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June 16, 2010

David Danner
Executive Director and Secretary
Washington Utilities and Transportation Commission
1300 S. Evergreen Park Drive SW
P.O. Box 47250
Olympia, WA 98504-7250

Re: Docket No. UT-100562

Enclosed for filing are comments from AT&T Communications of the Pacific Northwest, Inc., New Cingular Wireless PCS, LLC, and TCG Seattle (collectively "AT&T") in the above mentioned matter. Please let me know should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "David Collier", written over a horizontal line.

David Collier
Area Manager - Regulatory

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

Policy Statement to Review State) DOCKET UT-100562
Universal Service Policies)
) **AT&T**
)

**COMMENTS OF AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST,
INC., NEW CINGULAR WIRELESS PCS, LLC, AND TCG SEATTLE**

Submitted this 16th day of June, 2010

Cynthia Manheim by Doc with permission

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AT&T appreciates the opportunity to submit comments in response to the questions issued by the Washington Utilities and Transportation Commission (“Commission”) in its May 26, 2010 notice. Washington has a long-standing policy of ensuring universal service or access to the telephone network for all residents of the state. To continue this policy in an era with new communications services, Washington must take action to provide the necessary foundation for an all-broadband world envisioned by the Federal Communications Commission (“FCC”) report, *Connecting America: The National Broadband Plan* (“NBP”).¹ As discussed during the Commission’s first workshop, a necessary first step in laying the foundation for a transition to this new world is for Washington to engage in the simple and straightforward steps for intrastate switched access reform. Such reform will benefit consumers in the state by providing for advance communication networks in the state, while at the same time lowering consumers’ long distance costs. The questions posed by the Commission and the responses that it receives should assist the Commission in evaluating the steps necessary to move forward with access reform in Washington.

1. What is the role of the public switched telecommunications network operated by incumbent local exchange carriers (ILECs) in providing universal service in the state of Washington?

The Communications Act of 1934 set forth Congress’ objective to “make available, so far as possible, to all people of the United States...a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charge.”² The Washington legislature has stated that its policy is to “preserve affordable universal telecommunications service” within the state.³

Historically the public switched telecommunications network (“PSTN”) has been the infrastructure used to provide the services for universal telecommunications service. Traditionally, implicit subsidies were used to promote universal service: long-distance charges (and later, access charges) were set at artificially high, above-cost levels in order to generate implicit subsidies so that local service rates could be held artificially low, below-cost levels. The NBP describes that regime as follows:

¹ Issued March. 16, 2010.

² 47 C.F.R. 151

³ RCW §80.36.600

. . . ICC [Intercarrier Compensation] was implemented before the advent of the Internet when there were separate local and long distance phone companies. Local companies incurred a traffic-sensitive cost to ‘switch’ or connect a call from the long distance company to the carrier’s customer. The per-minute rates charged to the long distance carrier were set above cost and provided an implicit subsidy for local carriers to keep residential rates low and promote universal telephone service.⁴

But today consumers have a variety of choices to communicate long distances such as wireline long distance service, email, wireless phones, social networking websites, Voice over Internet Protocol (“VoIP”) providers like Vonage or Skype, and cable telephony, among others options. Many of these communications are now relying more and more on internet protocol (“IP”) or packet technologies, instead of traditional “switching”.

As a result, the old regime of implicit subsidies, which is a holdover from the monopoly era, is unsustainable. Consumers are leaving wireline long-distance and choosing alternative technologies due in part to avoid the artificial burden of implicit subsidies. Ironically, high intrastate access charges are drying up the stream of implicit subsidies that they were supposed to generate. With straightforward reforms that reduce intrastate switched access rates to more rational levels, the PSTN, or at least elements of the PSTN, can still serve a valuable role in ensuring universal, affordable service for today’s communications to an all-broadband world. In the answers that follow, AT&T presents a straightforward plan for access reform that will achieve these goals.

2. Does the UTC need to address intrastate switched access rates to ensure universal service and the widespread availability of telecommunications services at reasonable rates in Washington? What statutory or rule changes are needed in order to do so?

Yes. The status quo of high intrastate switched access rates which historically have helped to keep basic local service rates artificially low in Washington cannot be sustained and, if not addressed, could hinder universal service and the widespread availability of communications service in Washington. This will slow the deployment of new technologies that will provide communications services of the 21st century.

a. Washington must act expeditiously to ensure the stability and advancement of communications networks in Washington and to protect consumers and competition in the state.

⁴ NBP at 142.

Access revenues are rapidly declining: Access minutes of use are quickly decreasing as more and more consumers shift their usage away from traditional long distance services to alternatives not saddled with the same access subsidy obligations. As traditional landline minutes are transitioned to email, social networking, wireless⁵ and IP-based alternatives, access revenues are diminishing. As discussed above, access revenues have historically been a source of “implicit subsidies” for artificially low local residential retail rates. The erosion of these subsidies and ultimate loss of access revenues for the incumbent local exchange carriers (“ILECs”) threatens universal service and rural investment, which puts rural connectivity at risk. As consumers shift their calling away from traditional wireline telephone networks, the ILEC companies are strained to recover largely fixed costs from a shrinking customer base. In its recent NBP, the FCC noted that “fewer terminating minutes ultimately mean a smaller revenue base for intercarrier compensation...⁶ The FCC further noted that, “[e]ven rate of return carriers... acknowledge that the current system is ‘not sustainable’ and could lead to a ‘death spiral’ as higher rates to offset declining minutes exacerbate arbitrage and non-payment.”⁷

The loss of access revenues is occurring nationally and Washington is having the same impact as well. According to FCC data, “total minutes of use of incumbent carriers decreased from 567 billion minutes in 2000 to 316 billion minutes in 2008, a drop of 56%.”⁸ In Washington State the total intrastate access minutes of use for all LECs has decreased from over 5 billion in 2000 to roughly 3.5 billion in 2008.⁹ The result is a substantial decrease in the access revenues received by companies in Washington over this same period of time. As such, Washington must act to provide stability for the rural LECs in order to ensure the continuation of universal service in the state.

The problems created by inflated switched access charges are numerous. Years ago, the FCC took significant steps to reduce implicit subsidies from interstate access rates, by reducing ILEC rates and “capping” CLEC rates at the level of the corresponding ILEC

⁵ Pursuant to FCC rules, wireless carriers pay access charges on calls between Major Trading Areas (“MTAs”) but not for calls within an MTA. In Washington there are three MTAs with one of the MTAs covering the entire Puget Sound area. See <http://wireless.fcc.gov/auctions/data/maps/mta.pdf>.

⁶ NBP, at page 142.

⁷ Id.

⁸ Id.

⁹ See presentation of Mark Vasconi, Manager – Telcom for the Washington Utilities and Transportation Commission on May 5, 2010 Universal Service Workshop, pg 8. AT&T’s calculation has access minute reduction from 4.5 billion in 2000 to between 2 and 2.5 billion in 2008. Regardless of the precise number the reduction in intrastate access minutes in Washington is significant.

rates.¹⁰ AT&T proposes that the Commission initiate state reform by: (i) requiring ILECs to reduce their intrastate switched access rates to parity with the corresponding interstate rates; and, (ii) capping CLEC at the level of the corresponding ILEC rates.

Excessive intrastate switched access rates harm consumers, impede competition, and unjustly discriminate against certain market segments. Switched access charges are a principal component of the cost of providing wireline long-distance service. Thus, high access charges keep the price for in-state wireline long distance service inflated. Because long distance rates are geographically averaged over the state, high intrastate access charges harm all Washington consumers, regardless of the access rates of an individual LEC.

Long distance providers compete against email, instant messaging, wireless carriers, VOIP providers and social networking sites which, as discussed above, generally do not have the same high access charges that the long distance providers pay (or do not pay them at all). If the artificial burden of high intrastate access charges were reduced to mirror the interstate rates and structure, wireline long-distance providers could compete more aggressively on a more level playing field. In turn, other competing technologies will be forced to become more efficient, more innovative, and more attuned to consumer needs. The results will be a more competitive, consumer-focused Washington communications market – a clear win for consumers who will be reaping the benefits of full and fair competition.

Interstate and intrastate access functions are the same yet have vastly different rates. There is no material technical difference in functionality between originating and/or terminating an interstate call versus originating and/or terminating an intrastate call, yet there is a large difference in rates between the intrastate and interstate switched access rates. Charging radically different prices for materially the same functionality leads to arbitrage, substantial expense, waste, and inefficiency, resulting in decreased value for consumers.

“Call pumping” also called “traffic pumping,” is a prime example of the arbitrage that is encouraged by the present access charge regime. The term refers to practices by which some LECs have artificially stimulated additional phone traffic (for which they bill access charges). For example, the NBP observes, “companies have established ‘free’ conference calling services, which provide free services to consumers while the carrier and conference call company share the [access] revenues paid by interexchange

¹⁰ See In re Access Charge Reform & Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 9923 (2001)(“*FCC Order Capping CLEC Access Charges*”).

carriers.”¹¹ High access rates create powerful incentives for LECs to engage in traffic pumping – and the record shows that at least one LEC

b. Washington should not be left behind.

As discussed in more detail below in response to question 14, the Washington Commission a number of years ago established two rate elements that are assessed on intrastate switched access that are generally thought of as providing universal service support. This universal service support mechanism is unsustainable as these rate elements are only assessed on one segment of the industry, long distance providers, and as discussed above the minutes of use for intrastate switched access are in rapid decline. Legislation was previously introduced which would have created a state universal service fund, but this was ultimately not enacted by the legislature. These actions all occurred over a decade ago and the communications marketplace has changed dramatically in that time period.

