Before the
Federal Communications Commission
Washington DC 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications	)	
Capability to All Americans in a Reasonable	)	GN Docket No. 07-45
and Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

COMMENTS OF VERIZON AND VERIZON WIRELESS ON THE FIFTH NOTICE OF INQUIRY

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INTRODUCTION AND SUMMARY

Since the time of the last broadband NOI, the Commission has pursued a deregulatory agenda for broadband that has proven extremely successful. The Commission has eliminated broadband unbundling and has declared that all broadband Internet access services – wireline and wireless alike – should be treated as unregulated information services. These policies have fostered massive new broadband investment resulting in increased availability of broadband from multiple technologies and providers – all competing vigorously for customers – and increased adoption and use of broadband by consumers. Since the last broadband NOI alone, the percentage of U.S. households with broadband has doubled.

The Commission's policies have been particularly successful at promoting next-generation broadband networks. Verizon has led the charge in fiber deployment and now makes its fiber-to-the-premises network (FiOS) available to 6.8 million homes and businesses, with plans to pass 18 million homes and businesses with FiOS by the end of 2010. Verizon's investments are prompting competitors – such as the cable companies and other wireless providers – to respond, which has benefited consumers with lower prices and increased quality.

As the Commission has recognized, broadband competition is intense and growing. In areas without fiber, cable and DSL compete vigorously nationwide, but there also are multiple other broadband alternatives available to most consumers, with additional choices rapidly emerging. These alternatives include 3G mobile wireless, fixed wireless/WiMAX, WiFi, broadband over powerline, and satellite. Verizon Wireless's 3G technology, for example, now reaches 242 major U.S. cities with a total population of more than 200 million people. At the time of the last NOI, these other alternatives accounted for less than 2 percent of total high-speed lines; today, they account for several times that, and a significant percentage of high-speed lines added in the most recent tracking period.

The United States broadband market compares favorably to other major countries, and the U.S. is in fact a world leader in broadband in many key respects. The U.S. is perhaps the only country in the world where two wireline broadband platforms are available to the vast majority of households, and where other broadband alternatives (such as satellite) also are ubiquitously available. Mobile wireless broadband is more widely deployed in the United States than in most other countries. And the U.S. is one of only a handful of countries in the world – and the only large country – where private companies are investing heavily to deploy next-generation fiber broadband networks. Verizon alone has deployed more fiber to mass-market premises than has been deployed in all of Europe combined. Although a recent report from the Organization for Economic Co-operation and Development ("OECD") suggests that the U.S. has dropped from 12th to 15th place in broadband subscribers per capita, this is a misleading proxy for evaluating the success of the U.S. broadband market and does not tell the full story.

The Commission's NOI seeks comment on how the Commission should define "advanced telecommunications capability," which it has heretofore defined as services with an upstream and downstream transmission speed of more than 200 kbps.[1] For purposes of data gathering, the Commission should continue to collect information about different speeds of broadband services, including those starting at 200 kbps, as well as services at much higher speeds. The Commission's reporting categories should correspond to the different levels of broadband functionality and different tiers of service that service providers are offering.

The Commission also seeks comment on how it can continue to promote the availability of broadband. The Commission should follow the deregulatory course that it charted years ago,

[1] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Notice of Inquiry ¶ 12, GN Docket No. 07-45 (FCC 07-21) (rel. Apr. 16, 2007) ("*Fifth NOI*").

which is a proven success. The Commission should encourage broadband competition through its spectrum policies, by quickly auctioning spectrum that is well-suited for broadband services, such as the 700 MHz band, using the same limited regulatory approach that has directly contributed to the vigorously competitive wireless sector. In addition, although the Commission has removed many of the major federal regulatory disincentives to broadband deployment, some states or local authorities have implemented burdensome broadband regulations or are proposing to do so. The Commission should reiterate that such regulation conflicts with federal policy and is preempted.

I. THE COMMISSION'S DEREGULATORY POLICIES HAVE FOSTERED SIGNIFICANT BROADBAND COMPETITION AND INVESTMENT

In the past several years, the Commission has taken many important steps toward deregulating the broadband market and establishing a level playing field for various broadband technologies. The Commission has lifted the unbundling obligations under Section 251(c) that were originally imposed on ILECs' broadband offerings based on findings that broadband competition was sufficient to protect consumers and that the principal effect of these rules was to deter investment.[2] The Commission also granted forbearance relief from the requirements of Section 271 of the Act with regard to broadband elements to the same extent that unbundling relief had been granted under Section 251.[3]

The Commission has also declared that all forms of broadband Internet access services should be treated as unregulated information services under Title I of the Act. The Commission

[2] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, ¶ 272 (2003).

[3] *Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c)*, Memorandum Opinion and Order, 19 FCC Rcd 21496, ¶ 19 (2004).

first made this determination with respect to cable modem service offerings.[4] Since the time of the last broadband NOI, and following the Supreme Court's *Brand X* decision upholding the Commission's classification of cable modem service as an information service,[5] the FCC has applied this determination to other broadband services as well. The *Wireline Broadband Order* lifted the *Computer Inquiry* obligations from Bell company Internet access services and declared those services unregulated "information services." The Commission explained that in the competitive broadband environment, the costs the Bell companies were incurring to comply with *Computer Inquiry* requirements diminished the "incentive and ability [of those companies] to invest in and deploy broadband infrastructure."[6] Most recently, the Commission has determined that both broadband over powerline and wireless broadband services should be treated as unregulated information services.[7]

The Commission has also pursued deregulatory policies with respect to wireless services more generally. Wireless carriers are free to deploy the technologies of their choice, which has led to competing standards that add a dimension of competition that does not exist in many parts of the world.[8] This standards-based competition is credited with placing the U.S. ahead of the

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[4] *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002).

[5] *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005).

[6] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853, ¶ 44 (2005) ("*Wireline Broadband Order*").

[7] *Appropriate Regulatory Treatment for Broadband Access to the Internet over Wireless Networks*, Declaratory Ruling, 22 FCC Rcd 5901 (2007); *United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service As an Information Service*, Memorandum Opinion and Order, 21 FCC Rcd 13281 (2006).

[8] *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Eleventh Report, 21 FCC Rcd 10947, ¶ 103 (2006) ("*Eleventh CMRS Report*") (Standard-based competition facilitates "greater product variety and greater differentiation of services," and enhances price competition by "mak[ing] it more difficult for carriers to coordinate their behavior.") (citing Neil Gandal, David Salant, and Leonard Waverman, *Standards in Wireless Telephone Networks*, 27 Telecommunications Policy (2003); Carl Shapiro and Hal R. Varian, *Information Rules* (Harvard Bus. School Press 1999)).

world in wireless broadband deployment, as the CDMA standard that Verizon Wireless and Sprint adopted enables a more efficient transition to 3G than the GSM standard adopted by Europe and much of the world.[9] Wireless carriers also have had the freedom to determine which handsets and devices should be permitted to operate on their networks. Moreover, wireless carriers also are not price-regulated nor required to file tariffs of any kind.[10]

The Commission's deregulatory agenda for broadband services has proven successful at promoting the availability and use of competitive broadband services.[11] As of the end of the first quarter of 2007, approximately 44 percent of all U.S. households subscribe to broadband – up from 22 percent at the time of the previous NOI – and that total is expected to reach approximately 50 percent by the end of 2007.[12] Morgan Stanley estimates that, as of the end of first-quarter 2007, "roughly 70 percent of online households []have signed up for broadband."[13] Nielsen//NetRatings reports that 80 percent of "active Internet users" already have a broadband

[9] Joseph Farrell & Michael D. Topper, *Economic White Paper on National Third Generation Wireless Standards* at 1-2 (Nov. 1998) ("Government should only mandate a standard when there is clear and convincing evidence that the market will fail to achieve economically efficient results and that this market failure will be worse than the likely inefficiencies of government-mandated standards. In the case of third generation wireless standards, on the contrary, there is much evidence that market competition among multiple third generation standards will better achieve the efficiency goals that a national standard might be thought to confer.").

[10] 47 U.S.C. § 332(c)(3)(A); *Implementation of Sections 3(n) and 332 of the Communications Act*, Second Report and Order, 9 FCC Rcd 1411, ¶¶ 173-182 (1994).

[11] At the same time that deregulation has led to increased availability and usage of broadband, it has not led to anticompetitive conduct. Indeed, there is not a single documented example of a major U.S. broadband provider engaging in anticompetitive conduct against an Internet content or application provider. Nor, given the robust and increasing competition for broadband services, is there any reasonable basis to assume that broadband providers could engage in such conduct. All broadband providers have strong incentives to allow consumers to access the content of their choice, because allowing access maximizes the value of the provider's network.

[12] S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at Exh. 21 (Apr. 23, 2007) (1Q07 estimate); R. Bilotti, *et al.*, Morgan Stanley, *Broadband Update: Bundling Is an Arms Race, Not a Price War* at Exh. 7 (July 8, 2004) (1Q04 data).

[13] S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at 1 (Apr. 23, 2007).

connection at home.[14] According to the Commission's most recent data, the vast majority of consumers in the U.S. have access to *at least* three competitive platforms for broadband, and consumers' broadband options are quickly increasing.[15] At the time of the last NOI, broadband alternatives other than cable and DSL accounted for less than 2 percent of total high-speed lines; today, they account for several times that, and a significant percentage of high-speed lines added in the most recent tracking period.[16]

Underlying this progress is a tremendous amount of private investment in broadband infrastructure. In the three years since federal regulators began dismantling network sharing and pricing regulation of broadband networks, Verizon's total capital expenditures were more than $45 billion, including $12.8 billion in 2004, $15.0 billion in 2005, and $17.1 billion in 2006.[17] As the *Wall Street Journal* recently noted, broadband providers have responded to the "deregulatory environment" established by the Commission: "Verizon's capital investments since 2000 exceed $100 billion, and such competitors as Cingular, T-Mobile, and Sprint are following suit. So are the cable companies."[18] "North American telecom companies are projected to spend $70 billion on new infrastructure this year, which is up 67% from 2003."[19]

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[14] *See* S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at 7 (Apr. 23, 2007).

[15] As of June 2006, consumers in more than 87 percent of U.S. zip codes have 3 or more broadband choices, up from 58 percent in June 2003. Sixty-three percent of U.S. zip codes are served by 5 or more broadband providers, up from 33 percent in June 2003. In one in five zip codes, there are now *10 or more* broadband choices. Ind. Anal. & Tech. Div., Wireline Competition Bureau, FCC, *High-Speed Services for Internet Access: Status As of June 30, 2006* at Table 15 (Jan. 2007) ("*FCC June 2006 High-Speed Report*").

[16] *See FCC June 2006 High-Speed Report* at Table 1.

[17] Verizon Communications, *2006 Annual Report* at 44, http://investor.verizon.com/financial/quarterly/pdf/06_annual_report.pdf.

[18] *Broadband Breakout*, Wall St. J. at A14 (Feb. 16, 2007).

[19] *Id.* (quotations omitted).

