition claim. In actuality, for comparable
wireline and wireless feature packages, wireline service is far more expensive than most wireless plans. My June 1 testimony (at Table 7) shows wireline POTS service with unlimited local and long distance calling to be priced higher than comparable wireless plans. Mr. Topper states that “Cricket Wireless and MetroPCS offer ‘Talk and Text’ plans that offers unlimited talk and text for $25/month.” Other than citing the CDC wireless substitution reports and the CDC’s findings as to the percentage of “wireless-only” households, Respondents offer no formal analysis as to the substitutability of wireless for wireline, such as cross-elasticity studies, pricing behavior, or other hard evidence. They offer no explanation as to why 2/3 of California households are willing to pay for both wireline and wireless, even though wireline prices are persistently higher than wireless.

7. Topper (Charter), at 21.
8. The CDC results for the second half of 2015 were derived from a sample of 19,959 “in-person interviews that are conducted [between June and December 2015] to collect information on health status, health-related behaviors, and health care access and utilization. The survey also includes information about household telephones and whether anyone in the household has a wireless telephone.” Stephen J. Blumberg and Julian V. Luke (2016) “Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July-December 2015,” National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, at 1-2. As I noted in my June 1 testimony, the CDC’s results are not supported by FCC data. See my June 1 testimony, at para. 23,
16. ORA’s assessment of separate and distinct wireline and wireless markets is also supported by several Respondent witnesses:

- Mr. Burt (Sprint) at 6: “…[W]ireless service has indoor limitations and data capacity limitations compared to certain landline technologies, for example fiber-based broadband. In some instances, such as in highly rural areas, the lack of a strong wireless signal may preclude customers from substituting wireless service for wireline service.”

- Mr. Gillan (Cox), at 11: “There are some devices in the home that may require a wireline connection - medical monitoring equipment and fax machines are two such examples - and this means that not every household is a candidate for wireless-only service.”

17. Mr. Clark addresses these two issues in his July 15 testimony.

17. Dr. Topper (Charter) has gone so far as to calculate a Herfindahl-Hirschman Index (HHI) for what he and the other Respondents seek to portray as a single voice services market, consisting of, in addition to ILECs, “wireless providers, cable companies, VoIP providers and CLECs.”9 No specific analytical or scientific basis is offered by Dr. Topper for the expansive “one voice market” definition upon which his HHI calculation has been based. Instead, he cites and relies upon the CPUC’s”Market Share Analysis of Retail Communications in California June 2001 through June 2013: Expanding Markets, Market Concentration, and the Impact of

9. Topper (Charter), at 36.
Intermodal Competition” (“Market Share Report”). That reliance is misplaced to the extent that it effectively pre-judges the very central issue of Market Definition that itself is a key focus of this OII. To the best of my knowledge, the Commission’s Communications Division, which prepared the “Market Share Report,” has never undertaken any formal examination of intermodal cross-elasticities and substitution among the voice services included in its Market Share calculations. Citing the very same CPUC Market Share Report, Mr. Burt correctly notes that, according to the Report, “the landline segment of the industry is highly concentrated with an HHI of slightly more than 7,000 and is well above the HHI concentration levels of the other technologies.” He observes that “[t]he high landline concentration is not surprising considering the high barriers to landline entry.”

Frontier, in its Supplemental June 1 Responses, contends that telecom services are primarily offered as “bundles” of individual services (e.g., voice, broadband, video) and that it is “more appropriate to define the market in terms of a wide range of voice services and bundles

10. Indeed, and as I noted above (at para. 3), the OII expressly asks parties to “comment on existing reports and studies (including by the Commission’s Communications Division) ...” OII, at 1. In citing the Communications Division’s “Market Shares” report as the basis for his HHI calculation, Dr. Topper misses the very essence of the OII itself, i.e., to reexamine “existing reports and studies ... related to the price and availability of competing telecommunications services across California’s diverse population, and its large and diverse geography.”