Other states have already implemented some form of intrastate access reform. A number of states have required intrastate switched access rates to mirror interstate access rates in a number of different ways (via statute, commission order, or as a condition of alternative regulation) and the application may be for some or all of the LECs in the state; nevertheless, their essential policy choice has been the same. During the Commission’s first workshop CenturyLink provided examples of a number of states that have already engaged in intrastate access reform.¹²

Reforming Washington’s high intrastate access rates will yield profound benefits to Washington consumers and ensure that Washington remains competitive in the new economy. When access rates are reformed, consumers can enjoy a fuller array of competing services. They can expect savings and innovation from the local exchange carriers and more efficient and improved services at the best possible price, as all providers – regardless of technology – will be afforded the opportunity to compete fairly.

c. Intrastate Access Reform Overview

AT&T believes that Washington should take the first simple, common-sense to reform intrastate switched access rates as follows:

- All Washington LECs should be required to immediately and fully reduce and maintain intrastate switched access rates to mirror that company’s

¹¹ NBP at page 142.

¹² See presentation of John F. Jones, Vice President State Government Affairs, CenturyLink.

corresponding interstate switched access rate level and rate structure; CLECs should be required to immediately cap their intrastate access rates at the intrastate access rates of the ILECs with which they compete.

- All intrastate pools would be eliminated and funding will be made up from retail rates (imputed up to benchmark) and/or state universal service fund (where necessary).
- A statewide uniform retail rate benchmark for local rates should be established to determine how much of the ILEC access revenue reduction would be recovered from retail rates or the Washington Universal Service Fund (“WUSF”).
 - ILECs would be allowed to rebalance their access revenue reductions with retail rate increases up to the benchmark. No rate case proceeding would be required.
 - ILECs would not be required to increase retail rates up to the benchmark; if an ILEC does not raise its retail rates to the benchmark, the benchmark rate would be imputed for calculation of ILEC’s WUSF support.
 - A transition may be necessary.
- A WUSF should be established.
 - The contribution methodology should mirror the federal USF contribution methodology. If in the future the FCC changes the federal contribution methodology, changes should be made to the Washington contribution methodology as well.
 - Contributors to the state universal fund should be allowed to recover their contributions from end user customers, such as through a separate line item on the retail end user customer bills.
 - ILECs that have Carrier of Last Resort (COLR) obligations should be eligible for WUSF support subject to the above benchmark mechanism. There should be only one COLR per geographic area.

d. Statutory/Rule Changes Necessary for Intrastate Access Reform

The Commission has exercised its authority on a number of previous occasions in individual cases to lower intrastate access rates.¹³ In addition, the Commission promulgated the terminating access rule (WAC 480-120-540). However, in order to use universal service support as a transitional tool to implement intrastate access reform pursuant to the process outlined in the section above, the Washington legislature will need to authorize a WUSF.¹⁴

¹³See Qwest rate case UT-905200, AT&T v. Verizon complaint UT-020406, and Verizon v. Embarq complaint UT-081393.

¹⁴ RCW §80.36.600 directs the commission to plan and prepare to “implement a program for the preservation and advancement of universal telecommunications service which shall not take effect until the legislature approves the program.”

- 3. Should there be a Washington Universal Service Fund (WUSF)? If so, what factors should the State of Washington consider in weighing the need for establishing a WUSF? Commenting parties are encouraged to address the following factors:**
- a. trending reductions to incumbent carrier's intrastate access charge revenues,**
 - b. the need for comprehensive or streamlined earnings review including determination of the effective intrastate or overall rates of return of recipients of WUSF funding,**
 - c. revenues from regulated services,**
 - d. revenues from both regulated and unregulated services,**
 - e. carrier of last resort obligations of potential WUSF recipients,**
 - f. any other factors that should be used in determining the need for establishing a WUSF.**

A state universal service fund is an important component of intrastate switched access reform in Washington. As discussed in response to question 2, intrastate access revenues are rapidly decreasing in the state. As set forth above, intrastate access reform will provide stability to telecommunications service in rural areas of the state and, as discussed in more detail below, is a necessary first step to transitioning to an all-broadband world.

As discussed in response to question 9, there are a number of factors that must be considered in determining the size of the WUSF. To keep the size of the fund as small as possible, support from the WUSF should be limited to ILECs that: 1) have COLR obligations, and, 2) are not able to rebalance their reduced access revenues arising from taking their intrastate access rates to interstate levels entirely through retail rate adjustments up to a statewide retail rate benchmark.

AT&T does not believe that it is necessary for the Commission to conduct an earnings review of carriers prior to allowing those carriers to receive WUSF support. Instead the factors listed in response to question 2 and 9 should be used to evaluate the amount of WUSF available to a carrier.

- 4. What is the role of the National Broadband Plan in evaluating the need for a WUSF? If Congress and the Federal Communications Commission (FCC) implement the recommendations in the National Broadband Plan, what would be the role of a state USF? What are the possible effects on Washington consumers of the changes to federal rules contemplated in the**

National Broadband Plan if there is no state universal service fund? Does the National Broadband Plan alleviate or intensify the need for Washington to address intrastate access charge reform and universal service issues at this time?

The NBP sets forth a series of comprehensive recommendations proposed to bring about Congress' goal of universally available and affordable broadband service throughout the nation.¹⁵

[u]biquitous [broadband] connections are means, not ends. It is what those connections enable that matters. Broadband is a platform to create today's high-performance America – an America of universal opportunity and unceasing innovation, an America that can Continue to lead the global economy, an America with world-leading, broadband-enabled health care, education, energy, job training, civic engagement, government performance and public safety.¹⁶

The NBP's recommendations include a proposal to redirect its public policy goals and mechanisms away from legacy telephone services and networks and to focus them solely on achieving a fully-broadband world. The transition to a fully-broadband world will take some period of time to achieve, and can only come about through private investment working in concert with federal and state policy makers and through appropriate reform of laws, policies, regulations and incentives.

As the NBP further explains, intercarrier compensation ("ICC") has not been reformed to reflect fundamental, ongoing shifts in technology and consumer behavior, and it continues to include above-cost rates.¹⁷ But, as discussed in response to question 2, consumers today can choose from many communications options that are not subject to the same intercarrier compensation obligations applicable to traditional circuit switched wireline long distance and interexchange services.¹⁸ As a result, the existing access charge regime is rapidly going the way of the dinosaur. To bring about widespread

¹⁵ American Recovery & Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, div. B, tit. VI, § 6001(k)(2) (Feb. 17, 2009).

¹⁶ NBP at page 3.

¹⁷ NBP at page 142.

¹⁸ Consumers today can order goods and services over the Internet; social-network through Internet-based services, like Twitter, Facebook, and MySpace; send a friend a text message via mobile phone; or obtain government forms and information through a website with a mouse click. And while consumers today still have voice communications, voice service is available not only from local phone companies and long-distance carriers, but also from cable operators, wireless providers, and over-the-top VoIP providers such as Vonage or Skype.

broadband deployment ICC reform, including intrastate switched access reform, it is necessary to provide stability to the LECs revenue streams. These revenue streams are necessary to ensure that the telephone service infrastructure is ultimately available for broadband service. As the FCC noted in its NBP, “[t]he current per-minute ICC system was never designed to promote deployment of broadband networks. . . .”¹⁹ The FCC has, therefore, recommended that per-minute rates for the origination and termination of traffic ultimately be eliminated in 3 stages over a 10-year period.²⁰

States like Washington have a particularly important role to facilitate the transition to an all-broadband world. There is no reason for Washington to await action by the FCC on the NBP’s ICC recommendation. Washington can facilitate universally available broadband services throughout the state by moving expeditiously to reform the existing unsustainable access charge regime. Specifically, by reforming ILECs’ intrastate switched access rates to mirror their respective interstate access rates and rate structure, and by capping CLEC rates at the level of the corresponding ILEC rates, the Commission would be taking steps recommended by the NBP.

The national reform proposed in the NBP intensifies the need for Washington to act on ICC reform. The FCC has proposed to cap the federal support mechanisms such that the federal funding available to address access reform is likely to be limited as it will be competing with many other federal funding priorities, including direct support for broadband through the proposed Connect America Fund and Mobility Fund. (Consequently the more aggressively states address access reform, the more federal support will be available for broadband.) Moreover, the current federal support mechanisms will be reviewed as part of the NBP recommendations and are unlikely to retain the legacy high-cost support mechanisms,²¹ so states should quickly move to

¹⁹ NBP at page 142.

²⁰ NBP, Recommendation 8.7 at page 148; *see also id.*, Exhibit 8-F: Roadmap for USF/ICC Reform.

²¹ The sources of intrastate cost support provided by the federal universal service fund (“FUSF”) are: the high cost loop (“HCL”), including Safety Net Additive (“SNA”) and Safety Valve Support (“SNS”); Local Switching Support (“LSS”); and, the High Cost Model (“HCM”) mechanism.

The HCL mechanism provides intrastate loop support for rural ILECs whose loop costs exceed 115% of the national average cost per loop (“NACPL”). HCL support provides a rural ILEC 65% of its total loop cost between 115% and 150% of the NACPL and 75% of its total loop cost above the NACPL. When combined with the carrier’s federal interstate loop support (which provides 25% of the carrier’s total loop cost), a rural ILEC receives FUSF loop support equaling 90% of its total loop cost between 115% and 150% of the NACPL and 100% of its total loop cost above 150% of NACPL. SNA and SVS provide additional intrastate loop support when a carrier has made new significant in their loop plant. SNA and SVS limit or remove the impact of the FCC’s cap on the size of the primary HCL fund.

