

Exhibit A

**BellSouth Reply Comments
CC Docket No. 01-337**

DECLARATION OF PROFESSOR ROBERT G. HARRIS

April 22, 2002

DECLARATION OF PROFESSOR ROBERT G. HARRIS

April 22, 2002

I. QUALIFICATIONS AND SUMMARY

1. I, Robert G. Harris, am Professor Emeritus at the Walter A. Haas School of Business, University of California, Berkeley and a Director at LECG, the law and economics consulting group. I earned Bachelor of Arts and Master of Arts degrees in Social Science from Michigan State University and Master of Arts and Doctor of Philosophy degrees in Economics from the University of California, Berkeley. At Berkeley, I taught undergraduate, MBA and doctoral courses in managerial economics; business and public policy; industry analysis and competitive strategy; and telecommunications economics, policy and strategy. In addition, I have conducted original academic research on antitrust, regulation, telecommunications, and transportation on competition and regulatory policy, technological innovation, competitive strategy, telecommunications and transportation. This research has been published in more than 50 articles in refereed academic journals of business, economics, law, management and public policy.

2. I have testified before Congress, state legislatures, the Federal Communications Commission, Interstate Commerce Commission, Department of Justice, Canadian Radio-TV Commission, the Secretariat of Communications and Transportation of Mexico, 27 state regulatory commissions and numerous State and Federal Courts on competition, interconnection pricing and costing, intellectual property and other public policy matters. As the Deputy Director of the Interstate Commerce Commission, I played an instrumental role in the implementation of Congressional Acts deregulating the railroad and motor carrier industries. I have also been a consultant to numerous government agencies, including the Office of Technology Assessment, California and U.S. Departments of Justice, California Department of Consumer Affairs, U.S. Department of Transportation, U.S. General Accounting Office, and the

Economic Planning Agency of Japan on regulatory and competition policy in the telecommunications and transportation industries.

3. I prepared a white paper on the “Deployment of Broadband Networks and Advanced Telecommunications,” which was filed on December 19, 2001, in response to the Notice & Request for Comments (Docket No. 011109273-1273-01) by the National Telecommunications and Information Administration and was included as an attachment to the Comments of BellSouth Corporation, filed in this proceeding on March 1, 2002. My curriculum vitae was also attached to the BellSouth comments.

4. BellSouth Corporation requested LECG to conduct a business case analysis of Regional Bell Operating Company (RBOC) investment in infrastructure improvements to enable the delivery of broadband access via digital subscriber line (DSL) technology over their telephone networks. The purpose of that analysis, which is presented in Attachment 1 to this declaration, was to assess the financial returns for DSL investments and the sensitivity of those returns to possible changes in market penetration and regulatory requirements. This declaration will draw upon, and refer to, the results of that analysis, which found that, assuming “baseline” conditions and expectations, RBOCs’ investment in DSL network upgrades will not turn cash flow positive until 2004, with an accumulated \$7 billion in negative cash flow. Only after six years of positive cash flow will the RBOCs have recovered their DSL investment. The business case analysis also shows that DSL investment returns are subject to enormous market and technology risks. If, for example, RBOCs achieve a 25% lower market penetration (compared to the baseline case), they would realize \$1.2 billion less in cash flow, threatening the financial viability of those investments. RBOCs’ DSL investments are also subject to extraordinary regulatory risk: if, for example, this Commission were to impose unbundled network element platform (UNE-P) pricing of DSL service, cash flow would be reduced by \$2.5 billion through 2011, making further investments in expanding the availability of DSL a losing proposition.

5. In addition to the business case analysis, the purpose of this declaration is to reply to the comments filed by several parties in the initial round of this proceeding. As voluminous as those comments are, there is nothing in them that would surprise anyone familiar with the long history of regulation, namely, the “the private use of the public interest.” Though they offer many different arguments in support of their positions, competitors of the RBOCs seem to agree that more regulation of the RBOCs is better. There is no doubt that continued – much less heightened – regulation of DSL services and RBOC networks serves the private interests of their competitors. But there is also no doubt about what would serve the public interest: the road to more and faster broadband access, enhanced facilities-based competition and increased investment in telecommunications infrastructure is paved with innovation and incentives – NOT with regulation.

6. Thus, in Section II, I will explain why the market for broadband access should be defined without reference to specific technology or the historical categorization of particular service providers. Though the geographic scope of the market for broadband access is local, national data provide a reasonable and reliable guide to competition in those local markets. Section III will show that the markets for broadband access are competitive and becoming more so. The RBOCs do not have market power in those markets, so there is neither a need to regulate nor public benefits from regulating their services in those markets, but there are enormous costs of doing so. Indeed, Section IV will demonstrate how asymmetric regulation of the RBOCs’ DSL services is contrary to promoting broadband investment and facilities-based competition and why further regulation will cause far greater harm. By reducing its regulation of DSL, this Commission could unleash the full potential of market incentives, technological innovation and facilities-based intermodal competition to accelerate the deployment of broadband access and the adoption of broadband services.

II. BROADBAND ACCESS MARKET DEFINITION

7. In competitive analysis, it is well-established that one begins with product and geographic market definition. To be sure, though, the scope of that analysis depends entirely on the purpose at hand. In the case of a merger, for example, one would look with considerable granularity at product lines and geographic markets (e.g., two merging banks with moderate market shares in a region would nevertheless have very high shares in particular local markets). Likewise, in assessing a railroad merger, one looks carefully at various classes of service and assesses intermodal competition in specific traffic corridors (e.g., strong competition for barges on north-south routes along Mississippi River). In both cases, the underlying rationale for the granular analysis is the same: one would be wrong to assume uniformity across particular markets. As I will show, that is not the case with broadband access.

8. First, let us address geographic market definition. AT&T, WorldCom and others argue that broadband services are offered in local markets, so national or regional data of modal shares are meaningless in assessing competition to determine the level of regulation required.¹ Professor Willig argues that “the market power inquiry here is necessarily far more complex... nationwide determinations of market power are not possible, because... broadband offerings do vary widely across the relevant local...markets.”² I beg to differ. While broadband service offerings and the degree of intermodal competition are not homogeneous across all local markets, there is a sufficiently high degree of similarity to use national or regional data as a reasonable first order approximation of market shares. Unlike the banking industry or the surface freight transport industry, the degree of variation in actual and potential market presence

¹ In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337, *See* Comments of AT&T Corp., pages 15-16 and Comments of WorldCom, Inc., page 10. (Hereinafter “Comments of”)

² Declaration of Robert Willig, In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337, page 5, para. 10. (Hereinafter “Willig Declaration.”)

is not high enough to require or even justify an inquiry into each and every local market (though such an inquiry would ensure AT&T's desired effect of delaying the competitive benefits of less regulation of RBOC's DSL services). Thus, the Commission is well advised to use national data regarding market shares and the growing availability of various modes of broadband access. In doing so, it will lend comfort and support for progressive steps to regulate less and rely more on market forces.