11. Burt (Sprint), at 3, citing CPUC Communications Division Report, “Market Share Analysis of Retail Communications in California June 2001 through June 2013 (January 5, 2015),” Chart 3, HHI Market Concentration by Technology, Adjusted for ILEC and Cable Service Territories. The Market Share Report’s calculation of sector HHI is delineated in terms of technology. As I have previously noted, technology is not itself a basis for defining product markets except to the extent that a specific technology presents functional service attributes that are not similarly supported by other technology architectures. For example, wireline last-mile technology is incapable of providing the functionality associated with mobile service. Thus, while technology-based, the Market Share Report’s sector HHI calculation for wireline service roughly corresponds to the fixed services product market.

12. Id.
that include voice services than it is to focus on “basic phone service.” 13 I do not agree with this assessment. However, I would note that, in advancing this type of argument, Respondents fail to acknowledge that if the market is to be defined in terms of double- or triple-play bundles, then any providers that are not capable of offering a “triple-play” would be excluded entirely from this market definition and from effectively competing in this “market.” For example, Dr. Katz (AT&T) suggests that “[w]hen multiproduct bundles are available for purchase, the incremental cost to a customer associated with obtaining an additional service (e.g., adding voice service to a bundle that already comprises video and Internet access services) is typically lower than the cost of the same service on a stand-alone basis.” 14 He offers an example in a footnote: “For example, in California, the incremental cost of adding voice service to an AT&T bundle of data and television service is $9.99 per month, while the stand-alone voice price is $20 per month.” 15 Providers that are not able to bundle voice with data and television would thus have difficulty competing for voice services alone. As such, the number of providers will necessarily be limited to those one or two that are capable of providing all three services, such as an ILEC with a high-speed broadband capability (such as Frontier’s VoIP service or AT&T where higher-speed data service is available) or a cable company. Single-play providers, such as those offering over-the-top VoIP (e.g., Vonage) cannot be included as competing service suppliers.

19. VoIP-based competition for fixed voice services is itself utterly dependent upon the existence of competition in the broadband market within the geography relevant to a particular

13. Frontier Supplemental Response to OII IR#4, June 1, 2016.


15. Id., at fn. 23.
customer. Respondents, however, reject this inescapable truth. Dr. Katz, for example, claims that OTT VoIP can be supported with as little as 100kb of bandwidth.\textsuperscript{16} Even assuming that his facts are correct (they aren't\textsuperscript{17}), under this assumption the entire cost of that single-use low-speed broadband service would need to be included in the total retail price that a consumer would have to pay for OTT VoIP. Whether or not stand-alone low-speed data service, such as DSL, is even available in any given geographic market area, there is no assurance that, on an ongoing basis, customers will continue to be able to purchase low-speed broadband without also purchasing bundled voice service. In any event, the OII expressly includes 25/3 broadband within the scope of this proceeding.\textsuperscript{18} Rather than address the extent of competition for this service, the Respondents either ignore it or dismiss its relevance to the “telephone service” market.