LSS offsets intrastate switching costs by applying a weighting factor to the interstate switching costs. A carrier with fewer than 10,000 access lines receives two times its interstate switching costs from the FUSF

address ICC to ensure that network infrastructure remains viable until the new policy framework and incentives are in place.

- 5. If the UTC addresses intrastate access charge reform, to what extent is there a need for a WUSF to replace some or all intrastate access charge revenues of ILECs in order to preserve and advance the telecommunications network in the State of Washington? Are statutory changes necessary in order to do so?**

See responses to question 2, 3 and 9.

- 6. What direct benefits, if any, will there be to consumers in Washington by addressing intrastate switched access and universal service reform? If intrastate access charge reform is implemented, how will access charge cost reductions realized by current interexchange carriers in Washington be flowed through to Washington consumers?**

There will be numerous benefits to Washington consumers by addressing intrastate switched access and universal service reform. First, as discussed above, by reforming the existing unsustainable access charge regime (which is a holdover from the monopoly era) such reform will provide more revenue stability to rural LECs and is the first step in facilitating the transition to an all-broadband network for consumers in Washington. Second, as discussed in more detail below, intrastate switched access charges feed higher prices for retail long distance service so reforming intrastate access rates will (all else equal) result in lower long distance prices for the benefit of Washington consumers. Third, access reform benefits business customers by decreasing their long distance communications costs. Fourth, access reform decreases the disparity in the competitive playing field as wireless, VoIP, and other technologies do not pay intrastate access rates to the same extent as long distance carriers, or in some cases, do not pay access charges at all. Fifth, access reform promotes investment in different technologies on the basis of economic merit rather than regulatory advantages or disadvantages. Last, access reform would reduce the incentives for socially wasteful arbitrage activities such as call-pumping (e.g. sham businesses paying kickbacks to people to call into chat rooms set up to drive access charges against long distance providers) and traffic shifting

LSS mechanism. The weighting factor for carriers with 10,001 to 20,000 lines is 1.5, and carriers with between 20,001 and 50,000 lines receive an amount equal to their interstate switching costs for the LSS. A rural carrier is thus allowed to recover up to 85% of its total switching costs from the combination of its interstate switching cost recovery and its LSS.

Finally, the HCM mechanism provides support to non-rural carriers in a limited number of states; however, HCM support is not available in Washington.

(misrepresenting the jurisdictional nature of traffic so that it appears to fall into a more favorable regulatory jurisdiction).

Intrastate access fees are the single most important component of the overall cost of providing in-state long distance service, representing as much as 75 percent of the retail price that consumers pay for in-state long distance service. Empirical evidence demonstrates that when access fees are reduced long distance prices decrease, even when there is no require to “flow-through” the reductions to consumers. For example, as a result of FCC action between 2004 and 2008 average interstate switched access fees nationwide fell by 40%. During that same time, interstate long distance prices, which are unregulated, fell by over 40%. Further, as explained in more detail in the attached paper by Dr. Aron, AT&T’s retail intrastate long distance prices are on average thirty-one (31) percent lower in states that have undergone access reform as compared to states that have not.²² Dr. Aron’s paper also describes a statistical analysis that she conducted of AT&T’s data which shows that in states that have undergone access reform, 100 percent of the decreased access expenses are passed through to consumers.

7. Should intrastate switched access reform apply to all providers of intrastate switched access in Washington? What statutory or rule changes would be necessary?

Yes. For incumbent LECs, the monopoly-era policy of implicit subsidies is obsolete and unsustainable in today’s competitive market. For the CLECs, the rationale for the implicit subsidies was never applicable. Unlike the ILECs, CLECs need not serve all customers, nor have they had their retail prices regulatorily constrained as the ILECs. Further, the CLECs have been able to choose the geographic areas and customer segments they wish to provide service in a manner that maximizes the CLECs’ profits. Recognizing the harm that CLEC access rates produce, the FCC has adopted reforms on the interstate side, requiring CLECs to “cap” their interstate switched access rates at the level of the predominant ILEC rates.²³ Likewise, in Washington the Commission should take the simple, common-sense first step of capping CLEC intrastate switched access rates at the level of the corresponding ILEC with whom the CLEC competes. The CLECs in Washington already have pricing flexibility and, therefore, can raise their local service rates, if necessary, to adjust for any decrease in intrastate switched access rates.

²² See Attachment A.

²³ FCC Order Capping CLEC Access Charges, 16 FCC Rcd. 9923. ¶31.

8. Assuming implementation of the National Broadband Plan, is there a need for a state WUSF during the period in which federal universal service support transitions to support for broadband?

Yes. See response to question 4.

9. If a WUSF is established, what should be the criteria for eligibility to draw from the fund? How should the size of the fund be determined? What should be the basis of the amount of support to be received?

To be eligible to withdraw from a WUSF a carrier must: 1) serve as a COLR; and, 2) the per line access shift, as described below, when added to basic local rates must be higher than the state-wide local exchange service rate benchmark ("Benchmark").

The following should be the basis of the amount of support that a carrier can receive from the fund. The total size of the fund will be determined by adding together the WUSF fund requirements for all eligible ILECs.

1. Determine ILEC's Total Access Revenue Shift ("Access Shift") by calculating for a prescribed base period, the difference between the ILEC's total intrastate switched access revenues at current rates and the switched access revenues the ILEC would have collected had it applied its interstate switched access rates for the provision of intrastate switched access service (i.e. when intrastate switched access rates are decreased to mirror their interstate levels and structure).
2. Each ILEC's Per Line Access Shift will be determined by dividing the ILEC's Access Shift, as calculated in step 1 above, by the number of local exchange lines the ILEC had in service as of the base period.
3. Establish a Benchmark applicable to all local exchange lines in service. Each ILEC should have pricing flexibility to increase its price for any basic local exchange service to the benchmark level. Some transition period may be necessary.
4. For each eligible ILEC, provide state WUSF support in an amount equal to the difference between their current local rates plus Access Shift (Step 1) and the Benchmark (Step 3).

As these steps demonstrate, the size of the WUSF will depend, in large part, on the level at which the statewide uniform retail benchmark is established (e.g. \$16, \$18, \$20 and so forth). AT&T believes that the best way for the Commission to determine the Access

Shift per line is to issue a protective order and gather information to make such a determination. AT&T has provided as **Attachment B** an example of a data request that could be issued to determine the Access Shift.

10. What, if any, is an appropriate contribution basis for a WUSF? To what extent should other telecommunications providers, including wireless and VoIP service providers (nomadic and fixed) contribute to a WUSF? If so, on what basis should they contribute?

AT&T believes that in order to ensure national uniformity and lessen the burden of establishing a universal service fund, states should mirror the contribution methodology that is in place at the time for the FUSF. The FUSF is currently funded based on a percentage of interstate and international telecommunications retail revenues. So, today the WUSF should be funded based on intrastate telecommunications retail revenues. If in the future, the FCC changes the federal USF contribution methodology, changes should be made to the Washington contribution methodology as well.

Proposals to change the federal USF contribution methodology have long been pending before the FCC.²⁴ AT&T has advocated that the federal methodology be changed from the current interstate and international telecommunications revenues-based methodology to one based upon telephone-numbers or telephone numbers and dedicated connections.²⁵ Nevertheless, until the FCC actually changes the methodology for the federal USF contributions, the WUSF contributions should be based on intrastate telecommunications retail revenues, consistent with the existing federal methodology.

With respect to contributions by VOIP providers, AT&T supports the notion that VOIP providers should pay into a state universal service fund; however, this cannot be implemented until the FCC provides clear guidance that states are not preempted from requiring such contributions. This matter is currently pending before the FCC for a ruling. On July 6, 2009, the Nebraska Public Service Commission (“Nebraska PSC”) and

²⁴ Most recently, in October 2008, the FCC proposed and sought comments on such a methodology. See Order on Remand & Report and Order & Further Notice of Proposed Rulemaking, *In the Matter of High-Cost Universal Service Support*, WC Docket No. 05-337, *Federal State Joint Board on Universal Service*, CC Docket No. 96-45 *Lifeline and Link Up*, WC Docket No. 03-109, *Universal Service Contribution Methodology*, WC Docket No. 06-122, *Numbering Resource Optimization*, CC Docket No. 99-200, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *Developing a Unified Inter-carrier Compensation Regime*, CC Docket No. 01-92, *Inter-carrier Compensation for ISP-Bound Traffic, IP-Enabled Services*, CC Docket No. 99-68, *IP-Enabled Services*, WC Docket No. 04-36, FCC 08-262, Appendices A (Chairman’s Draft Proposal), B (Narrow Universal Service Reform Proposal) & C (Alternative Proposal)(FCC released November 5, 2008).

²⁵ See AT&T Petition for Immediate Commission Action to Reform Its Universal Service Contribution Methodology, *In the Matter of Universal Service Contribution Methodology*, WC Docket No. 06-122 (FCC filed July 10, 2009).

the Kansas Corporation Commission (“Kansas CC”) petitioned the FCC for a declaratory ruling that the FCC has not preempted states from assessing universal service charges on the intrastate revenues of providers of nomadic VoIP service.²⁶ Comments have been submitted.