9. Second, regarding product market definition, Ad Hoc Telecommunications Users and others argue that small and medium enterprises (SMEs) and small office or home offices (SOHOs) should be considered a separate market because business customers have different requirements than residential customers.³ Implicit in their argument (and, hence, the reason for defining a "separate" market) is that there is not sufficient competition to SMEs and SOHOs because cable networks don't pass all business locations. Whether one views SME/SOHO as an important segment of the mass market, or as a separate market, does not matter much, because given the rapid expansion of cable networks (see Section III below) and growth in competition from other modes targeting these customers, this market (segment) is – or will soon be – highly competitive. This demonstrates why it is essential, in defining relevant product markets, to take a forward-looking view of markets and technologies. The point is not whether cable modem or DSL or other means of broadband access are (or, more correctly, were, at last count) available to every type of customer in every geographic market. We know one thing for certain: the availability of different modes of broadband access is increasing rapidly; while not every mode will reach every corner of every market, the trend is clear – namely toward substantially increasing intermodal competition. That view of the future – not the modal shares of the past – and the product market definition it implies, should guide the Commission in assessing the

³ See Comments of the Ad Hoc Telecommunications Users Committee, pages 6-8; Comments of AT&T Corp., pages 40-44; Comments of Covad, pages 14-16.

opportunity for improving market performance by removing unnecessary regulations and reducing asymmetric regulation of one class of broadband access providers, the RBOCs.

III. THE LACK OF MARKET POWER IN BROADBAND ACCESS

10. Using national market share data as a proxy for local geographic markets, it is evident that the RBOCs do not have market power in the market for broadband access. I concur fully with the analysis and empirical support of Dr. Carlton and Dr. Sider in their conclusion that “ILECs [incumbent local exchange carriers], individually or collectively, could not exercise market power in either the ‘mass’ market or ‘larger business’ market in the absence of regulations.”⁴ Moreover, given rapid technological change, it is clear that intermodal competition in broadband access will increase, both because the number of competing modes will increase and because the availability and capabilities of those competing modes will increase.

11. Competitors argue that intermodal competition does not exist because broadband service over cable networks is not available everywhere.⁵ That is a backward-looking view of competition.⁶ Cable companies are rapidly upgrading their networks to provide broadband services to reach more of the mass market. Cable networks pass approximately 93 percent of households in the US.⁷ The FCC reports that by the end of 2001, cable modem service was available to 70 percent of homes.⁸ Industry analysts predict that by the end of 2004, 92 percent

⁴ Declaration of Dennis W. Carlton and Hal S. Sider, In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, March 1, 2002, page 3, para. 8.

⁵ Comments of AT&T Corp., pages 41-42; Comments of WorldCom, pages 11-12.

⁶ The Commission should note a familiar pattern of argument by RBOC competitors: when arguing for lower TELRIC prices, they stress that costs should be “forward-looking”; when arguing about competition, they typically refer to “the way we were.”

⁷ U.S. Census Bureau “Table DP-1. Profile of General Demographic Characteristics for the United States: 2000,” and NCTA Industry Statistics (downloaded at www.ncta.com/industry_overview/indStat.cfm, 3/26/02).

⁸ In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All

of homes will have cable modem service.⁹

12. Cable companies are actively marketing broadband access services to business customers today. AT&T Broadband, AOL Time Warner, Comcast and Cox all have broadband offerings for business customers that focus on the distinct communications needs of businesses.¹⁰ Moreover, not surprisingly, cable operators are rapidly extending their networks to reach even more business customers. It is not difficult to extend cable networks to reach many business customers; cable networks are nearly ubiquitous in residential areas, and many business customers are located near residential areas. An example of the adjacency of residential and business areas is shown in the zoning map of Orange County, Florida in Attachment 2; as one can see, residential zones are interwoven with areas zoned for business, making it a simple matter to extend cable networks initially designed to serve residential customers into adjacent business locations. A recent interview with Chuck McElroy, Vice President and General Manager of Cox Business Systems explains the business case for extending its network to business customers.

As it turns out, the cable plant is not as hard to extend to business areas as commonly thought. Cox fiber already passes by many commercial zones, particularly as central businesses have in recent years migrated into suburban areas. And then there are a growing number of small and home-based businesses within Cox's residential network reach.

"In many cases we're already connected to commercial locations," McElroy says. "We pass by a lot of strip centers and a lot of industrial complexes. Then what we do is we

Americans in a Reasonable And Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Third Report, FCC 02-33, CC Docket 98-146, February 6, 2002, page 22.

⁹ Remarks to NARUC Telecommunications Committee by Robert Sachs, President and CEO, National Cable & Telecommunications Association, "Putting Broadband to Work for Consumers," July 17, 2001, referencing projections by Morgan Stanley.

¹⁰ See AT&T Broadband's web site (downloaded at www.bbs.att.com/static/index_flash.shtml, 3/19/02); the AOL Time Warner Roadrunner web site (downloaded at rrcorp.central.rr.com/busclass, 3/19/02); the Comcast web site (downloaded at www.comcastbusiness.com, 4/15/02) and Cox Business Services web site (downloaded at www.coxbusiness.com/systems/fl_pensacolaftw/internet.asp, 3/19/02).

enhance that network by building fiber hubs out to industrial parks and to large buildings and large business locations as well. So it is kind of a combination of leveraging and enhancing the existing network that is out there today.”

The upshot is that “incrementally we can get into the commercial market without throwing a lot more investment into the network.” McElroy adds.¹¹

13. Projections of business customer use of broadband cable services show continued strong growth. One analyst projects that in North America, cable modem services to businesses will grow by 69% per year to nearly 9.5 million connections in 2007.¹² As AT&T Broadband is the largest cable network operator, with large networks in major metropolitan areas around the country, it is well positioned to compete for many businesses over its cable networks.¹³

14. In addition to cable modem services, DSL will face increasing competition in the mass market for broadband access from satellite, mobile wireless (e.g., 2.5G-3G, WiFi) and stationary wireless (LMDS, MMDS) will become increasingly competitive in the near future. Several recent announcements indicate that wireless broadband access is already in the early stages of deployment in the US. In January 2002, Verizon announced plans to roll out 3G service, with data speeds up to 150 kpbs, to major markets throughout the US, and Sprint PCS showcased its 3G service and reiterated its commitment for a nationwide launch by mid-2002.¹⁴ This is a major step in the progression toward mobile wireless broadband. In addition, satellite communications service providers now offer Internet access (e.g., DirecPC), and pending network upgrades will substantially improve the quality of broadband satellite access and

¹¹ Brown, Karen, “Cox Unit Bucks Cable Image With Enterprise Offerings,” *Broadbandweek.com*, August 6, 2001 (downloaded at www.broadbandweek.com/news/010806/010806_cable_cox.htm, 3/19/02).

¹² “Broadband Access, DSL vs. Cable Modems, 2002-2007,” *Insight Reports*, March 2002, page 87.

¹³ National Cable & Telecommunications Association (downloaded at www.ncta.com/industry_overview/top50mso.cfm, 3/26/02).