\begin{footnotesize}
\begin{enumerate}
  \item Id., at A43.
  \item At an entirely theoretical level, OTT VoIP could be supported by 100 kbps service, but theory rarely translates into practice. For successful transmission of voice, very low latency is mandatory. In the context of packet switching and Internet Protocol, the term “latency” refers to the time delay involved in reassembling packets when received at their destination. Individual packets may take different routes, and may require varying intervals of time to be transported from origin to destination. In some cases, packets may arrive out-of-order. Low-speed services tend to experience higher latency than higher-bandwidth broadband, resulting in choppy voice connections that most people would find unacceptable. Moreover, consumer level broadband services are offered on a “best efforts” or “up to” basis. So just because a service is advertised as providing 100 kbps, actual speeds are often well below that level. Finally, if a customer has 100 kbps service and uses it for OTT VoIP calls, the service cannot be used for anything else (e.g., e-mail, web surfing, etc.) while a call is in progress. Depending upon the type of router that the customer uses and the manner in which its Quality of Service (“QoS”) settings have been made, priority might go to only one of the services, and not necessarily to the VoIP call, or may be shared among whatever data streams are in use at the time. Under any of these conditions, the VoIP call is likely to experience potentially serious signal degradation or outright interruption.
  \item The OII refers specifically to “[t]he FCC’s recent update of its broadband benchmark speed to 25 Mbps down and 3 Mbps up” OII, at 8, and expressly includes within the “General Scope” of the OII the question of “How much competition is there for advanced telecommunications services at the present national standard of 25 Mbps down (and 3 Mbps up)?,” citing the FCC’s Report and Notice of Inquiry, In re Deployment of Advanced Telecom. The OII notes that the “Federal statute defines “advanced telecommunications capability” to include “broadband telecommunications capability.”” citing Verizon v. FCC, 740 F3d 623, 635 (D.C. Cir. 2014), citing 47 U.S.C. § 1302(d)(1). OII, at 14.
\end{enumerate}
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20. There is a striking inconsistency in the Respondents’ positions regarding stand-alone low-speed broadband and the relevance of “triple-play” bundles in defining relevant product markets. If the customer wants 25/3 broadband and is effectively being forced to obtain it as part of a bundle that also includes voice and possibly video service as well, then the limited availability of 25/3 to one or at most two providers – both of whom also provide basic fixed voice service – indicates that rather than being irrelevant to competition for voice services, the limited availability of 25/3 actually defines the practical extent of competition for fixed voice services.

Measuring the Market(s) – Voice services

21. In most geographic areas, there are only two facilities-based providers of fixed voice services – an ILEC and a cableco. And as I demonstrated in my June 1 testimony, FCC data indicates that ILECs are the underlying source of some 88.58% of all fixed voice switched access lines nationwide.\(^{19}\)

22. Several Respondent witnesses claim that price increases for voice or other services are not indicative of a lack of competition. Dr. Katz suggests instead that ... to the extent that any profit-maximizing firm experiences an increase in its marginal cost of production, the firm will re-optimize and increase its price, which then induces other firms in the market to react by changing their prices. A new market equilibrium is reached when the profit-maximizing conditions for all

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19. Selwyn June 1, 2016 Direct Testimony, at Table 4, emphasis supplied.
firms are satisfied under the new costs and prices. A price increase triggered by a
cost increase does not indicate a lack of competition.”  

Notably, Dr. Katz is here actually refuting his own argument. First, there is no evidence that
ILEC wireline price increases were being “triggered by an increase in cost,” and certainly Dr.
Katz has offered no such evidence. But he then suggests that the price increase by one firm
would “then induce[] other firms in the market to react by changing their prices.” My emphasis.
But wireless voice service providers have not been “chang[ing] their prices” to mirror the
wireline price increases being imposed by ILECs, and no Respondent witness – including Dr.
Katz – has cited any facts or evidence that this has actually happened. Clearly, and by Dr.
Katz’s own reasoning, those non-reacting wireless carriers must not be “in the [same] market” as
wireline ILECs because they are not mirroring the wireline carrier price increases as Dr. Katz
suggests would be implemented by other firms in the same market. In my June 1 testimony, I
explained specifically why price increases are, in fact, indicative of insufficient competition.

…the persistence of these ILEC products and pricing practices over time supports
a strong inference that for a large portion of residential voice service customers,
there is still no close substitute for the ILEC service, a condition that the ILECs
have exploited through a succession of price increases over a time period during
which the scope of other voice services has been expanding and the prices of such
services have been dropping.  

Rising wireline prices in the face of falling wireless prices cannot be squared with the “single
voice market” theory and, indeed, Dr. Katz appears to concede this critically important point.


21.  Selwyn June 1 testimony, at para. 43.
23. A far more plausible explanation for the persistent and substantial run-up of prices for wireline voice services is that wireline ILECs have determined that they do not face any substantial amount of price-constraining competition from any other provider. In fact, this price increase conduct is entirely consistent with a “harvesting strategy” in which the existing, largely captive customer base is subjected to a series of price increases where the provider has determined that, within this specific group of consumers – i.e., those who continue to take wireline service even though they also take wireless – demand is relatively price-inelastic, making price increases profitable despite the loss of some customers. AT&T Corp. had itself engaged in precisely this type of “harvesting strategy” with respect to its CLEC customers following its 2004 decision to withdraw from the residential service market and pursue a merger with SBC. As described in expert testimony accompanying the Joint Application of AT&T Corp. and SBC Communications submitted to the CPUC:

41. ... AT&T no longer markets local/long-distance bundles or stand-alone long distance services, nor does it attempt to win back customers that it has lost. AT&T executives have characterized their current position as “harvesting” the business and as an “exit over time.”