There have been impressive increases in fiber deployment. As Chairman Martin noted in his recent testimony to the Senate Commerce Committee, "[f]rom March of 2005 to the end of [2006], the number of homes passed by fiber increased from 1.6 million to 6.1 million."[20] Verizon, in particular, is leading the charge on fiber deployment. Verizon is in the process of deploying its FiOS network that runs fiber all the way to the premises. Verizon is spending a total of nearly $23 billion to deploy FiOS to 18 million customer premises by the end of 2010. As of the end of first quarter 2007, the FiOS network already passes 6.8 million homes and businesses, and Verizon's goal is to reach 9 million by the end of this year, and to add three million additional premises in each of the next three years.[21]

The FiOS network provides greater capacity and capabilities than any other network available to mass-market consumers today, including higher-speed Internet access, more video programming channels than the typical cable provider, best-of-class voice services, and other advanced features such as multi-room digital video recorders. FiOS already offers speeds of up to 50 Mbps in some areas, and speeds of 100 Mbps or more will be provided in the future. In markets where it has been deployed, FiOS has already prompted cable operators to respond by lowering their prices (or increasing the quality of their service offerings) with respect to both high-speed Internet access and cable services.[22]

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[20] Kevin J. Martin, Chairman, FCC, Written Statement before the Committee on Commerce, Science & Transportation, U.S. Senate at 4 (Feb. 1, 2007) ("*Martin Statement*").

[21] *See* J. Czwartacki, Verizon, *FiOS Fact Sheet* (May 3, 2007), http://policyblog.verizon.com/policyblog/blogs/policyblog/czblogger1/290/fios-fact-sheet.aspx.

[22] *See, e.g.*, D. Barden, *et al.*, Bank of America, *Battle for the Bundle: Consumer Wireline Services Pricing* at 9 (Jan. 23, 2006) ("The rollout of Verizon's FiOS service in select markets has elicited thinly advertised, yet highly competitive pricing responses for incumbent cable providers. . . . In each of these markets the respective cable provider . . . has responded with competitive pricing, well below their national average. . . . We discovered that incumbent cable customer sales reps were willing to offer more competitive pricing after mentioning FiOS, and significantly more competitive than Web pricing and out-of-region pricing."); R. Nakashima, *Comcast CEO Shows Off Super Quick Modem*, Associated Press (May 9, 2007), http://hosted.ap.org/dynamic/stories/F/FAST_CABLE_MODEM?SITE=MOJOP&SECTION=HOME&TEMPLATE=DEFAULT (At the May 2007

Verizon Wireless is an industry leader in deploying 3G wireless broadband networks. Verizon Wireless's 3G technology enables users to obtain high-speed Internet access on their EV-DO-equipped laptops at typical speeds of 600 kbps to 1.4 Mbps, with bursts up to 2 Mbps. Verizon Wireless has invested more than $3 billion to upgrade its wireless networks to 3G, using EV-DO technology. This has led to one of the broadest 3G deployments in the country, reaching 242 major U.S. cities with a total population of more than 200 million people. Verizon Wireless also has begun rapidly deploying next-generation EV-DO Revision A technology, which enables even higher-speed broadband services. Verizon Wireless already offers such services to more than 135 million people across more than 150 major markets.

While Verizon is the leader in broadband investment, it is not alone. Other traditional telephone companies likewise are pursuing aggressive strategies for expanding their broadband offerings. AT&T, for example, is spending $6.5 billion to deploy fiber-to-the-node serving 18 million homes. The cable industry has also invested heavily in broadband – reportedly over $100 billion since 1996[23] – and Comcast recently announced that it will invest $5.7 billion in capital expenditures in 2007.[24]

Although broadband alternatives are reasonably uniform nationwide, even a more granular analysis supports the Commission's conclusion that consumers in virtually all zip codes have access to multiple broadband alternatives. A survey that Verizon performed in Virginia in

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NCTA show, Comcast demonstrated cable modem technology that enables download speeds of up to 150 Mbps, approximately 25 times faster than today's standard cable modems. "The new cable technology is crucial because the industry is competing with a speedy new offering called FiOS.").

[23] *See, e.g.*, National Cable & Telecommunications Association (NCTA), *NCTA 2006 Industry Overview* at 5 (2006), http://i.ncta.com/ncta_com/PDFs/NCTAAnnual%20Report4-06FINAL.pdf.

[24] P. Grant, *Comcast Spending Plans Raise Concerns; Net Surges*, Wall St. J. at B5 (Feb. 2, 2007).

2006 illustrates the point.[25] That survey found that Verizon's wireline broadband service is available to 66 percent of Virginia households; that 88 percent of those households could choose cable modem service; that all of those households could subscribe to satellite broadband service; and that 71 percent could obtain fixed wireless service.

An even more comprehensive initiative by ConnectKentucky – a private-public alliance of corporations, universities, and government entities seeking to promote broadband – shows that, even in relatively rural states such as Kentucky, broadband is becoming ubiquitous without government intervention. ConnectKentucky gathered data from all broadband providers in the state, *see* Attachment B, and then worked with unserved communities to obtain information about who was interested in broadband services. ConnectKentucky then shared this information with providers who, in some cases, decided to deploy facilities in these communities to meet this demand. In other cases, providers needed additional assistance, so they received assistance from the Appalachian Regional Commission, RUS loans, state sponsors, and various other sources of funding. As a result of these initiatives, broadband is already available to more than 90 percent of households in Kentucky, and by the end of this year that total will reach virtually 100 percent.[26]

1. Cable and DSL Compete Vigorously Nationwide

Although there are now many competing broadband platforms, DSL and cable currently remain the most popular with consumers. At the time of the last broadband NOI, cable had a wide lead over DSL, due in large part to the uneven regulation that hampered DSL's ability to

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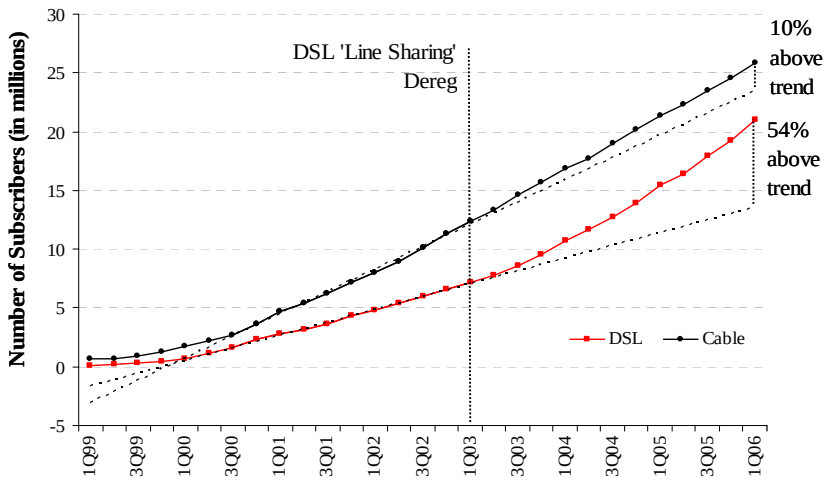
[25] *See* Application, *Application of Verizon Virginia Inc. and Verizon South Inc. for a Determination That Retail Services Are Competitive and Deregulating and Detariffing of the Same*, PUC-2007-00008 (VA SCC filed Jan. 17, 2007), *available at* http://scc.virginia.gov/division/puc/industry/vv_comp/rsc_app.htm; *see also* Attachment A.

[26] ConnectKentucky, *Broadband Adoption and Barriers: Results & Analysis from the ConnectKentucky Technology Assessment Study*, http://www.connectkentucky.org/NR/rdonlyres/2F6BAAC1-A6D0-4DD7-BEDF-385030488D6C/0/CKdocSRSBroadbandAdoptionBenchmarks.pdf; ConnectKentucky, *2007 Progress Report* at 4-5.

compete. Since that time, the Commission's deregulatory policies have leveled the playing field, which has enabled DSL providers to improve the competitiveness of their offerings and close the gap with cable operators. Professor Thomas Hazlett has demonstrated that DSL has grown much more rapidly in the three years since the FCC eliminated line sharing and other regulatory obligations, than the trend in years prior would have suggested. Following deregulation, DSL services grew 54 percent faster, and cable modem services grew 10 percent faster, than historical trends for these services. The ratio of cable modem-to-DSL subscribers decreased from more than 7:1 before deregulation (and more than 10:1 in 1999), to slightly more than 1:1 today.[27] *See* Figure 1.

Figure 1. The Broadband Test: Two Regimes

DSL and Cable Modem Subs, 1Q1999 - 1Q2006



Source: Legg Mason; Thomas Hazlett, *Rate Regulation in Cable Television and Residential Broadband Markets*, AEI Presentation at 18 (Sept. 21, 2006).

According to the National Cable and Telecommunications Association, as of the end of 2006, cable broadband service was available to 94 percent of all U.S. homes – up from 85

[27] *See* Thomas Hazlett, *Rate Regulation in Cable Television and Residential Broadband Markets*, AEI Presentation, at 18 (Sept. 21, 2006).

percent at the time of the last broadband NOI.[28] *See also* Figure 2. This total represents all but a small percentage of U.S. homes that are passed by cable networks,[29] which indicates that the upgrade of this plant to provide broadband is basically complete. As discussed further below, cable companies have continued to invest, however, to provide higher bandwidth services to consumers.[30]

In the wake of Commission decisions lifting regulatory burdens on DSL services, Verizon and other telephone companies have invested heavily to increase the availability of DSL service, and to enhance the speeds of those services, while also offering a range of DSL options to best meet the needs of particular consumers. According to the Commission's data, as of June 2006, DSL was available to 79 percent of homes where ILECs offer local telephone service.[31] *See also* Figure 2. More than 82 percent of homes served by the Bell telephone companies are able to obtain DSL service.[32] To the extent that DSL is not available in some areas, or is not available at higher speeds, that is due primarily to the inherent inability of copper plant in those areas to support DSL, not to an inability or unwillingness of local telephone companies to make

[28] NCTA Presentation, *Competition Works. Consumers Win! Competition, Choice and Value Shape Today's Communications Marketplace* at 5 (Mar. 2007), http://i.ncta.com/ncta_com/PDFs/Consumers_Win_03.09.07.pdf (2006 data citing Kagan Research); NCTA, *Mid-Year 2004 Overview* at 6 & Chart 1 (2004) (year-end 2003 cable broadband availability of more than 95 million homes); R. Bilotti, *et al.*, Morgan Stanley, *Broadband Update: Bundling Is an Arms Race, Not a Price War* at Exh. 8 (July 8, 2004) (110.8 million U.S. households in 2003).

[29] *See* NCTA, *Industry Statistics*, http://www.ncta.com/ContentView.aspx?contentId=66 (citing Kagan Research data for 112.6 million occupied homes passed by cable as of December 2006). The Commission's own data indicate that cable modem is available to 93 percent of homes where cable systems offer cable TV service. *See FCC June 2006 High-Speed Report* at Table 14.

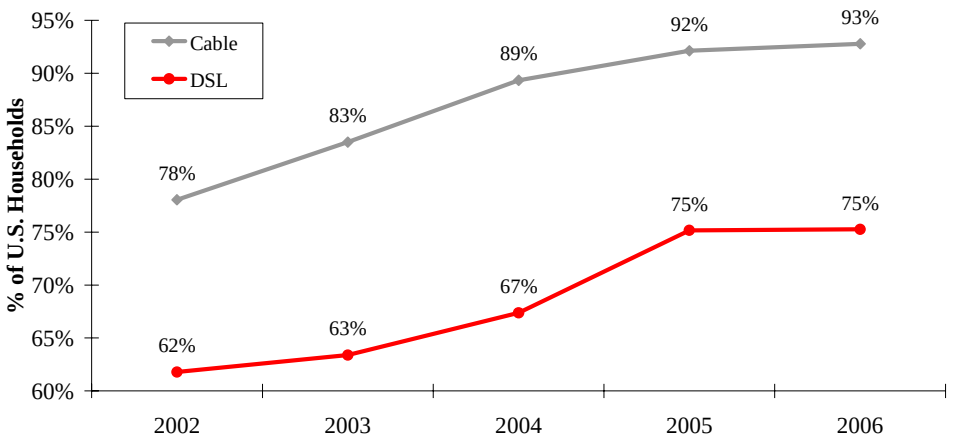
[30] S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at 2, 4 (Apr. 23, 2007) ("Cable clearly is aiming to increase downstream capacity through network investments (rising capital spending) and use its speed advantage to hold price or mitigate pricing pressure.").

