

EXECUTIVE SUMMARY

WorldCom supports the efforts of the Universal Service Joint Board to review the definition of supported services, and, in particular, to address the question of whether certain advanced services should be added to the list of services receiving universal service support. The advanced service drawing the most attention in the universal services context is broadband, a word that is loosely used to refer to services that deliver T-1 or near T-1 speeds to homes and small businesses, or even small offices of large businesses, at prices that are substantially reduced from T-1 prices. Used in its generic context, broadband includes services delivered from telephone companies using DSL platforms, and from cable companies using cable modem platforms. These services can also be provided by wireless and satellite technologies. Each version offers high speed, “always on” Internet access, and in some configurations, voice services as well.

The issue of whether these broadband services should be added to the definition of supportable services under the federal universal service system is in the first instance, a question of law, and secondly a question of policy. In WorldCom’s view, the threshold legal requirement, triggering a decision that a service must be supported, demands that the service have characteristics that are substantially related to the four “factors” that Congress outlined in section 254(c)(1): (1) the service is “essential” to education, public health, or public safety; (2) the service is subscribed to by a “substantial majority of residential customers;” (3) the service is being deployed in public telecommunications networks; and (4) the decision to support the service is in the public interest. At the present time, broadband has an insufficient nexus with these legal requirements. It is not a service that is “essential” to education, public health or safety, and it is subscribed to by

a small minority of residential customers. In fact, available statistics indicate that, by the most generous estimate, only 4 to 7 percent of residential subscribers take broadband service today. While the service is being actually deployed in networks, that factor alone is not enough to create a legal requirement to support the service under federal universal service rules. Nor does public policy, and the public interest, favor adding broadband at this time. This is a service that has been on the market for only a short time, and market forces are so far driving deployment and availability of the service in a dramatic and speedy fashion. Indeed, if there is an impediment to broadband, the significant issues are on the demand-side, not the supply-side.

WorldCom recommends that the Joint Board use this proceeding to catalogue the programs and initiatives to increase broadband deployment that already exist, as well other regulatory solutions that may be more efficient than subsidies, such as enforcing the market-opening provisions of the Telecommunications Act. This Joint Board review would also contribute greatly to the law and policy of universal service if it could assemble the substantial questions that exist about how one would “add” broadband support to the existing federal regime. The task of listing the relevant questions for future consideration would itself contribute to this important debate.

TABLE OF CONTENTS

EXECUTIVE SUMMARY2

I. INTRODUCTION5

II. THE ACT ESTABLISHES LEGAL REQUIREMENTS THAT MUST BE MET BEFORE A SERVICE CAN BE SUPPORTED UNDER THE FEDERAL UNIVERSAL SERVICE PLAN.....7

III. IT IS PREMATURE AT THIS TIME TO PROVIDE FEDERAL UNIVERSAL SERVICE SUPPORT FOR ADVANCED SERVICES11

 A. Advanced Services Have Not Been Subscribed to by a “Substantial Majority of Residential Customers.”11

 B. Advanced Services Are Not “Essential” to Education, Public Health, or Public Safety12

 C. Providing Support for Advanced Services Would Violate the Universal Service Principle of Competitive Neutrality16

 D. The Public Interest Does Not Support Using Federal Universal Service Funds to Subsidize Advanced Services At This Time.....18

 i. Subsidizing advanced services would increase the size of the Universal Service Fund exponentially.....19

 ii. Broadband deployment is already occurring20

 iii. Regulatory agencies should use promote competition to spur broadband deployment.....28

IV. EXISTING BROADBAND DEPLOYMENT INCENTIVES ARE ARGUABLY DRIVING DEPLOYMENT.....29

V. THE JOINT BOARD SHOULD USE THE INSTANT PROCEEDING TO CATALOGUE THE ISSUES THAT MUST BE SOLVED TO ADD ADVANCED SERVICES TO THE SUPPORTED SERVICES LIST37

VI. CONCLUSION.....38

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Federal-State Joint Board on)	CC Docket No. 96-45
Universal Service)	

COMMENTS OF WORLDCOM, INC.

I. Introduction.

WorldCom supports the efforts of the Universal Service Joint Board to review the definition of supported services, and, in particular, to address the question of whether certain advanced services should be added to the list of services receiving universal service support.¹ The advanced service drawing the most attention in the universal services context is broadband, a word that is loosely used to refer to services that deliver T-1 or near T-1 speeds to homes and small businesses, or even small offices of large businesses, at prices that are substantially reduced from T-1 prices. Used in its generic context, broadband includes services delivered from telephone companies using DSL platforms, and from cable companies using cable modem platforms. These services can also be provided by wireless and satellite technologies. Each version offers high speed, “always on” Internet access, and in some configurations, voice services as well.²

¹ Public Notice, “Federal-State Joint Board on Universal Service Seeks Comment on Review of the Definition of Universal Service,” CC Docket No. 96-45, August 21, 2001 (August 2001 Public Notice).

² For the purposes of these comments, WorldCom will consider “advanced services” to refer to broadband services offered over copper loops, coaxial cable “loops” or hybrid fiber/copper loops at T-1 or near T-1 speeds, and that are designed and sold to the mass market. Therefore, the text will use the terms

The issue of whether these broadband services should be added to the definition of supportable services under the federal universal service system is in the first instance, a question of law, and secondly a question of policy. In WorldCom's view, the threshold legal requirement, triggering a decision that a service must be supported, demands that the service have characteristics that are substantially related to the four "factors" that Congress outlined in section 254(c)(1): (1) the service is "essential" to education, public health, or public safety; (2) the service is subscribed to by a "substantial majority of residential customers;" (3) the service is being deployed in public telecommunications networks; and (4) the decision to support the service is in the public interest. At the present time, broadband has an insufficient nexus with these legal requirements. It is not a service that is "essential" to education, public health or safety, and it is subscribed to by a small minority of residential customers. In fact, available statistics indicate that, by the most generous estimate, only 4 to 7 percent of residential subscribers take broadband service today. While the service is being actually deployed in networks, that factor alone is not enough to create a legal requirement to support the service under federal universal service rules. Nor does public policy, and the public interest, favor adding broadband at this time. This is a service that has been on the market for only a short time, and market forces are so far driving deployment and availability of the service in a dramatic and speedy fashion. Indeed, if there is an impediment to broadband, the significant issues are on the demand-side, not the supply-side.

WorldCom recommends that the Joint Board use this proceeding to catalogue the programs and initiatives to increase broadband deployment that already exist, as well

broadband, advanced services, and high speed services interchangeably. While there are other advanced services that technically are advanced services in the context of the Commission's definition, these are very

other regulatory solutions that may be more efficient than subsidies, such as enforcing the market-opening provisions of the Telecommunications Act. This Joint Board review would also contribute greatly to the law and policy of universal service if it could assemble the substantial questions that exist about how one would “add” broadband support to the existing federal regime. The task of listing the relevant questions for future consideration would itself contribute to this important debate.

II. The Act Establishes Legal Requirements that Must Be Met Before A Service Can Be Supported Under the Federal Universal Service Plan.

On December 21, 2000, the Commission requested that the Universal Service Joint Board (Joint Board) review the definition of universal service. In the August 2001 Public Notice, the Joint Board sought comment regarding its review of the definition of supported services, which currently consist of: single-party service; voice grade access to the public switched telephone network; Dual Tone Multifrequency signaling or its function equivalent; access to emergency services; access to operator services; access to interexchange service; access to directory assistance; and toll limitation services for qualifying low-income consumers.³ The Joint Board seeks comment on whether any services should be added to the list of core services supported by universal service and whether any services should be removed.⁴ The Joint Board requests specific comment on whether certain specific services should be added to the list of supported services, including, in particular, advanced services.⁵ The Commission has defined “advanced services” as those that provide the subscriber with transmission speeds in excess of 200

high speed services that are invariably provided to, and tailored for, business customers.

³ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Report and Order, May 8, 1997 (First Report and Order) at paras. 56-87.

⁴ August 2001 Public Notice at 3.

⁵ Id.

kilobits per second (kbps) in both directions (provider-to-customer and customer-to-provider), and “high speed services” as those that provide the subscriber with transmission speeds in excess of 200 kbps in at least one direction.⁶ Before delving into the policy questions presented by the Public Notice, it is useful to first outline the legal constraints on decision-making, as well as the past determinations on which the current review is grounded.