48. As part of its “harvesting” strategy, AT&T has already instituted price increases. For example, AT&T CEO Dave Dorman has stated that AT&T is “carefully managing the decline in [and] harvest of those businesses that we will exit over time as those customers run off.

49. AT&T has already raised rates for consumer local and interstate long distance services:
   - In late 2004, AT&T raised by $1 to $3 per month the retail rates for various local service packages with prices that range from $12 to $30 per month.
   - In December 2004, AT&T raised rates in a variety of states for “all distance bundles” by 52 to $5 per month.
   - AT&T has raised the monthly recurring charge for stand alone interstate long distance services by $1 to $2 per month for many plans.
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- AT&T has also raised a number of the basic rates for international long distance services.22

The pricing conduct on the part of the wireline ILECs here cannot support Dr. Katz’s and other Respondents’ notion that ILEC prices are being constrained by wireless. Quite the contrary. Having decided that traditional copper-based wireline services are on the decline, the ILECs apparently have adopted the same “harvesting strategy” that AT&T Corp. had pursued once it had reached the same conclusion with respect to its CLEC operations.

24. Price movements are a key indicia of the presence or absence of competition, and of the level to which two putatively substitute services (e.g., fixed vs. mobile) actually compete with one another. Dr. Katz suggests that in order for ILECs to selectively target those customers who do not consider wireless a complete substitute for wireline service for wireline price increases, carriers would need specifically “to target their pricing at consumers who are reluctant to switch service providers,” and suggests that there is no indication that “carriers are either willing or able” to do this.23 Of course they are able to do precisely that simply by raising prices. By implementing a succession of price increases for wireline residential service, the ILECs have accomplished precisely that segmentation: They have effectively confined their legacy wireline voice market to customers who perceive (for whatever reason) the need to retain wireline voice

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22. I/M/O Joint Application of SBC Communications Inc. (“SBC”) and AT&T Corp. (“AT&T”) for Authorization to Transfer Control of AT&T Communications of California (U-5002), TCG Los Angeles, Inc. (U-5462), TCG San Diego (U-5389), and TCG San Francisco (U-5454) to SBC, Which Will Occur Indirectly as a Result of AT&T’s Merger With a Wholly-Owned Subsidiary of SBC, Tau Merger Sub Corporation, A.05-02-027, Joint Application of SBC Communications Inc. and AT&T Corp., filed February 28, 2005, Exhibit 1, Declaration of Dennis W. Carlton and Hal S. Sider, at paras. 41, 48-49.

service and who have, by their willingness to pay the increased prices, demonstrated their
captivity to this segment.

25. The presence of persistently high and escalating ILEC wireline voice price levels belies
any legitimate claim that ILEC voice prices are constrained by competing voice services. It also
belie the claim that wireline and wireless voice services fall within the same product market.

Dr. Aron has provided a highly misleading comparison of voice prices, and has certainly failed
to disclose the price trends over time:

- The prices in her Appendix for wireline voice service are understated. They exclude, among
  other things, the federal Subscriber Line Charge (SLC) which she erroneously includes
  among “other charges.” In fact, the SLC is a federally-tariffed rate the revenues from
  which flow solely to the ILEC and (with respect to the ILEC’s overall profitability) are indis-
  tinguishable from state-jurisdiction (tariffed or detariffed) rates and revenues. The SLC and
  perhaps other wireline-specific fees do not apply to wireless services. A comparison of
  wireline and wireless prices that excludes wireline-specific fees is misleading and implies
  that the price differential between wireline and wireless is smaller than it actually is.