¹⁴ “Announces Relationship With Accenture; Introduces Kyocera 2235 and the Sierra Wireless Aircard 555” Verizon press release, January 28, 2002 (downloaded at www.verizon.com, 4/18/02); “Sprint Showcases First Live Public Demonstration of its Wireless Third Generation Network,” Sprint PCS press release, January 8, 2002 (downloaded at www.sprintpcs.com, 4/18/02).

services. Hughes Network Services plans to provide services in North America with the launch of its SPACEWAY system in 2002, with global coverage available by 2003 or 2004, while Astrolink plans to launch four satellites in early 2003.¹⁵ Both systems will operate in the Ka-band, which will deliver broadband services at substantially lower cost than the current Ku-band offerings.¹⁶ Industry analysts believe that “Satellite offerings should become increasingly visible over the next 12-18 months, at first competing effectively in markets underserved by cable and xDSL and, over time, as part of a bundled video offer with strong appeal for certain customer segments....”¹⁷

15. AT&T, Time Warner Telecom, and WorldCom argue that ILECs have pervasive market power in the provision of broadband services to large businesses.¹⁸ But AT&T’s market definition is limited to intraLATA services, which is a very small portion of the total market for high-speed data services. Most companies buy network services that span several, or many LATA’s. Even a company as small as LECG has an international frame relay network to provide interconnectivity across five countries. The comments by Covad in this proceeding correctly state that high-speed data services “are, to a large extent, provided on an interLATA basis.”¹⁹ AT&T’s comments report shares only for the intraLATA segment of the data services market. As the “Broadband Fact Report” submitted by Verizon in this proceeding shows, market shares reported by AT&T are very misleading. Based on the same IDC report as AT&T, the “Broadband Fact Report” shows that the RBOCs have only 17 percent share of frame relay

¹⁵ Astrolink is owned by Liberty Media, Lockheed Martin Global Telecommunications, TELESPIAZIO and TRW Inc.; “Broadband from Outer Space – A New Generation of Satellites Aims to Attack the Local Loop Market,” Network Magazine, January 1, 2002; see also Spaceway web site (downloaded at www.spaceway.com, 4/18/02).

¹⁶ “Residential Broadband: Cable Modems, DSL, and Fixed Wireless,” the Strategis group, 2002, pages 116-117.

¹⁷ “Broadband 2001,” JPMorgan H&Q, McKinsey, April 2, 2001, page 7.

¹⁸ Comments of AT&T Corp., pages 19-20; Comments of Time Warner Telecom, page 2; Comments of WorldCom, Inc., pages 22-25.

¹⁹ Comments of Covad Communications Company, page 12.

services and 19 percent share of asynchronous transfer mode (ATM) services. AT&T is the largest provider of frame relay services (35 percent share), and the three largest interexchange carriers (AT&T, WorldCom and Sprint) have 70 percent share for each of these services.²⁰

16. AT&T and WorldCom also argue that DSL price increases during the last year are “consistent with the exercise of market power.”²¹ But only if price increases generate monopoly profits is there an exercise of market power. The straightforward explanation of those price increases is that RBOCs used “promotional pricing” of DSL services early in the life cycle of DSL broadband access. As the market began to develop, they raised prices to a level that provides an opportunity to earn a reasonable risk-adjusted rate of return on their investments, past and future. In fact, the business case analysis demonstrates that, without those price increases (which are built into the baseline case), the business case for continued investment in DSL-enabling infrastructure wouldn’t turn positive within 10 years. That result is consistent with the clear inference of market structure:²² that RBOCs do not have market power in the market for broadband access.

IV. REDUCING REGULATORY ASYMMETRY IN BROADBAND ACCESS

17. Many RBOC competitors, including AT&T, Cbeyond and NuVox, Competitive Telecommunications Association, Covad, and Time Warner Telecom, are asking for the continuation of current regulation of ILEC broadband services and the extension of unbundling requirements.²³ Continuing existing regulation of RBOCs’ DSL services – much less expanding

²⁰ Comments of Verizon, “Broadband Fact Report,” pages 27-29.

²¹ Willig Declaration, page 23, para. 41. *See also* Comments of AT&T Corp, pages 45-46; Comments of WorldCom, Inc., page 20.

²² I.e., the dominance of cable operators over RBOCs in terms of market shares in broadband access.

²³ Comments of AT&T Corp., pages 51-52; Joint Comments of Cbeyond and NuVox, pages 4-5; Comments of the Competitive Telecommunications Association, page 8; Comments of Covad, page 6; Comments of Time Warner Telecom, pages 10-11.

the unbundling requirements on RBOCs – would be directly contrary to the public interest in promoting broadband investment and facilities-based competition. The business case analysis shows that there is a high degree of inherent riskiness in DSL investments, and additional regulatory restrictions turn an otherwise positive DSL business case negative. For example, the business case analysis shows that if RBOCs are required to unbundle their DSL services and offer a combined-UNE DSL service (a UNE-P version of DSL) at prices substantially below current wholesale prices, cumulative cash flows would be driven downward by \$2.5 billion, which would seriously impair the abilities of the RBOCs to recover their DSL investments.

18. Moreover, even the uncertainty of additional regulation further dampens investment incentives. This is true for all industry participants. Two comments by Robert Sachs, President and CEO of the National Cable and Telecommunications Association, clearly articulate the problem. He stated that “FCC deliberation on cable modem service is creating a ‘regulatory cloud’ that’s bad for the industry”²⁴ and that regulatory uncertainty has “a negative impact on capital markets and [discourages] competitive investment.”²⁵ To remove that regulatory uncertainty, the Commission should act decisively to reduce regulation and send a clear message to markets and investors that its policy will consistently promote network investment and innovation.

19. The Commission should not draw false inferences from the RBOCs’ DSL investment to date. The financial returns on DSL investment change rather dramatically as DSL upgrades move from the “core” of the network to its “periphery.” When the fixed costs of network investment can be spread across many customers (i.e., dense urban areas), unit costs are considerably lower. When upgrading in low density towns and rural areas, those facilities can be

²⁴ “Market is Overtaking Regulators in Debate Over Cable Modem ‘Open Access,’” Panelists Say,” Telecommunications Report Daily, February 6, 2002.

²⁵ Letter by Robert Sachs to The Honorable W.J. “Billy” Tauzin, April 25, 2001 (downloaded at www.ncta.com/press/press.cfm, 2/13/02).

shared by many fewer users, causing the cost of providing DSL service to be much more costly than in urban areas. Unless the Commission acts to remove regulations that disincent network investment, extending the availability of DSL to the large majority of households will not be financially viable.

20. Moreover, continued investment in DSL infrastructure has occurred, in part, because the public comments of FCC Commissioners indicate recognition of the need to increase incentives for facilities-based competition and investment in advanced telecommunications infrastructure. FCC Chairman Michael Powell has repeatedly stated his commitment to facilities-based competition. In October 2001, he said that “Commission policy should provide incentives for competitors to ultimately offer more of their own facilities... [to] decrease reliance on incumbent networks.”²⁶ Commissioner Abernathy stated that to “restore the incentives for facilities-based investment... [there must be] a shift away from policies that actively encourage resale as a long-term business strategy and force the unbundling of virtually every network element at TELRIC [total element long run incremental cost] rates.”²⁷ Commissioner Martin also agreed that the Commission needs “to place a high priority on facilities-based competition...” in order to increase incentives “for the deployment of new facilities that could be used to provide broadband.”²⁸ If the Commission does not act now to carry out those steps, it should expect a further lessening in DSL investment and a slower rate of adoption of broadband services.