[31] *See FCC June 2006 High-Speed Report* at Table 14.

[32] *See* J. Hodulik, *et al.*, UBS, *Qwest Communications* at Table 1 (Oct. 4, 2005) (weighted average). Because DSL works only on lines that are shorter than three-and-a-half miles long, it is not available in many sparsely populated areas where lines typically exceed that length. *See* Verizon, *Verizon DSL FAQ: Availability*, http://www22.verizon.com/content/consumerdsl/faqs/all+faqs/all+faqs.htm. *See also* C. Franklin, *How DSL Works*, http://electronics.howstuffworks.com/dsl1.htm ("The limit for ADSL service is 18,000 feet. . . though for speed and quality of service reasons many ADSL providers place a lower limit on the distances for the service.").

reasonable investments in necessary upgrades.[33] As discussed further below, however, other broadband technologies such as fixed wireless are suited to serving areas where DSL cannot reach, and many providers are concentrating on providing service in those areas to take advantage of the greater market opportunities that exist.[34]

Figure 2. Increase in Broadband Availability



Source: S. Flannery, *et al.*, Morgan Stanley, *Telecom Services: Speed Is Key As Broadband Market Matures* at Exh. 10 (Jan. 26, 2007); S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom: As Broadband Matures, Speeds (and CapEx) Rise* at Exhs. 19 & 22 (Apr. 23, 2007).

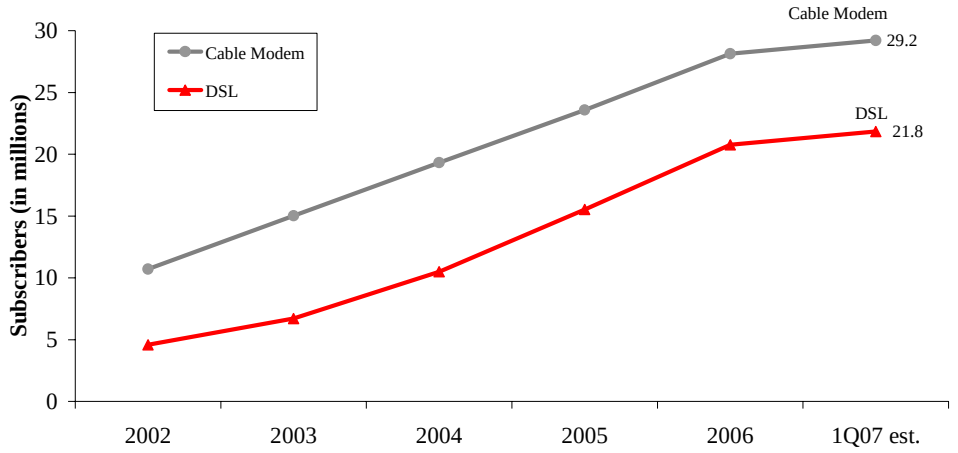
The number of consumers that subscribe to cable modem and DSL has increased significantly since the last NOI and continues to grow. As of the end of first quarter 2007, there were an estimated 29 million cable modem and 22 million residential DSL subscribers – up 76

[33] *See Verizon Telephone Companies, Tariff FCC Nos. 1 & 11, Transmittal No. 232*, Order Designating Issues for Investigation, 17 FCC Rcd 23598, ¶ 4 (2002) ("If ADSL service is provided over all-copper facilities, it is generally subject to the limitation that an end user's loop must be less than 18,000 feet long. This has prevented DSL from being offered to all potential end-users and thus has impeded DSL deployment in more sparsely populated and remote locations."); U.S. Gov't Accountability Office, *Broadband Deployment Is Extensive Throughout the United States, But It Is Difficult To Assess the Extent of Deployment Gaps in Rural Areas*, GAO-06-426 at 4 (May 5, 2006) ("*May 2006 GAO Report*") ("Even when cost and demand factors are favorable, technical factors can limit the deployment of broadband service in certain contexts. For example, DSL – the primary broadband service provided by telephone companies – can generally extend only 3 miles from the central office with copper plant, which precludes many households from obtaining DSL service.").

[34] *See, e.g.*, S. Silvius, *The Best (and Worst) ISPs: Fixed Wireless Fills the Broadband Gaps*, PC World (Apr. 27, 2005) ("Until recently, people in many rural and suburban areas had no choice for Internet access other than dial-up. . . Residents in many such communities now have a new broadband alternative: fixed-wireless Internet service (in which the wireless antenna is in a fixed location"); WildBlue Press Release, *WildBlue High-Speed Internet Via Satellite Triples Capacity with New Satellite* (Mar. 20, 2007) ("WildBlue provides broadband Internet access via satellite to homes and small businesses not currently served, or underserved, by other high-speed providers.").

and 199 percent, respectively, since the last NOI – with an estimated 1 million cable modem and 1 million DSL subscribers still being added each quarter.[35] *See* Figure 3. Significantly, as a result of the Commission's deregulatory policies that put DSL on a more level playing field with cable modem, DSL has largely closed the wide gap that existed at the time of the last NOI. DSL now accounts for approximately 43 percent of mass-market broadband subscribers (up from 31 percent as of the last NOI).[36]

Figure 3. Increase in Broadband Subscribers



Sources: R. Bilotti, *et al.*, Morgan Stanley, *Cable/Satellite: Looking into 3Q06 and 2007: Cautious on Top Line, Capital Expenditures, and Lofty Valuations* at Exh. 44 (Oct. 25, 2006) (2002-2004 data); S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom: As Broadband Matures, Speeds (and CapEx) Rise* at Exhs. 21 & 22 (Apr. 23, 2007) (2005-1Q07 data).

The intense competition between cable modem and DSL, together with the threat from other broadband technologies, has resulted in competitive prices and improved quality. Overall, prices for cable modem and DSL services have declined, particularly as the FCC has relaxed regulatory restrictions on these services. In the case of phone company DSL services, average

[35] *See* S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at Exh. 21 (Apr. 23, 2007) (1Q07 estimates); R. Bilotti, *et al.*, Morgan Stanley, *Broadband Update: Bundling Is an Arms Race, Not a Price War* at Exh. 7 (July 8, 2004) (1Q04 data).

[36] S. Flannery, *et al.*, Morgan Stanley, *Cable & Telecom; As Broadband Matures, Speeds (and CapEx) Rise* at Exh. 21 (Apr. 23, 2007) (1Q07 estimate); R. Bilotti, *et al.*, Morgan Stanley, *Broadband Update: Bundling Is an Arms Race, Not a Price War* at Exh. 7 (July 8, 2004) (1Q04 data).

prices have fallen by approximately 30 percent over the last four years.[37] Entry-level DSL prices have fallen even more, and are now as low as $14.99 per month.[38] Cable modem operators also have reduced their prices for bandwidth, most often by offering consumers more bandwidth for the same price, and by offering various promotions. Although there will inevitably be fluctuations in individual providers' prices, both up and down, the overall industry trend has been decreasing consumer prices.

Cable modem and DSL providers also continually improve the quality of their services. In the past three years, the downstream speeds of major cable operators' fastest offerings have increased from 3-6 Mbps to 4-15 Mbps, while the major DSL operators have increased their top downstream speeds from less than 1 Mbps to 2-3 Mbps.[39] Further, telephone companies' massive investments in fiber-to-the-premises and fiber-to-the-node technologies, as discussed below, promise quantum leaps in speed and service offerings, as well as improved reliability due to fiber-optic cable's resistance to moisture and decay and the lack of active electronics in the field. At the May 2007 National Cable & Telecommunications Association show, Comcast demonstrated cable modem technology that promises to deliver speeds of up to 150 megabits per second, which cable developed to respond to the competitive threat posed by new fiber networks such as FiOS.[40]

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[37] C. Moffett, Bernstein Research, *Broadband Update: "Value Share" and "Subscriber Share" Have Diverged* at Exh. 1 (Apr. 21, 2006) (Average revenue for DSL has fallen from $45 per month in 2002 to $31 per month in 2006).

[38] *See* Verizon, *Verizon High Speed Internet*, http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm?LOBCode=C&PromoTCode=RD501&PromoSrcCode=L&POEId=TL1DS; AT&T, *Residential DSL Services*, http://www.att.com/gen/general?pid=6431.

[39] C. Moffett, *et al.*, Bernstein Research, *The Dumb Pipe Paradox (Part II): Patchwork Pipes* at Exh. 1 (Feb. 28, 2006). *See also* J. Hodulik, *et al.*, UBS, *Is the Broadband Duopoly under Threat?* at 3 (May 10, 2006) ("Wired downstream speeds of 1-3 Mbps two years ago have been upgraded to 3-6 Mbps today. . . . Meanwhile, prices have come down dramatically.").

[40] R. Nakashima, *Comcast CEO Shows Off Super Quick Modem*, Associated Press (May 9, 2007), http://hosted.ap.org/dynamic/stories/F/FAST_CABLE_MODEM?SITE=MOJOP&SECTION=HOME&TEMPLAT

Finally, cable modem and DSL are competing not only for the residential segment of the mass market, but also for the businesses that the Commission has defined as part of that market. Each of the major cable operators offers business-class broadband services. For example, Time Warner Cable offers "Road Runner Business Class" with services that provide speeds up to 2 Mbps upstream and 8 Mbps downstream.[41] Comcast Workplace offers download speeds of up to 8 Mbps and uploads of up to 1 Mbps.[42] Comcast boasts that its Workplace was "ranked number one in small business broadband customer satisfaction."[43] Cablevision also offers "Optimum Online for Business," which it describes as a "super-fast, reliable and affordable broadband service that's ideal for just about any business."[44] These cable companies' existing networks already reach the vast majority of small businesses. One analyst, Buckingham Research Group, has recently estimated that cable companies can use their existing plant to target more than 85 percent of commercial revenues.[45]

2. Wireless Broadband Competition Is Intense and Growing

As discussed above, Verizon Wireless is making large investments to deploy next-generation wireless networks throughout the country. Other wireless providers have followed

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E=DEFAULT ("The new cable technology is crucial because the industry is competing with a speedy new offering called FiOS, a TV and Internet service that Verizon Communications Inc. is selling over a new fiber-optic network. The top speed currently available through FiOS is 50 megabits per second, but the network is already capable of providing 100 Mbps and the fiber lines offer nearly unlimited potential.").

[41] *See* Time Warner Cable, *Time Warner Cable Business Class*, http://www.twcnyc.com/index2.bus.cfm?c=new_bus/roadrunner.

[42] *See* Comcast, *Comcast Workplace: Features*, http://www.comcast.com/business/workplaceFeatures.html.

[43] Comcast, *Comcast Workplace: Welcome to Comcast Workplace*, http://www.comcast.com/business/default.html.

[44] Cablevision, *Optimum Online for Business: Features*, http://www.optimum.com/business/ool/features.jsp.