24. For example, Dr. Aron shows a $25 monthly rate for AT&T’s “Standard Home Phone Service Primary Phone
Line with Flat Rate Line and unlimited local calling” and notes that “what is not included” in the $25 price are
“Equipment, installation, charges for long distance or local toll calling, taxes, fees and other charges including
universal service, installation, inside wire, and subscriber line charges.” Aron (AT&T), Appendix 1, p. 88. Notably,
in the few weeks since her testimony was filed on June 1, AT&T appears to have increased the rate for this service
by $1.00, to $26. https://www.att.com/shop/home-phone/landline.html (accessed 7/14/16). Notably, the “$26” price
that is now being quoted on the AT&T website similarly and misleadingly omits the SLC and other applicable
charges.
• Prices given for “local-only” wireline services do not include any charges for toll services, which are included in virtually every wireless rate plan, both prepaid and postpaid.

• Wireless rates include some or all handset costs (sometimes requiring a contract with an early terminating fee (“ETF”)); wireline rates do not include recovery of any handset costs.

• Over-the-top VoIP service prices do not include the cost of the broadband connection, or any allocated portion thereof

• Per Dr. Aron’s own compilation, ILEC rates for wireline services that are most comparable with those offered by wireless carriers are generally higher, when all relevant charges are included.

• Dr. Aron's exhibit also shows that some providers offer different price levels in different geographic markets (e.g., Charter).

Importantly, the pricing information being provided by Dr. Aron is as of a single point in time, and thus offers no insights as to price trends and movements over time. In short, and despite its size (98 pages), Dr. Aron’s pricing appendix cannot be used to inform the Commission as to the actual pricing trends and relationships that prevail in the various California telecommunications markets.
26. My June 1 direct testimony included a detailed quantitative analysis of the California 25/3 broadband market, and provided HHI calculations on a county-by-county basis as well as for each of the footprints served by the principal ILEC and cable Respondents to this OII. For purposes of this analysis, I utilized actual subscription data for most of the Respondent carriers that they had submitted in response to IR#6 of the OII. As such, the HHI calculations presented in my June 1 testimony reflected actual sales-based market shares rather than market shares based upon availability that I had previously calculated in connection with the Charter/TWC mergers and the Verizon/Frontier transaction.25 I also developed a new index of market dominance to reflect the deviation between the “equal shares” assumption underlying the previous availability-based HHI calculations and the actual market shares derived from subscription data. From the results of my analysis, it is apparent that the California 25/3 broadband market is both highly concentrated and exhibits a high degree of market dominance even in the most competitive counties.

27. Dr. Katz cites an observation in the Commission’s URF I Decision, D.06-08-030 that “Market share tests are inherently backward looking and not good predictors of future developments, particularly in a rapidly changing industry like telecommunications.”26 Inasmuch as a stated purpose of the current OII is to reexamine the various URF rulings, it is less than


apparent that this particular statement should be afforded any particular weight at this time.Obviously, any calculation of current market shares and of market concentration based thereon
must necessarily use existing historically-driven data as a starting point. However, this does not
mean that such calculations are in any sense “backward-looking” unless it can be shown that the
existing conditions are not representative of the future. No evidence has been offered in this
proceeding indicating that market concentration is declining for properly-defined voice and
broadband markets. Instead, all of the evidence points to a persistent and ongoing pattern of
high market concentration. Even Dr. Topper agrees that the HHI is “[a] commonly used
measure of concentration .... The U.S. DOJ and the FTC in their Horizontal Merger Guidelines
define Unconcentrated Markets as having an HHI below 1500; Moderately Concentrated
Markets as having an HHI between 1500 and 2500; and Highly Concentrated Markets as having
an HHI above 2500.”27 Other than as to the definition of the relevant product market, Dr. Topper
and I appear to be in agreement as to the relevance of HHI analyses as indicia of market
concentration.