Section 254(c)(1) of the Act provides that “[u]niversal service is an evolving level of telecommunications services that the Commission shall establish periodically...taking into account advances in telecommunications and information technologies and services.” The Joint Board and the Commission are required by section 254(c)(1)(A)-(D) of the Act to consider the extent to which the services: (1) are “essential” to education, public health, or public safety; (2) have, through the operation of market choices by customers, been “subscribed to by a substantial majority of residential customers;” (3) are being deployed in public telecommunications networks by telecommunications carriers; and (4) are consistent with the public interest, convenience, and necessity.

The statutory language indicates that these four items are factors to be taken into account in the decision to establish and expand the list of supported services. This is a different legal standard than a “checklist” like that found in section 271, where the Bell Operating Company must establish that it has complied with a 14-point competitive checklist as part of its application for long distance relief. However, the very existence of

⁶ *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*, CC Docket No. 98-146, Report (1999). *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*, CC Docket No. 98-146, Second Report (2000).

the named factors in section 254 indicates that the Congress did not want to leave the determination of a new supportable service entirely to the discretion of the regulator. Hence, Congress directed regulators to consider the characteristics of a candidate service in relation to the four named factors.

From the list, the statutory language makes plain that Congress wanted to steer regulators away from adding services to the supportable services list that were not being deployed in the network, for example. Congress also indicated its disinterest in supporting services that are not widely subscribed to by residential customers, and specifically stated a preference for services that a “substantial majority” of residential customers take. A quorum, or even a simple majority, is insufficient for this purpose. And, of course, Congress also said that if a regulator were evaluating a potentially “essential” service, that the significance of that service to education, public health and safety is a very important consideration in deciding whether to support the service with the federal fund. In sum, while it would be incorrect to view section 254’s factors as a “checklist,” the statutory language compels that the characteristics of the candidate service have some substantial nexus with the factors the Congress asked regulators to consider.⁷

In addition, the service that is a candidate for support must be “telecommunications,” which is a defined term in the Act.⁸ Moreover, the Commission, in adopting its very first Universal Service Order, decided that telecommunications

⁷ “The four criteria enumerated. . . must be considered, but not each necessarily met.” First Report and Order at para. 61.

⁸ 47 U.S.C. Section 153(43) (“the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent or received.”).

means services in their “functional sense,” as opposed to services that are tariffed.⁹ This functional test is important in the current context, for example, in thinking about the scope of any support for broadband services, and whether support should include technical platforms other than DSL.

The Commission also made several other findings that are important to the consideration of broadband services as candidates for support. First, the Joint Board and Commission said that the telecommunications link between an end user and the information services provider (ISP) stands on a different footing for universal service purposes than the information service provided by the ISP. “We conclude that the information service component of Internet access cannot be supported under section 254(c)(1). . . .”¹⁰ Moreover, the Commission also specifically found that higher speed connections to ISPs “should not yet be included” among the supported services because “a substantial majority of residential customers” do not currently subscribe to high speed services. The Commission also said that while the Internet may confer education, health and safety benefits, access to the Internet is not “essential.”¹¹ It is significant and noteworthy that the Commission’s decision to treat Internet access as a supportable service for schools, libraries, and rural health providers is based on its more expansive authority granted under section 254(h), as opposed to the narrower directives of section 254(c), which is the legal foundation for the instant proceeding.¹²

⁹ First Report and Order at para. 61.

¹⁰ First Report and Order at para. 83.

¹¹ Id.

¹² Id.

III. It is Premature at this Time to Provide Federal Universal Service Support for Advanced Services.

A. Advanced Services Have Not Been Subscribed to by a “Substantial Majority of Residential Customers.”

As discussed more fully below, advanced services have been deployed rapidly in the short time since they have become available. At the end of 2000, approximately 1.6 million residential customers subscribed to DSL service, and 3.3 million subscribed to cable modem service.¹³ Data collected as part of the Section 706 docket show that, while high-speed lines to homes and businesses increased by 63 percent during the second half of 2000, with a full-year growth rate of 158 percent, the penetration rate at the end of 2000 was only 4.7 percent for high-speed services (200 kbps in at least one direction) and only 2.6 percent for advanced service (200 kbps in either direction).¹⁴ A recently-announced study by the Yankee Group confirms the Commission’s findings. According to the Yankee Group, only between 4 and 7 percent of customers in areas where broadband service is available actually take service.¹⁵ By the end of 2001, the percentage of residential broadband subscribers is predicted to climb to approximately 10 percent.¹⁶ Because a “substantial majority” constitutes an amount significantly greater than 50 percent, we are far from the point where a “substantial majority of residential customers” subscribes to advanced services, as contemplated by section 254(c)(1)(B) of the Act.

¹³ “High Speed Services for Internet Access: Subscribership as of December 31, 2000,” Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, rel. Aug. 9, 2001 (Section 706 Report), at Table 3.

¹⁴ *In the Matter of Inquiry Concerning 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*, CC Docket No. 98-146, Third Notice of Inquiry, rel. Aug. 10, 2001 (Section 706 NOI), at para. 12.

¹⁵ “Broadband Available to 75 percent of U.S. by Year’s End,” InfoWorld, Nov. 1, 2001. The article notes that the Yankee Group analyst believes usage will rise slowly into double digits.

Given these statistics, any finding that advanced services should be added to the list of supportable services at this particular point in time appears to be entirely at odds with Congress's delegation in section 254(c)(1). Therefore the Joint Board should not recommend that advanced services be supported by universal service.

B. Advanced Services Are Not “Essential” to Education, Public Health, or Public Safety.

Section 254(c)(1) requires the Joint Board to consider whether a service is “essential to education, public health, or public safety” in determining whether the service should be added to the services supported by universal service. The Commission already concluded in 1997, based on the Joint Board's recommendation, that end-users that are schools, libraries or rural health care providers should receive discounted Internet access services pursuant to the federal fund.¹⁷ The question presented in this proceeding is whether, for other end-users of the interstate telecommunications networks, the federal fund ought to support more generalized advanced services, such as to Lifeline users, or users in high cost areas, or with reference to some other criteria.

In considering whether advanced services should be supported for some other class of interstate end-users, it bears emphasis that the statute requires the Joint Board to consider whether services supported by universal service are essential to delivering a limited a limited set of public “goods” -- *education, public health, or public safety*. In other words, whether advanced services are essential to home-office use or entertainment is not under consideration. High-speed, broadband access does not today provide access to any essential education, public health, or public safety offering. Indeed, lower-speed

¹⁶ Jon Garcia, McKinsey & Co., National Summit on Broadband Deployment: 2001 A Digital Odyssey. Oct. 25, 2001 (McKinsey Presentation). See transcript at www.adminmonitor.com.

dial-up access does not provide access to any essential education, public health or public safety offering. Internet access services do allow an end-user to reach the Internet, which is full of helpful information, but that information offering does not rise to the level of a necessity as contemplated by the statute's use of the word "essential." The Florida Legislature recently issued a report that concludes that dial-up Internet access is sufficient to meet the needs of most Internet users, with the exception of those individual desiring entertainment applications.¹⁸ The report cites research by Forrester Research, Inc. that found that today's high-speed customers tend to be mostly "tech-savvy" individuals who are likely to publish websites and use the Internet for financial provider sites, and that the next generation of high-speed customers will most likely use high-speed services for video- and music-entertainment purposes, television network sites, and instant access to local movie theatre times and daily news.¹⁹

Moreover, there is a wealth of data that indicates the purchase of broadband service is highly dependent upon price, a demand characteristic that is at odds with viewing the service as essential. The Florida PSC staff conducted a survey gathering information on Internet use in the first and second quarters of 2001, and found that approximately 72 percent of the respondents were not willing to pay for high-speed Internet access.²⁰ Adams Group, Inc., which represents a coalition of rural local exchange carriers, reported that only 15 percent of its customers indicated that they would pay approximately \$45-49 for DSL.²¹ A recent study by the General Accounting

¹⁷ See First Report and Order at para. 589. In addition, universal service funds support the public safety infrastructure by supporting access to 911 and E911.

¹⁸ "Universal Provision of DSL Services in Florida," Interim Project Report 2002-146, October 2001 (Florida Report).

¹⁹ Florida Report at 3.

²⁰ Id.

²¹ Id.

Office found that about 80 percent of those with dial-up service would not be willing to pay more than \$10 extra per month to upgrade to broadband.²² For all of these reasons, advanced services do not represent essential services that merit federal subsidy.