21. WorldCom argues that because cable companies are not required to provide open

²⁶ Remarks of FCC Chairman Michael K. Powell, “Digital Broadband Migration” Part II, October 23, 2001.

²⁷ Remarks of Commissioner Kathleen Q. Abernathy, “Competition Policy Institute Forum: *Keeping Telecom Competition on Track*,” December 7, 2001.

²⁸ Separate Statement of Commissioner Kevin J. Martin, Re: Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, CC Docket No. 98-146, February 6, 2002.

access on a nondiscriminatory basis at regulated prices, the FCC needs to regulate ILECs to ensure an entry path for Internet Service Providers (ISPs).²⁹ But the issue is not whether ISPs have access to DSL service at wholesale prices, but what those prices are. The baseline case assumes that a significant share of DSL customers on RBOC networks will be served by ISPs or other resellers, at wholesale prices that reflect retailing cost savings. The risk to DSL investment is from requiring UNE-P pricing of DSL service, at rates that are lower than actual costs, which would destroy the economic rationale for the DSL investment. On this point, it is worth noting that when cable companies are required to provide open access, the wholesale price of access is not regulated. To gain regulatory approval for their merger, AOL and Time Warner agreed to allow multiple ISPs to offer service over Time Warner's cable network. Terms of the agreements with the FTC and FCC included technical specifications and the inclusion of a most favored nation clause in ISP contracts. Prices for access, however, are negotiated between the ISP and AOL Time Warner, and are not subject to regulatory oversight.³⁰ Publicly available information suggests that ISPs are paying approximately \$30 to \$35 per month for access to customers using cable modem service,³¹ which is in line with DSL wholesale offerings by the RBOCs³² but well above a UNE-P price for DSL.

22. Two other multiple system operators (MSOs) recently announced agreements with ISPs that allow the ISPs to offer high-speed cable Internet service over their networks – AT&T Broadband with EarthLink and Comcast with United Online. Comcast President Brian

²⁹ Comments of WorldCom, Inc., pages 11-14.

³⁰ "FTC Approves AOL/Time Warner Merger with Conditions," Federal Trade Commission press release, December 14, 2000 (downloaded at www.ftc.gov/opa/2000/12/aol.htm, 3/15/02).

³¹ "AT&T to Offer Earthlink On Cable Lines," Wall Street Journal, March 13, 2002; "Comcast, United Online Set Deal For Internet Service on Cable Lines," Wall Street Journal, February 27, 2002; "Time Warner, EarthLink Reach Deal," Washington Post, November 21, 2000; "Comcast to share network," Harrisburg Patriot, February 27, 2002.

³² RBOC wholesale pricing for DSL service ranges from approximately \$33 to \$44 for speeds of 1.5Mbps downstream and 128Kbps upstream, depending on volume and length of term commitments. See BellSouth (www.bellsouth.com), Verizon (www.verizon.com), and SBC (www.sbc.com) web sites.

Roberts explains that cable companies have an incentive to enter into multiple ISP arrangements because they create more opportunities for growth in their broadband businesses: “This is a business opportunity as we want to get the maximum penetration of broadband... The real payoff is in expanding the market from 10 percent to much higher penetration in the years ahead.”³³ The FCC’s hands off approach to regulation is encouraging healthy competition – with wholesale prices determined by the market, not by regulators.

23. Earlier this year, the FCC decided to classify broadband access to the Internet over wireline facilities and cable facilities as an information service. In these rulings, the FCC clearly articulates its policy goals in assessing regulation of broadband services.

- First, consistent with the Telecommunications Act, the FCC seeks to “encourage ubiquitous availability of broadband to all Americans” through “regulatory forbearance, measures that promote competition... or other regulating methods that remove barriers to infrastructure investment;”
- Second, the FCC believes that “broadband services should exist in a minimal regulatory environment that promotes investment and innovation in a competitive market,” and it seeks to remove regulatory uncertainty.
- Third, the FCC attempts “to create a rational framework for the regulation of competing services that are provided via different technologies and network architectures.”³⁴

24. While the FCC is focused on the correct policy goals, its declarations in these proceedings are fundamentally inconsistent with those goals. A telling example is the FCC’s

³³ “Comcast Inks Access Deal With United Online, *Cable Datacom News*, March 1, 2002.

³⁴ In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet over Cable Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, FCC 02-77, GN Docket No. 00-185, CS Docket No. 02-52, March 15, 2002, pages 4-5.

approach to assessing regulation of cable modem and DSL services. For cable modem service, the FCC is correctly asking the question: should there be any regulation? For DSL, a service offered by carriers whose voice services have been highly regulated, the FCC is asking: should there be an easing of regulations? With all due respect, that is the wrong question to be asking if the Commission is truly intent on achieving its stated policy objectives. Given the actual and potential intermodal competition in broadband access, the right question is: why regulate DSL at all? The greatest danger now for broadband policy is that the Commission might be too timid in stripping away the vast array of regulation implemented over decades and designed in the context of narrowband voice service. Admittedly, there is a powerful inertial energy to the regulatory status quo, but that is precisely why the Commission should act boldly, now, to remove unnecessary regulations and level the playing field for intermodal competitors.

25. Given the potential rate of technological change and the dramatic increases in intermodal competition, regulation of broadband services would be especially harmful because of its long-term dynamic effects. The convergence of content with communications capability is stimulating intermodal competition. Removing regulatory obstacles on DSL will foster continued growth in broadband services, creating conditions for further investment in higher speed services and enabling the realization of video-on-demand and video streaming, and increasing competition in Internet-based competition with traditional cable video services. Unless the Commission takes steps to substantially reduce its regulation of DSL, the regulatory asymmetry between ILECs and MSOs will further distort facilities-based competition and bias the course of technological innovation and adoption.

26. Finally, I would urge the Commission to consider that the policies it adopts through this and related proceedings will affect far more than the deployment and adoption of current generation technologies for broadband access. Current broadband access technologies are just the first stage of technological development. In each mode of broadband access, bandwidth will increase substantially, by an order of magnitude over first-generation broadband.

Whereas access speeds in the analog access world were measured in tens of kilobits per second (i.e., 9.6-56 kbps), the current generation of broadband access is measured in hundreds of kilobits per second (i.e., 256-1,544 kbps). The next generation of broadband access will be measured in the thousands of kilobits, i.e., megabits. These speeds will be needed to support bandwidth intensive applications such as online gaming, video-on-demand and streaming video.³⁵

27. However, until a substantial number of subscribers have adopted first-generation broadband, the development of broadband applications will not develop sufficiently to create the demand for even higher bandwidth access or applications. Given the substantial investment required to implement next-generation services, current adoption is critically important. For example, one analyst estimates that the cost to implement fiber-to-the-home, which will pave the way for next-generation applications offered by the ILECs, will be approximately \$5,000 per subscriber assuming a 50% penetration rate. This estimate increases to over \$9,000 if the penetration is 25%.³⁶ Thus, it is crucial to adopt and implement public policies that clear away the regulatory obstacles and disincentives that are inhibiting innovation and investment in the current generation of broadband access technologies, in order to promote continued rapid technological innovation and the deployment of next-generation technologies.