[45] *See* Q. Hasan & M. Tang, Buckingham Research Group, *Cable Goes Commercial: Examining Cable's Next Growth Phase* at Exh. 14 (Jan. 11, 2007) ("*Buckingham Research/Cable Goes Commercial Report*").

suit, which has put the U.S. ahead of the rest of the world in delivering highest-quality mobile wireless broadband services to consumers.

Current 3G wireless networks are capable of providing Internet access at speeds of 600 kbps to 1.4 Mbps, which is generally sufficient to support common Internet applications such as web surfing.[46] Verizon Wireless and Sprint each already makes 3G services available to more than 200 million people, and AT&T to more than 35 million.[47] Verizon Wireless and Sprint both recently deployed EV-DO Revision A technology, enabling typical download speeds of 600 kbps to 1.4 Mbps, and typical upload speeds of 500 to 800 kbps.[48] T-Mobile recently spent $4.2 billion in the FCC's Advanced Wireless Services ("AWS") auction to acquire licensed spectrum covering 100 percent of the U.S. population and will begin its 3G deployment in 2007.[49] Cable companies, which were also major license winners in the recent auction, plan to deploy next-

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[46] *See, e.g.*, Telstra Media Release, *Telstra's Turbo-Charged, Nationwide Mobile Broadband Network Goes Live* (Oct. 6, 2006) (announcing that Telstra's network in Australia provides peak network speeds of up to 3.6 Mbps, increasing up to 14.4 Mbps early next year).

[47] Verizon Wireless News Release, *Verizon Wireless Launches Faster New Wireless Broadband Network* (Feb. 1, 2007); Sprint, *The Largest Mobile Broadband Network*, http://powervision.sprint.com/mobilebroadband/plans/coverage.html; Cingular News Release, *Cingular Launches 3G Network in Indianapolis* (Sept. 22, 2006). In January 2007, Cingular announced that its 3G network covers 165 cities, including 73 of the top 100 markets in the country. Cingular News Release, *Cingular Wireless Reports Fourth-Quarter 2006 Results* (Jan. 24, 2007). *See also* Verizon Wireless, *BroadbandAccess Coverage & Speeds*, http://www.verizonwireless.com/b2c/mobileoptions/broadband/coveragearea.jsp; Cingular, *BroadbandConnect Coverage Map, available at* http://www.cingular.com/broadbandconnect_consumer; Sprint Nextel, *Search for Sprint Power Vision(SM) Network Coverage Areas*, http://www.sprint.com/business/products/products/evdoEnterZip.jsp.

[48] *See* Verizon Wireless News Release, *Verizon Wireless Launches Faster New Wireless Broadband Network* (Feb. 1, 2007); Verizon Wireless, *Facts About. . . Verizon Wireless Network* (May 1, 2007), http://news.vzw.com/pdf/Verizon_Wireless_Press_Kit.pdf; Sprint News Release, *Sprint 'Powers Up' Largest Mobile Broadband Network with More Upgraded Markets, Faster Speeds, New Device and Integrated GPS Capabilities* (Jan. 30, 2007).

[49] *See* T. Watts, *et al.*, Cowen and Company, *Mobile Content Delivery – The Next Wave of Wireless Growth* at 6 (June 28, 2006) ("T-Mobile plans to begin its 3G roll out in 2007."); R. Klugman, Prudential Equity Research, *FCC AWS Auction 66 Ends Raising $13.7B, the Top Four Major Wireless Carriers Represented 78% of Total Bids and 7% of MHZ-Pops Sold* at 2 (Sept. 18, 2006) ("T-Mobile, the most aggressive bidder in the auction, spent $4.2 bil. on spectrum covering 100% of the U.S. population.").

generation wireless services to complement their current broadband offerings.[50] The FCC also is planning additional spectrum auctions in the future. The largest of these is for 60 MHz in the 700 MHz band – prime spectrum for wireless broadband services[51] – which Congress has ordered the FCC to commence by January 28, 2008.[52] This new spectrum will provide more opportunities for further expansion of broadband competition.

3. Other Intermodal Broadband Alternatives Are Already Available to Most Consumers, and Are Rapidly Increasing

In addition to cable modem, DSL, and wireless, a number of other providers have entered the broadband market, thus making advanced communications capabilities available to even more Americans.

Competitive Fiber. As discussed above, the deregulatory environment for broadband has enabled Verizon to make massive investments to deploy its FiOS networks. Other providers are also investing to build new fiber-based broadband networks. AT&T plans to spend up to $6.5 billion to deploy a fiber-to-the-node network to 18 million homes by the end of 2008.[53] In

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[50] *See, e.g.*, *Comcast Corporation at Goldman Sachs Communacopia XV Conference – Final*, FD (Fair Disclosure) Wire, Transcript 092006an.775 (Sept. 20, 2006) (Comcast COO Steve Burke: "[E]ven though 10, 20, 30 years, we think people are still going to use a wire into the home for the majority of their video viewing or their high-speed data consumption that takes place at home. And maybe for their telephone usage inside the home, there will be a major portion of video, voice and data that is consumed wirelessly. We want to be in a position where we can offer that."). *See also* R. Klugman, Prudential Equity Research, *FCC AWS Auction 66 Ends Raising $13.7B, the Top Four Major Wireless Carriers Represented 78% of Total Bids and 7% of MHZ-Pops Sold* at 2-3 (Sept. 18, 2006) ("Sprint in partnership with major cable providers, (SpectrumCo consortium) spent $2.4 bil for 93%" coverage of the U.S. population; "we believe the spectrum will be used by the cable companies to expand data capabilities and have a wireless adjunct to their cable modem services.").

[51] *See* Catherine W. Seidel, Acting Bureau Chief, Wireless Telecommunications Bureau, FCC, Written Statement on Wireless Issues/Spectrum Reform before the Senate Committee on Commerce, Science and Transportation (Mar. 14, 2006) ("This spectrum is particularly well-suited for wireless broadband uses, and promises to yield significant benefits and innovative services for consumers.").

[52] Other scheduled auctions include broadband PCS (Auction 71 of unsold/returned PCS spectrum begins May 16, 2007); and 220 MHz (Auction 72 for 250 kHz begins June 20, 2007). *See* FCC Wireless Telecommunications Bureau, *Auctions*, http://wireless.fcc.gov/auctions/default.htm?job=auctions_home.

[53] *See* D. Searcey, *et al.*, *Business Technology: AT&T Says Costs Rise for TV System's Launch*, Wall St. J. at B4 (May 8, 2007); AT&T, Form 10-Q at 31 (SEC filed May 4, 2007).

addition, a number of municipalities, particularly in rural areas, have begun deploying fiber networks to provide broadband services to their residents.[54] According to FCC data, competing local carriers were serving approximately 128,000 high-speed lines over fiber as of the end of June 2006.[55] A study commissioned by the Fiber-to-the-Home Council reports that, in addition to Verizon and other Bell companies, fiber is being deployed by 341 other providers who currently serve more than 400,000 subscribers.[56]

Fixed Wireless/WiMAX. Fixed wireless service is a broadband alternative for many customers today and is likely to reach many more customers over the next few years. Currently, there are thousands of wireless Internet service providers ("WISPs") that use fixed wireless technology, often to serve rural areas that cable and DSL do not reach.[57] In Virginia, for example, a Verizon survey revealed that fixed wireless services were available to 71 percent of households in Verizon's local telephone service area in the state. *See* Attachment A. WISP services also are being deployed in major metropolitan areas and small, rural communities by companies such as TowerStream and Clearwire.[58] Sprint has announced that by 2008 it will

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[54] *See, e.g.*, B. Bohrer, *Plans for Fiber-Optic Network Gaining Speed in Wyoming City*, Telegraph Herald at B13 (Aug. 20, 2006) ("At least 40 municipalities and public utility districts around the nation already offer so-called 'fiber to the home,' according to market researcher Michael Render."); TIA & FTTH Council, *U.S. Optical Fiber Communities – 2006 with Customers Served Today via Fiber-to-the-Home* (Apr. 25, 2006), http://www.ftthcouncil.org/documents/959055.pdf (citing Render, Vanderslice & Associates data on FTTH communities, including municipal broadband systems).

[55] *FCC June 2006 High-Speed Report* at Table 6.

[56] RVA Market Research & Consulting, *FTTH/FTTP Update* at 11 (Apr. 1, 2007), http://www.ftthcouncil.org/documents/800832.pdf.

[57] *See* Wireless Broadband Access Task Force, FCC, *Connected & On the Go: Broadband Goes Wireless*, GN Docket No. 04-163, at 32 (Feb. 2005) (reporting estimates that there are between 4,000 and 8,000 WISPs). WiMAX is being rapidly deployed, and more than 150 deployments were in use as of May 2006. *See May 2006 GAO Report* at 60.

[58] TowerStream, *Service Areas*, http://www.towerstream.com/content.asp?serviceareas (TowerStream offers high-speed Internet access in Boston, New York City, Seattle, San Francisco, Los Angeles, Chicago, and Providence/Newport/Westerly, Rhode Island); Clearwire Press Release, *Clearwire Reports First Quarter 2007 Results* (May 8, 2007) (Clearwire offers service "in 38 U.S. markets, covering approximately 9.1 million people in more than 400 municipalities in Alaska, California, Florida, Hawaii, Idaho, Minnesota, Nevada, North Carolina,

have constructed a nationwide WiMAX network to offer 2-4 Mbps service to an estimated 100 million customers, with an investment of up to $3 billion.[59] WiMAX services are capable of and are being used to provide voice services that compete with distance-insensitive wireline offerings.[60] In-Stat estimates that, by 2009, 8.5 million users will get their broadband services via WiMAX, with more than half of those customers receiving voice service via their WiMAX connection.[61]

WiFi. Initial deployment of commercial WiFi service in the U.S. involved the placement of hotspots in public gathering points such as airports, coffee shops, and parks.[62] As discussed further below, there are now more than 50,000 WiFi hot spots in the U.S., which represents more than one-third of all hot spots worldwide.[63] Recently, dozens of cities have begun deploying

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Oregon, Texas, Washington and Wisconsin," and serves approximately 258,000 subscribers in the U.S. and Europe). *See also* Clearwire Corp., Amendment No. 5 to Form S-1 at 1 (SEC filed Mar. 7, 2007) ("Our markets range from major metropolitan areas to small, rural communities, and all sizes in between.").

[59] *See* A. Sharma, *et al.*, *Sprint To Spend Up to $3 Billion To Build Network Using Wimax – New Wireless-System Plan Shows Belief in Demand for Mobile Internet Services*, Wall St. J. at B2 (Aug. 9, 2006); A. Mohammed, *Sprint Nextel To Build $2.5 Billion Wireless Network*, Wash. Post at D04 (Aug. 9, 2006); J. Markoff, *et al.*, *Sprint Will Build an Intel-Backed Network*, N.Y. Times at 7 (Aug. 9, 2006). *See also Q1 2007 Sprint Nextel Corporation Earnings Conference Call – Final*, FD (Fair Disclosure) Wire, Transcript 050207aq.751 (May 2, 2007) (Sprint Nextel President and CEO Gary Forsee: "We also continue to make solid progress toward the deployment of our WiMAX broadband network. We are encouraged by the development of the WiMAX ecosystem . . . and we are on track to launch WiMAX in Washington D.C. and Chicago in late 2007 and to be in more than 20 markets by the end of 2008.").