Some analysts note that the “need for speed” is tempered by the lack of a “killer application,” or, a computer application that makes worthwhile access to high-speed services. WorldCom agrees. Based on current market conditions, we are not yet at the point where most residential consumers value broadband services such that they are willing to purchase it for use at home. Indeed, Chairman Powell recently stated that broadband deployment should not be measured by adoption rates, “because there are many questions that remain as to what services consumers will value, and to what degree they will be willing to subscribe.”²³ He further noted that the relatively low-level of demand for broadband at this time could be attributed to the fact that “[c]onsumers may not yet value the services at the prices they are being offered. That is, the prices may be too high, in the minds of consumers, for the value they get.”²⁴

Finally, it is important for policymakers to bear in mind that without a computer, access to advanced services is meaningless. Currently, only 51 percent of U.S. households own a computer, and only 41 percent have Internet access of any type.²⁵ Given these figures, it is difficult to support the proposition that advanced services are so critical or necessary to education, public health or public safety as to require support from federal universal service funding mechanisms. As the ubiquity of computer-ownership

²² U.S. General Accounting Office, “Characteristics and Choices of Internet Users” Report to the Ranking Minority Member, Subcommittee on Telecommunications, Committee on Energy and Commerce, House of Representatives,” February 2001, Appendix II, Question 15.

²³ Remarks of Michael K. Powell at the National Summit on Broadband Deployment, Washington, D.C., Oct. 25, 2001 (October 2001 Chairman Powell Speech).

²⁴ Id.

and Internet access increases, we may reach the point where high-speed access is “essential” for public health, safety, and education, but until then, policymakers may want to first consider computer-ownership and Internet-access issues. As the Florida Senate correctly concluded based on statistics that only three out of 10 households earning \$25,000 or less owned computers and only two out of 10 had Internet access, “legislation to require universal service will provide little advantage for households that cannot afford computers.”²⁶

The Joint Board may also want to consider the recommendations of the six-month-long forum of industry, consumer, and government parties, convened by the Consumer Energy Council of America (CECA). CECA issued the final report, “Universal Service: Policy Issues for the 21st Century,” in March 2001.²⁷ The CECA Report recommends that a service may be deemed essential if it would show a significant benefit in: (1) successfully performing a wide cross-section of jobs; (2) maintaining contact with family members; (3) contacting public health and safety services; and (4) contacting other public institutions.²⁸ Using these factors, CECA concluded that at the present time there is insufficient evidence with which to conclude that the majority of Americans consider advanced services to be an “essential “ service. WorldCom agrees with CECA’s conclusion, in part because the functions listed above can easily be accomplished using dial-up Internet access.

²⁵ “Broadband Deployment and the Digital Divide,” Wayne A. Leighton, Aug. 7, 2001 (Leighton Analysis) at 12-13.

²⁶ Florida Report at 4.

²⁷ “Universal Service: Policy Issues for the 21st Century,” Final Report, the Consumer Energy Council of America, rel. March 2001 (CECA Report).

²⁸ CECA Report at Appendix 5.

C. Providing Support for Advanced Services Would Violate the Universal Service Principle of Competitive Neutrality.

Providing universal service subsidies for advanced services potentially benefits only carriers offering certain types of services, thus placing the government in the improper position of picking technology winners and losers. Under section 254(e) of the Act, universal service support is provided only to those carriers that have been deemed “eligible telecommunications carriers (ETCs).” To be deemed “eligible,” a telecommunications carrier must offer all the services that are supported by the universal service support mechanism.²⁹ In delineating the principles on which universal service should be based pursuant to section 254(b), the Commission determined in its First Report and Order that one of the principles should be “competitive neutrality.” The Commission further determined that technological neutrality is required to achieve competitive neutrality. The Commission concluded that its list of core services, which carriers must provide in order to receive universal service support, complied with the principle of competitive neutrality because its list was technology-neutral. The Commission explained that an “overly broad definition of universal service might have the unintended effect of creating a barrier to entry for some carriers, because... carriers must provide each of the core services in order to be eligible for universal service support.”³⁰ Including advanced services in the definition of universal service would run afoul of the principle of competitive neutrality for several reasons.

First, some carriers, including a number of carriers that receive support today, are technologically incapable of providing advanced services throughout the geographic area

²⁹ Section 214(e)(1). *See also* 47 C.F.R. § 54.201(d)(1).

for which they have been deemed an ETC pursuant to section 214(e). These carriers therefore would be ineligible for any federal universal service support. Such a result would undermine the success of existing universal service programs, would be harmful to consumers, and would undermine the intent of Congress as expressed in section 254 as well as the policies of this Commission. Although the Commission in its First Report and Order provided temporary waivers for carriers that could not yet offer single-party service, access to E911, or toll-limitation services, providing waivers for carriers that are incapable of providing advanced services would be a lengthier and more far-reaching process. In fact, this approach would be so far reaching that it would basically allow exception to swallow the rule. The upgrades required for access to E-911, single-party service, and toll-limitation services were fairly limited in terms of the technology required and the numbers of upgrades needed, as compared to the level and number of upgrades required for advanced services. Furthermore, the public benefits of, and demand for, access to E-911, single-party service, and toll limitation services are far more obvious at this point than for advanced services. With waivers being impractical, including advanced services in the definition could impede carriers' ability to receive any universal service support due to technological limitations. This would place those carriers at a competitive disadvantage vis-a-vis carriers that are able to readily provide advanced services and receive universal service support.

Second, there may be providers of advanced services that are unable to provide the complete list of services currently supported by universal service or that provide services in a way not contemplated by the rules governing the designation of ETCs. These carriers would be rendered ineligible for federal universal service support destined

³⁰ First Report and Order at para. 87.

for advanced services. These might include wireless carriers or cable television companies. Again, the effect of including broadband services within the definition of universal services would be discriminatory and not competitively-neutral.

For these reasons, it would violate the Commission's principle of competitive neutrality to include advanced services in the universal service definition. Carriers unable to receive subsidies would be clearly disadvantaged in the market, thus eliminating or severely limiting their ability to attract customers and provide competitive choice and lower prices. Additionally, subsidizing only certain classes of providers also would stifle innovation. As explained by one economist, "...[w]hat attracts new competitors is the ability to make a profit by offering lower prices or better service to the existing providers' current customers, or by serving customers whom those providers have yet to serve. Government programs that benefit existing providers ultimately reduce incentives to develop advances in service."³¹

D. The Public Interest Does Not Support Using Federal Universal Service Funds to Subsidize Advanced Services At This Time.

In addition to the legal issues associated with providing federal universal service support for advanced services, public interest considerations argue against support for advanced services at this time. A simple cost/benefit analysis reveals high costs and uncertain benefits. For example, one possible estimate for the cost of advanced services support has been provided by the National Exchange Carrier Association (NECA), which estimates that the cost of upgrading rural networks to provide advanced services would be approximately \$11 billion.³² However, the benefits of subsidizing advanced services

³¹ Leighton Analysis at 10.

³² NECA Rural Broadband Cost Study: Summary of Results, June 21, 2000 (NECA Rural Broadband Cost Study) at 2. This estimate was derived from two studies: (1) a detailed engineering study that was

deployment cannot be easily defined or sized, because we still do not know the extent to which a need for broadband will be unmet. In fact, many analysts cite the inherent lack of demand for broadband services rather than supply shortages as the primary determinant of the low penetration rate. Advanced services are quite new, and the technology itself is still evolving. Furthermore, market forces appear to be encouraging broadband deployment at a reasonable pace, and there seems to be no shortage of federal, state, and local government initiatives aimed at spurring broadband deployment. A multi-billion dollar price tag for something for which consumer demand is lacking and proven benefits are unclear warrants a wait-and-see approach at this time.

i. Subsidizing advanced services would increase the size of the Universal Service Fund exponentially.

The estimated cost of providing federal universal service support for advanced services depends upon the scope of what will be subsidized, but in any scenario could have a substantial upward impact on federal fund size. The size of the current universal service fund is approximately \$5.5 billion. As mentioned above, NECA conducted a study demonstrating that it would cost the members of NECA's Common Line pool nearly \$11 billion to complete the "last-mile" upgrades of the local network infrastructure to make telephone lines in rural America broadband capable.³³ Even more staggering, some experts estimate that it would cost non-Common Line pool companies (i.e., RBOCs) approximately \$80 billion to rehabilitate "last-mile" facilities for broadband

completed by a sample of companies that had or were in the process of upgrading their exchanges to broadband capability; and (2) a deployment study to estimate the percentage of lines that would not be upgraded to broadband capability by 2002. Id. at 3. WorldCom takes no position as to whether NECA's estimate is accurate. We offer it solely for the purposes of illustration.