³⁵ "Optical Access, Part II," CIBC World Markets, October 23, 2001, page 9.

³⁶ "Optical Access, Part II," CIBC World Markets, October 23, 2001, pages 23-24.

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DSL BUSINESS CASE ANALYSIS

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1. PURPOSE OF THE DSL BUSINESS CASE ANALYSIS

The continued development of the high-speed Internet market depends critically upon upgrades to existing networks and the creation of new networks. To accomplish this, private firms must be willing to make substantial high-risk investments in an environment of technological and competitive uncertainty.

Digital subscriber line (DSL) network investments are designed to provide services in a competitive market, and investments in competitive markets carry substantial amounts of risk. The inherent balance between risks and rewards fuels innovation and investment in our free market economy. The possibility of over-regulation adds an additional layer of risk to DSL investment decisions, while adding no offsetting layer of reward. This over-regulation will disrupt the market forces that we depend upon to achieve beneficial levels of innovation and investment.

Increasing the risks and uncertainties associated with making investments decreases incentives to invest. This maxim is especially true of large-scale investments in durable assets, such as investments to extend DSL capabilities into wireline networks. The purpose of our DSL business case analysis is to provide a quantitative assessment of the inherent riskiness of DSL investments and to show how regulatory restrictions can turn an otherwise positive DSL business case negative.

Private firms develop business case analyses to decide whether or not they should make an investment. If the business case does not show enough cash flow to cover the capital invested, plus a return equal to or exceeding the cost of capital, the firm will not, and should not, make the investment. Hence, regulatory risk that turns the DSL business case negative would have the effect of denying DSL service to the remaining households whose lines have not yet been upgraded, as the firms could not justify further buildout.

The business case model shows that DSL is a risky investment. The baseline view, assuming all goes according to plan, yields sufficient returns to justify the risky investment. Market risk, such as lower penetration of DSL resulting from technological challenges or heavier than expected competition, drives the business case down to just above breakeven. Regulatory risk, on the other hand, drives the business case negative, implying that the regional Bell operating companies (RBOCs) should not invest in upgrading their networks for DSL if they are going to be forced to unbundle the service at artificially-low unbundled network element platform (UNE-P) prices.

This asymmetric regulatory risk puts DSL at a big disadvantage relative to cable modems, satellite, wireless, and other broadband providers, who are not required to unbundle their services. If policy-makers want to encourage facilities-based broadband competition through faster and broader deployment of DSL, they need to focus on leveling the playing field for all broadband providers by removing the asymmetric regulatory risk that discourages investment in DSL.

2. OVERVIEW OF THE DSL BUSINESS CASE ANALYSIS

Incumbent local exchange carriers (ILECs) have made and continue to make substantial investments to extend the DSL capabilities of their networks to end user customer locations. These investments are made with the expectation that they will generate sufficient cash flows over several years to recover the costs, including the cost of capital, associated with these substantial investments. There are, however, considerable risks to this expectation.

Our DSL business case analysis uses a simplified cash flow model designed to illustrate the risks associated with RBOC investments in DSL capabilities. It is an aggregate model based upon reasonable assumptions for the financial performance of RBOCs as a group, but it is not a projection of the actual cash flows that any individual RBOC might experience. Many of the input values for our analysis are projections made by Lehman Brothers in reports on the future of DSL.¹ We supplemented these data with information from multiple sources including RBOC public filings, other industry analyst reports, and discussions with BellSouth financial directors and BellSouth network engineers. Consistent with the financial expectations driving DSL investments, the baseline run of this model projects annual cash flows sufficient for the RBOCs to recover their DSL investments and expenses.

There are many forms of market risk inherent in providing DSL service that could have a major effect on the financial viability of the DSL business case. These include the rate of adoption of broadband services in general, DSL service in particular, and wireless technologies; increased churn and customer acquisition costs; and DSL deployment costs. In the first scenario, we assess one form of market risk—showing the effect of 25 percent fewer DSL subscribers than the baseline view. The analysis shows that lower market penetration would jeopardize an otherwise positive DSL business case.

In addition to normal market risks, the DSL business case is subject to risks resulting from regulation. While some of the normal market uncertainties have upside as well as downside, regulatory risk has only downside potential. In the second scenario, we assess the effect of requiring the RBOCs to unbundle DSL service and allow the resale of DSL service at UNE prices (a DSL version of UNE-P). We show that these regulatory requirements would seriously jeopardize the abilities of the RBOCs to recover their DSL investments, thereby discouraging investment.

3. BASELINE VIEW

Baseline RBOC cash flows related to DSL services have been projected through year 2011. In the baseline, annual cash flows turn positive in year 2004, and by 2010 the cumulative discounted cash flows are positive. A positive value for the cumulative discounted cash flows

¹ Lehman Brothers, "Wireline Services, Industry Update, Scaling DSL – RBOCs Poised to Mine Returns in '02/'03," June 7, 2001; Lehman Brothers Cable Communications Services, "Consumer Broadband – Cable vs. DSL Chapter 2," June 7, 2001.

reflects the expectation that DSL investments will create value for the RBOCs.

“Free cash flow” is a measure of the cash generated (revenues) by a business venture less the cash paid (investments and expenses) to undertake the venture. In a business case analysis, a firm projects the key drivers of annual cash flows and sums the discounted annual cash flows to determine if the business venture makes financial sense, i.e., creates value. A venture creates value for its owners to the extent that it generates cash sufficient to recover the investments and expenses and compensate the owners for the use of their money. When cash flows occur over a number of years, a proper evaluation must take into account the time value of money. This is done with a process called discounting. Discounted cash flows are annual flows that account for the time value of money.

For large network investments it is typical to experience relatively large negative cash flows for a number of years, with the expectation of positive cash flows in later years. This is the expectation in the baseline view.

For the years 2000-2005, many of the input values for the baseline view were extracted from the Lehman Brothers report on DSL. Other sources of information included RBOC public filings, other industry analyst reports and discussions with BellSouth financial directors and BellSouth network engineers. To illustrate RBOC risks associated with DSL investments, it is useful to extend the Lehman Brothers view through 2011. Figure 1 lists some of the key input values in the baseline view.