By way of background, in the 2004 *Vonage Order*²⁷ the FCC preempted the Minnesota Commission from applying its statute requiring contributions to its state universal service fund to Vonage’s DigitalVoice service and “other IP-enabled services having the same capabilities.”²⁸ Subsequent to the *Vonage Order*, the Nebraska PSC imposed a state universal service fund requirement on nomadic interconnected VoIP providers; this was appealed to the courts. The United States Court of Appeals for the Eighth Circuit affirmed a district court decision that the FCC had preempted the Nebraska Commission from imposing its state universal service contribution requirements on nomadic interconnected VoIP providers.²⁹

11. What is the role of carrier of last resort in a state universal service fund?

Should any carrier that receives support from the universal service fund be required to assume the obligations of carrier of last resort with respect to traditional voice services, with respect to broadband service, or both?

Should the fund support more than one provider per geographic area? How should "area" be defined?

In order to keep the WUSF size as small as possible and what consumers are ultimately asked to bear for WUSF charge, AT&T believes that only a single carrier per geographic area that has COLR obligations should be eligible to receive support from the WUSF.³⁰

²⁶ See *Petition for Declaratory Ruling of the Nebraska Public Service Commission and the Kansas Corporation Commission for Declaratory Ruling or, in the Alternative, Adoption of Rule Declaring that State Universal Service Funds May Assess Nomadic VoIP Intrastate Revenues*, WC Docket No. 06-122 (filed July 16, 2009).

²⁷ See *Vonage Holdings Corporation Petition for Declaratory Rulings Concerning an Order of the Minnesota Public Utilities Commission, Memorandum Opinion and Order*, WC Docket No. 03-211, 19 FCC Rcd 22404 (2004) (“*Vonage Order*”).

²⁸ *Vonage Order* at ¶¶ 1, 10 and n.28. Specifically in a footnote listing Minnesota laws that the FCC ultimately preempted in the *Vonage Order*, the FCC included Minnesota’s statute directing the state commission to establish a state universal service fund and require contributions from all providers of telephone service. *Vonage Order*, n.28.

²⁹ *Vonage Holdings Corp. v. Nebraska Pub. Serv. Comm’n*, 564 F.3d 900 (8th Cir. 2009).

³⁰ Further, as the WUSF should only be to support the shift of access support from implicit to explicit subsidies there should not be a minimum broadband speed requirement.

If the WUSF is at some point transitioned to a broadband fund, the Commission at that time will need to establish the eligibility requirements for communications providers to receive support. It would be premature for the Commission to establish requirements at this time.

12. Should a state universal service fund include a local rate benchmark? If so, for what purpose and how should it be determined?

Yes. A statewide uniform retail rate benchmark should be established as described in response to questions number 2 and 9.

13. Should there be a transition period from the current state universal service mechanism to a new WUSF? If so, how long should the transition period be?

In answering this question, AT&T assumes that the reference to the “current state universal service mechanism” refers to the Interim Terminating Access Charge (“ITAC”) and the Traditional USF rate elements. As stated above, AT&T believes that all LECs should reduce intrastate switched access rates to mirror their interstate switched access rates and rate structures. The ITAC, Traditional USF and the Common Carrier Line charge³¹ are subsidies assessed on a per minute basis on originating and/or terminating intrastate long distance calls.³² As these are not rate elements included in the ILECs interstate switched access rates, AT&T believes that these elements should be eliminated immediately. The amount of WUSF support that the carrier should receive should be determined by following the principles/steps in response to questions 2 and 9.

14. Currently intrastate universal service support consists of at least two elements that are incorporated into intrastate access charges billed to intrastate interexchange carriers (the Universal Service rate element that is billed by all LECs on both originating and terminating intrastate interexchange usage and the Interim Terminating Access Charge (ITAC) that is billed only on terminating minutes by some carriers but not all). The administration of the traditional USF is currently performed by the Washington Exchange Carrier Association (WECA); but the LECs each

³¹ The CCL should also be eliminated. The local loop or “common line” connects the customer’s home or business to the LEC’s end office. The cost of the loop does not vary by usage.³¹ LECs incur local loop costs for each subscriber by virtue of that subscriber’s interconnection into the local network. The per-minute CCL charge was created as a mechanism to aid in recovery of some loop costs. These costs, however, are LEC costs, regardless of whether they are recovered directly from end users or recovered indirectly through long distance carrier payments.

³² The Traditional USF rate element is billed by LECs on both originating and terminating intrastate switched access; the ITAC is billed on terminating minutes by some, but not all, LECs.

administer their own ITACs. Should WECA continue to administer all of the ITACs in conjunction with the Traditional USF? Should WECA continue to administer any USF (traditional or otherwise)? Should the WECA Board be expanded to include the interests of contributors?

As described in response to question 13, the Traditional USF and the ITAC should be eliminated and any support requirements for an ILEC should be transitioned to the WUSF.

WECA should not administer the new WUSF. WECA is only authorized to administer its access charge pools consistent with its administration plan on file with the Commission. That plan is attached to the Ninth Supplemental Order (“Plan”) in UT-971140. The Plan itself allows for its adjustment, and potentially its elimination, at such time as the “legislature adopts legislation authorizing a new universal service program that applies to WECA’s members and such new universal service plan has been implemented.”³³

AT&T, however, would not oppose a proposal by WECA to continue to pool the access revenues of their members at the revised levels described herein.

15. In designating entities to be eligible for WUSF funding, should there be an eligible telecom carrier (ETC) designation process that is distinct from the existing federal ETC designation process, or should they be combined?

The process to determine which carriers are eligible to receive support from the WUSF should be determined in accordance with the steps outlined in response to questions 2 and 9. As the existing federal ETC designation process has different requirements that process should be separate from the process utilized to determine WUSF support.

16. What other kind of oversight, if any, should the UTC have over administration of the WUSF?

The Commission should utilize a competitive process to select a neutral, third party administrator to administer the fund. The Commission should also establish standards so that it or a third party can review compliance with the WUSF.

³³ See Plan at 1-2, para. 4.

Attachment A

The Consumer Benefits of Regulatory Access Reform in Washington

Debra J. Aron¹

I. Economic Principles Predict and Actual Pricing Behavior Shows that Intrastate Access Reform Brings Benefits to Consumers

Reforming intrastate access rates in Washington by reducing the implicit subsidies embedded in the current rates and moving the rates closer to cost would bring significant benefits to Washington citizens. Intrastate access reform would reduce the prices that consumers pay for intrastate long distance service, would create a more level playing field upon which wireline telephone services compete with other communications technologies, would more closely align incentives to invest in different technologies—including broadband technologies—with their relative values to consumers, and would dampen incentives for industry participants to engage in wasteful arbitrage activities.

Economic theory predicts, and data across 50 states and several years demonstrate, that where and when switched access fees have been reduced, long distance rates have fallen significantly, benefiting consumers and businesses. As a matter of economic principle, one would expect that decreases in intrastate access rates would result in decreases in retail intrastate long distance prices. This is because a rational, profit maximizing company will decrease its price when the variable cost of an input such as access decreases. When a company's variable cost falls, that company will *increase* its profits by *decreasing* its price; and this is true even if a company has no competition at all. The incentive of a company to decrease its price in response

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to a decrease in its variable costs does not depend on the forces of competition, but merely in self-interested profit maximization. Competition, however, reinforces the impetus to decrease price when costs fall. Long distance markets are highly competitive, and therefore are subject to the reinforcing effects of competitive forces and simple profit maximization incentives.

The amount by which decreases in variable costs affect retail prices depends on, among other factors, the proportion of total costs that the variable cost represents. Intrastate access fees are the single most important component of the overall cost of providing in-state long-distance service, representing as much as 75% of the retail price that customers pay for it. Hence, a decrease in intrastate access rates would be expected to have a material impact on retail intrastate long distance prices.

The actual impact of access fee reductions on long distance prices can be seen by looking at interstate long distance rates. Based on FCC data, between 1996 and 2006, average interstate switched access fees nationwide fell by 4.6 cents per minute due to FCC intervention.² During that same time, the average interstate long distance price fell by *nine* cents per minute, which is nearly double the decline in the average access rate.³ Interstate long distance prices were unregulated during that time period; hence, the decline in price was not due to regulatory intervention but to profit maximization and competitive market forces.