³³ Id. at 3.

capability.³⁴ NECA currently is conducting a second study focusing on the costs of upgrading “middle-mile” transport facilities, which are those that provide connections between the “last-mile” and the Internet “backbone” facilities. The Texas Commission estimates that upgrading “middle-mile” facilities are the significant, if not principle, cost-driver when determining whether deployment to a rural area is economical.³⁵ NECA also indicates that the cost of “last-mile” facilities is an ongoing concern for its members.³⁶ Assuming for the moment that only the rural common carrier line pool companies received support for upgrading “last-mile” facilities, the universal service fund would grow to three-times its current size. This is utterly unsustainable due to its downstream effects on end-user fees, and would jeopardize the universal service support mechanisms for existing beneficiaries.

ii. Broadband deployment is already occurring.

An additional reason that the Joint Board should not recommend that advanced services receive universal service support at this time is that broadband deployment is already occurring throughout the country at a reasonable – and many would argue brisk – pace. The rate of broadband deployment and estimates of future growth-rates should encourage policymakers, especially when broadband has been on the market now for only about two-and-a-half years. It would of course be poor public policy to subsidize a service that market forces may well be capable of deploying efficiently and universally.

³⁴ “Facilitating the Business Case for Rural Upgrades: Presentation to Broadband Summit,” Michael Balhoff, Legg Mason, Oct. 26, 2001. To view the presentation, see www.adminmonitor.com.

³⁵ See Comments of the Public Utility Commission of Texas, *In the Matter of 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*, CC Docket No. 98-146, at 3.

³⁶ See Comments NECA, *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps*

The following are some statistics from the Commission's recently-released Section 706 Report indicating that broadband deployment is occurring at a reasonable pace.³⁷

- high-speed lines connecting homes and businesses grew by 158 percent in 2000;
- of the 7.1 million high-speed lines in existence, 5.2 million were residential and small business subscribers;
- high speed subscribers were reported in all of the nation's states and territories and 75 percent of the nation's zip codes, which contain 96 percent of the country's total population, while in 1999, high-speed subscribers were reported in only 56 percent of the nation's zip codes;
- high-speed subscribers existed in 45 percent of the zip codes with the lowest population densities in 2000, which, although a much lower percentage than the percentage of more densely-populated zip codes, it is much higher than the comparable figure in 1999, i.e., 24 percent;
- high-speed DSL lines, which primarily serve residential and small business customers, increased by 108 percent during the second-half of 2000 and 435 percent for the full year; and
- high-speed service over cable systems increased by 57 percent during the last half of 2000, with a full-year growth rate of 153 percent; and the provision of high speed lines by satellite and fixed wireless technology more than doubled from 1999 to 2000.

And as Chairman Powell recently noted, broadband availability is estimated to reach almost 85 percent this year.³⁸ These statistics demonstrate that advanced services are

to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC

being made available at an ever-increasing rate, even in traditionally harder-to-serve areas.

Though residential broadband subscribership rates are estimated to reach only approximately 10 percent of the population by the end of 2001,³⁹ this penetration level far exceeds the historic penetration levels of other technologies as they were introduced in the marketplace. The Commission in its First Section 706 report compared the pace of broadband deployment at the end of its second year to the pace of deployment of telephone service, black-and-white television, color television, and cellular service at the end of their second year, and concluded that the pace of broadband deployment was comparable to black-and-white television and significantly ahead of telephone service, cellular service, and color television.⁴⁰ In a report on broadband deployment, Commission economist Wayne A. Leighton compared broadband deployment to that of electricity deployment, concluding that "...the deployment of broadband to virtually all Americans is likely to take a fraction of the time it took to deploy electricity..."⁴¹ Described below are the market trends with regard to specific categories of providers of advanced services.

DSL Service. Digital subscriber line service (DSL) provides high-speed access to Internet services by converting standard "twisted copper pair" phone lines into high-speed digital lines. The benefits of DSL include: (1) transmission speeds of up to 8

Docket No. 98-146, at 33.

³⁷ See generally Section 706 Report.

³⁸ See October 2001 Chairman Powell Speech.

³⁹ See McKinsey Presentation.

⁴⁰ *In the Matter of 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*, First Report and Order, 14 FCC Rcd at 2446-47.

⁴¹ Leighton Analysis at 16.

megabits per second for downstream transmission and one megabit for upstream transmission; (2) simultaneous access to both the Internet and the voice telephone line; and (3) a dedicated line between the customer and the central office, i.e., it is not shared with other users, as with cable modem service. A disadvantage of DSL is that the service extends only approximately 14 kilofeet, or three miles, from a telephone company's central office or remote terminal. Approximately 80 percent of telephone customers live within the range for which DSL service can be provided.⁴² Industry analysts project enormous DSL growth rates in the 2002-2004 time-period, and according to TeleChoice, DSL lines will grow 70 percent in 2002, relative to 2001. In 2003, TeleChoice projects lines will grow another 50 percent, and in 2004, another 20 percent. Jupiter predicts that by 2006, 41 percent of U.S. households will subscribe to a broadband service.⁴³

The BOCs are aggressively rolling out DSL service. BellSouth "is moving forward aggressively with its [DSL] rollout plans," currently with 60 percent of its lines being DSL-ready and expecting to hit 70 percent by the end of 2001.⁴⁴ Even in the midst of reduced-earnings forecast for fourth quarter 2001, BellSouth "let stand its aggressive goal of reaching 600,000 DSL customers by year-end."⁴⁵ BellSouth has pledged to make high-speed service available to the entire state of North Carolina within three years, and has announced plans to build a broadband infrastructure throughout the state of Georgia to deliver high-speed access to rural residents and all of the state's 1,800 K-12 schools. Just less than two months ago, for example, BellSouth unveiled high-speed service to two

⁴² Leighton Analysis at 12.

⁴³ "Slow Mo," Wall Street Journal, at p. B5, Oct. 18, 2001.

⁴⁴ BellSouth Corp. Investor Briefing, Dresdner Kleinwort Wassertein Research, Aug. 28, 2001, at p. 2.

⁴⁵ "BellSouth Earnings Steady on Good Data Sales; Trims Profit Outlook, Plans 3,000 Job Cuts," John Curran, Telecommunications Reports, Oct. 18, 2001.

rural communities in Spartanburg County, Georgia.⁴⁶ Sixty-seven percent of Qwest's residential homes are DSL-enabled, and "stiff competition in the race to win high-speed Internet subscribers has spurred Qwest to develop new service and price packages."⁴⁷ More than 50 percent of the homes in Verizon's territory have access to DSL, representing an 85 percent increase in DSL lines year-to-date.⁴⁸ Verizon recently announced that it has one million DSL subscribers, from Maine to Hawaii.⁴⁹ SBC has deployed advanced services capability to 58 percent of wireline locations, and Project Pronto will aggressively attempt to reach all consumers in its territory.⁵⁰

Independent rural telephone companies also have aggressively been rolling out high-speed services in rural areas, and, by many accounts, are doing so much more rapidly than the BOCs.⁵¹ According to NTCA, local telephone companies feel more of an obligation to meet the needs of their communities than do large operating companies. Indeed, a survey of rural telecommunications companies conducted by NECA shows that about 65 percent of rural lines will be capable of providing broadband by 2002.⁵² "This fact, coupled with the ambitious rollout of data network services documented in NECA's Access Market Survey, show that rural telephone companies are trying to meet their customers' needs for high-speed lines."⁵³

⁴⁶ "Cowpens, Converse Gain High-Speed Net Access," Chris Winston, Spartanburg Herald-Journal, Oct. 4, 2001.

⁴⁷ McDonald Investments, Investor Report, Sept. 18, 2001 at 5.

⁴⁸ "News in Brief," Telecommunications Daily, Oct. 17, 2001.

⁴⁹ "Verizon Hits 1 M DSL Landmark," Peter J. Howe, Boston Globe, Oct. 18, 2001.

⁵⁰ SBC Investor Briefing, Oct. 22, 2001, www.sbc.com/investor/financial/earning.

⁵¹ See Comments of NTCA, *In the Matter of 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*, CC Docket No. 98-146, at 12.

⁵² NECA Rural Broadband Cost Study at 2.

⁵³ NECA Rural Broadband Cost Study at 2 (footnote omitted).

Cable Modem Service. High-speed Internet access via cable modems occurs by modifying the existing, one-way cable transmission lines of a cable network to provide a two-way connection to the Internet at very high speeds. These technologies allow for the delivery of a wide range of telecommunications and information services, including high-speed Internet access, telephony, and digital television. The advantages of cable modem service include: (1) downloading transmission speeds generally in the range of one to three megabits per second, and uploading speeds of 500 kilobits to 2.5 megabits per second; (2) a connection that is always on; and (3) providing simultaneous access to both the Internet and cable television. As opposed to DSL service, however, cable modems use networks that are shared by several users in a neighborhood, which can result in slower speeds when many users are using the network simultaneously. But unlike DSL, cable modem service is not limited to a three-mile range from switching facilities, thus potentially able to reach more customers.