Figure 1
Key Input Values of Baseline View

	2002	2004	2006	2008	2010
Subscribers (M)	6.7	12.4	16.5	20.1	24.0
Revenues (\$B)	3.1	6.6	9.4	11.6	13.9
Non-Depr Expenses (\$B)	2.9	4.0	4.7	5.4	6.1
EBITDA (\$B)	0.2	2.6	4.7	6.1	7.7
Capital Spending (\$B)	2.4	0.7	0.5	1.3	1.3
Cum. Cap Spending (\$B)	7.3	9.6	10.7	13.2	15.7

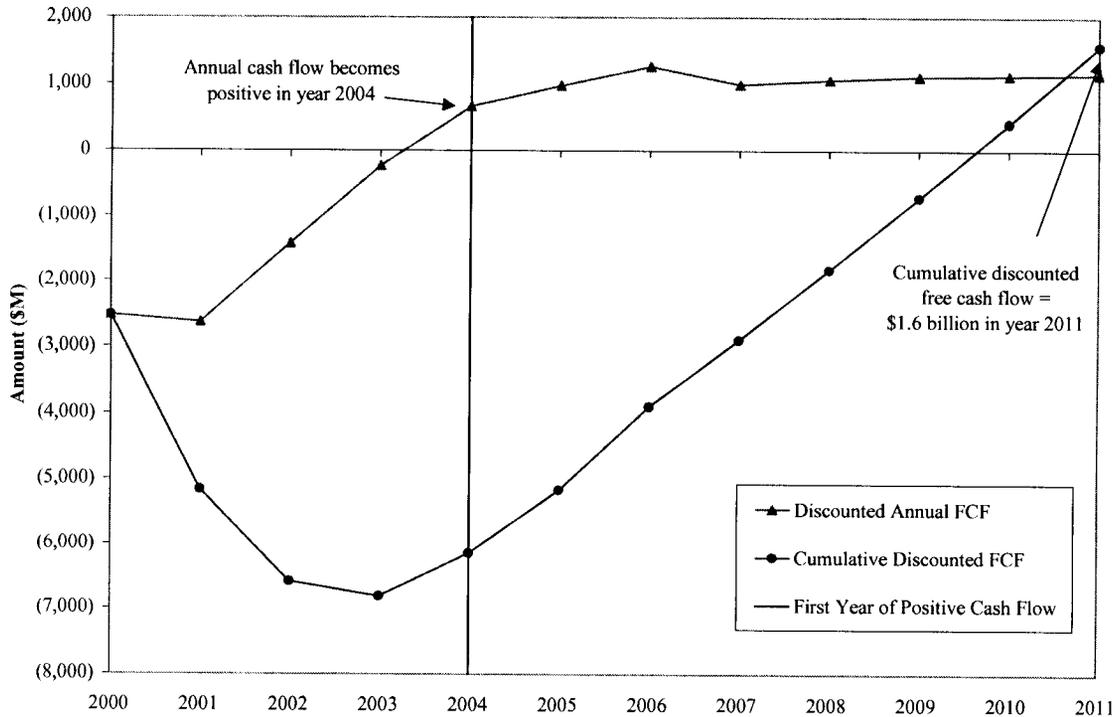
Subscriber growth is based on Lehman Brothers projections. In 2002, Lehman Brothers projects 6.7 million DSL subscribers for the RBOCs. This is 35 percent of the combined projected cable modem and RBOC DSL subscribers. DSL subscribers are projected to grow 16 percent per year to 25.5 million subscribers in 2011.

In the baseline, average revenue per line rises from approximately \$48 in 2002 to \$50 by year 2005 and remains constant thereafter. Average revenue per line is a composite of expected revenues per line from retail residential customers, retail business customers, and wholesale customers.

Baseline projections of annual discounted cash flows and cumulative discounted cash flows are

shown in Figure 2. As shown, annual cash flows turn positive in year 2004 of the baseline view, and by 2011 cumulative discounted cash flows equal \$1.6 billion.

Figure 2
Baseline View: Cash Flow Positive in 2004
\$1.6 Billion Value in 2011



Due to a total of almost \$9 billion of capital spending from years 2000 to 2003, free cash flow is negative in each of these years, and the RBOCs are in a \$7 billion financial hole. After 2004, DSL capital spending drops significantly and annual cash flows turn positive. After six years of positive cash flows, the investment is essentially recovered, and by year 2011, the cumulative discounted value of the DSL cash flows is \$1.6 billion.

4. ADDITIONAL RISKS BEYOND THE BASELINE VIEW

There are many market and regulatory risks to the baseline view. Our analysis examines two significant risks, one inherent in the competitive process and one stemming from the regulatory process. Potential impacts associated with our risk analyses are shown relative to the baseline view. These impacts are described by comparing the cumulative discounted free cash flows in 2011.

Market Risk: Lower Penetration of DSL

Inherent in the baseline view are many business risks and uncertainties. Key uncertainties that

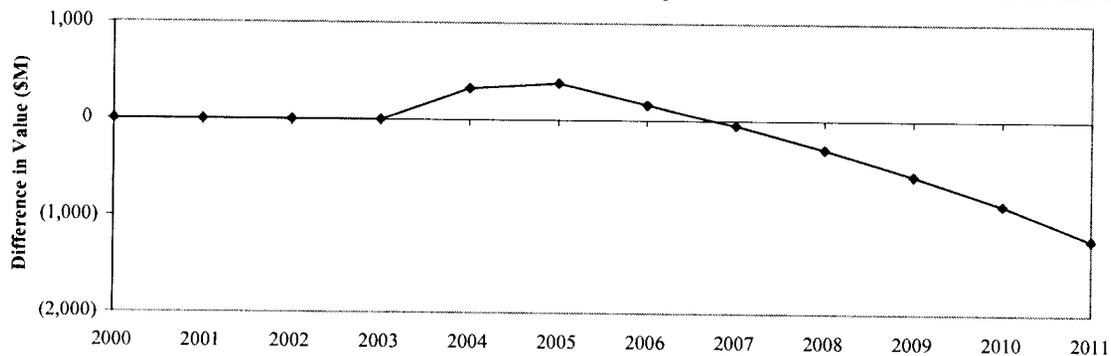
affect the financial viability of DSL service include:

- size of broadband service market,
- DSL market share,
- rate of deployment and adoption of alternative technologies such as mobile and fixed wireless and satellite services,
- rate of obsolescence of current DSL technologies,
- competitive price pressure,
- incremental capital costs,
- customer acquisition costs and customer churn, and
- customer service costs.

While many of these uncertainties have some upside potential, given the highly competitive nature of the broadband services market, the downside potential is enormous. In this scenario, we examine the effect of lower market penetration of DSL, which could be caused by a number of factors including lower than projected broadband adoption, higher than projected use of alternative technologies, or faster adoption of services that deliver broadband speeds higher than DSL capability.

The baseline view projects 25.5 million DSL subscribers in 2011. In this scenario, we reduce DSL subscribers by 25 percent. The impact of fewer subscribers on cumulative free cash flow is shown in Figure 3. The major difference from the baseline is that the cumulative discounted cash flows are approximately \$1.2 billion less than the baseline view by 2011.² That winning fewer subscribers presents a serious threat to the financial success of DSL investments demonstrates the high degree of inherent risk in the DSL business.

Figure 3
Lower DSL Market Penetration Reduces Value by \$1.2 Billion Relative to Baseline



² For a short period, the cumulative cash flows are higher as less investment is required for incremental capital, due to the smaller number of subscribers.