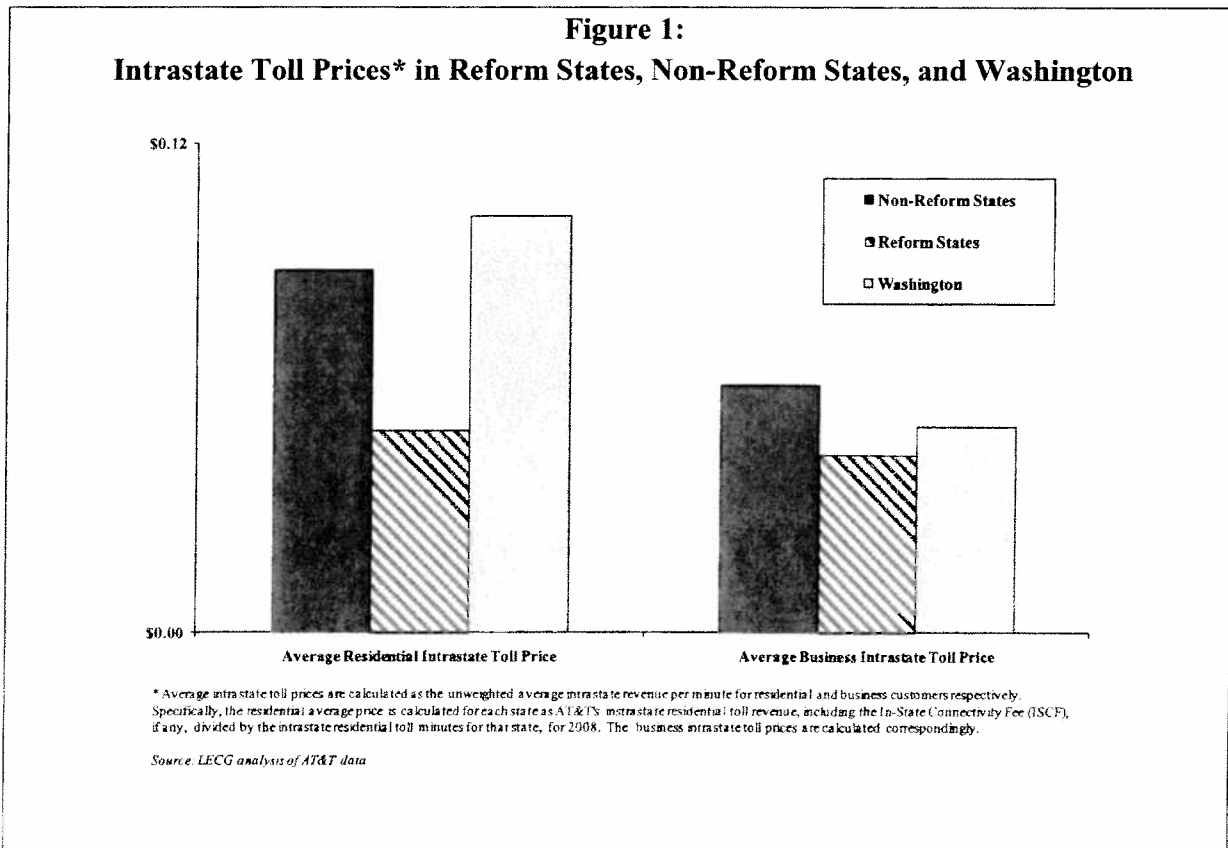
I have examined state-specific AT&T data on AT&T's actual average retail prices paid by its customers for intrastate long distance service in each of the 50 US states, over a period of five years (2004-2008), as well as the average intrastate access rates that AT&T paid in each state. I identified in each state whether that state has undergone access reform and if so, when. I

² 2008 FCC Trends in Telephone Service Table 1.2.

³ 2008 FCC Trends in Telephone Service, Tables 1.2, 13.4.

defined states as having undergone “access reform” as those states in which the largest ILEC mirrors its intrastate access rates to its interstate access rates.

Figure 1 presents graphically the average intrastate toll prices charged by AT&T to business and residential customers in “reform” and “non-reform” states. I have also represented the average prices charged in Washington State. As the figure makes clear, and consistent with the economic principles I just discussed, retail prices charged by AT&T for intrastate long distance service are substantially higher both for residential and for business customers in states that have not undergone access reform. Moreover, prices in Washington State are substantially higher than the average prices in reform states, especially for residential customers. The figure illustrates the substantial potential for consumer benefits that could be generated from access reform in Washington.



According to the data, AT&T's retail intrastate long distance prices are on average 31 percent lower in the states that have undergone access reform as compared to states that have not. Moreover, considering residential rates alone, intrastate long distance prices paid by residential customers are on average over 40 percent lower in states that have undergone intrastate access reform than in non-reform states.

In order to quantify the overall relationship between access rates and retail prices, I conducted statistical analysis on the 50-state data. Based on state-specific AT&T data for each of the 50 states over the period 2004 to 2008, in states and time periods in which AT&T's average intrastate access expense was higher, its average intrastate long distance prices tended to be significantly higher; where average intrastate access expense was lower, average intrastate long distance prices tended to be significantly lower. Specifically, statistical analysis of AT&T's data shows that on average in states that have undergone access reform, approximately 100% of the decreased access expenses are passed through to customers.⁴ This means that on average, if a reform state's intrastate access cost is lower by one cent per toll minute, its retail intrastate long distance prices are lower by one cent per toll minute.

II. Regulatory Flow-Through Requirements Have No Incremental Benefit And Are Likely To Do More Harm Than Good

Where market forces are effective, they are able to generate social welfare benefits for consumers that regulation generally cannot provide. Unlike regulator-set prices, for example, market-based prices can respond to changes in market demand and cost conditions in real time,

⁴ Debra Aron, et al. "An Empirical Analysis of Regulator Mandates on the Pass Through of Switched Access Fees for In-State Long-Distance Telecommunications in the U.S."

can reflect new information that arrives in the market continually, can be modified as new products and services become available or popular, and can react to the pricing innovations of competitors. Hence, where the market mechanism appears to be working effectively, superimposing regulatory requirements is likely to be counterproductive because such requirements can place a straightjacket on pricing strategies that prevent them from fully responding to consumer demands and other nuances of the market.

To test whether the market appears to be fully effective in protecting consumer interests, I tested whether AT&T's propensity to pass through access rate reductions has differed in states in which AT&T bears a regulatory requirement to pass through access rate reductions to consumers, relative to states in which there is no passthrough requirement.⁵ I again conducted standard statistical tests on the 50-state, 5-year AT&T data set I referenced earlier. The results show that in states that have undergone access reform, access rate reductions are passed through equally on average in states that have no regulatory "passthrough" mandates as in those that do. I interpret this result to mean that in states that have undergone access reform, the market and the company's incentives for profit maximization are fully effective in inducing full passthrough to customers of reductions in intrastate access rates, and regulatory passthrough mandates have no positive incremental effect.

In light of these results, I believe that passthrough mandates are ill-advised. The data show that they are unnecessary for protecting customer welfare. Imposing such mandates is not necessarily a benign—if ineffective—extra safeguard, however. There are two reasons that

⁵ By "regulatory requirement" I refer to any circumstance in which AT&T bears an obligation to decrease consumers' prices to reflect a decrease in the rates AT&T pays for switched access service. Such an obligation may be the result of a requirement imposed by regulators, a requirement imposed by legislation, or a voluntary commitment made to the regulators by AT&T. I treat all such circumstances as a regulatory requirement to pass through access rate reductions.

unnecessary mandates may cause affirmative harm. First, they may interfere with the way that access rate reductions are passed through to most effectively meet customer demand. And second, the less they interfere with market-driven pricing, the more costly they would be in terms of regulator resources to measure and verify.

A rational IXC will respond to a reduction in access rates by reducing retail prices, but how it reduces its retail prices could take many forms. For example, it could offer discounts on existing plans; it could focus greater resources on encouraging new customers to purchase existing discounted rate plans; it could focus greater resources on encouraging customers to switch from existing higher-priced to lower-priced rate plans; it could introduce new rate plans while keeping the old ones; it could grandfather certain higher-priced existing rate plans while not introducing new plans; it could reduce volume-sensitive (per minute) rates on existing plans; it could reduce non-volume-sensitive rates on existing plans; it could increase the number of minutes offered for a given flat price; it could expand the times of day in which lower rates apply; or any number of other possibilities. Any or all of these rate changes would decrease the average price paid by customers for long distance services. I would expect an IXC to attempt to monitor the pricing changes of its competitors and to engage in a certain amount of market research and trial and error to determine which kinds of rate plan changes would be most effective at profitably attracting more customers in response to its lower costs. Like any rate change the effects on customers' demand and usage, and therefore the effect on average and total retail revenues, would be uncertain for the IXC and variable over time.

Seen in this context, the potentially harmful effects of a passthrough requirement become apparent. A responsible regulatory mandate should be enforceable, and that means that it must be feasible for the regulator to determine whether the carrier complied with the requirement. If

the mandate is highly prescriptive (for example, that specific regulator-identified price plans must be reduced by a certain amount), it may be more readily determined whether the mandate was complied with; but at the cost of greater potential distortion and interference with the ability of the carriers to establish pricing plans that respond to each other and to market demand. If the mandate is less prescriptive (for example, requiring that the access reduction be passed through on average, in whatever way the carrier deems most appropriate), it has less distorting effect on pricing strategies, but it is more costly for the regulator to determine whether the mandate was complied with.

Quantifying the amount by which actual access rate reductions were “passed through” in a particular state such as Washington in order to assess whether the pass through meets a given standard would require a resource-intensive and costly analysis, and achieving results with high degrees of confidence may in fact be impossible.⁶ It is not a mechanical exercise, and determining whether the pass through actually achieved by a given carrier in a single state was really 100% or any other specific level would require a statistical analysis of pricing data and would require control variables⁷ that may or may not be available.

III. Conclusions

The evidence from actual pricing behavior over 50 states and several years is that access reform benefits customers by driving long distance prices down. This is a direct benefit to residential customers, who save money on communications services and are not unduly discouraged from using the wireline network in circumstances when it would otherwise be their

⁶ This exercise is significantly more challenging than testing whether decreased access rates cause retail rates to fall on average, as I did, because the latter can be tested by looking at the relationship between retail prices and access rates across all states and multiple time periods.

⁷ Control variables would be used to attempt to control statistically for other potential causes of the retail price changes being examined.

first choice. Access reform also imparts a direct benefit to businesses by decreasing their long distance communications costs (which in turn permits them to reduce their prices to their customers and expand their output).

Access reform provides additional social benefits as well. Access reform makes the competitive playing field more level because wireless, VoIP, and other technologies do not pay intrastate access rates to the same extent as do wireline long distance carriers, or in some cases, at all. Reducing intrastate access rates therefore reduces the regulator-created cost disadvantage for wireline service *vis-à-vis* other technologies, created by artificially high access rates, and facilitates competition across technologies on the basis of their genuine relative efficiencies, costs, and features.