The provision of advanced services over cable modems is increasing rapidly, like DSL. Cable modem service is available to more than 65 million U.S. households today, and is not limited to urban and suburban parts of the country. Cable companies are expanding into rural areas, including small towns like Chillicothe, IL, Thief River Falls, MN, Gauley Bridge, WV, and Warner, SD.⁵⁴ Sjoberg's Cable in Minnesota, which has served rural areas for nearly 40 years, is now rolling out high-speed cable modem service.⁵⁵ Overall, the cable industry reported solid increases in broadband deployment during the second-quarter 2001, adding more than two million digital customer units.

⁵⁴ Remarks of Robert Sachs, NCTA President and CEO, at Cable 2001: We're Making Broadband Happen, Chicago, Illinois, June 11, 2001.

⁵⁵ See www.ncta.com.

Fixed Wireless. Though a much smaller piece of the broadband pie, the fixed wireless business also has made inroads in the provision of advanced services. Fixed wireless technology uses radio signals rather than copper wire, cable, or fiber, to provide advanced services. The Yankee Group predicts the growth of Multichannel Multipoint Distribution (MMDS) fixed wireless systems to accelerate in 2002.⁵⁶ Large companies, such as WorldCom and Sprint, currently serve approximately 300,000 customers nationwide, with projections of some two million subscribers by 2005.⁵⁷ Small rural companies, such as Sioux Valley Wireless in South Dakota, also offer MMDS.⁵⁸ At present, most MMDS offerings are targeted at business users. Thus, though the current customer reach obviously is narrower than that of DSL and cable modem service, MMDS is projected to reach a significant customer base and provide a viable alternative for obtaining high-speed service, especially in more rural areas.

Satellite Service. Satellite service currently is technologically capable of providing high-speed Internet access to almost 100 percent of the country.⁵⁹ Currently, approximately 13 million customers subscribe to high-speed Internet access via satellite.⁶⁰ The lower take-rates of high-speed satellite service are likely attributable to the price, which is in the range of \$65-75 per month. Nevertheless, high-speed satellite service presents a viable competitive alternative to other advanced services providers. Direct TV, the largest satellite provider in the country, offers a service called DirecPC,

⁵⁶ “Fixed Wireless System to Join Broadband Access Race – Study,” Michael Bartlett, Newsbytes, Aug. 29, 2001.

⁵⁷ “Circuits,” Eve Tahmincioglu, New York Times, p. G9, Oct. 11, 2001.

⁵⁸ www.comweb.com/article (noting that, as of February 2001, Sioux Valley Wireless served more than 350 homes and businesses with MMDS).

⁵⁹ See Comments of Hughes Network Systems, *In the Matter of 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*, CC Docket No. 98-146, at 3, 5.

which provides two-way satellite transmission of data at speeds of up to 400 kbps for downloading and 128 to 256 kbps for uploading. EchoStar's DISH network provides two-way broadband access to the Internet via satellite. EchoStar advertises that its service is offered anywhere in the U.S., including Alaska, Hawaii, and Puerto Rico.⁶¹ EchoStar maintains that if it is permitted to merge with DirectTV, as announced on October 29, 2001, it would bring high-speed Internet service to more than 30 million rural homes that currently do not have broadband access.⁶² Star Band also offers two-way satellite broadband with an extensive reach. StarBand serves customers throughout all 48 states in the continental U.S., and in March 2001, StarBand announced that it had formed a strategic partnership with the NRTC, making it "possible and easy for the Cooperative's more than 20 million consumers to join the high-speed Internet revolution."⁶³ Satellite providers maintain that there are several steps regulators could take to increase their broadband deployment, aside from government subsidies. For example, they assert that the allocation by the Commission of additional spectrum would help increase deployment and be more effective than tax credits or subsidies, which often are not technology-neutral.⁶⁴

⁶⁰ Leighton Analysis at 18, n.91.

⁶¹ "Satellite v. Cable: A Rivalry Beyond TV," New York Times, February 19, 2001.

⁶² "EchoStar Chief Says Cable is the Issue," Christopher Stern, Washington Post, p. E1, Oct. 30, 2001.

⁶³ StarBand Communications, "StarBand Partners with National Rural Telecommunications Cooperative," Press Release, March 12, 2001.

⁶⁴ See Comments of Hughes Network Systems, *In the Matter of 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*, CC Docket No. 98-146, at 6.

iii. Regulatory agencies should promote competition to spur broadband deployment.

Given that demand factors – and not supply – are the primary deterrent to broadband deployment, the most effective way to hasten the adoption of a service for most people is to lower the price. Government subsidies, which are designed to stimulate supply, are an inefficient means by which to lower prices. Lowering prices through subsidies results in potentially negative effects, including elimination of new competitors. Competition between providers will much more effectively lower prices, increase quality of service, and reach more households. There are several steps regulators can take to lower prices for advanced services and increase demand.

The Commission should accelerate demand by enforcing its existing rules to require the incumbents to make available in a reasonable and timely fashion the network elements necessary for competitive carriers to provide broadband service. Although broadband demand has been healthy since the technology's inception, broadband penetration rates indicate that the demand for broadband services is lagging their availability. Market trends in the last two quarters indicate a softening of demand. Industry experts attribute this decrease to the overall slow-down in the economy and a somewhat pervasive price increase in recent months of about \$10 for DSL and cable modem service.⁶⁵ Price increases are most damaging when they occur in a market for which consumers have no choice or a limited choice in providers. Recent Commission figures show that the ILECs control 92 percent of the DSL market.⁶⁶ An effectively competitive market would not allow the Bell companies to raise prices for DSL service

⁶⁵ See, e.g., "Slow Mo," Wall Street Journal, Technology Journal: Digits Column, p. B5, Oct. 18, 2001; "Broadband Market Growth Slows," Christopher Stern, Washington Post, Aug. 28, 2001.

by 25 percent, as they have done.⁶⁷ Specifically, as discussed more fully in our Section 706 comments, the Commission must preserve the ability of competitive carriers to secure timely and reasonable access to the incumbents' loops, including fiber-fed loops.⁶⁸ Requiring ILECs to make their networks available to competitive providers of broadband services will enhance competition among ILECs and CLECs and increase the take-rate among subscribers.

IV. Existing Broadband Deployment Incentives Are Arguably Driving Deployment.

As noted above, the question of whether advanced services should be subsidized as a policy matter is complicated by the uncertainty that necessarily accompanies a nascent market, and one that has demand-side issues. Further complicating the analysis is the large number of "incentive" plans created to spur broadband deployment, some of which may in fact result in the offering of advanced services to users. Because the sheer number of these initiatives is large, WorldCom has catalogued only some of the programs. WorldCom does not necessarily believe that the incentives created by these programs are helpful, or that the cost of the programs outweighs the benefits. In some cases, we opposed the programs because we believed they were wasteful or

⁶⁶ Section 706 Report at 3.

⁶⁷ For example, in February 2001, SBC raised DSL service rates from \$39.95/month to \$49.95/month, and early in summer 2001, Verizon raised DSL prices from \$10/month to \$49.95/month.

⁶⁸ WorldCom Section 706 Comments at 7-11. *See also* Sprint Section 706 Comments at 4-5 ("[t]he most effective method for encouraging deployment of high-speed services is to spur competition in the provision of these services. The Commission should affirm and enforce regulations on the wholesale side in order to require ILECs to make appropriate network elements available to other carriers for the provision of advanced services."); AT&T Section 706 Comments at 19 (The Commission should promote the availability of advanced capabilities through vigorous enforcement of the market-opening requirements of the Telecommunications Act of 1996...."); New Networks Institute Section 706 Comments at 8 (arguing that the Commission and the states must administer a serious, penalty-oriented system for competitors that have been adversely affected by the incumbents' anti-competitive behavior).

discriminatory. But they exist nonetheless and are worth including in any analysis of adding advanced services to the list of supportable services.