Regulatory Risk: UNE-P Pricing of DSL

As noted above, average revenue per DSL subscriber is a composite of expected revenues per line from retail residential and business customers and from wholesale customers. Average wholesale revenues per subscriber are \$12 lower than average retail residential revenues, which reflect costs not incurred by RBOCs, such as customer care and Internet Service Provider (ISP) costs, when another firm is the provider of service to the end user. The availability of wholesale services at prices that reflect RBOC actual costs allows competitive entry while compensating the RBOCs for the investments required to provide the DSL service.

Our risk analysis examines the impact of a regulatory requirement that would force the RBOCs to provide DSL service at steep discounts based upon estimates of total element long run incremental costs (TELRIC). This would create, in effect, a UNE-P for DSL service. This drop alone would have a significant negative impact on the financial viability of DSL investments, but this is not the only effect. Impacts from lower wholesale prices would increase the portion of subscribers served by providers that resell RBOC services and/or force significantly lower prices for RBOC retail customers. To illustrate these impacts, the portion of wholesale lines is increased from 25 to 50 percent.

Figure 4 shows the effect of the reduction in average revenue and increase in wholesale subscribers. Realization of the downside risk associated with a UNE-P DSL offering would drive cumulative cash flows downward by \$2.5 billion and seriously impair the abilities of the RBOCs to recover their DSL investments. This scenario is conservative in its assessment of cash flow loss, as it does not include any additional costs resulting from unbundling.

Figure 4
UNE-P Pricing of DSL Reduces Free Cash Flow by \$2.5 Billion Relative to Baseline

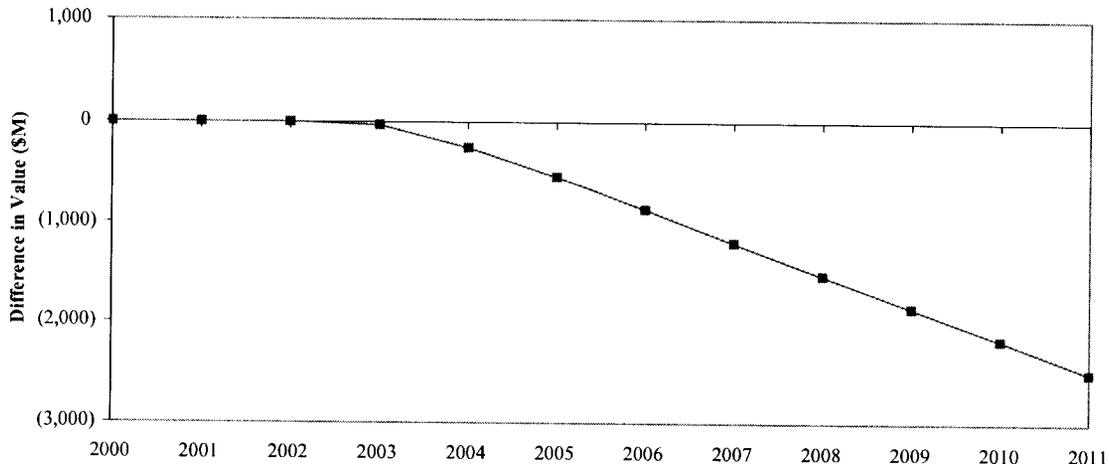


Figure 5 shows the shareholder value impact of this reduction in free cash flow. Stock market analysts commonly express the value of a firm (market capitalization or “market cap”) as a multiple of its annual free cash flow, because the value of a firm to its shareholders is strongly related to its current and future ability to generate cash. Lower cash flows lead to lower valuations. Note that this valuation approach uses a single year of undiscounted cash flow, times

a fixed cash flow multiple.³ The cash flow multiple incorporates the anticipated growth rate of cash flow as well as the discount rate.⁴

Relative to the baseline view, the UNE-P scenario generates \$700 million less in cash flow in 2006, and \$1.3 billion less in 2011, resulting from the increased penetration of wholesale lines and substantially lower revenue per wholesale line. Using a standard cash flow multiple for the RBOCs, the free cash flow loss from UNE-P pricing would amount to a valuation loss of approximately \$9 billion of the total RBOC market cap by 2006, and \$15 billion of the total RBOC market cap by 2011. These figures correspond to 3% and 5%, respectively, of the current total RBOC market cap, which is a highly significant loss in valuation.

Figure 5
UNE-P Pricing of DSL Reduces Market Capitalization by 5% by 2011

<i>Figures in \$M</i>	2006	2011
Baseline Scenario Annual FCF	2,812	4,493
UNE-P Scenario Annual FCF	2,080	3,240
Difference in FCF	732	1,254
12x Multiple (Market Cap Loss) [1]	8,782	15,043
Current Total RBOC Market Cap [2]	300,800	300,800
% Loss in Market Cap	2.9%	5.0%

Notes

[1] 12x FCF Multiple used by Dresdner Kleinwort Wasserstein report (3/8/02, Fig. 37) to analyze UNE impact on shareholder value.

[2] Total market capitalization of Bell South, SBC, Verizon, and Qwest, as reported by Yahoo! Finance, 4/12/02.

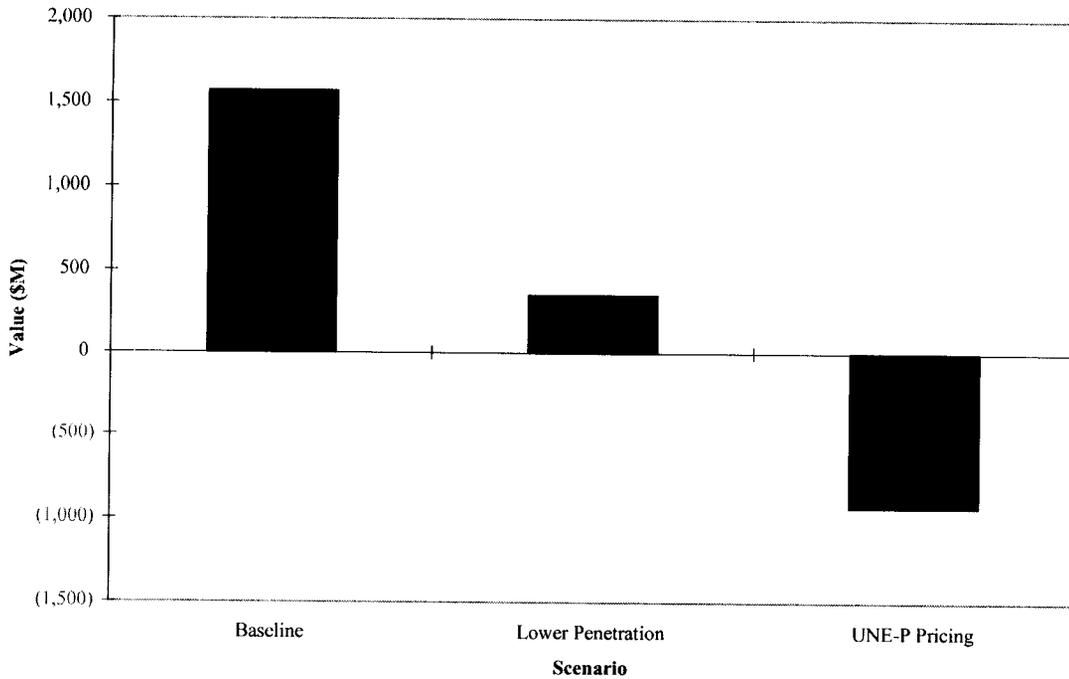
Summary of Risk Scenarios

Figure 6 summarizes the value of the DSL business case in the baseline view and the two risk scenarios. The difference between the baseline view and the lower DSL market penetration scenario demonstrates the inherent risk in the DSL business. The UNE-P pricing regulatory scenario drives the business case value negative. In this scenario, it is highly unlikely that RBOC investment in DSL services would ever be recovered.