[60] *See, e.g.*, Clearwire, *Clearwire Internet Phone Service: Features*, http://www.clearwire.com/internet-phone-service/features.php; Clearwire, *Products: Internet Phone Service*, http://www.clearwire.com/internet-phone-service/compare.php (Clearwire offers unlimited local and long-distance calling, along with many basic features (including voice mail, caller ID, call forwarding, 3-way calling, call blocking, etc.), for $29.99); Virginia Broadband, *What is VoIP*, http://www.vabb.com/voip.htm (Virginia Broadband advertises "Local and National telephone service for one flat rate. With your high-speed Internet connection you can get phone service, and not have to deal with any large, cumbersome phone company.").

[61] J. Hu, *Study: Net Phones Key to WiMax Success*, CNET News.com (Feb. 16, 2005), http://news.com.com/Study+Net+phones+key+to+WiMax+success/2100-1039_3-5579377.html.

[62] *See* JiWire, *Wi-Fi Hotspot Directory*, http://www.jiwire.com/search-hotspot-locations.htm (50,267 hotspots in the U.S. as of May 14, 2007); *see also* T-Mobile, *T-Mobile HotSpot: US Locations*, https://selfcare.hotspot.t-mobile.com/locations/viewLocationMap.do (T-Mobile offers more than 8,000 WiFi hotspots spanning all 50 states).

[63] *See* JiWire, *Wi-Fi Hotspot Directory*, http://www.jiwire.com/hotspot-hot-spot-directory-browse-by-country.htm (visited May 14, 2007).

WiFi networks to provide high-speed Internet access (typically up to 1 Mbps) and other services to businesses and residents.[64]

Broadband over Powerline. BPL uses the electric distribution network as a third broadband pipe to the home. Because the wires needed for BPL are largely in place, BPL can be deployed rapidly and at relatively low cost in virtually any market.[65] BPL technology is being deployed commercially by Current Communications (a company backed by Google and other investors) in Ohio and Texas,[66] and by other providers in smaller deployments throughout the U.S.[67] Parks Associates recently estimated that the number of U.S. households subscribing to BPL services will increase from 400,000 in 2007 to 2.5 million by 2011.[68] Where BPL is available, it is capable of and is being used to access VoIP services. For example, Current Communications offers "local telephone service combined with unlimited long distance and your

[64] According to one industry source, as of the end of March 2007, there were approximately 81 municipal WiFi networks in the U.S. that were providing public access, plus 38 additional networks that were being used solely for municipal purposes such as public safety. *See* MuniWireless.com, *List of US Cities and Regions* at 1, 3 (Mar. 31, 2007), http://muniwireless.com/reports/docs/March-31-2007summary.pdf.

[65] *See* S. Cleland, NetCompetition.org, *Why Competition Obviates Net Neutrality*, presentation for the FTC Internet Access Task Force at 6 (Sept. 26, 2006) ("99% of the cost to provide BPL is already paid for to supply electricity.").

[66] *See* Current Communications, *Overview*, http://www.currentgroup.com/about/index.html; Current Communications Press Release, *Current Communications Group Announces Strategic Investments To Catalyze Broadband over Power Line Deployments* (July 7, 2005); Current Communications Press Release, *Current Communications Announces $130 Million in Investments in Broadband over Power Line Networks* (May 4, 2006).

[67] *See, e.g.*, utility.net Press Release, *utility.net Announces Commercial Broadband Rollout in Michigan with Potential To Reach One Million Customers in Coming Years* (Apr. 30, 2007); United Power Line Council, *BPL Deployment Map*, http://uplc.utc.org/file_depot/0-10000000/0-10000/7966/conman/BPL+Deployment+Map+2007.pdf; BPL Co-op, *Broadband over Powerline*, http://www.forcvec.com/bplcoop/index.html (In southwestern Virginia, a joint venture of the Central Virginia Electric Co-operative and International Broadband Electric Communications is deploying BPL service to rural customers).

[68] *See Parks Associates: Growth of Broadband over Power Line To Outpace Cable and DSL*, Business Wire (Jan. 18, 2007).

favorite calling features – all for one low monthly price."[69] Current voice service "is available without a subscription to broadband Internet service."[70]

Satellite. Satellite broadband service is available nationwide from multiple providers.[71] HughesNet, StarBand, and WildBlue offer two-way broadband services at download speeds up to 1.5 Mbps and upload speeds up to 256 kbps,[72] which are comparable to the most widely purchased DSL offerings. Satellite providers report that they served more than 495,000 broadband lines at the end of June 2006, and that their subscribership was growing rapidly.[73] Although satellite broadband was previously considered expensive for residential customers, satellite providers' pricing is comparable to what cable modem and DSL providers charged just a few years ago.[74] In any event, satellite providers continue to improve their technology and cost structure.[75]

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[69] Current Communications, *Residential Voice*, http://www.current.net/ServiceAndPricing/Residential/Voice/.

[70] Current Communications, *Residential Voice FAQ*, http://www.current.net/ServiceAndPricing/Residential/Voice/Faq/.

[71] *See, e.g.*, StarBand, *What is StarBand?*, http://www.starband.com/about/ (service available throughout U.S.); WildBlue, *About WildBlue: Questions & Answers*, http://www.wildblue.com/aboutWildblue/qaa.jsp#1_1 (service available in contiguous U.S.); HughesNet, *For Your Home*, http://go.gethughesnet.com/HUGHES/Rooms/DisplayPages/LayoutInitial?pageid=hughesnetc&Container=com.webridge.entity.Entity[OID[91908CBE85AD4C428CCD8D5CDB016B51]] (same).

[72] WildBlue, *Packages and Pricing*, http://www.wildblue.com/forYourHome/index.jsp (WildBlue offers residential and small business service at $49.95/mo. for 512 kbps/128 kbps, $69.95/mo. for 1 Mbps/200 kbps, and $79.95/mo. for 1.5 Mbps/256 kbps); HughesNet, *For Your Home: Pricing*, http://go.gethughesnet.com/HUGHES/Rooms/DisplayPages/LayoutInitial?Container=com.webridge.entity.Entity%5BOID%5B71A9F5B422ABCE4886D9492F66B5B589%5D%5D (HughesNet offers residential services at $59.99/mo. for 700 kbps/128 kbps, $69.99/mo. for 1 Mbps/200 kbps, and $79.99/mo. for 1.5 Mbps/200 kbps); StarBand by Spacenet, *New StarBand Nova Series*, http://www.starband.com/services/ (StarBand offers residential and small office/home office service at $49.99/mo. for 512 kbps/128 kbps, $129.99/mo. for 1.024 Mbps/256 kbps).

[73] *FCC June 2006 High-Speed Report* at Tables 1, 6.

[74] *See, e.g.*, *EchoStar Launches High-Speed Service*, Multichannel Newswire (Oct. 20, 2006) (EchoStar began marketing high-speed Internet to rural customers starting at $49.95/month).

[75] *See, e.g.*, Hughes Network Systems, LLC Press Release, *Broadband Within Reach: Hughes' New Low Price Makes Broadband Dream a Reality for Underserved Communities* (May 7, 2007) ("Effective [May 7, 2007], new subscribers to HughesNet™ high-speed Internet satellite service will enjoy a significant reduction in price on Hughes equipment and standard installation. Now consumers in underserved areas can get fast broadband service at a new, affordable price."); Hughes Network Systems, LLC Press Release, *Hughes Signs Contract with Arianespace*

B. U.S. Broadband Availability and Competition in Perspective

The competitive availability of broadband services in the U.S. is impressive not only in its own right, but also compares favorably to the state of broadband in other major countries. Although a recent report from the OECD suggests that the U.S. has dropped from 12th to 15th place in broadband subscribers per capita,[76] this is a misleading proxy for evaluating the success of the U.S. broadband market and does not tell the full story. In general, it is difficult to draw meaningful conclusions about the relative levels of broadband penetration among different countries because of the different ways of measuring such penetration and the various supply-side and demand-side factors that could influence such penetration. Nonetheless, in a number of key respects, the U.S. broadband market leads the rest of the industrialized world or is at the top of a very small list of countries.

First, the United States is perhaps the only country in the world where *two* wireline broadband platforms are available to the vast majority of households, and where satellite broadband service also is ubiquitously available. In most of the rest of the world, including most of the countries that supposedly rank ahead of the U.S. according to the OECD, broadband is provided predominantly via DSL over the incumbent telephone company network.[77] Most other

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to Launch SPACEWAY 3 (Mar. 1, 2007) (The HughesNet SPACEWAY 3 satellite scheduled to launch in August 2007 "will deliver a wide range of new high-speed communications services for IP data and multimedia applications to North American enterprise, consumer, and government customers"); WildBlue Press Release, *WildBlue High-Speed Internet Via Satellite Triples Capacity with New Satellite* (Mar. 20, 2007) (WildBlue recently began offering service through a new satellite, WildBlue-1, which "allow[s] WildBlue to more than triple its customer capacity."); *Spacenet Reinvents Home and Small Office Satellite Services with All New StarBand Nova Featuring Next-generation Technology and Dramatically Reduced Pricing*, Business Wire (Sept. 19, 2006) (Spacenet introduced a new, StarBand Nova satellite broadband Internet service for residential and small office users "looking for a more reliable, professional-grade broadband satellite Internet connection at an affordable price.").

[76] *Compare* OECD, *OECD Broadband Statistics to December 2005*, http://www.oecd.org/document/39/0,2340,en_2649_34223_36459431_1_1_1_1,00.html, *with* OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband.

[77] OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband.

OECD countries have limited cable availability, less robust wireless broadband capabilities, and no satellite availability, and thus only a single broadband network.[78] The United States and Canada are the only two countries in the OECD where cable modem subscribers exceed DSL subscribers.[79] In terms of facilities-based competition to the legacy telephone infrastructure, the U.S. ranks near the very top (behind only Korea, which has long been a special case). *See* Figure 4. Although DSL is just as widely available in the U.S. as in most other countries (which is to say, it is pervasive), the U.S. is one of only a few countries where other broadband platforms have captured a majority of broadband subscribers.