Government Initiatives (State and Local). Numerous state and local government initiatives and programs are speeding the deployment of broadband services to meet the needs of their particular communities. The State of Washington has passed legislation to promote broadband backbone deployment in rural areas by encouraging local public utilities to sell Internet access over fiber optic systems, so that broadband can more easily be provided to remote homes and businesses.⁶⁹ LaGrange, Georgia, has financed and constructed a state-of-the-art two-way hybrid fiber coaxial network.⁷⁰ Several states and communities, such as Colorado and Western Massachusetts, use “demand aggregation” to attract private sector investment in advanced services. “Demand aggregation” requires businesses and organizations to pool their telecommunications traffic to provide a market incentive for private companies to set up high-speed connections across the state.⁷¹ Chairman Powell highlighted “demand aggregation” as an effective way to further the reach of broadband service, stating that, “[w]e have seen a number of very effective initiatives by local communities that aggregate demand in a manner that entices broadband providers to serve their community (for example, in Berkshire and Cape Cod, MA, and Evanston, IL).”⁷²

The Appalachia Regional Commission (ARC) works with the federal government to bring funding to 13 states. ARC is seeking \$75 million in federal support over the next five years for the provision of high-speed Internet access throughout the 13-state

⁶⁹ “State Looks to Power Companies for Rural Broadband,” John Borland, Yahoo! News, March 28, 2000.

⁷⁰ www.ncta.com/industry_initiatives.

⁷¹ “Advanced Telecommunications in Rural America,” NTIA, RUS, April 2000, at 40.

⁷² October 2001 Chairman Powell Speech.

Appalachian Region, with a special focus on the region's economically distressed counties. Through a combination of grants, loans, and tax incentives, the program, called Information Age Appalachia, focuses on such things as creating more job opportunities in emerging technologies and providing education and training to residents.⁷³ Last spring, Colorado announced the creation of the Colorado Technology Alliance, funded by \$360,000 in private donations and matching grants from the federal government and aimed at bringing advanced services to rural areas.⁷⁴ California announced last April a program that provides \$2 million in matching grants to increase Internet connectivity to farms and rural areas.⁷⁵ In Arizona, three state agencies -- the Schools Facilities Board, Government Information Technology Agency, and Department of Transportation -- are working together to bring broadband to rural communities and schools, budgeting \$100 million over five years.⁷⁶ Michigan, attempting to strengthen the state's economic base and attract new business growth and workforce, has created a policy initiative -- called LinkMichigan -- to improve the state's access to high-speed telecommunications services. The plan consists of four basic principles: (1) aggregating purchasing demand among government users; (2) establishing vendor-friendly permitting and tax systems; (3) requiring telecommunications providers to provide information on network location and abide by quality of information services; and (4) provide local community planning grants so that local officials can develop their own last-mile solutions for their communities.⁷⁷ Many states also provide tax credits and incentives to spur broadband deployment. For example, in Maine, CommTel received \$7 million in tax refunds to

⁷³ www.arc.gov.

⁷⁴ www.ncta.com/industry_initiatives.

⁷⁵ www.ncta.com/industry_initiatives.

⁷⁶ www.ncta.com/industry_initiatives.

fund a network access point in a new data center that will provide broadband access to the region.⁷⁸

In addition to the initiatives described above, state utility commissions also claim to provide incentives to telecommunications providers to provide high-speed services. Often, the provider agrees to deploy broadband to areas they otherwise would not serve in return for a company-specific regulation plan. For example, the Kentucky Public Service Commission agreed to dispense with the total factor productivity index for BellSouth, provided that BellSouth used its productivity gains in part to invest in infrastructure to bring high-speed service to non-urban areas of Kentucky. The Kentucky PSC further required BellSouth to expand deployment of broadband technologies to all subscribers in the identified wire centers, rather than only those near the central office, as BellSouth originally had proposed. Similarly, in Pennsylvania, Verizon is required to implement high-speed services in all areas of Pennsylvania in return for being granted price cap regulation.⁷⁹ In New Jersey, Verizon received price cap regulation in return for implementation of a program under which Verizon has committed to providing advanced services across the state.

Government Programs (Federal). Significant amounts of federal funding for broadband deployment already exist, including the current universal service support mechanisms for schools, libraries, and rural health care providers. A recently published report by the Congressional Research Service (CRS) identifies 16 federal programs that

⁷⁷ Michigan Economic Development Corporation, LinkMichigan Report, www.medc.michigan.org.

⁷⁸ www.commtel.net.

⁷⁹ See Bell Atlantic Pennsylvania, Inc., 82 Pa. P.U.C. 194 (Pa.P.U.C. 1997) (Order approving Bell Atlantic's Chapter 30 alternative regulation plan).

promote telecommunications deployment and advanced technologies.⁸⁰ Most of the programs identified focus specifically on rural or low-income communities, though some focus more broadly on using technology to improve schools, libraries, or health care facilities. The CRS Report projected that support in 2001 for these programs would be approximately \$1.2 billion in direct funding and \$620 million in loans and loan guarantees,⁸¹ in line with what has been considered by some “a consistent theme of generous federal spending on advanced technology for schools, libraries, and other community institutions.”⁸²

In its first three years of operation, \$5.8 billion was awarded to eligible schools and libraries for telecommunications services and advanced services as part of the universal service support program. The bulk of the funding goes to the neediest schools, which are those that are economically disadvantaged or located in rural areas. The schools and libraries program constitutes approximately one-half of the entire federal universal service support mechanism. New statistics compiled by Quality Education Data, a market research firm, indicate that 97 percent of America's public schools are now connected to the Internet, while 84 percent of public school classrooms are online. The company attributed the high connection rates to the federal schools and libraries program, stating, “an infusion of \$2.25 billion has had a tremendous impact, especially in the poorer schools.”⁸³ The rural health care program provides universal service support to rural health care providers to foster the development of low-cost telemedicine.

Approximately \$7 million was awarded from July 1999 to June 2000 to rural health care

⁸⁰ “Broadband Internet Access and the Digital Divide: Federal Assistance Programs,” Lennard G. Kruger, CRS Report for Congress, Congressional Research Service, Updated January 26, 2001, Table 2.

⁸¹ Id.

⁸² Leighton Analysis at 6.

providers.⁸⁴ It is important for policymakers to bear in mind that, to the extent that advanced services are deemed “essential” to education and public health under section 254(c), federal universal service support is already being provided for these purposes.

In addition to federal universal service support, two primary sources of federal support for broadband deployment are the Commerce Department’s National Telecommunications and Information Administration (NTIA) and the Agriculture Department’s Rural Utility Service (RUS). Every year, NTIA provides grants for advanced services deployment to underserved communities through its Technology Opportunities Program (TOP). Specifically, TOP provides matching grants on a competitive basis to state, local, and tribal governments, health care providers, schools, libraries, police departments, and community-based non-profit organizations for a wide array of projects involving advanced services. Early last month, the NTIA announced the award of \$42.8 million in grants to 74 non-profit organizations, including state and local governments, across the country and in Puerto Rico, to extend advanced services to underserved communities. These grants were matched by \$46.7 million in contributions from the private sector and state and local organizations.⁸⁵ Overall, approximately 65 percent of the NTIA grants go to projects in rural areas.⁸⁶

The RUS’s Telecommunications Program provides two sources of funding for advanced telecommunications infrastructure in rural America. First, RUS provides loans for telecommunications infrastructure investment for commercial, non-profit, and limited

⁸³ New York Times, Oct. 29, 2001 (<http://www.nytimes.com/2001/10/28/technology/29DRILL.html>)

⁸⁴ Universal Service Administrative Company, Rural Health Care Division, “Funding Commitments,” March 19, 2001, www.rhc.universalservice.org.

⁸⁵ www.ntia.gov/otiahome/top/whatsnew/whatsnew.html, Oct. 1, 2001.

⁸⁶ “Advanced Telecommunications in Rural America,” NTIA, RUS, April 2000, at 35.

liability companies that are providing telecommunications and advanced services. Over the past three years, RUS's loans have totaled \$1.4 billion and provided more than 783,000 of the nation's most rural households and businesses with the opportunity to subscribe to advanced services. In 2000, RUS provided \$325 million in loans and grants for telecommunications projects in rural areas. With these loans, 591 rural exchanges were built, with an average density of 5.73 customers per route mile. For example, Golden West Telecommunications Cooperative, serving the Pine Ridge Indian Reservation in South Dakota, borrowed \$65 million from RUS in 1996 to upgrade its facilities and can now offer DSL to all customers. Second, RUS provides loans and grants for rural schools, libraries, and health clinics for advanced services deployment. In June, the program awarded a total of \$15 million to enhance learning and medical care opportunities for remote communities.⁸⁷

An additional source of federal assistance for broadband deployment is the Housing and Urban Development's (HUD) Neighborhood Networks Program. Neighborhood Networks helps establish computer learning centers in low-income multi-family housing complexes. Since inception, the program has helped establish more than 550 computer learning centers, serving more than 150,000 low-income individuals, in all 50 states and the District of Columbia and Puerto Rico. Many of the computer centers have facilitated the graduation of residents from college and high school, the creation of businesses, and healthier residents via on-line telehealth information. The U.S. Department of Education also helps provide computer and Internet access, which in some cases is broadband, to working-class families through its Community Technology Centers program. The program awards grants to state and local educational agencies,

⁸⁷ Press Release, USDA Awards \$15 Million in Rural Education and Medicine Grants, June 14, 2001.

institutions of higher learning, or other entities. In 2000, the program was authorized to fund \$32.5 million in projects.