³ In comparing Figures 4 and 5, the \$2.5 billion in Figure 4 is the difference in cumulative discounted cash flows from 2000 to 2011, whereas the \$1.3 billion in Figure 5 is the difference in the undiscounted cash flow in 2011.

⁴ The cash flow multiple used by analysts in valuation depends on many factors, including the anticipated growth rate of the cash flows. Figure 5 looks only at the first-order impact of cash flow losses on valuation, and does not account for any additional loss in valuation due to a lowering of the multiple.

Figure 6
Regulatory Requirements Drive DSL Business Case Negative



5. SUMMARY AND CONCLUSION

There is no incumbent in the broadband Internet market for residential and small business customers, and DSL is not even the leading technology for providing this service. There is burgeoning competition in this market, with the promise of even greater competition from emerging technologies on the horizon. This is not a market in need of regulation, but it is a market in which that regulation can have devastating impacts.

Even in the baseline view, the RBOCs are undertaking large-scale investments that they cannot expect to recover for many years. This will require monthly payments from residential and small business customers who will have an increasing array of choices for their broadband Internet connections. These facts alone are enough to highlight the high-risk nature of these investments. As shown above, if competitors using other technologies win greater shares of the broadband Internet market, RBOCs may not recoup their investments until well after the close of the decade. If the RBOCs are forced to offer a UNE-P version of DSL with prices below cost, it is all but certain that they will not remain viable players in the broadband Internet market.

ATTACHMENT 2 TO EXHIBIT A

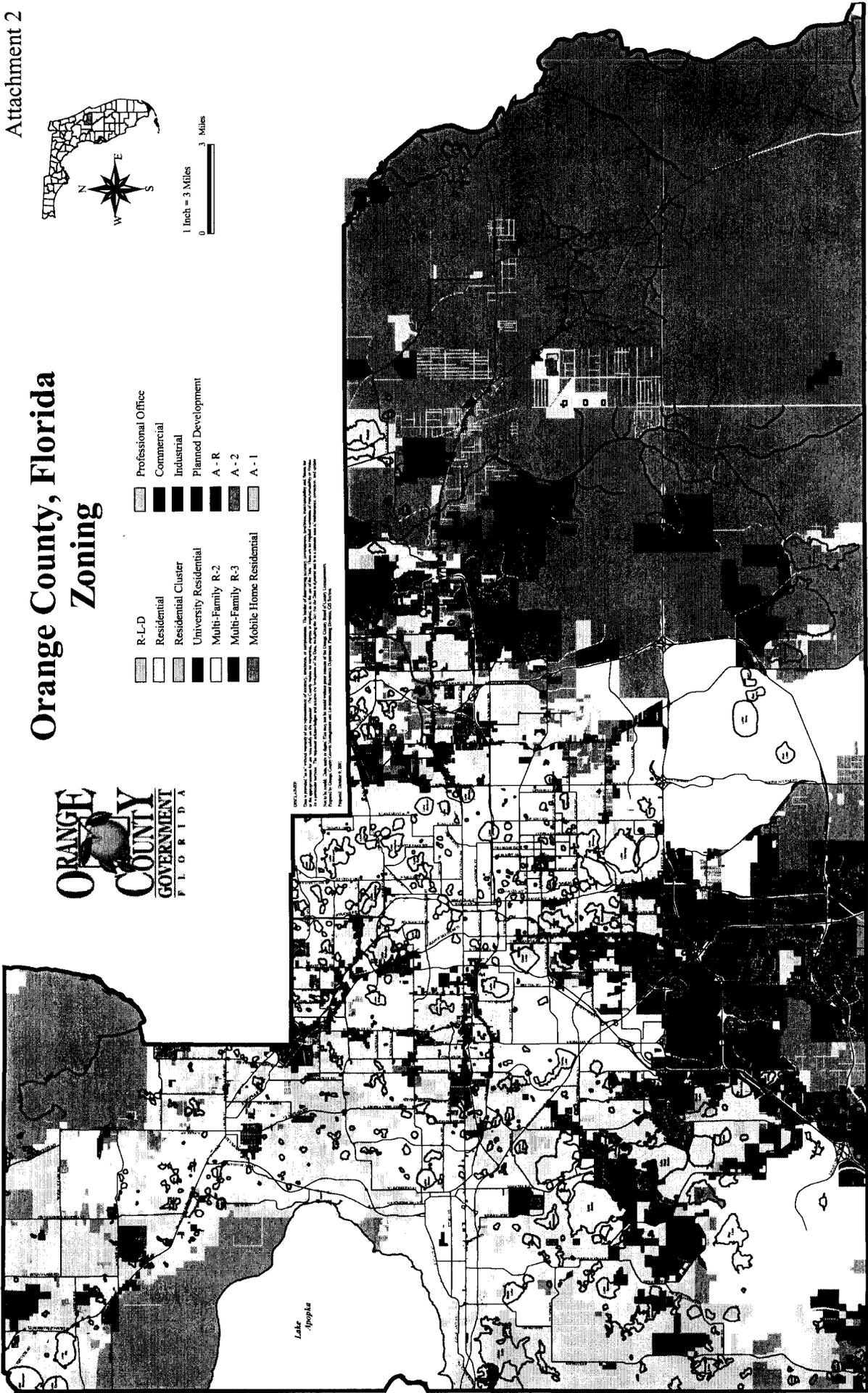
Orange County, Florida Zoning



- | | | | |
|--|-------------------------|--|---------------------|
| | R-L-D | | Professional Office |
| | Residential | | Commercial |
| | Residential Cluster | | Industrial |
| | University Residential | | Planned Development |
| | Multi-Family R-2 | | A-R |
| | Multi-Family R-3 | | A-2 |
| | Mobile Home Residential | | A-1 |

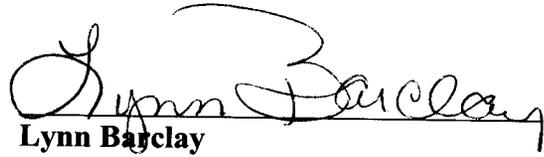


1 Inch = 3 Miles
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CERTIFICATE OF SERVICE

I do hereby certify that I have this 22nd of April 2002 served the parties of record to this action with a copy of the foregoing **BELLSOUTH'S REPLY COMMENTS** by Electronic Mail and U.S. Mail addressed to the parties listed on the attached service list.


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