In addition, access reform promotes investment in different technologies on the basis of their relative economic merits rather than on the basis of regulatory advantages or disadvantages. Investment is driven by future expected profitability of the services supported by the investment. Reducing an artificial disadvantage for one technology over others promotes more efficient decisions as investors choose where to allocate their scarce resources.

Finally, artificially high access rates create the incentive for socially wasteful arbitrage opportunities, and access reform therefore reduces or eliminates these socially wasteful activities. Arbitrage opportunities that result from excessive access rates include call-pumping (e.g., sham businesses paying kickbacks to people to call into chat rooms set up to drive access charges against long distance providers) and traffic shifting (misrepresenting traffic to appear to fall into a more favorable regulatory jurisdiction). Resources that are devoted to policing against these activities, or to monitoring traffic to detect or discipline them, could be redirected to more productive uses if arbitrage opportunities were reduced or eliminated via access reform.

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RESEARCH INTERESTS

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PUBLICATIONS AND WORKING PAPERS

“An Empirical Analysis of Regulator Mandates on the Pass Through of Switched Access Fees for In-State Long-Distance Telecommunications in the U.S.,” with David E. Burnstein, Ana Danies, and Gerry Keith, accepted for presentation at The 38th Research Conference on Communication, Information and Internet Policy (Telecommunications Policy

Research Conference), October 1-3, 2010, George Mason University Law School, Arlington, Virginia.

“Regulatory Policy and the Reverse Cellophane Fallacy,” with David E. Burnstein, *Journal of Competition Law and Economics* 2010; doi: 10.1093/joclec/nhp033.

“Investment in Next Generation Networks and Wholesale Telecommunications Regulation,” with Robert W. Crandall, November 3, 2008, <http://ssrn.com/abstract=1294910>.

“Pricing Principles and Pricing Methodologies for Essential Facilities,” May 2008.

Contributing author, *ABA Section of Antitrust Law, Telecom Antitrust Handbook, (2005)*, (Chicago: American Bar Association), 2005.

“The Proper Treatment of Spare Network Capacity in Regulatory Cost Models,” with Ana Danies, May 2005.

“State Commissions Systematically Have Set UNE Prices Below Their Actual Costs,” with Frank Pampush and E. Gerry Keith, 2004.

“Broadband Adoption in the United States: An Empirical Analysis,” with David E. Burnstein, in *Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies*, Allan Shampine, ed., (Nova Science Publishers, Hauppauge, NY, 2003).

“Developments in the Theory of Vertical Foreclosure as Applied to Regulated Telecommunications Markets” (March, 2002), Prepared for Presentation at The American Bar Association Section of Antitrust Law, 50th Annual Spring Meeting.

“Modifications at HHIs for Vertical Supply Relationships” with Wenqing Li and James Langenfeld, White Paper submitted to European Commission, February 2000.

“Economic Theories of Tying and Foreclosure Applied—And Not Applied—in *Microsoft*,” with Steven S. Wildman, *Antitrust*, vol. 14, no. 1, 1999, pp.48-52.

“Effecting a Price Squeeze Through Bundled Pricing,” with Steven S. Wildman, in *Competition, Regulation, and Convergence: Current Trends in Telecommunications Policy Research*, Gillett and Vogelsang, eds. (New Jersey: Lawrence Erlbaum Associates, Inc.) 1999, pp. 1-17.

“Worldwide Wait? How the Telecom Act’s Unbundling Requirements Slow the Development of the Network Infrastructure,” with Ken Dunmore and Frank Pampush, *Industrial and Corporate Change*,” vol.7, no. 4, 1998, pp. 615-621.

“The Pricing of Customer Access in Telecommunications,” with Steven S. Wildman, *Industrial and Corporate Change*, vol. 5, no. 4, 1996, pp. 1029-1047.

“Bonus and Penalty Schemes as Equilibrium Incentive Devices, With Application to Manufacturing Systems,” with Pau Olivella, *Journal of Law, Economics, and Organization*, 10, Spring 1994, pp. 1-34.

“Diversification as a Strategic Preemptive Weapon,” *Journal of Economics and Management Strategy*, 2, Spring 1993, pp. 41-70.

“Using the Capital Market as a Monitor: Corporate Spin-offs in an Agency Framework,” *RAND Journal of Economics*, 22, Winter 1991, pp. 505-518.

“Firm Organization and the Economic Approach to Personnel Management, *American Economic Review*, vol. 80, no. 2, May 1990, pp. 23-27.

“The Introduction of New Products,” with Edward P. Lazear, *American Economic Review*, vol. 80, no. 2, May 1990, pp. 421-426.

“Ability, Moral Hazard, Firm Size, and Diversification,” *RAND Journal of Economics*, 19, Spring 1988, pp. 72-87.

“Worker Reputation and Productivity Incentives,” *Journal of Labor Economics*, vol. 5, no. 4, October 1987, part 2, pp. S87-S106.

“The Role of Managerial Ability and Moral Hazard in the Determination of Firm Size, Growth and Diversification,” Ph.D. Dissertation, University of Chicago, August 1985.

REPRESENTATIVE PRESENTATIONS

“Pricing Principles and Pricing Methodologies for Essential Facilities,” The 36th Research Conference on Communication, Information and Internet Policy (TPRC), September 27, 2008.

“Regulatory Policy and the Reverse Cellophane Fallacy,” with David E. Burnstein, 17th Biennial International Telecommunications Society Conference, Montréal, Québec, Canada, June 24-27, 2008.

“The Use of Economic Analysis in ‘Industry Expert’ Testimony,” CLE course, XPRT Forum, March 7, 2008.

Presentations to the New Jersey Board of Public Utilities and to the New Jersey Legislature’s Telecommunications Utilities Committee regarding the economic principles for a forward-looking regulatory agenda in light of the facts of competition nationwide and in New Jersey, and the costs of regulation, October – November 2006.

“The Interaction of Regulation with Economics and Financial Analysis in Litigation, Policy, and Strategy Consulting,” CLE course, XPRT Forum, October 7, 2006.

“Comments on ‘Economic Analysis in FCC Merger Proceedings,’” Conference on Economic Analysis and FCC Decisionmaking, presented by the Federal Communications Bar Association (FCBA) and Stanford Institute for Economic Policy Research (SIEPR), Washington D.C., March 15, 2006.

“Economic Principles for Consumer Protection Rules,” Pri Telecom / Tech Briefing, Santa Clara, California, October 11, 2005.

“The Proper Treatment of Spare Network Capacity in Regulatory Cost Models,” Presentation at the Advanced Workshop in Regulation and Competition, Center for Research in Regulated Industries, Skytop, Pennsylvania, May 2005.

“Telecommunications Regulation: What’s Obsolete? What Will Become Obsolete?” Presentation at the State and City Telecom Reform Conference, Heartland Institute, Chicago, Illinois, December 2004.

- “Trends in Telecommunications Demand & Supply,” Presentation at the 46th Annual NARUC Regulatory Studies Program, Michigan State University, August 2004.
- “The Economic Costs of Proposed Wireless Regulations in California,” Presentation to Commissioners Brown and Kennedy, California Public Utilities Commission, San Francisco, California, April 2004.
- “The Economics of UNE Pricing: Presentation to Staff,” Ex parte presentation to the staff of the FCC, in FCC WC Docket No. 03-173: Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, March 2004.
- “The High Cost of Proposed New Wireless Regulations,” Presentation to the Pacific Research Institute conference “Regulating Wireless in California: Bill of Rights... or Wrongs?,” San Francisco, April 2003.
- “The TELRIC Showdown,” Panelist, NARUC Staff Subcommittee on Telecommunications, 2002 Annual Convention, Chicago, Illinois, November 2002.
- “Economic Principles for Efficient Pricing of Municipal Rights-of-Way,” National Association of Telecommunications Officers and Advisors (NATOA), Chicago, Illinois, September 2002.
- “Trends in Voice and Broadband Competition in Telecommunications Markets: Markets, Strategies, and Regulation,” 82nd Annual Convention of the Indiana Telecommunications Association, Lexington, Kentucky, June 2002.
- “Broadband Deployment in the United States,” Emerging Opportunities in Broadband Symposium, Northwestern University, Evanston, Illinois, December 2001.
- “Local Competition in Illinois,” Illinois Telecommunications Symposium, Northwestern University, Evanston, Illinois, December 2000.
- “Licensing and Access to Innovations in Telecommunications and Information Services,” Telecommunications Policy Research Conference, Alexandria, Virginia, September 2000.
- “Effecting a Price Squeeze Through Bundled Pricing,” Federal Communications Commission, Washington, D.C., May 1999.
- “Competitive and Strategic Use of Optional Calling Plans and Volume Pricing Plans,” The Institute for International Research Conference for Competitive Pricing of Telecommunications Services, Chicago, Illinois, July 1998.
- “Effecting a Price Squeeze Through Bundled Pricing,” Consortium for Research in Telecommunications Policy Conference, University of Michigan, Ann Arbor, Michigan, June 1998.
- “The Pricing of Customer Access in Telecommunications,” Conference on Public Policy and Corporate Strategy for the Information Economy, Evanston, Illinois, May 1996.
- “Diversification as a Strategic Preemptive Weapon,” University of Iowa, Iowa City, Iowa, February 1994.

“Diversification as a Strategic Preemptive Weapon,” University of Buffalo, Buffalo, New York, February 1994.

“Diversification as a Strategic Preemptive Weapon,” University of Southern California, Los Angeles, California, December 1993.

“Strategic Pricing,” Winter Meetings of the Econometric Society, Discussant, Anaheim, California, December 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Michigan State University, Lansing, Michigan, November 1993.