The existence of robust intermodal competition in the U.S. – compared to the largely intramodal competition that exists elsewhere – is particularly significant given the greater benefits that intermodal competition creates. Intermodal forms of competition offer consumers different packages of price, quality, and functionality that provide more meaningful competition than service that merely duplicates an incumbent's offerings or share a single network. As the Commission has recognized, only where competitors have "direct control of their networks" can they "ensure the quality of their service and . . . offer products and pricing packages that differentiate their services from the perspective of end users."[80]

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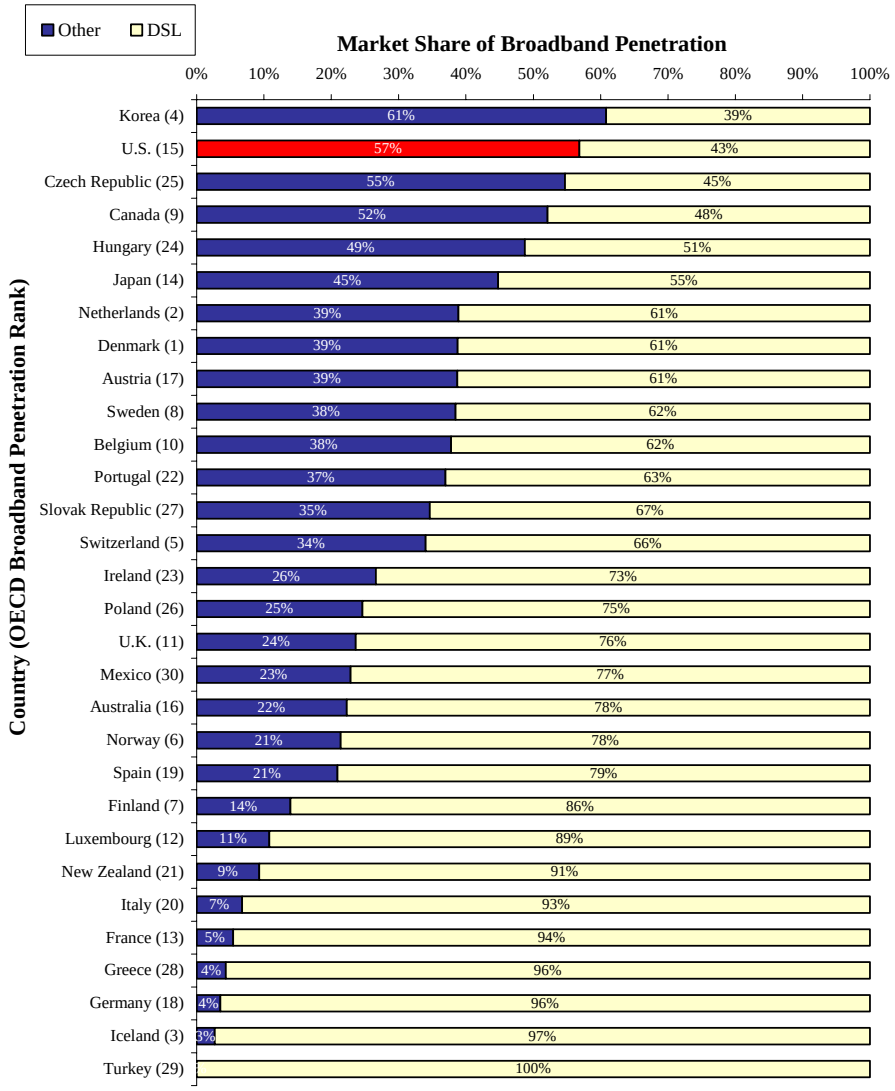
[78] *See* OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband; J. Taaffe, *Split Decisions*, TT Magazine (May 1, 2007) (according to EU Commissioner for Information Society and Media Viviane Reding, "[T]he cost of laying new local loop infrastructure . . . means there will be no fixed infrastructure competition in much of Europe. . . .Currently, only 20% of Europe has infrastructure competition, largely in the form of cable.").

[79] OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband.

[80] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, ¶ 112 (1999); *see also* AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366, 429 (1999) (Breyer, J., concurring in part and dissenting in part) ("It is in the *un*shared, not in the shared, portions of the enterprise that meaningful competition would likely emerge."); *Verizon Communications Inc. v. FCC*, 535 U.S. 467, 510 n.27 (2002).

Figure 4. U.S. Broadband Competition Is Intense



Source: OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband.

Second, mobile wireless broadband is more widely deployed in the United States than most other countries, including most that the OECD ranks ahead in broadband penetration. As described above, all major U.S. wireless carriers are now in the process of deploying next-generation (or 3G) wireless networks to consumers. As the Commission and others have found, the U.S. has leapfrogged Europe in making wireless broadband services available, despite getting

a later start due to early 3G licensing in Europe.[81] Wireless broadband services are now more widely available in the U.S. than in Europe, and also offer higher speeds.[82] The Commission's data also show that wireless broadband is adding subscribers at a very rapid rate. In addition, as the U.S. Department of State has recently noted, "[t]he United States has more Internet and broadband users and more Wi-Fi hot spots than any other country in the world despite larger land mass and more rural areas than most."[83] *See* Figure 5. In fact, the U.S. accounts for more than one-third of all of the WiFi hotspots in the world.[84]

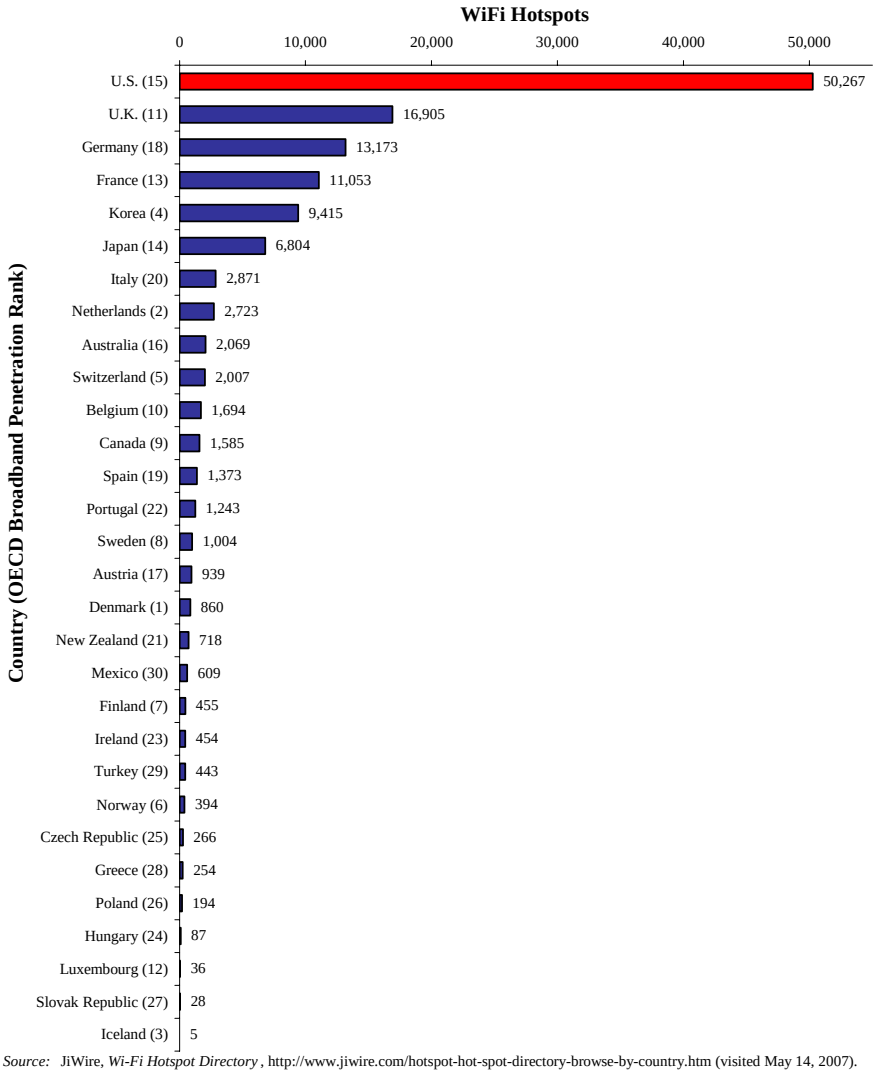
[81] *Eleventh CMRS Report* ¶ 202 ("Although early 3G licensing gave European operators a head start in the deployment of WCDMA networks, *Wall Street Journal* personal technology columnist Walt Mossberg argues that the superior next-generation technologies deployed by U.S. wireless carriers have given the United States an edge over Europe in wireless data networks for the first time in years.") (citing Walter S. Mossberg, *Cingular Joins Rivals with Fast, Reliable Wireless Broadband*, Wall St. J. at A9 (Jan. 19, 2006)).

[82] *Id.*

[83] Letter from Ambassador David A. Gross, U.S. Coordinator for Int'l Comm. and Info. Policy, to OECD Secretary General Angel Gurria (Apr. 24, 2007).

[84] *See* JiWire, *Wi-Fi Hotspot Directory*, http://www.jiwire.com/hotspot-hot-spot-directory-browse-by-country.htm (visited May 14, 2007).

Figure 5. There Are More WiFi Hotspots in the U.S. Than in Any Other Country



Source: JiWire, *Wi-Fi Hotspot Directory*, http://www.jiwire.com/hotspot-hot-spot-directory-browse-by-country.htm (visited May 14, 2007).

Third, the U.S. is one of only a handful of countries in the world – and the only large country – where private companies are investing to deploy next-generation fiber broadband networks on a large scale. Verizon alone has deployed more fiber to mass-market premises than all carriers in Europe combined.[85] Of the 14 countries that the OECD ranks ahead of the U.S.,

[85] *Compare* J. Czwartacki, Verizon, *FiOS Fact Sheet*, PolicyBlog (May 3, 2007), http://policyblog.verizon.com/policyblog/blogs/policyblog/czblogger1/290/fios-fact-sheet.aspx (As of the end of March 2007, Verizon had installed more than 417 million feet of fiber, passing 6.8 million premises, in parts of 16 states), *with* IDATE Press Release, *FTTH Situation in Europe* (Feb. 7, 2007), http://www.europeftthcouncil.com/extra/Press_Release/

only six report any fiber deployment whatsoever.[86] According to the OECD, Japan and Korea are far ahead of the pack in terms of fiber connections per inhabitants, but in both countries the government heavily subsidized such deployment.[87] The other countries with fiber deployment – Denmark, Netherlands, Iceland, and Norway – represent municipal or utility fiber deployment in small, dense countries that are relatively easy to wire, and, despite that, none is significantly ahead of the U.S. in terms of fiber deployment.[88]

Idate/PR_IDATE_FTTH_CONF_2007.pdf (As of June 2006, there were a total of 2.74 million homes and buildings passed by the 139 FTTx projects in Europe). *See also* K. Wieland, *Europe's FTTH Challenge*, Telecommunications International (Jan. 2007) ("Verizon in the US . . . is embarking on one of the biggest FTTH projects in the world. . . . [I]t is not only uncertainty about the extent of future bandwidth demand that is holding back FTTH investment in Europe. The regulatory environment is still unclear as the European Commission reviews the current EU Regulatory Framework."); D. Bailey, *UK Starved of High-Fibre Networks*, IT Week at 21 (Apr. 30, 2007) ("Without fibre, Europe will rapidly become the digital slowcoach on the information super highway," said Point Topic analyst Vince Chook); T. McElligott, *FTTH Connections Double in the Last Four Quarters*, Telephony Online Exclusive (Apr. 17, 2007) (The U.S. is "the fastest growing market for FTTH connectivity with a 99% growth rate. Japan's connectivity is growing by 60% and Europe's by 13%.").

[86] OECD, *OECD Broadband Statistics to December 2006*, http://www.oecd.org/sti/ict/broadband.

[87] T. Bleha, *Down to the Wire*, Foreign Affairs (May/June 2005), http://www.foreignaffairs.org/20050501faessay84311/thomas-bleha/down-to-the-wire.html (To encourage the deployment of fiber, the Japanese government used tax breaks, debt guaranties, and partial subsidies. Companies that were willing to lay fiber were allowed to depreciate about one-third of the cost on first-year taxes, and their debt liabilities were guaranteed by the government. To encourage the deployment of fiber in rural areas, towns and villages willing to establish their own fiber networks received a government subsidy covering approximately one-third of their costs, so long as those networks were open to outside access); S. McClelland, *21CN: Japan's 21st Century Network (Part 3)*, Telecommunications Online (Mar. 27, 2006), http://www.telecommagazine.com/newsglobe/article.asp?HH_ID=AR_1901 (NTT is "subsidizing each competitor and each subscriber"); N. Onishi, *In a Wired South Korea, Robots Will Feel Right at Home*, N.Y. Times (Apr. 2, 2006), http://www.nytimes.com/2006/04/02/world/asia/02robot.html?ex=1301634000&en=7d5fcaf014309078&ei=5088&partner=rssnyt&emc=rss ("The [South Korean] government deregulated the telecommunications and Internet service industries and made investments as companies laid out cables in cities and into the countryside. The government offered information technology courses to homemakers, subsidized computers for low-income families and made the country the first in the world to have high-speed Internet in every primary, junior and high school.").