Private Initiatives. In addition to government-sponsored initiatives, private foundations also help to spur broadband deployment. Microsoft founder Bill Gates established the Gates Library Foundation, which provides funding to bring the Internet to public libraries. Access to the Internet, is now at 95 percent nationally, and in rural areas, it is at 93.3 percent. The Northern Virginia Technology Council announced last spring the creation of a charitable foundation to provide financing for community outreach initiatives to help bridge the digital divide. The Council has set out to raise \$10 million over five years to expand the reach of community-based technology initiatives.⁸⁸

Private companies also find it in their own business interest to increase broadband deployment to underserved areas. Comcast Cable has established “Cable Core Curriculum” to provide broadband access to economically disadvantaged communities and provide students in those communities with skills that they can use in high-tech careers.⁸⁹ The National Association of Minorities in Communications is working to bring more people of color into the “information age” through a partnership involving cable companies, broadband equipment manufacturers, and others.⁹⁰ AT&T has created an initiative in Southern California called “Streetseen.net” to help bridge the “digital divide” for kids.⁹¹ NCTA also notes that its members are generally working locally, often with

⁸⁸ www.ncta.com/industry_initiatives.

⁸⁹ www.ncta.com/industry_initiatives.

⁹⁰ www.ncta.com/industry_initiatives.

⁹¹ www.ncta.com/industry_initiatives.

partners, to help bridge the digital divide, since “no one approach fits every community.”⁹²

V. The Joint Board Should Use the Instant Proceeding to Catalogue the Issues That Must Be Solved To Add Advanced Services to the Supported Services List.

In its periodic review of whether advanced services should be included in the definition of universal service, WorldCom recommends that the Joint Board undertake an analysis that involves answering the following questions. This list of questions is not intended to be exhaustive, but rather, to represent the key issues that regulators must answer adequately before implementing universal service subsidies for advanced services.⁹³

- Are advanced services being subscribed to by a substantial majority of residential customers? What is the meaning of the phrase “through the operation of market choices by consumers?”
- Are certain, identifiable segments of the population not subscribing to advanced services? Why are these segments not subscribing? Price? Availability of service? Little or no perceived value?
- Are advanced services “essential” to education, health care, or public safety? If so, in what way?
- What are the market trends regarding adoption rates of advanced services? Have advanced services been adopted at a rate comparable to other technologies? Are there signs that the growth rate is slowing, and if so, why?

⁹² www.ncta.com/industry_initiatives.

⁹³ WorldCom further recommends that the Joint Board review CECA’s universal service report, which includes a helpful flow chart of questions to assist policymakers in determining whether subsidies are required to increase broadband service deployment. CECA Report at Appendix 5.

- If the federal government were to subsidize advanced services through universal service, what services would be subsidized? How would “advanced services” be defined for universal service purposes?
- What would the direct costs of any subsidization be? By how much would the size of the federal universal fund increase? How would this affect carrier federal universal service line charges? Would the costs outweigh the benefits?
- What would the indirect costs of subsidization be, e.g., would the subsidies be technology and competitively neutral? How would subsidies affect competition?
- What changes to the existing funding mechanism would need to be made?
- What are the alternatives to federal subsidies, and would they produce equal or better benefits with less costs? What about greater state and local government intervention? Community-based programs? Increased incentives for private investment? Market forces?
- If universal service support were provided for advanced services, how would the support levels be determined? Would a cost model be necessary?
- Is the addition of advanced services consistent with the ETC requirements of Section 214? What waivers to ETC requirements would be necessary to provide for a competitively neutral universal service fund that included advanced services?

VI. Conclusion.

The Joint Board should recommend that the Commission make no changes to the definition of universal service at this time.

Respectfully submitted,

Mary L. Brown
Robert Lopardo
Lori Wright

WORLDCOM, INC.
1133 19th Street, N.W.
Washington, D.C. 20036
(202) 736-6468

November 5, 2001

CERTIFICATE OF SERVICE

I, Vivian Lee, do hereby certify that copies of the foregoing Comments of WorldCom, Inc. were sent via first class mail, postage paid, to the following on this 5th day of November 2001.

Katherine Schroder*
Accounting Policy Division Chief
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Sheryl Todd*
Accounting Policy Division Chief
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Chairman Michael K. Powell*
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Kathleen Q. Abernathy*
Commissioner
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Michael J. Copps*
Commissioner
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Kevin Martin*
Commissioner
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Dorothy Attwood, Chief*
Common Carrier Bureau
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Anita Cheng*
Accounting Policy Division
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Kyle Dixon*
Office of the Chairman
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Sam Feder*
Commissioner Martin's Office
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Bryan Tramont*
Commissioner Abernathy's Office
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Jordan Goldstein*
Commissioner Copp's Office
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Matthew Brill*
Commissioner Abernathy's Office
Federal Communication Commission
445 12th Street, SW
Washington, DC 20554

Qualex International*
445 12th Street, SW
Washington, DC 20554

Alan R. Shark, President

American Mobile Telecommunications
Association, Inc.
1150 18th Street, NW, Suite 250
Washington, DC 20036

James S. Blaszak
Colleen Boothby
Levine, Blaszak, Block & Boothby, LLP
2001 L Street, NW
Washington, DC 20036

Judy Sello
Mark C. Rosenblum
AT&T Corporation
Room 1135L2
295 North Maple Avenue
Basking Ridge, New Jersey 07920

Cheryl L. Parrino
D. Scott Barash
Universal Service Administrative
Company
2120 L Street, NW
Suite 600
Washington, DC 20037

Michael F. Altschul
Cellular Telecommunications &
Internet Association
1250 Connecticut Avenue, NW
Suite 800
Washington, DC 20036

Richard M. Sbaratta
BellSouth Corporation
675 West Peachtree Street
Suite 4300
Atlanta, Georgia 30375

Joseph DiBella
Verizon
1320 North Court House Road,
Eighth Floor
Arlington, VA 22201

Lawrence E. Sarjeant
Linda L. Kent
Keith Townsend
United States Telephone Association
1401 H Street, NW, Suite 600
Washington, DC 20005

Jeffrey A. Brueggeman
Roger K. Toppins
Paul K. Mancini
SBC Communications Inc.
1401 I Street, NW, 11th Floor
Washington, DC 20005

Jay C. Keithley
Jonathan Chambers
Sprint Corporation
401 9th Street, NW, #400
Washington, DC 20004

Rick Zucker
Sprint Corporation
6360 Sprint Parkway KSOPHE0302
Overland Park, KS 66251

Douglas I. Brandon
Vice President - External Affairs
AT&T Wireless Services, Inc.
1150 Connecticut Avenue, NW
Washington, DC 20036

Danny E. Adams
Andrea Pruitt Edmonds
Kelley Drye & Warren LLP
8000 Towers Crescent Drive
Suite 1200
Vienna, Virginia 22182

Laura H. Phillips
Jason E. Friedrich
Nextel Communications, Inc.
2001 Edmund Halley Drive
Reston, VA 20191

John T. Scott, III
Verizon Wireless
1300 I Street, NW
Suite 400 West
Washington, DC 20005

J.R. Carbonell
Carol L. Tacker
David G. Richards
Cingular Wireless LLC
5565 Glenridge Connector Suite 1700
Atlanta, GA 30342

Thomas Jones
Christi Shewman
Willkie Farr & Gallagher
Three Lafayette Centre
1155 21st Street, NW
Washington, DC 20036

Craig J. Brown
Sharon J. Devine
Qwest Communications International
Inc.
1020 19th Street, NW
Suite 700
Washington, DC 20036

Hope Halpern Barbulescu
Director of Regulatory Affairs
Telstar International, Inc.
1 North Broadway
White Plains, NY 10601

Charles C. Hunter
Catherine M. Hannan
Hunter Communications Law Group
1424 Sixteenth Street, NW, Suite 105
Washington, DC 20036