“Diversification as a Strategic Preemptive Weapon,” Rutgers University, New Brunswick, New Jersey, November 1993.

“Diversification as a Strategic Preemptive Weapon,” University of California at Santa Cruz, Santa Cruz, California, November 1993.

“Diversification as a Strategic Preemptive Weapon,” Graduate School of Business, Stanford University, Stanford, California, November 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Purdue University, West Lafayette, Indiana, September 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Summer Meetings of the Econometric Society, Boston University, Boston, Massachusetts, June 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” University of California, Department of Economics, Berkeley, California, May 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Stanford University, Graduate School of Business, Stanford, California, May 1993.

“Diversification as a Strategic Preemptive Weapon,” Stanford University, Graduate School of Business, Stanford, California, April 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Hoover Institution, Stanford, California, April 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” University of California, Graduate School of Business, Berkeley, California, February 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Stanford University, Department of Economics, Stanford, California, February 1993.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” Hoover Institution, Stanford, California, January 1993.

“Pricing Strategies,” Session Discussant, 1992 North American Winter Meeting of The Econometric Society, Anaheim, California, January 1992.

“Diversification as a Strategic Preemptive Weapon,” University of Toronto, Toronto, Canada, November 1991.

“Diversification as a Strategic Preemptive Weapon,” Queen’s University, Kingston, Ontario, Canada, November 1991.

“Bonuses and Penalties as Equilibrium Incentive Devices, with Application to Manufacturing Systems,” University of Chicago, Chicago, Illinois, June 1991.

“The Timing of Entry into New Markets,” Summer Meetings of the Econometric Society, University of Pennsylvania, Philadelphia, Pennsylvania, June 1991.

“Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets,” University of Chicago, Chicago, Illinois, April 1991.

“Bonuses and Penalties as Equilibrium Incentive Devices, with Application to Manufacturing Systems,” Winter Meetings of the Econometric Society, Washington, D.C., December 1990.

“Corporate Spin-offs in an Agency Framework,” University of Washington, Seattle, Washington, October 1990.

“The Timing of Entry Into New Markets,” University of British Columbia, Vancouver, British Columbia, October 1990.

“Corporate Spin-offs in an Agency Framework,” Texas A&M University, College Station, Texas, April 1990.

“Firm Organization and the Economic Approach to Personnel Management,” Winter Meetings of the American Economic Association, New York, New York, December 1989.

“Corporate Spin-offs in an Agency Framework,” Western Finance Association Meetings, Seattle, Washington, June 1989.

“Corporate Spin-offs in an Agency Framework,” University of Rochester, Rochester, New York, May 1989.

“Corporate Spin-offs in an Agency Framework,” North American Summer Meetings of the Econometric Society, Minneapolis, Minnesota, June 1988.

“Competition, Relativism, and Market Choice,” North American Summer Meetings of the Econometric Society, Berkeley, California, June 1987.

“Competition, Relativism, and Market Choice,” University of Chicago, Chicago, Illinois, April 1987.

“Rate Reform and Competition in Electric Power,” Discussant, Conference on Competitive Issues in Electric Power, Northwestern University, Evanston, Illinois, March 1987.

“Worker Reputation and Productivity Incentives,” New Economics of Personnel Conference, Arizona State University, Tempe, Arizona, April 1986.

“Ability, Moral Hazard, and Firm Diversification,” Various Universities, 1985, 1994, including Yale University, University of Rochester, Stanford University, University of Minnesota, California Institute of Technology, Duke University, Northwestern University, Brown University, Harvard University, University of California - Los Angeles, University of Pennsylvania.

ACADEMIC JOURNAL REFEREEING

Dr. Aron has served as a referee for *The Rand Journal of Economics*, *the Journal of Political Economy*, *the Journal of Finance*, *the American Economic Review*, *the Quarterly Journal of Economics*, *the Journal of Industrial Economics*, *the Journal of Economics and Business*, *the Journal of Economic Theory*, *the Journal of Labor Economics*, *the Review of Industrial Organization*, *the European Economic Review*, *the Journal of Economics and Management Strategy*, *the International Review of Economics and Business*, *the Quarterly Review of Economics and Business*, *Management Science*, *the Journal of Public Economics*, *the Journal of Institutional and Theoretical Economics*, and the National Science Foundation.

SELECTED TESTIMONY AND OTHER ENGAGEMENTS

Expert testimony before the Arizona Corporation Commission regarding the regulatory history of the US switched access regime and the effects on consumers and competition of modifying intrastate switched access prices, March 2010.

Deposition testimony on damages in a matter before the United States District Court, Western District of Texas, Austin Division, regarding intercarrier “access fees” for exchange of Internet Protocol telecommunications traffic, October 2009.

Expert testimony before the New Jersey Board of Public Utilities regarding intrastate switched access charges and retail rate rebalancing, September 2009.

Expert testimony before the Circuit Court for the Third Judicial Circuit, Madison County, Illinois in class action matter pertaining to allegations that a statutory refund required of defendant telephone company was improperly distributed, October 2009.

Advice and presentation to executives of a large Israeli telecommunications company regarding the Israeli regulatory regime, unbundling obligations, pricing, costing, and competitive reform, February 2009.

Deposition testimony in a matter before the Delaware Circuit Court regarding a contractual dispute between wireless telecommunications companies, on the issue of irreparable harm pertaining to alleged violation of exclusive territory provisions, November 2008.

Written expert evidence before the Canadian Radio-television and Telecommunications Commission in the matter of an application to expand the unbundling obligations of the ILECs for the provision of certain broadband services; regarding the effects of the requested unbundling obligations on competition, investment, and social welfare in Canada, July 2008.

Deposition and jury trial testimony in a matter before the Superior Court of the State of California, County of Los Angeles on the telecommunications business environment and viability of particular telecommunications business models in the late 1990s/early 2000s in a matter regarding an alleged breach of contract in the mobile satellite services industry, April/July 2008.

Written expert declarations before the California Public Utilities Commission in the matter of a rulemaking regarding whether to adopt, amend, or repeal regulations governing the retirement by incumbent local exchange carriers of copper loops and related facilities used to provide telecommunications services; regarding the effects of copper retirement regulation on investment incentives for next generation networks, January 2008.

Analysis of US and global subsea telecommunications fiber capacity investments and swap arrangements during the late 1990s and early 2000s, in a litigation matter alleging failure of defendant to disclose material information to plaintiffs (case settled before expert disclosure), 2008.

Written testimony before the Public Utility Commission of Texas regarding the regulatory philosophy of universal service policy, and competitive implications of proposed universal service distribution mechanisms, November 2007.

Expert evidence before the Canadian Radio-television and Telecommunications Commission regarding the economically appropriate methodology for pricing wholesale telecommunications services and essential facilities, October 2007.

Expert testimony before the Indiana Utility Regulatory Commission regarding the competitive effects on a new entrant in the video services marketplace of disclosure of highly detailed deployment data, August 2007.

Deposition testimony in a matter before the Oklahoma Court of Tax Review regarding the market factors affecting valuation of telecommunications assets during the relevant tax year of the dispute, June 2007.

Written evidence before the Canadian Radio-television and Telecommunications Commission regarding the proper economic principles that should govern determination of regulatory costs, and the effects of regulatory cost determination on economic efficiency and competition, May 2007.

Expert testimony before the New Jersey Board of Public Utilities regarding its review of telecommunications regulations and proposal to establish new regulations on incumbent and competitive wireline carriers, March 2007.

Analysis of competitive effects and effects on consumer welfare of deployment of IP video services in competition with incumbent video services providers, 2007.

Damages analysis as consulting expert in an international arbitration matter regarding disputed availability of and access to subsea and terrestrial telecommunications fiber capacity from mid 1990s through mid 2000s, with focus in Asia and Europe, 2007.

Expert testimony before the Michigan Public Service Commission regarding the competitive effects of total service resale of telecommunications services, and restrictions on resale pertaining to aggregation of demand for volume discounts, November 2006.

Preliminary Expert Report of Debra J. Aron, "The U.S. Long-haul Fiber Optic Network Industry: 1996-2001," in a matter in the Superior Court of the state of California involving disputed investment in long haul capacity in the U.S., June, 2006.

Expert testimony before the Kentucky Public Service Commission, Tennessee Regulatory Authority, and Mississippi Public Service Commission regarding the competitive effects of the proposed AT&T acquisition of BellSouth, June 2006.

Deposition testimony in a matter before the Oklahoma Court of Tax Review regarding the status of competition for wireline local exchange telephone service in Oklahoma and the likely economic effect of such competition on the forward looking value of company assets, March 2006.

Expert testimony before the California Public Utilities Commission regarding the competitive landscape in California and the desirability of establishing a Uniform Regulatory Framework for the telecommunications industry in the state of California, February 2006.

Deposition testimony and trial testimony in the Court of Chancery in the state of Delaware In and For New Castle County and in Circuit Court of Cook County, Illinois County Department, Chancery Division, regarding the possibility of "irreparable harm" to Sprint Nextel's wireless affiliates in connection with Sprint's acquisition of Nextel Corporation, November 2005 – July 2006.

Expert testimony before the California Public Utilities Commission and the Public Utilities Commission of Ohio evaluating the economic benefits and competitive impacts of the proposed acquisition of AT&T by SBC, June–August 2005.

Expert testimony before the Oklahoma Corporation Commission regarding the proper economic principles for reduced regulation of retail telecommunications services and regarding the determination of the amount of a supersedeas bond to quantify the economic harm likely to result from the award of a stay of Commission order that would grant pricing flexibility and require broadband investment, June – August 2005.