[88] *See* IDATE, *FTTH Council Europe: Understanding the Digital World* at 9 (Feb. 7-8, 2007), http://www.europeftthcouncil.com/extra/Press_Release/Idate/IDATE_FTTH_Content_2007.pdf ("In Europe, most ultra-broadband projects thus far have been instigated either by municipalities or utilities, while fibre network operators, such as FastWeb in Italy or B2 in Sweden, are tending to expand their footprint using DSL."); *Evaluate the Use & Development of Telecommunication Services in Denmark, Finland, Iceland, Norway & Sweden*, Business Wire (Nov. 2, 2006) ("Scandinavia shares with The Netherlands a progressive municipal approach to fibre deployments for the benefit of citizens and regional economic welfare, leading to one of the widespread fibre footprints in Europe"); *By 2007 Bandwidth Averages in the Netherlands Are Expect To Reach 10 Mbps*, European Telecom at 16 (Aug. 1, 2006) (The Netherlands' "concentrated demography and economic prosperity has lent itself to investment in advanced networks.").

The facts above demonstrate that, regardless of how the levels of broadband penetration in the U.S. compare to the rest of the world, there does not appear to be a significant supply-side problem. To the contrary, in terms of making available facilities-based competitive broadband, the U.S. ranks at the top of the world. This is all the more significant given that the U.S. faces far greater supply-side challenges than most every country that supposedly ranks higher given its vast geography and population size and its relatively low population density.[89] With just a few exceptions, the countries that the OECD ranks ahead of the U.S. are both very small and very dense.[90]

Although the U.S. is leading, not trailing, in terms of broadband deployment, OECD data ranks the U.S. 15th in the world in terms of broadband subscribers per 100 inhabitants. As an initial matter, the OECD does not reveal its methodology, and many commentators – including the U.S. Department of State – have pointed out various apparent flaws. For example, the OECD fails to account for differences in household size, ignores use of non-subscriber broadband alternatives like connections in the workplace and technologies like WiFi, and relies on numbers that are generally self-reported by governments or government agencies that do not collect data

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[89] Robert McDowell, Commissioner, FCC, *Broadband Deployment in a Multi-media World: Moving Beyond the Myths to Seize the Opportunities*, Remarks before the Catholic University School of Law Symposium (Mar. 15, 2007) ("OECD does not account for population density, which puts a country as large as ours – with sizable rural areas – at a disadvantage. No other country above the U.S. on the OECD list occupies an entire continent like we do. No other country above us on this list is 75 percent rural, like the U.S. is."); Kyle McSlarrow, President and CEO, NCTA, *Broadband Letter to Hill* (Apr. 23, 2007) ("Finally, I believe that it is important to resist comparing the U.S. with much smaller regions like Hong Kong, which is 422 square miles, or Iceland, where almost 93 percent of its inhabitants live in urban areas. Compared to most of the nations that rank 'ahead' of the U.S. in broadband penetration, the U.S. is geographically vast and significantly less dense. Korea, often mentioned as a leader in broadband, is 16 times more densely populated than the United States, and more than half of Koreans live in large apartment buildings, while 75 percent of Americans live in single-family dwellings. It is clear that factors like geography, distance, and population concentration and urbanization are critical to the pace and success of investment in any network, not just broadband.").

[90] *See* OECD, *Chart 8: OECD Broadband Penetration and Population Densities*, http://www.oecd.org/dataoecd/36/57/38449405.xls (2005 population density); OECD, *OECD in Figures* (2005 ed.), http://ocde.p4.siteinternet.com/publications/doifiles/012005061T001.xls (2004 population).

in comparable ways and may be interested in appearing to have a high rank.[91] The OECD also does not account for the availability and use of dedicated high-capacity lines, which is particularly significant because many mass-market consumers in the U.S. have an additional alternative for broadband access at their workplace that should be considered in any proper analysis.

Even more importantly, the OECD rankings fail to adjust for differences in demand-side factors that have a significant effect on broadband penetration. For example, a relatively high percentage of households in the U.S. still use dial-up Internet access and apparently find that adequate for their Internet needs.[92] Indeed, total Internet penetration in the U.S. – narrowband plus broadband – is higher in the U.S. than in all but a handful of OECD countries. *See* Figure 6. Most foreign countries do not have a history of unlimited local calling and inexpensive dial-up Internet access like the U.S., but instead meter all local calls, including those to ISPs. As a result, unlike in the U.S., broadband prices in other countries have not had to compete with very low narrowband prices in order to attract new subscribers.[93] In addition, studies have shown that broadband subscription rates are positively correlated to various demand-side factors such as income, education, telephone consumption, household size, and population density, and

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[91] *See* Letter from Ambassador David A. Gross, U.S. Coordinator for Int'l Comm. and Info. Policy, to OECD Secretary General Angel Gurria (Apr. 24, 2007); Market Clarity, *Broadband Wars; The OECD's International Broadband Arms Race* (May 15, 2007), http://www.marketclarity.com.au/freebies/OECD-BB-Wars-15-May-2007.pdf.

[92] Scott Wallsten & Seth Sacher, AEI-Brookings Joint Center, *What US Broadband Problem?* (July 2006), http://www.aei-brookings.org/policy/page.php?id=259 ("What explains this difference between broadband penetration and Internet users? The answer is that about half of U.S. Internet users still connect via dial-up. . . . For many, dialup – often supplemented by broadband access at work – is sufficient for their current needs.").

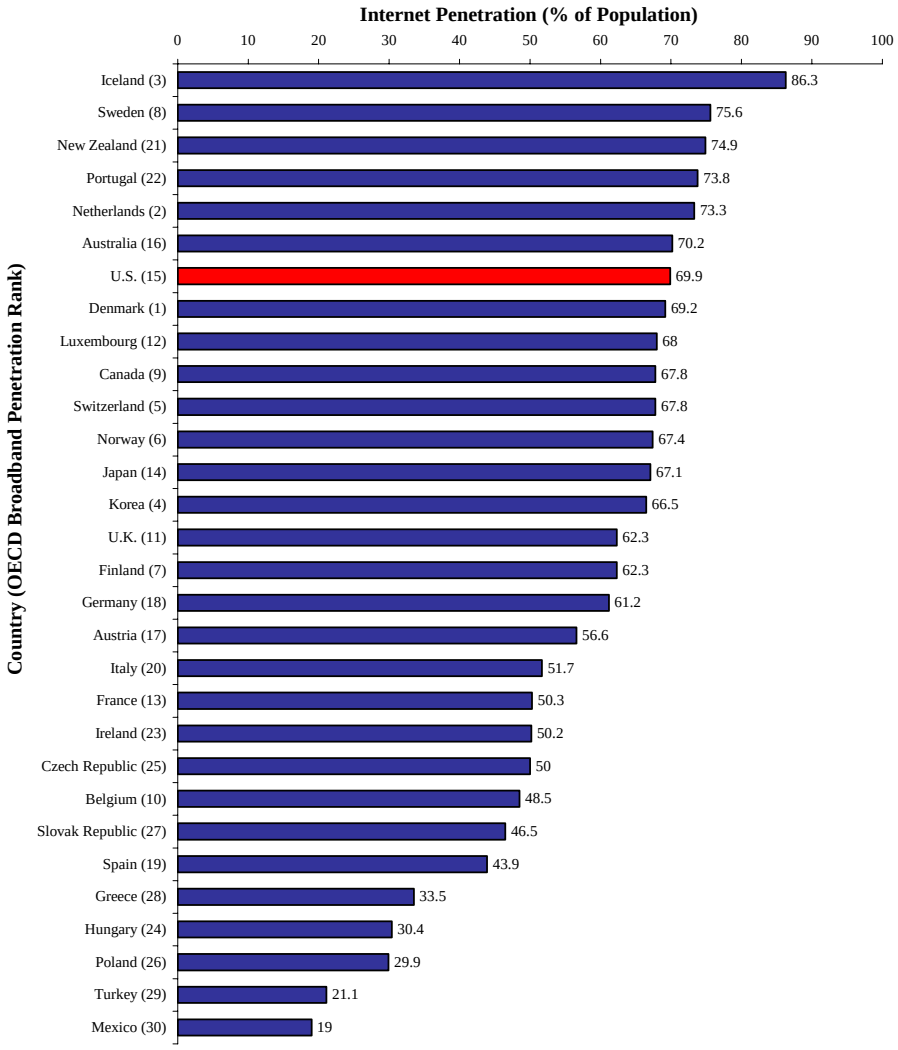
[93] *See, e.g.*, International Telecommunication Union (ITU), *Promoting Broadband: The Case of Broadband* at 22 (Apr. 2003) (The cost of broadband in Japan is "not much higher than the dial-up Internet access charge."); K. Belson, *Japan Goes High Speed: A Tenfold Increase in Connections*, N.Y. Times (May 5, 2003) ("Japanese consumers, who pay some of the highest local phone fees in the world, have [] been attracted to [ADSL] because for as little as $22 a month, they can gain unlimited access to the Internet.").

negatively correlated to factors such as income equality and age.[94] Cultural differences also play a big role in broadband adoption rates – such as the fact that Koreans disproportionately engage in on-line gaming.[95] The OECD rankings are fairly meaningless unless these variables are taken into account.

[94] George S. Ford, Chief Economist, Phoenix Center for Advanced Legal & Economic Public Policy Studies, Written Statement before the House of Representatives Committee on Energy and Commerce, Subcommittee on Telecommunications and the Internet, Hearing on Digital Future of the United States: Part IV: Broadband Lessons from Abroad at 19-22 (Apr. 24, 2007).

[95] *See, e.g.*, K. Kalning, *Forget Reality TV. In Korea, Online Gaming Is It*, MSNBC (Feb. 21, 2007), http://www.msnbc.msn.com/id/17175353/ ("An estimated 17 million people in the country of 48 million play [online] games regularly. Consoles, so popular in the United States and Japan, have barely made the radar in South Korea.").

Figure 6. The U.S. Has a Higher Internet Penetration Rate Than Most Countries



Source: Internet World Stats: Usage and Population Statistics, http://www.internetworldstats.com/stats.htm. Data are the most recent available for each country (last updated Mar. 10, 2007).

II. THE COMMISSION SHOULD COLLECT DATA ON A WIDE RANGE OF BROADBAND SPEEDS RATHER THAN ADOPT AN ARBITRARY THRESHOLD

The NOI seeks comment on how the Commission should define "advanced telecommunications capability," which it has heretofore defined as services with an upstream and downstream transmission speed of more than 200 kbps.[96] Although the Commission

[96] *Fifth NOI* ¶ 12.

correctly observes that the broadband market has evolved considerably since it first adopted this threshold, *see id.*, that evolution – which is still ongoing – highlights the need for the Commission to take a flexible approach, rather than choose an arbitrary threshold. For purposes of data gathering, the Commission should collect information about different speeds of broadband services, including those capable of 200 kbps or higher, as well as services at much higher speeds. There is no reason to stop tracking entry-level broadband speeds that continue to provide many consumers access to the applications and services they desire.