28. In his attempt to discredit any use of concentration analysis as an indicia of competition,
Dr. Katz cites a statement in my March 15 testimony that “an examination of concentration
should not be the stopping point of the analysis.”28 His truncation of my testimony omits my
affirmative discussion as to the manner in which concentration analysis should be applied:

27. Topper (Charter), at 36.

Thus, the evaluation of the structural attributes of a market (market share information being the most commonly studied statistic) should be the starting point in the analysis of market power, but certainly not the stopping point. Market share information, or more generally, information on the number and size distribution of firms in a market will not be meaningful, independent of an evaluation of behavioral and performance attributes of the market. Nor will information on entry conditions to the exclusion of all other structural, behavioral, or performance attributes of a market, be meaningful either.

Nowhere have I suggested that high concentration levels are dispositive, but the greater the extent to which market power is concentrated in one or two firms, the less opportunity competitors will have to “break into” such “fortress” markets. Examining market concentration in combination with an analysis of Minimum Efficient Scale (“MES”), for example, overcomes the “backward-looking” concerns regarding market share/market concentration data. If an MES analysis suggests that only one or two efficient firms can exist in a particular market, then existing high concentration levels can be expected to persist well into the future. And none of the Respondents has offered any evidence or, for that matter, even suggested, that substantive additional entry into the fixed wireline broadband services market is a serious possibility.

Indeed, the evidence that exists actually points to precisely the opposite conclusion: Verizon discontinued its FiOS investment initiative after 2010 and has been actively seeking to exit the wireline broadband market ever since. And with the minor exception of some isolated market-specific entries by companies like google and AT&T, there has been no mass scale broadband infrastructure investment initiative in the US for nearly a decade. And none of the Respondents’ rhetoric about “competition” can alter this fundamental fact.
29. The OII correctly specifies that the assessment of competition in the fixed broadband market should be limited to 25/3 and above. Carriers such as Verizon claim that there is no National Standard of 25/3, but the FCC has made it clear that this is an appropriate minimum standard going forward, and the OII expressly refers to 25/3 as a “standard.” It would make no sense for the Commission to base forward-looking policy upon outdated notions of what constitutes “broadband” services for California consumers. Even if, for the sake of discussion, the Commission were to conclude that the low-speed broadband market is not highly concentrated but that the high-speed (25/3 and above) is, no purpose would be served in formulating a forward-looking regulatory policy premised upon the putative existence of competition for what is undeniably an outdated service.

30. Notably, these same carriers, both individually and through their various trade associations, had strongly opposed the FCC’s 25/3 initiative. However, their positions were soundly rebuffed by FCC:

We also take seriously Congress’s focus on “advanced” capability, and its direction for the Commission to take “immediate action” if such capability is not being deployed in a reasonable and timely fashion. Verizon asserts that the benchmark should “evaluate whether consumers are receiving a baseline level of broadband, not to determine how many consumers can use top-tier broadband service.” But the statute requires the Commission to conduct an inquiry into the availability of advanced services; it did not direct us to consider what is most commonly available or subscribed to. By requiring the Commission to conduct an inquiry on advanced telecommunications capability, Congress did not intend for the Commission to measure merely what is commonplace and available to all

29. OII, at §6.1, p. 14..

or almost all, but also to identify emerging needs and capabilities. Congress directed that we measure – and take steps necessary to promote – deployment of those advanced offerings. The 25 Mbps/3 Mbps benchmark permits present day households to access current broadband services and encourages the growth of services that are still nascent. While the speed benchmark is consistent with services already being offered and adopted, it properly accommodates advanced capabilities and encourages deployment of new technologies and services. We thus continue the Commission’s policy of attempting to strike an appropriate balance that satisfies the purpose of this report: to establish a practical benchmark that is not merely aspirational, but supports a contemporary and forward-looking vision of the high-quality services referenced in the statute. ...\textsuperscript{31}

Moreover, in their own advertising and marketing, the same providers that had opposed 25/3 consistently promote speeds even greater than 25/3 as what their customers really need. Verizon, for example, has been running a TV commercial for FiOS in the northeast in which it touts how many photos (120) and songs (30) can be downloaded over its 100/100 FiOS service in the 12 seconds it takes to pour a cup of coffee.\textsuperscript{32} Charter similarly emphasizes how fast its broadband service is in its print and TV advertising.\textsuperscript{33} In light of their active and persistent promotion of broadband services even faster than 25/3, it is to say the least highly disingenuous for any of these Respondents to actually suggest to the Commission that broadband speeds of as low as 100 kbps (per Dr. Katz) would even remotely satisfy the needs of California consumers.