Richard A. Askoff
Colin Sandy
National Exchange Carrier Associations,
Inc.
2120 L Street, NW, Suite 650
Washington, DC 20037

L. Marie Guillory
Daniel Mitchell
National Telephone Cooperative
Association
4121 Wilson Boulevard, 10th Floor
Arlington, VA 22203

Laurie Pappas
Deputy Public Counsel
Texas Office of Public Utility Counsel
1701 N. Congress Avenue, Suite 9-180
Austin, TX 78701

Gene Kimmelman
Consumers Union
1666 Connecticut Avenue, NW
Washington, DC 20009

Mark Cooper
Director of Research
Consumer Federation of America
504 Highgate Terrace
Silver Spring, MD 20904

John Ridgway
Manager, Telecommunications
James R. Langenberg
Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319

Sylvia Lesse
John Kuykendall
Rural Cellular Association
2120 L Street, NW Suite 520
Washington, DC 20037

Robert J. Aamoth, Esq.
Heather M. Wilson, Esq.
Kelley Drye & Warren, LLP
1200 19th Street, NW, Suite 500
Washington, DC 20036

Christopher R. Day
Angela J. Campbell
Georgetown University Law Center
600 New Jersey Avenue, NW, Suite 312
Washington, DC 20001

Jerry J. Gumpel, Esq.
Sheppard, Mullin, Richter & Hampton
LLP
510 West Broadway, 19th Floor
San Diego, California 92101

Catherine Wang
Tamar E. Finn
Douglas D. Orvis, II
Swidler Berlin Shereff Friedman, LLP
3000 K Street, NW, Suite 300
Washington, DC 20007

John A. Prendergast
Gerard J. Duffy
Benjamin H. Dickens
Blooston, Mordkofsky, Dickens, Duffy
& Prendergast
2120 L Street, NW, Suite 300
Washington, DC 20037

Albert H. Kramer
Jacob S. Farber
Jeffrey H. Tignor
American Public Communications
Council
2101 L Street, NW
Washington, DC 20037-1526

Dennis M. Doyle
Arch Wireless, Inc.
1800 West Park Drive
Suite 250
Westborough, MA 01581-3912

Peter Tannenwald
Tara B. Shostek

Irwin, Campbell & Tannernwald, PC
1730 Rhode Island Ave., NW Suite 200
Washington, DC 20036-3101

Beverly E. Ledbetter, Esq.
Brown University
P.O. Box 1913,
Providence, RI 02912-1913

Anthony R. Tanzi, RCCD
ACUTA, Inc.
152 W. Zandale Drive, Ste 200
Lexington, KY 40503

Dennis Cieslak
Teletronic, Inc.
1110 North Glebe Road, Suite 500
Arlington, Virginia 22201

James E. Graf, II
Kristen Neller Verderame
A. Sheba Chacko
BT North America Inc.
601 Pennsylvania Avenue, NW
North Building, Suite 625
Washington, DC 20004

John E. Welch
EPIK Communications Incorporated
3501 Quadrangle Blvd., Suite 225
Orlando, Florida 32779

Keith Oliver
Home Telephone Company, Inc.
P.O. Box 1194
Moncks Corner, South Carolina 29461

Carl Wolf Billek
IDT Corporation
520 Broad Street
Newark, New Jersey 07102-3111

Susan J. Bahr
Law Offices of Susan Bahr, PC
P.O. Box 86089

Montgomery Village, MD 20886-6089

Stephen R. Bell
Jennifer D. McCarthy
A. Renee Callahan
Willkie Farr & Gallagher
Three Lafayette Centre
1155 21st Street, NW
Washington, DC 20036

Michael G. Hoffman
Patricia Zacharie
VarTec Telecom. Inc.
1600 Viceroy Drive
Dallas, Texas 75235

Robert J. Hanson
Verestar, Inc.
3040 Williams Drive Suite 600
Fairfax, Virginia 22031

Billy Jack Gregg
West Virginia Consumer Advocate
Division
700 Union Building
Charleston, West Virginia 25301

Thomas M. Koutsky
Claudia J. Earls
Z-Tel Communications, Inc.
601 S. Harbour Island Blvd., Suite 220
Tampa, FL 33602

Stuart E. Polikoff
Jeffrey W. Smith
OPASTCO
21 Dupont Circle, NW, Suite 700
Washington, DC 20036

James B. Ramsay
NARUC
1100 Pennsylvania Avenue, NW
P.O. Box 684
Washington, DC 20044

The Honorable Julia L. Johnson

Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399

Brian Roberts
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Margot Smiley Humphrey
Koteen & Naftalin
1150 Connecticut Avenue, NW
Washington, DC 20036

Joe D. Edge
Drinker Biddle & Reath
1500 K St, NW, Suite 1100
Washington DC 20005

Robert A. Mazer
Vinson & Elkins
1455 Pennsylvania Ave, NW
Washington, DC 20004

The Honorable David Baker
Georgia Public Service Commission
47 Trinity Avenue
Atlanta, GA 30334

The Honorable Martha S. Hogerty
Missouri Public Service Commission
Truman State Office Building, P.O. Box
360
Jefferson City, MO 65102

Mary Newmeyer
Alabama Public Service Commission
100 North Union Street, Suite 800
Montgomery, AL 36401

Deonne Bruning
Nebraska Public Service Commission
300 The Atrium, 1200 North Street, P.O.
Box 94927
Lincoln, NE 68509-4927

Lori Kenyon
Regulatory Commission of Alaska
1016 West Sixth Avenue, Suite 400
Anchorage, AK 99501-1963

Phillip F. McClelland
Pennsylvania Office of Consumer
Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Thor Nelson
Colorado Office of Consumer Counsel
1580 Logan Street, Suite 610
Denver, CO 801203

Barry Payne
Indiana Office of Consumer Counsel
100 N. Senate Ave, Rm. N501
Indianapolis, IN 46204

Joe D. Edge
Tina M. Pidgeon
Drinker Biddle & Reath
1500 K Street, NW, Rm 1100
Washington, DC 20005

Robert Mazer
Vinsor & Elkins
1455 Pennsylvania Avenue NW
Washington, DC 20004

Joel B. Shifman
Maine Public Utilities Commission
242 State Street, State House Station 18
Augusta, ME 04333-0018

The Honorable Dennis Crawford
Montana Public Service Commission
1701 Prospect Ave., PO Box 202601
Helena, MT 59620-2601

The Honorable Eve Kahao Gonzalez
Louisiana Public Service Commission
PO Box 91154
Baton Rouge, LA 70821-9154

The Honorable Milton Higa
Hawaii Public Utilities Commission
465 South King Street, Kekuanao'a
Building, Number 103
Honolulu, HI 96813

The Honorable Robert Bennink
North Carolina Utilities Commission
430 North Salisbury Street, Dobbs
Building
Raleigh, NC 27603

South Carolina Public Service
Commission
PO Drawer 11649
Columbia, SC 29211

The Honorable Edward A. Garvey
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101-2147

The Honorable Jason Hendrick
Illinois Commerce Commission
Leland Bldg., 527 E. Capitol Ave.
PO Box 19280
Springfield, IL 62706

Executive Director
Kentucky Public Service Commission
730 Schenkel Lane, P.O. Box 615
Frankfort, KY 40602

The Honorable Tom Wilson
Washington Utilities and Transportation
Commission
Chandler Plaza Building, P.O. Box
47250
Olympia, WA 98504-7250

The Honorable Phoebe Isales
Puerto Rico Public Service Commission
P.O. Box 190870, Hato Rey Station
San Juan, 00929-0870

The Honorable Brian J. Cohee
Indiana Utility Regulatory Commission
302 West Washington Street, Suite
E306, Indiana Government Center South
Indianapolis, IN 46204

The Honorable Allan Kneip
Iowa Utilities Board
350 Maple St.
Des Moines, IA 50319-006

The Honorable Lowell C. Johnson
Nebraska Public Service Commission
300 The Atrium, 1200 North Street, P.O.
Box 94927
Lincoln, NE 68509-4927

George N. Barclay
General Services Adm.
1800 F Street, NW, Room 4002
Washington, DC 20405

John B. Adams
Citizens Utilities Company
1400 16th Street, NW, Suite 500
Washington, DC 20036

Karen Brinkmann
Richard R. Cameron
Latham & Watkins
1001 Pennsylvania Avenue, NW
Washington, DC 20004

Adam Golodner
Rural Utilities Service
1400 Independence Ave, SW
Washington, DC 20250

Hand Delivered

Vivian Lee