Until recently, the Commission reported data on all broadband lines above 200 kbps in the aggregate. Beginning with the June 2006 reporting period, however, the Commission began reporting downstream speeds on a more granular basis, grouping broadband lines into those with maximum downstream speeds of less than 2.5, 10, 25, or 100 Mbps. Despite changes in the marketplace, it still makes sense to use 200 kbps as the entry-level speed for data-reporting purposes, since most common broadband applications – such as basic web-surfing and e-mail – can be performed adequately at this speed. In fact, some new broadband technologies that are being deployed – such as municipal WiFi networks – are designed to provide average throughput of approximately 200 kbps.[97] And services offering speeds on the low end of the broadband

[97] *See, e.g.*, *Amended Wireless Broadband Internet Access Network Agreement between the City and County of San Francisco and EarthLink, Inc.* § 11.1.5.1 (amended Apr. 19, 2007), http://www.sfgov.org/site/uploadedfiles/dtis/tech_connect/process/FinalAmendedNetworkAgreement.pdf (Basic Service in San Francisco will be available at a minimum average symmetric throughput of 300 kbps); CenturyTel, *Vail WiFi*, https://www.vailwi-fi.com/?view=splash;client_ip=66.208.26.115;portal=centurytel;filtered=yes (in Vail, Colo., one hour of service is available at no cost every 24 hours, for speeds up to 300 kbps); Azulstar, *Azulstar Wi-Fi Internet and Wi-Fi VoIP Pricing*, http://www.ottawawireless.net/services/pricing.html; Azulstar Networks, *Azulstar Networks Coverage*, http://www.azulstar.com/coverage-map.html (in Grand Haven, Rio Rancho, Spring Lake, and Ferrysburg, Mich., one hour of service is available at no cost every 24 hours, for 256 kbps downstream/60 kbps upstream service).

scale are undoubtedly a major improvement over the narrowband Internet access services that a sizable segment of the population still deems satisfactory.[98]

The Commission's other reporting categories also appear appropriate as they correspond roughly to different levels of broadband functionality and different tiers of service that providers are offering. For example, speeds up to 2.5 Mbps allow robust Web surfing and video conferencing; speeds between 2.5 Mbps and 10 Mbps allow standard-definition video on demand, telecommuting, file sharing, and on-line gaming; speeds between 10 and 25 Mbps allow telemedicine, large file sharing, and high-definition video on demand; and speeds between 25 and 100 Mbps allow network-hosted applications and storage and high-definition multi-channel video. Verizon offers two main variations of DSL (with maximum speeds up to 768/128 kbps and 3 Mbps/768 kbps, respectively), three principal variations of FiOS (with speeds up to 5/2 Mbps, 15/2 Mbps, 30/5 Mbps), and mobile wireless broadband at speeds ranging from 600 kbps to 1.4 Mbps downstream and 500 to 800 kbps upstream. Given the variety of functionality and service offerings in the marketplace, the Commission should take a flexible approach to collecting data regarding broadband speeds, rather than define an arbitrary threshold. Consistent with this approach, the Commission should consider adding one additional reporting category in between 200 kbps and 2.5 Mbps (such as maximum capable speeds above 200 kbps but less than 700 kbps) to capture the services provided within this range. The creation of this additional speed tier would allow the Commission to better understand the prevalence of services on the lower end of the broadband scale, and to distinguish those from services – like Verizon's 768 kbps DSL – that enable a broader range of services and applications.

[98] *See* J. Horrigan, Pew Internet & American Life Project, *A Typology of Information and Communication Technology Users* (May 7, 2007), http://www.pewinternet.org/pdfs/PIP_ICT_Typology.pdf.

III. THE FCC SHOULD PURSUE A DEREGULATORY SPECTRUM POLICY AND REITERATE THAT STATE AND LOCAL REGULATION OF BROADBAND IS PREEMPTED

As noted above, the Commission's deregulatory policies have been a resounding success, fostering increased availability and use of broadband. The Commission should continue to pursue its deregulatory agenda in several key respects.

First, the Commission should encourage additional intermodal broadband competition through its spectrum policies. The Commission should quickly auction available spectrum that is well-suited for broadband services, such as the 700 MHz commercial spectrum, and duplicate the American 3G success story with 4G technologies. In doing so, the Commission should not impose unnecessary restrictions on the use of the spectrum – such as proposals to require open access to wireless networks, which would substantially diminish the value of the spectrum, and threaten the reliability of wireless networks.[99] Intrusive regulation would restrict the number of entities likely to participate in an auction, and favor some business models over others, contrary to the Commission's wireless policies over the past decade or more. The Commission should do what it has done well before, and adopt flexible auction and service rules that will yield maximum benefit to the taxpayers, but will also give interested providers with alternative business models the opportunity to bid on the spectrum and allow that spectrum to be used by those who believe they can derive the most value from it.

Second, although the Commission has now removed many of the major federal regulatory disincentives to broadband deployment, some states or local authorities have implemented burdensome broadband regulation or are proposing to do so. Such regulation conflicts with federal policy and threatens to undo much of the progress that has been made thus

[99] See Comments of Verizon Wireless, *Petition of Skype Communications to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks*, RM-11361 (FCC filed Apr. 30, 2007).

far. Even the mere prospect of such regulation creates regulatory overhang that has a chilling effect on new broadband investment. The Commission should therefore reiterate that state and local attempts to regulate broadband services are preempted under federal law.

The threat of local or state broadband regulation is by no means hypothetical. As the Commission recently acknowledged, the "operation of the franchising process at the local level" has had the effect of "discourag[ing] investment in the fiber-based infrastructure necessary for the provision of advanced broadband services."[100] For example, "[d]elays in the franchising process . . . hamper accelerated broadband deployment and investment in broadband facilities in direct contravention of the goals of Section 706, the President's competitive broadband objectives, and [the Commission's] established broadband goals."[101]

In addition, some states are considering imposing so-called "net neutrality" regulations on Internet access providers and Internet services.[102] Under the guise of preventing "discrimination," these ill-defined Internet regulation proposals could prevent Internet service providers from offering differentiated services to meet the unique needs of content and application providers – thereby impeding developments that promise to increase the range of services available to consumers. This, in turn, will discourage providers from deploying the next-generation networks that are needed to handle the rapidly growing demand for bandwidth-intensive applications and services.

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[100] *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984*, Report and Order and Further Notice of Rulemaking, 22 FCC Rcd 5101, ¶ 3 (2007).

[101] *Id.* ¶ 52.

[102] *See, e.g.*, New York State Assembly Bill 3980 (introduced Jan. 30, 2007); New York State Senate Bill 5124 (introduced Apr. 25, 2007); State of Maine Legislature LD 1675 (introduced Mar. 22, 2007); Maryland House Bill 1069 (introduced Feb. 9, 2007 and withdrawn Mar. 13, 2007). *See also State Telecom Activities*, Communications Daily (Dec. 27, 2006) ("[Michigan Governor Jennifer Granholm] asked state legislators to come up with a bill on net neutrality when provisions on the issue didn't make it into the video franchise measure" that went into effect on January 1, 2007).

State and local attempts to regulate broadband are preempted under federal law. Congress has clearly expressed its intent that broadband Internet access service should remain unregulated. The Telecommunications Act of 1996 provides the FCC with "express directives . . . to encourag[e] broadband deployment, generally, and promot[e] and preserve[e] a freely competitive Internet market, specifically."[103] The Commission accordingly has adopted a "comprehensive" national policy of "nonregulation of information services."[104] Pursuant to that national broadband policy, the Commission has made clear that if broadband Internet access service is regulated at all, the FCC will be the sole regulator. The Commission has said that its jurisdiction under Title I covers any regulation "reasonably ancillary to the effective performance of [its] various [statutory] responsibilities,"[105] and that the "predicates for ancillary jurisdiction are likely satisfied for any consumer protection, network reliability, or national security obligations that we may subsequently decide to impose on wireline broadband Internet access service providers."[106] The Commission also has promised to "monitor all consumer-related problems arising in this market and take appropriate enforcement action where necessary."[107] This further suggests that, in the area of protecting broadband Internet access customers, states

[103] *Wireline Broadband Order* ¶¶ 3 n.8, 8; *see, e.g.*, 47 U.S.C. §§ 157 nt., 230(b).

[104] *Wireline Broadband Order* ¶ 45; *Petition for Declaratory Ruling That pulver.com's Free World Dialup Is Neither Telecommunications Nor a Telecommunications Service*, Memorandum Opinion and Order, 19 FCC Rcd 3307, ¶ 17 (2004); *Vonage Holdings Corporation, Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, 19 FCC Rcd 22404, ¶ 21 (2004); *see also Southwestern Bell Telephone Co. v. FCC*, 153 F.3d 523, 544 (8th Cir. 1998) (upholding the FCC's determination not to impose interstate access charges on ISPs due to the desire to promote a free market for such services "unfettered by Federal or State regulation").

[105] *Wireline Broadband Order* ¶ 109.

[106] *Id.*

[107] *Id.* ¶ 145.

and localities have a limited role to play.[108] The Commission should therefore reiterate that, given Congress's directive and the Commission's own policies, state and local broadband regulations directly conflict with, or prevent implementation of, federal objectives, and are therefore preempted.[109]

The Commission also should confirm that IP-enabled services, such as VoIP, are preemptively interstate in nature and deregulated, regardless of provider.[110] The Eighth Circuit has recently confirmed the Commission's authority over VoIP services.[111] The Commission should now exercise that authority to place all VoIP services on a level regulatory playing field, regardless of the technology or provider, just as the Commission did with respect to broadband services following the Supreme Court's *Brand X* ruling. The Commission should also clarify that state regulation of VoIP services is preempted, to ensure that the states cannot saddle these new services with regulations designed for different services in a different era. The continued development of next-generation broadband networks depends upon keeping VoIP lightly regulated and free from a multiplicity of state-level regulation. If regulations that were designed for a different world and that are contrary to the manner in which consumers now seek to purchase services are extended to VoIP, they would hamper competition by imposing unnecessary costs and creating an uneven playing field, delay the introduction of services, and

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[108] *See, e.g.*, *Buckman Co. v. Plaintiffs' Legal Committee*, 531 U.S. 341, 342 (2001) ("State-law fraud-on-the-FDA claims inevitably conflict with the FDA's responsibility to police fraud consistently with the Administration's judgment and objectives.").

[109] *See Vonage Holdings Corp. v. Minnesota Pub. Utils. Comm'n*, 290 F. Supp. 2d 993 at 997, 1001-03 (D. Minn. 2003); *see also Geier v. American Honda Motor Co.*, 529 U.S. 861, 873 (2000) (state law is preempted if it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress"); *Fidelity Fed. Savings & Loan Ass'n v. de la Cuesta*, 458 U.S. 141 (1982) ("Federal regulations have no less pre-emptive effect than federal statutes.").

[110] *See IP-Enabled Services*, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004).

[111] *Vonage Holdings Corp.; Petition for Declaratory Ruling Concerning an Order of the Minn. Pub. Utils. Comm'n*, Memorandum Opinion and Order, 19 FCC Rcd 22404, ¶ 20 (2004), *petitions for review denied*, *Minnesota Pub. Utils. Comm'n v. FCC*, Nos. 05-1069, *et al.* (8th Cir. Mar. 21, 2007).

reverse some of the Commission's deregulatory efforts with respect to broadband, all to the detriment of consumers.

CONCLUSION

Since the time of the last broadband NOI, the Commission has pursued a deregulatory agenda for broadband that has proven extremely successful. Broadband availability and usage have grown rapidly, and are on track to increase even further in the future. The Commission should stay on the deregulatory course that it charted years ago, and take the additional deregulatory steps outlined above.

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