\textsuperscript{31} Id., citations omitted, emphasis supplied.

\textsuperscript{32} https://www.youtube.com/watch?v=ZW4vXK8D8Y (accessed 7/13/16).

\textsuperscript{33} See, e.g., https://www.youtube.com/watch?v=OPIEF2JvEr8 (accessed 7/13/16).
32. Dr. Aron (AT&T) claims that “…most census blocks (91.9 percent of them) had broadband service available with speeds above 1.5 Mbps from six or more providers.”34 This assessment includes both fixed and mobile broadband services, including both wireline and wireless.35 Mr. Clark responds to Dr. Aron’s “91.9 percent” analysis in more detail.36 Note that mobile wireless subscription data at the census block level that was provided in response to OII IR#7 is based upon customer billing address. Customers may subscribe to wireless but be unable to use it at home. Dr. Aron offers no evidence as to where the wireless data services to which she refers is actually available for use or is being used by its customers. Also, Dr. Aron's assessment includes both 3G and 4G wireless service, neither of which are substitutes for wireline broadband, as detailed in the June 1, 2016 Direct Testimony of Adam Clark.37 Fixed wireless broadband has a very limited customer base nationally, and according to the FCC, “satellite and fixed wireless account for less than three percent” of broadband data subscriptions nationwide.38 I examined the pricing and availability of fixed wireless broadband in detail in my testimony for ORA in the 2014 Comcast/TWC merger proceeding, and found that fixed wireless broadband prices are significantly higher than wireline broadband prices for comparable

34. Aron (AT&T), at 35, and Figure 10 at 37.

35. Id.

36. Clark (ORA), at II-1 et seq.

37. Clark (ORA), June 1, 2016, at II-4 to II-6.

services, and that most have a relatively limited data cap. Finally, Dr. Aron’s reference to broadband speeds as low as 1.5 Mbps is simply nonresponsive to the specific issue being addressed by the OII – competition for 25/3 broadband.

33. Virtually every wireless data plan (mobile and fixed) has aggregate use (bandwidth) limits before overtime charges apply or, in the case of so-called “unlimited” data plans, before throttling is imposed. No evidence as to any consequential level of substitution as between fixed wireline broadband and any wireless broadband has been offered. Fixed wireless broadband prices are considerably higher than wireline broadband prices, such that this service would only be demanded in areas where wireline broadband is not currently available. Finally, Dr. Aron's assessment implicitly treats fixed and mobile broadband as comprising a single market, while offering no data or scientific basis for such a contention.

Conclusion

34. The July 1 Scoping Ruling states that “the ultimate question before us is whether intermodal competition, in the decade after URF, has offered sufficient discipline to produce just and reasonable prices for traditional landline services.” The data and analysis presented in this proceeding compels the inescapable conclusion that the intermodal competition that has arisen in the decade after URF does not offer sufficient discipline to produce just and reasonable prices for traditional landline services. Prices in the two most highly concentrated product markets – wireline voice and wireline broadband – have continued to escalate even while prices for

virtually all of the putative intermodal “competitors” have been on the decline. Intermodal alternatives have clearly created additional choices for consumers, but not to the point where their existence has operated to discipline dominant incumbent wireline carrier prices. The superficial similarities that Respondents seek to portray as between dominant wireline carrier services and intermodal alternatives cannot and should not be allowed to replace the data-driven approach that the Commission has sought to pursue in this OII. The “competition” upon which the URF had relied as a basis for its elimination of price regulation has failed to materialize, and the Commission should pursue policy options that recognize this inescapable reality.
DECLARATION

I declare under penalty of perjury that the foregoing statements are true and correct to the best of my knowledge, information and belief, and if called to testify thereon I am prepared to do so.

LEE L. SELWYN

Executed at Boston, Massachusetts this 15th day of July, 2016.