Expert testimony before the Kansas Corporation Commission regarding the sustainability of competition in communications markets in Kansas, June 2005.

Cost and economic analysis for a large telecommunications firm regarding tariffed volume and term-discounted pricing plans for special access services based on regulatory requirements for consistency of prices with cost structure, March 2005.

Expert testimony before the Missouri Public Service Commission evaluating the potential competitive reclassification of local telephone service in Missouri, January 2005.

Expert testimony before the Public Utilities Commission of Ohio and the Public Service Commission of Wisconsin regarding the effects of UNE pricing on the competitive telecommunications markets, July 2004.

Expert testimony before the Florida Public Service Commission and the Georgia Public Service Commission, written expert testimony before the public utilities commissions in Mississippi, Alabama, North Carolina, South Carolina, Tennessee, and Kentucky, and deposition testimony, regarding the proper principles for determining which network elements should be provided to competitors on an unbundled basis at regulated rates; including testimony in support of a business case model of the viability of efficient competitive entry in specific geographic markets in each aforementioned state, January-March 2004.

Ex parte presentation “The Economics of UNE Pricing,” to the Federal Communications Commission staff, with William Rogerson, March 2004.

White Papers, “The Economics of UNE Pricing,” December 2003, and “A Further Analysis of the Economics of UNE Pricing,” January 2004, with William Rogerson, submitted to the Federal Communications Commission in FCC WC Docket No. 03-173: Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers.

White Paper, “The Effects Of Below-Cost TELRIC-Based UNE Prices On CLEC And ILEC Investment,” submitted to the Federal Communications Commission in FCC WC Docket No. 03-173: Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, January 2004.

Expert testimony before the Illinois Commerce Commission regarding the proper determination of Total Element Long Run Incremental Cost (TELRIC) for establishing prices for network elements, March 2004.

Expert testimony before the Illinois General Assembly regarding the effects of current regulated UNE pricing of telecommunications elements on competitive telecommunications markets in Illinois, May 2003.

Expert testimony before the Public Utilities Commission of Ohio on issues related to rights-of-way fees charged to electric, water, and telecommunications companies in the City of Toledo, Ohio, March 2003.

Reports evaluating the cost impacts and public policy implications of the proposed California Consumer Protection rules on wireless carriers and customers, February 2003 and September 2003.

Expert testimony before the state regulatory commissions in Ohio, Illinois, Indiana, and Kansas on the economic principles for evaluating anticompetitive claims regarding “winback” pricing by incumbent telecommunications carriers, 2002 - 2003.

Report pertaining to the economic and antitrust analysis of price squeezes, and the suitability of imputation rules as a protection against an anticompetitive price squeeze, for a carrier in a foreign market, 2002.

Expert testimony before the Michigan Public Service Commission pertaining to allegations of anticompetitive effects of long term contracts, 2002.

For a small manufacturer of telecommunications equipment, consulting support to evaluate the antitrust implications of a proposed acquisition, 2002.

White Paper submitted to the Texas Public Service Commission pertaining to the competitive effects of “winback” and “retention” pricing, 2002.

In Order Instituting Rulemaking on the Commission’s Own Motion to Assess and Revise the new Regulatory Framework for Pacific Bell and Verizon California Incorporated, written declaration submitted to the California Public Utilities Commission pertaining to the economic incentives created by modifications to the State’s alternative regulation plan and competitive reclassification of services, 2002.

Statement to the Federal Communications Commission regarding the potential economic causes of sustained price increases for cable television services, 2002.

Expert testimony before the Kansas Corporation Commission regarding the antitrust principles relevant to establishing rules for competitive reclassification of services under governing state law, 2002.

For a national wireless telecommunications carrier, consulting support pertaining to litigation regarding access charges, 2001.

Expert testimony before the Missouri Public Service Commission pertaining to price squeeze allegations in the long-distance market, 2001.

Expert affidavit submitted to the Circuit Court in the state of Wisconsin, pertaining to irreparable harm caused if court declined to grant a stay of disputed performance remedy plan, 2001.

Expert testimony before the public utilities commissions of Illinois, Ohio, California, and Indiana, pertaining to the economic viability of constructing and provisioning ADSL services, including market definition and examination of competitive conditions, 2001.

Expert testimony before the Illinois Commerce Commission pertaining to the proper economic principles governing unbundling obligations, 2001.

In the matter of H & R Mason Contractor’s et al. v. Motorola, Inc. et al., before the Circuit Court of Cook County, Illinois, expert affidavit examining the economic impediments to class certification, focusing on the determinants of price in the relevant equipment markets, April 2001.

For a competitive local exchange provider in a foreign market, consulting support regarding the proper determination of avoided costs for resale of incumbent services, April 2001.

For a major Japanese telecommunications equipment manufacturer, evaluated the revenue potential and desirability of entering several advanced services equipment markets worldwide, for the purposes of assisting the client to evaluate a proposed acquisition, February 2001.

Expert testimony in the Illinois Commerce Commission's Investigation Into Certain Payphone Issues, examined the economic and public policy issues pertaining to pricing of access lines for independent pay telephone providers, April 2001.

In the matter of the Illinois Public Utility Commission's Investigation Into Tariff Providing Unbundled Local Switching And Shared Transport, expert testimony regarding economic antitrust perspectives on obligations of firms to affirmatively help their competitors, and related public policy issues, April 2001.

In response to Request for Consultations by the U.S. Trade Representative (USTR) with the Government of Mexico before the World Trade Organization (WTO) regarding barriers to competition in Mexico's telecommunications market, analyzed regulated switched access rates in the U.S. in comparison with those charged by Telmex, November 2000.

Declaration submitted to the Texas Public Utility Commission, analyzed proposed regulation aimed at preventing incumbents from executing a price squeeze; developed a framework for evaluating claims of a price squeeze consistent with antitrust principles of predation, August 2000.

For a taxicab company, analysis of regulatory requirements in the City of Chicago pertaining to valuation of medallions and valuation of capital for purposes of regulatory ratemaking proceeding, 2000.

Written and oral testimony before the public utility commissions of Illinois and Michigan in various arbitration matters pertaining to the proper compensation for the use by competitors of client's facilities for foreign exchange services, 2000.

For a firm in the aluminum fabrication industry, in the matter of a potential merger between vertically integrated competitors, developed a methodology for adjusting the HHI measure of market concentration to account for the vertical control by the merging parties of downstream competitors, 2000.

For a large newspaper publisher, in the possible acquisition of the San Francisco Chronicle, analyzed the potential antitrust impediments to an acquisition by the client of the Chronicle, including issues of geographic and product market definition, the interplay between advertising markets and customer markets, and the relevant implications of the Newspaper Preservation Act, 1999.

Testimony before the Illinois Commerce Commission regarding the proper economic interpretation of the standards for declaring a service competitive under the Illinois Public Utilities Act, and quantification of the extent of competition in relevant Illinois markets, including discussion of market definition; the relevance of entry conditions; the relevance of resale competition and analysis of various resale entry strategies; the interdependence of resale and facilities-based entry strategies; and implementation of a technology-based method of measuring market participation, 1999-2000.

For a firm in the consumer mapmaking business, analyzed market definition, concentration, and efficiencies from a proposed merger, 1999.

Affidavit submitted jointly with Robert G. Harris to the Federal Communications Commission in the matter of “unbundled network elements” and commenting on the proper interpretation of the “Necessary and Impair” standard, including discussion of entry conditions and the business-case approach to valuation of an entry strategy, April 1999; reply affidavit May 1999.

Affidavit, “An Analysis of Market Power in the Provision of High-Capacity Access in the Chicago LATA,” submitted to the Federal Communications Commission, including an analysis of the US DOJ merger guidelines and their applicability to regulatory relief in a regulated market, as well as extensive empirical modeling of the costs and business case for network buildout of high capacity facilities, February 1999.

White Paper, “Proper Recovery of Incremental Signaling System 7 (SS7) Costs for Local Number Portability,” submitted to the Federal Communications Commission, April 1999.

PROFESSIONAL ORGANIZATIONS

Member, American Economic Association

Member, Econometric Society

Associate Member, American Bar Association

Past Member, Telecommunications Policy Research Conference Program Committee

June 2010

Attachment B

The following information could be requested in a data request to determine the access shift in Washington.

For 2009, and most recent data available, require LECs to provide and specifically identify and group the revenues in a matrix by (1) type of provider (CLEC/ILEC), and by (2) each rate element billed:

- (a) Total *intrastate, terminating* switched access revenues billed and intrastate access MOUs;
- (b) Total *intrastate, originating* switched access revenues billed and intrastate access MOUs;
- (c) Total *interstate, terminating* switched access revenues billed and interstate MOUs;
- (d) Total *interstate, originating* switched access revenues billed and interstate MOUs;
- (e) Please provide the work papers for the rate elements, volumes, revenues and associated calculations for (a) through (d) above in electronic/Excel format.

For 2009, and for 2010 most recent data available have carriers identify the total number of local service lines, by the following types:

- (a) Single-line residential lines;
- (b) Additional residential lines;
- (c) Single-line business lines;
- (d) Multi-line business lines; and,
- (e) Other facilities to which intrastate switched access applies, if any, not included in (a) to (d).

For each of the types of lines in #2 above, (a) to (e), for 2009, and for 2010 most recent data available, have carriers provide: the calculated weighted average local rate for:

- (a) Single-line residential lines;
- (b) Additional residential lines;
- (c) Single-line business lines;
- (d) Multi-line business lines; and,
- (e) Other facilities to which intrastate switched access applies, if any, not included in (a) to (d).